

**COPY**

**UNITED / UTILITIES CORPORATION**  
**Engineering & Geological Group**

Monica Ryden,  
Geologist

December 1, 1995

Mr. Robert A. Henricks  
Chief, Branch of Mineral Fluids  
Bureau of Land Management  
324 S. State, Suite #301  
Salt Lake City, Utah 84111-2303

APPROVED - EFFECTIVE DEC 5 1995

CHIEF, BRANCH OF MINERAL FLUIDS  
BUREAU OF LAND MANAGEMENT

RE: AMENDED PLAN OF DEVELOPMENT  
UNITED UTILITIES CORPORATION  
ROCKHOUSE UNIT  
UINTAH COUNTY, UTAH

Dear Mr. Henricks:

United Utilities Corporation hereby submits an Amended Plan of Development for 1995 for the above captioned unit.

United anticipated that three (3) wells will be drilled to test the Wasatch and Mesaverde formations in December of 1995 through February, 1996. The Rockhouse #13 will be located in the SE NW Section 10, T11S, R23E. The Rockhouse #14 will be located in the SWSW, Section 10, T11S, R23E. The Rockhouse #15 will be located in the NWNW, Section 9, T11S, R23E.

If you have any questions, please contact me at (303) 696-9706.

Sincerely,  
UNITED UTILITIES CORPORATION

*Monica Ryden*

Monica E. Ryden,  
Geologist

*within*  
#15 Not to be drilled *with* 500 feet from the unit boundary  
without prior approval from this office.

*MM*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

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

2. NAME OF OPERATOR  
United Utilities Corporation

3. ADDRESS OF OPERATOR  
625 North 100 West Vernal, UT 84078

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
At surface 1031' FNL & 1300' FWL Section 9, T11S, R23E  
At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
+/- 35 miles from Bonanza, Utah

10. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 1300'

16. NO. OF ACRES IN LEASE 2442

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. 1550'

19. PROPOSED DEPTH 5712'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 5647.5' GL graded

22. APPROX. DATE WORK WILL START\* February 18, 1996

5. LEASE DESIGNATION AND SERIAL NO. UTU-0779  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A  
7. UNIT AGREEMENT NAME Rockhouse Unit  
8. FARM OR LEASE NAME Federal  
9. WELL NO. Rockhouse Unit #15  
10. FIELD AND POOL, OR WILDCAT Rockhouse Gas Field  
11. SEC., T., E., N., OR BLK. AND SURVEY OR AREA Section 9 T11S, R23E SLB&M  
12. COUNTY OR PARISH Uintah  
13. STATE Utah

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36#	250'	150 sx
7 7/8"	4 1/2"	10.5#	5712'	1030 sx

Attachments to this APD:

1. Surveyors location plat
2. Well Control Plan ( Pages 2-8 )
3. Surface Use Plan ( Pages 9-18 )
4. Maps & Diagrams
5. Self Certification Statement
6. Hazardous Materials Declaration

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

24. SIGNED Terry Cox TITLE Agent-Consulting Engineer DATE 1/16/96

(This space for Federal or State office use)

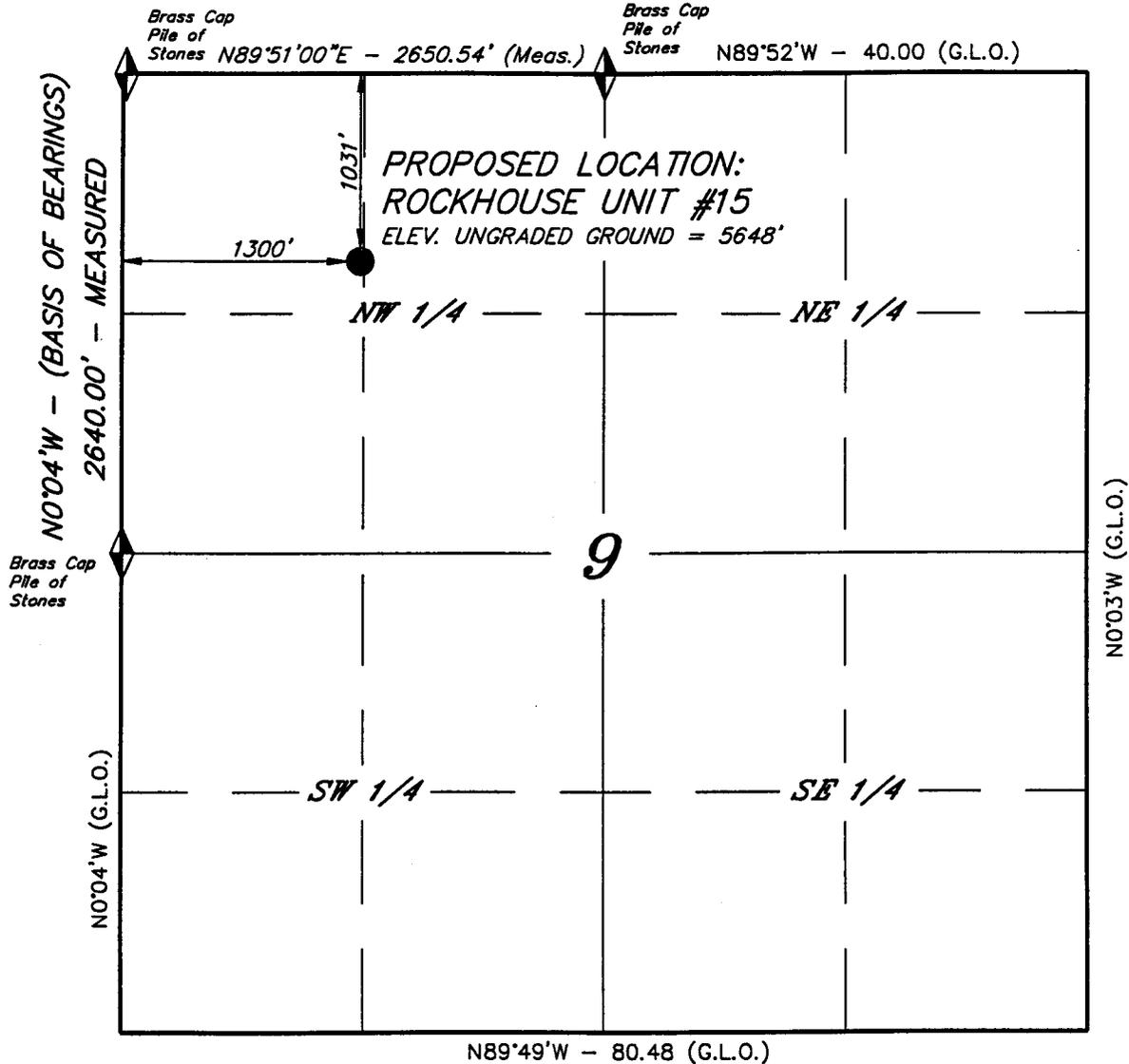
PERMIT NO. 43-047-32734 APPROVAL DATE \_\_\_\_\_  
APPROVED BY [Signature] TITLE Petroleum Engineer DATE 2/1/96  
CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

# UNITED UTILITIES INC.

WELL LOCATION, ROCKHOUSE UNIT #15, LOCATED  
AS SHOWN IN THE NW 1/4 NW 1/4 OF SECTION 9,  
T11S, R23E, S.L.B.&M., UINTAH COUNTY, UTAH.

## T 1 1 S, R 2 3 E, S. L. B. & M.



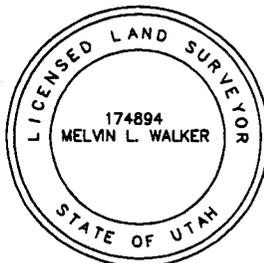
- = SECTION CORNERS LOCATED
- = PROPOSED LOCATION

### BASIS OF ELEVATION

SPOT ELEVATION FROM A BENCHMARK LOCATED ON THE NORTH LINE OF SECTION 17, T11S, R23E, S.L.B.&M. TAKEN FROM THE ARCHY BENCH SE QUADRANGLE PUBLISHED BY THE U.S.G.S. SAID ELEVATION IS MARKED AS BEING 6054 FEET.

THIS IS TO CERTIFY THAT THE PLAT HEREON WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY DIRECT SUPERVISION. THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

**MELVIN L. WALKER**  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 174894  
 STATE OF UTAH



<b>Freston Ostler Vernon &amp; Associates, Inc.</b> The Engineering Group	
P.O. Box 1756, 180 North Federal Avenue, Suite 2, Ferris, Utah 84712 Telephone (801) 799-0841 Fax (801) 799-6466 Telex (801) 791-8112	
DATE SURVEYED: 12-12-95	DRAWN BY: R.E.H.
SURVEYED BY: G.B. R.H.	DATE DRAWN: 12-13-95
WEATHER: COOL	NOTES:
SCALE: 1" = 1000'	FILE: ROCKHOUSE 15

**APPLICATION FOR PERMIT TO DRILL  
AND  
SURFACE USE PROGRAM OF THE  
APPLICATION FOR PERMIT TO DRILL**

**Company/Operator:** United Utilities Corporation  
**Well Name & Number:** Rockhouse Unit #15  
**Lease Number:** UTU-0779  
**Location:** 1031' FNL & 1300' FWL Section 9, T11S, R23E  
Uintah County, Utah  
**Surface Ownership:** United States of America

**NOTIFICATION REQUIREMENTS**

**Location Construction:** Forty eight ( 48 ) hours prior to construction of access and roads and location.

**Location Completion:** Prior to moving in the drilling rig

**Spud Notice:** At least twenty four ( 24 ) hours prior to spudding the well

**Casing String & Cementing:** Twenty four ( 24 ) hours prior to running casing and cementing all strings.

**BOP & Related Tests:** Twenty four ( 24 ) hours prior to initiating pressure tests.

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**APPLICATION FOR PERMIT TO DRILL**

**UNITED UTILITIES CORPORATION**  
Lease UTU-0779, Rockhouse Unit #15  
1031' FNL & 1300' FWL Section 9, T11S, R23E  
Uintah County, Utah

**Drilling Prognosis**

1. Estimated Tops of Important Geologic Markers

Uintah	Surface	Mesaverde	5,312'
Wasatch	3,377'	Total Depth	5,712'

2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations

Water:	Surface to T.D.		
Oil & Gas:	Green River		
	Wasatch	3,377' - 5,312'	Gas (Primary Objective)
	Mesaverde	5,312' - 5,712'	Gas (Primary Objective)

If any shallow water zones are encountered, they will be adequately protected and reported. All potentially productive hydrocarbon zones will be cemented off.

3. Pressure Control Equipment - Schematic Attached

A. Type: Double Gate Hydraulic with Annular Preventer (Hydril).

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 (minimum).
8. Two (2) adjustable chokes.
9. Pressure gauge on choke manifold.
10. Upper kelly cock valve with handle available.
11. Safety valve and subs to fit all drill strings in use.
12. Fill up line above the uppermost preventer.

B. Pressure Rating: The BOP and related equipment will meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc. for a 3,000 psi system and individual components will be operable as designed.

C. Testing Procedure:

#### Annular Preventer (Hydril)

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 repair; 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 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.

Chart recorders shall be used for all pressure tests. Test charts, with individual test results identified, shall be maintained on location while drilling and available for inspection. In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day.

All BOP drills and tests will be recorded in the LADC driller's log.

**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 close all BOP's and retain 200 psi above precharge. Nitrogen bottles which meet the manufacturer's specifications will be used as the backup to the required independent power source. 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 Operating Order #2.

**F. 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 Operating Order #2.

The choke manifold and BOP extension rods with hand wheels will be located outside the rig substructure. 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 hole.

A flare line will be installed after the choke manifold, extending 100 feet

(minimum) from the center of the drill hole to a separate flare pit.

4. The Proposed Casing and Cementing Program - All New

A. Casing Program

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft.</u>	<u>Grade Joint</u>	<u>Depth Set</u>
12-1/4"	9-5/8"	36.0#	K-55 ST&C	0 - 250'
7 7/8"	4-1/2"	10.5#	M-50 ST&C	0- 5,712'

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

All casing strings below the conductor will be pressure tested to 0.22 psi/foot, or 1,500 psi (not to exceed 70%) of the internal yield strength of the casing, whichever is greater, after cementing and prior to drilling out from under the casing shoe.

On all exploratory wells, and on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe will be performed, if required by the Authorized Officer, Bureau of Land Management. The formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at a total depth of the well. This test shall be performed before drilling more than twenty (20) feet of new hole.

B. Cementing Program

Surface Casing: 150 sx Class "G" + 0.25#/sk Cello-Seal + 2.0% CaCl<sub>2</sub>, circulated to surface.

Production Casing: Lead with 295 sx Class "G" + 16% gel (bentonite) + 3% salt + 10#/sk Gilsonite, followed by 735 sx Class "G" + 10% gypsum + 0.4% CF-14A + 0.2% WR-15 + 10% salt. Actual cement volumes will be determined from caliper log adding 5% excess to assure a cement top of at least 200 feet above the top of the Mahogany oil shale zone.

5. Mud Program - Visual Monitoring

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0' - 2,500'	Fresh Water	8.4-9.0	27-30	No Control
2,500' - T.D.'	LSND	8.5-9.5	35- 45	8-10 cc's

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.

6. Evaluation Program

Logs:	High Resolution Resistivity - GR	-	5,712' - 250'
	Caliper-SP	-	5,712' - 250'
	Spectral Density	-	5,712' - 3,100'
	Dual Spaced Neutron	-	5,712' - 3,100'

DST's: None anticipated.

Cores: None anticipated

Evaluation program may change at the discretion of the wellsite geologist, with approval of the Authorized Officer, Vernal District Office, 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 Resource Area Officer no 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 descriptions 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 Area Manager, Vernal District Office, Bureau of Land Management,.

7. Abnormal conditions

No abnormal temperatures or pressures are anticipated. No H<sub>2</sub>S has been reported or is known to exist from previous drilling in this area at this depth.

Maximum anticipated bottom hole pressure equals approximately 2,664 psi (calculated at 0.434 psi/foot) and maximum anticipated surface pressure equals approximately 1,350 psi (anticipated bottom hole pressure minus partially evacuated hole pressure calculated at 0.22 psi/foot).

8. Anticipated Starting Dates and Notification of Operations

A. Anticipated Starting Dates:

Anticipated Commencement Date	:	February 18, 1996
Drilling Days	:	Approximately 8 days
Completion Days	:	Approximately 15 days

B. Notification of Operations:

The spud date will be reported orally to the Branch of Inspection/Enforcement at least 24 hours prior to spudding, unless otherwise required in the site specific conditions of approval, and will be followed up with a report on Form 3160-5 confirming the date of spud.

All wells, whether drilling, producing, or abandoned shall be identified in accordance with 43 CFR 3162.6. This requires the name of the operator, the lease number, the well number, and the location of the well.

A progress report will be filed a minimum of once a month starting with the month in which the well was spudded and continuing until the well is completed. The report will be filed by the 25th day of each month on form 3160-5. The report will include the spud date, casing information such as size, grade, weight, hole size, and setting depth, amount and type of cement used, top of cement, depth of cementing tools, casing test method(s), intervals tested, perforated, acidized, fractured, and results obtained and the dates of all work done.

Spills, blowouts, fires, leaks, accidents, theft, or any other unusual occurrences will be promptly reported to the Resource Area Office in accordance with NTL-3A.

Any venting or flaring of gas during initial well evaluation will be subject to the provisions of NTL-4A.

In the event abandonment of the hole is desired, an oral request may be granted by the Resources Area Office but must be followed with a "notice of Intention to Abandon" (Form 3160-5) within fifteen (15) days of receiving oral permission to plug and abandon. 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. If the location is on private surface, a "Landowner Acceptance of Reclamation" letter will be attached to this "Sundry Notice."

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6.

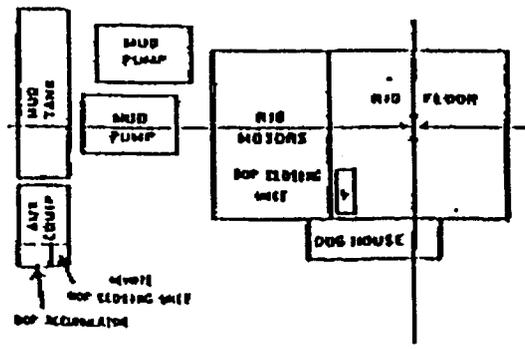
The following information will be permanently placed on the marker with a plate, cap, or beaded on with a welding torch: Company Name, Well Name and Number, Location by Quarter/Quarter, Section, Township, Range, and the Federal Lease Number.

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 information items;

- a. Operator name, address, and telephone number
- b. Well name and number
- c. Well location: 1/4, 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, i.e.: state or private.
- g. As appropriate, the Communitization agreement number, the unit agreement name, number, and participating area name.

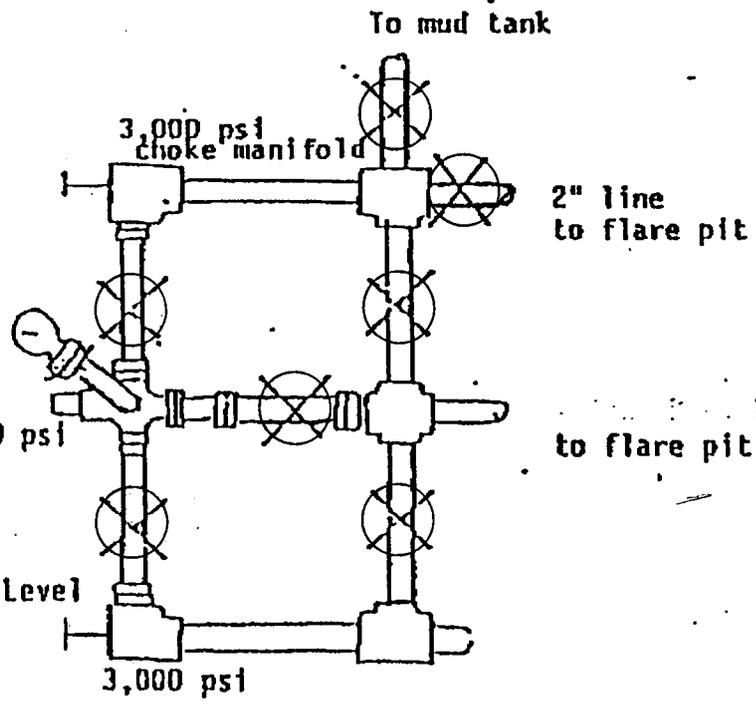
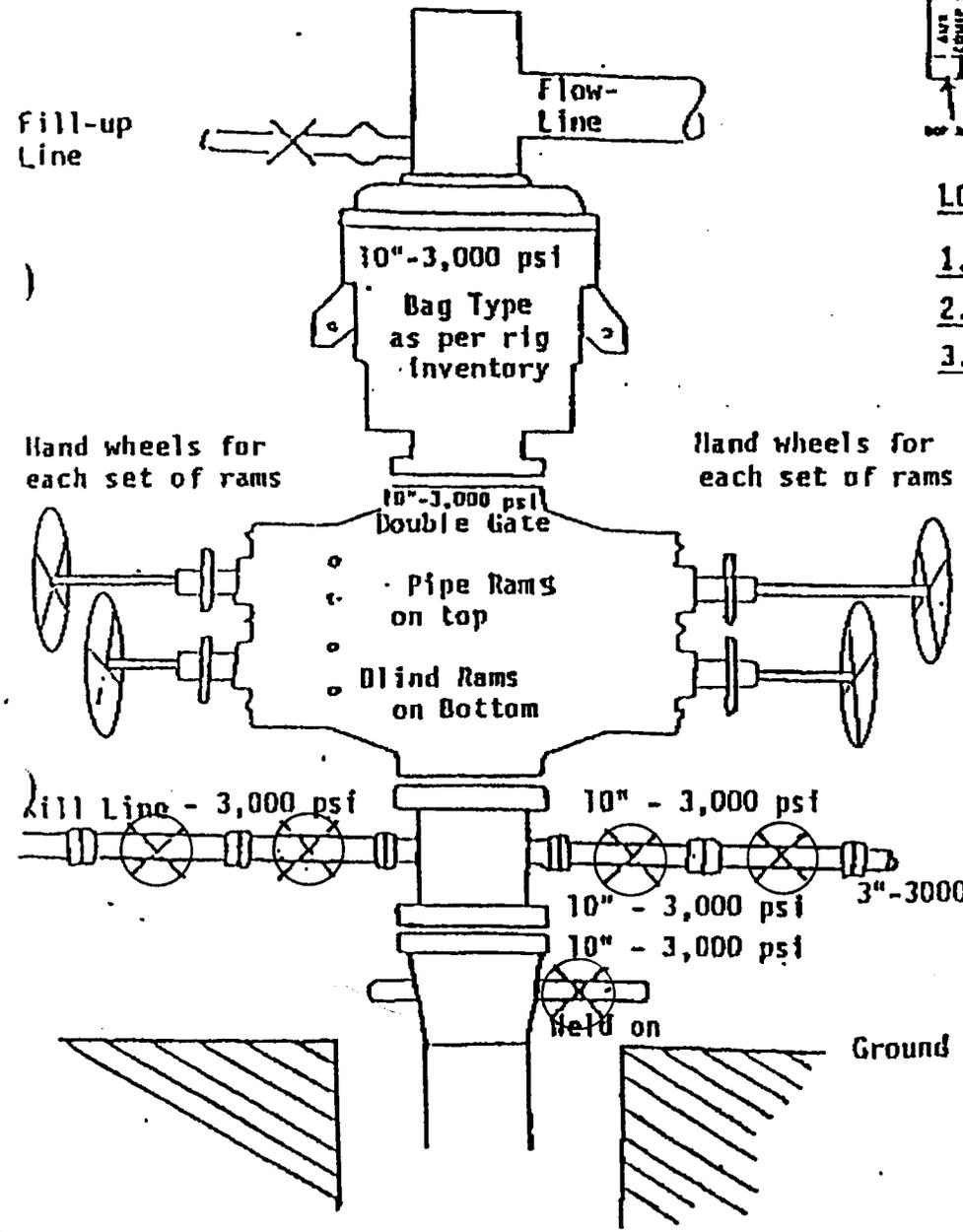
**FIGURE No. 1**  
**3000 psi**

**DOUBLE GATE BAG TYPE BOP STACK  
 W/HYDRAULIC CONTROLS AND CHOKE  
 MANIFOLD FOR:**



LOCATION OF:

1. BOP controls on rig floor.
2. BOP remote controls.
3. BOP accumulator.



⊗ - VALVE

**SURFACE USE PROGRAM OF THE  
APPLICATION FOR PERMIT TO DRILL**

**Company/Operator:** United Utilities Corporation  
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1. Existing Roads: Refer to Map "A" (shown in YELLOW)

A. The proposed well site is staked.

B. To reach the location continue south on HWY 45 to MILE marker "O". Turn left (Baxter Pass & other signs) onto the secondary road. Continue on the main road past the corrals at Hell's Canyon "Y" and turn right. Stay on the main road through Watson taking the left hand turn at Asphalt Wash and the right fork at the "Y" to Rainbow. Continue on the main road by Kings Well and the corral on the right hand side to a "Y". Continue on the right hand fork for +/- 0.3 mi. Take the left hand turn and proceed 5.9 mi. Staying to the right continue northward on the main road. After +/-5.9 mi. take the left fork and travel +/- 1.4

mi. Take the right turn and travel +/- 2.0 mi. to the well site.

- C. Access roads - refer to Maps "A".
- D. Access roads within a one mile radius - refer to Map "A".
- 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 well location.

2. Planned Access Roads:

Approximately 250 feet of new road construction will be required for access to the proposed Rockhouse Unit #15 well location.

- A. Width - 18 foot running surface, crowned and ditched for drilling and completion operations with a 30' right-of-way.
- B. Maximum grade - 3%.
- C. Turnouts - none required.
- D. Drainage design - the access road will be upgraded and maintained as necessary to prevent soil erosion and accommodate year around traffic. Access road will be crowned, ditched, and water turnouts installed as necessary to provide for proper drainage along the access road route.
- E. Culverts, cuts, and fills - None.
- F. Surfacing material - none required for drilling operations. If production is established, surfacing materials for the access road will be purchased from a local contractor having a permitted source of materials in the area, if required by the Authorized Officer, Vernal Resource Area Office, Bureau of Land Management.
- G. Gates, cattle guards or fence cuts - none required.
- H. The new access road route has been flagged.

3. Location of Existing Wells Within a Two Mile Radius:

- A. Water wells - None.
  - B. Abandoned wells - NW SW Section 4, T11S, R23E  
NW SW Section 2, T11S, R23E
  - C. Temporarily abandoned wells - None
  - D. Disposal wells - None.
  - E. Drilling wells - None.
  - F. Producing wells - NE SE Section 3, T11S, R23E  
SE NW Section 9, T11S, R23E  
SW SE Section 9, T11S, R23E  
NW SE Section 5, T11S, R23E
  - G. Shut-in wells - SE NE Section 7, T11S, R23E  
NE SW Section 8, T11S, R23E  
SE SE Section 8, T11S, R23E  
SE NE Section 8, T11S, R23E  
SE SE Section 10, T11S, R23E  
SW NE Section 16, T11S, R23E  
SW NE Section 21, T11S, R23E  
SE SE Section 18, T11S, R23E
  - H. Injection wells - None.
  - I. Monitoring wells - None.
4. Location of Existing and/or Proposed Facilities Owned By United Utilities Corporation  
Within a One Mile Radius:
- A. Existing
    - 1. Tank batteries -  
Rockhouse Unit #4 SE NW Section 9, T11S, R23E  
Rockhouse Unit #12 SW SE Section 9, T11S, R23E
    - 2. Production facilities -  
Rockhouse Unit #4 SE NW Section 9, T11S, R23E  
Rockhouse Unit #12 SW SE Section 9, T11S, R23E
    - 3. Oil gathering lines - None.

4. Gas gathering lines - SE 1/4 Section 9, T11S,R23E.

B. New Facilities Contemplated

1. All production facilities will be located on the disturbed (cut) portion of the well pad and at a minimum of fifteen (15) feet from the toe of the backout.
2. Production facilities will require an area approximately 300' X 150'. 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. 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.
3. Production facilities will be accommodated on 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 as required. A dike will be constructed completely around the production tanks. The dikes will be constructed of compacted subsoil, be impervious, hold the capacity of the largest tank plus one foot of free board, and be independent of the back cut.
4. All permanent above the ground structures, tank batteries, etc., that will remain longer than six months will be painted Desert Brown (10 YR 6/3). The exception being that safety rules and regulations will be complied with where special safety colors are required.
5. The pipeline for Rockhouse Unit #15 will be laid to the southeast to tie into the gathering system in approximately the SE NW Section 9, T11S,

R23E at the Rockhouse Unit #4 . Refer to Map "B".

C. Pit Fences

- a. All pits will be fenced "Sheep-Tight" with 39-inch woven wire and one (1) top strand of barbed wire.
- b. The net wire shall be no more than 2-inches above the ground. The barbed wire will be 3-inches above the net wire. Total height of the fence shall be at least 42 inches.
- c. Corner posts will be braced in such a manner to keep the fence tight at all times.
- d. Standard steel, wood, or pipe posts will be used between the corner braces. The maximum distance between any two posts will be no greater than 16 feet.
- e. All wire will be stretched before it is attached to the corner post by means of a stretching device.

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 with: Fourwing Saltbrush (6 lbs/acre); Beardless Bluebunch Wheatgrass (5 lbs/acre); Yellow Sweetclover (1 lbs/acre) Total of 12 lbs/acre.

5. Location and Type of Water Supply:

Water to be used for drilling this well will be hauled by truck over road marked in green on Map A.

A. The primary water source will be:

From Bitter Creek located approximately SW NW SW Section 25, T11S,R23E

B. Secondary water source will be:

From Three (3) area wells:

Rainbow Unit #2-A  
NESW, S 18, T11S,R24E

Rainbow Unit #5  
S/2, S 6, T11S,R24E

Rockhouse Unit #5-A  
SWSE, S 13, T11S,R23E

- C. The tertiary water source will be:

Purchased from Vernal City water system and hauled to well site on the roads shown on Map A from Bonanza, Utah.

6. Source of Construction Materials:

- A. No construction materials will be needed for well pad construction; surface and subsurface soils will be sufficient. Refer to Item #2F regarding construction materials which may be required on the access road.
- B. No construction materials will be taken from Federal and/or Indian lands without prior approval from the appropriate Surface Management Agency.
- C. If production is established, any construction materials required for surfacing of the access road and installation of production facilities will be purchased from a local supplier having an approved (permitted) source of materials in the area.
- D. No new access roads for construction materials will be required.

7. Methods of Handling Waste Materials:

- A. Cuttings - the cuttings will be deposited in the reserve pit.
- B. Drilling fluids - including salts and chemicals will be contained in the reserve pit and allowed to evaporate. The reserve pit will be designed to prevent the collection of surface runoff and will be constructed with a minimum of one half (1/2) the total depth below the original ground level at the lowest point in the pit.
- C. Produced fluids - hydrocarbons produced during completion operations will be placed in test tanks on the location. Water produced during completion

operations will be put into the reserve pit according to Onshore Operating Order #7 (formerly NTL-2B). At first production, produced water will be confined to the reserve pit or storage tanks for a period not to exceed ninety ( 90 ) days. During that 90 day period, in accordance with Onshore Order No. 7, an application for approval of a permanent disposal method and location, along with required water analysis, will be submitted to the AO for approval. Any spills of oil, gas, salt water, or other potentially hazardous materials will be cleaned up and immediately removed to an approved disposal site.

- D. Sewage - portable, self contained chemical toilets will be provided for human waste disposal. The toilet holding tanks will be pumped as necessary, and the contents thereof disposed of at an approved sewage disposal facility under permit #91-0120 from Uintah District Health Department.
- E. Garbage and other waste material - garbage, trash, and other waste material will be collected in a portable, self contained and fully enclosed trash cage during drilling and completion operations. Upon completion of operations (or as needed) the accumulated trash will be disposed of at an authorized sanitary landfill. No trash will be placed in the reserve pit. No burning will be allowed.
- F. Immediately after removal of the drilling rig, all debris and waste materials not contained in the trash cage will be cleaned up and removed from the well location. No adverse materials will be left on the location. Any open pits will be fenced during drilling operations and the fencing maintained until such time as the pits are backfilled.

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 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 stockpiles.
- B. Figure #1 is a diagram showing the rig layout. No permanent living facilities are planned. There will be approximately four (4) trailers on location: one each

for the drilling engineer, geologist, mud logger, and toolpusher.

- C. 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 (Refer to Item #4B for additional information in this regard).
- D. If porous soil or fractured rock is encountered during the excavation of the reserve pit, an inspection will be requested in order to ascertain the necessity of the installation of a pit liner. In the event of competent soils, a pit liner will not be installed.
- E. No silt catchment dams or basins will be required.

10. Plans for Reclamation of the Surface:

- A. If production is established, the unneeded areas of the location will be reclaimed as soon as the reserve pit has dried or no later than 6 months, whichever is sooner. If a plastic reinforced liner is used, it will be torn and perforated before backfilling of the reserve pit. The reserve pit will be cleaned of any cans, barrels, pipe, etc. prior to reclaiming. All waste materials will be disposed of immediately upon termination of drilling and completion activities. The reserve pit and portion of the location not needed for production facilities or operations will be recontoured to the approximate natural contours.
- B. Upon completion of backfilling, leveling and recontouring all disturbed surfaces (including the access road and well pad areas) will be scarified (ripped) and the stockpiled topsoil will be evenly spread over the reclaimed area(s). The seed bed will be prepared by disking on the contour to an approximate depth of four (4) to six (6) inches, leaving no depressions that would trap water or form ponds.
- C. All disturbed surfaces (including the well pad and access road) will be reseeded using the seed mixture referenced in Paragraph #4 E.

Seed will be drilled on the contour with the seed drill set at a depth of one half (1/2) inch. Fall seeding will be completed after September 1 and prior to ground frost. Spring seeding, to be effective, will be completed after the frost has left the ground and prior to May 15.

- D. Three sides of the reserve pit will be fenced "sheep tight" prior to commencement of drilling operations and the fourth side will be fenced

immediately upon removal of the drilling rig. Said fencing will consist of 39-inch woven wire with one (1) top strand of barbed wire. Corner braces will be installed to assure tight fencing in order to protect livestock and wildlife. Please refer to item #4C for additional information regarding the actual fencing specifications.

- E. Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with 43 CFR 3162.7-1.
- F. Reclamation operations will begin after the drilling rig has been removed. Removal of oil or other adverse substances will begin immediately or the affected area(s) will be flagged and/or fenced. Other clean up will be done as needed. Reseeding activities are considered best in the Fall, 1996, unless requested otherwise.

11. Surface Ownership:

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

Area Manager  
Vernal District Office  
Bureau of Land Management  
170 South 500 East  
Vernal, Utah 84078

12. Other Information:

- A. Topography: Rolling hills and shallow valleys.
- B. Soil characteristics: Rocky and sandy shale.
- C. Flora: +/- 30% coverage of land with sage brush, bunch grass, prickly pear cactus, etc.
- D. Fauna: Domestic sheep. Mule deer, elk, rabbits, coyotes and rodents.
- E. Surface use: Wildlife management and livestock grazing.
- F. Surface ownership: Location and roads Federal.

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

1. The closest source of permanent water is the White River, located approximately 3 miles to the north.
2. Occupied dwellings: None.
3. There are no known archaeological, historical, or cultural sites, which are potentially eligible for inclusion in the National Register of Historical Places, that will be disturbed by this proposed drilling operation.

United Utilities Corporation will be responsible for informing all persons associated with this project that they shall 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, United Utilities Corporation will suspend all operations that further disturb such materials and immediately contact the Authorized Officer, Bureau of Land Management. Operations will not resume until written authorization to proceed is issued by the Area Manager, Vernal Resource Area Office, Bureau of Land Management.

Within five (5) working days, the Authorized Officer will evaluate the discovery and inform United Utilities Corporation of actions that will be necessary to prevent loss of significant cultural or scientific values. United Utilities Corporation will, at any time, have the option to relocate activities to avoid the expense of mitigation and/or the delays associated with this process at which time, the Administrative Officer will assume responsibility for whatever recordation and stabilization of the exposed materials which may be required. Otherwise, United Utilities Corporation will be responsible for mitigation costs. 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, United Utilities Corporation will be allowed to resume operations.

13. Lessee's or Operator's Representative and Certification:

Representative:

Durrell Karren, Field Superintendent  
625 North 100 West  
Vernal, Utah 84078  
Phone (808) 789-2772 (801) 828-8516

Terry J. Cox, Consulting Engineer  
Suite 1120  
1050 17th Street  
Denver, Colorado 80265  
Phone (303) 892-9120 (801) 828-8384 or (801) 828-8771

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

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

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

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

SELF CERTIFICATION FOR APPLICATION FOR PERMIT TO DRILL

I hereby certify that United Utilities Corporation is authorized by the proper Lease Interest Owners to conduct lease operations associated with the Application for Permit to Drill the Rockhouse Unit #15 SW 1/4 SW 1/4 Section 10, T11S, R23E, lease UTU-0779. Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by United Utilities Corporation under Statewide Bond #UT-1028 and United Utilities Corporation will be responsible for compliance with all terms and conditions of that portion of the lease associated with this Application for Permit to Drill.

HAZARDOUS MATERIAL DECLARATION FOR APPLICATION FOR PERMIT TO DRILL

No chemical subject to reporting under SARA Title III in an amount equal to or greater

than 10,000 pounds will be used, stored, transported, or disposed of annually in association with the drilling of the Rockhouse Unit #15. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

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 United Utilities 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.

1/11/96

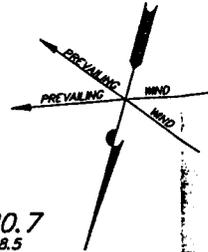
Date



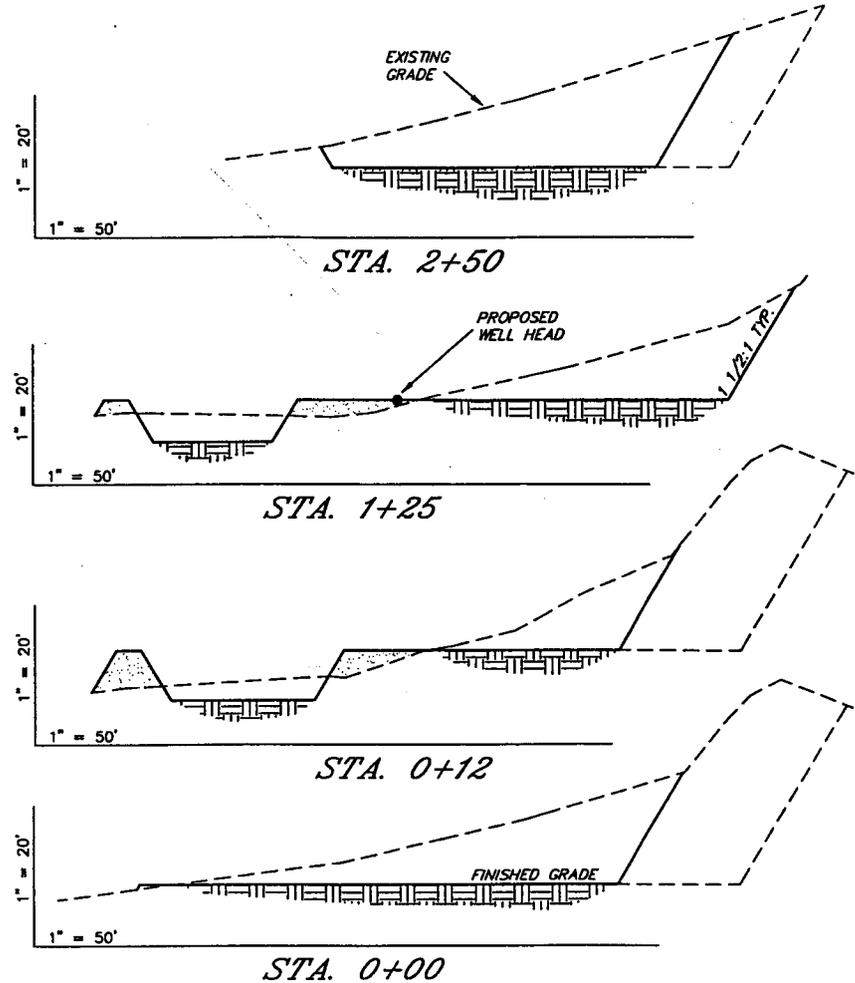
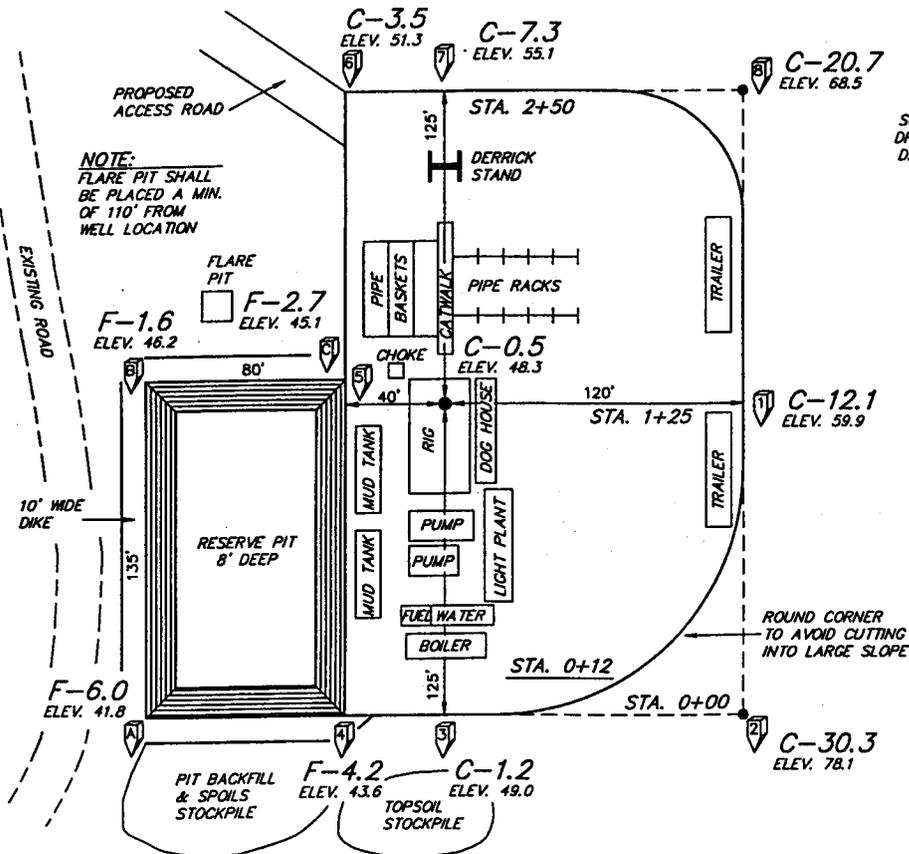
Terry J. Cox  
Agent for United Utilities Corporation

# UNITED UTILITIES INC.

ROCKHOUSE UNIT #15  
SECTION 9, T11S, R23E, S.L.B.&M.  
1031' FNL 1300' FWL



SCALE: 1" = 50'  
DRAWN BY: R.E.H.  
DATE: 12-13-95



### REFERENCE POINTS

RP 175' NORTH 5651.0'  
RP 225' NORTH 5653.6'  
RP 200' EAST 5646.0'  
RP 250' EAST 5659.0'

### APPROXIMATE YARDAGES

6" TOPSOIL = 940 CU. YDS.  
RESERVE PIT YARDAGE = 2480 CU. YDS.  
TOTAL CUT = 14050 CU. YDS.  
TOTAL FILL = 1390 CU. YDS.  
EXCESS MATERIAL = 12660 CU. YDS.

ELEV. UNGRADED GROUND = 5648.3'  
ELEV. FINISHED GRADE = 5647.8'

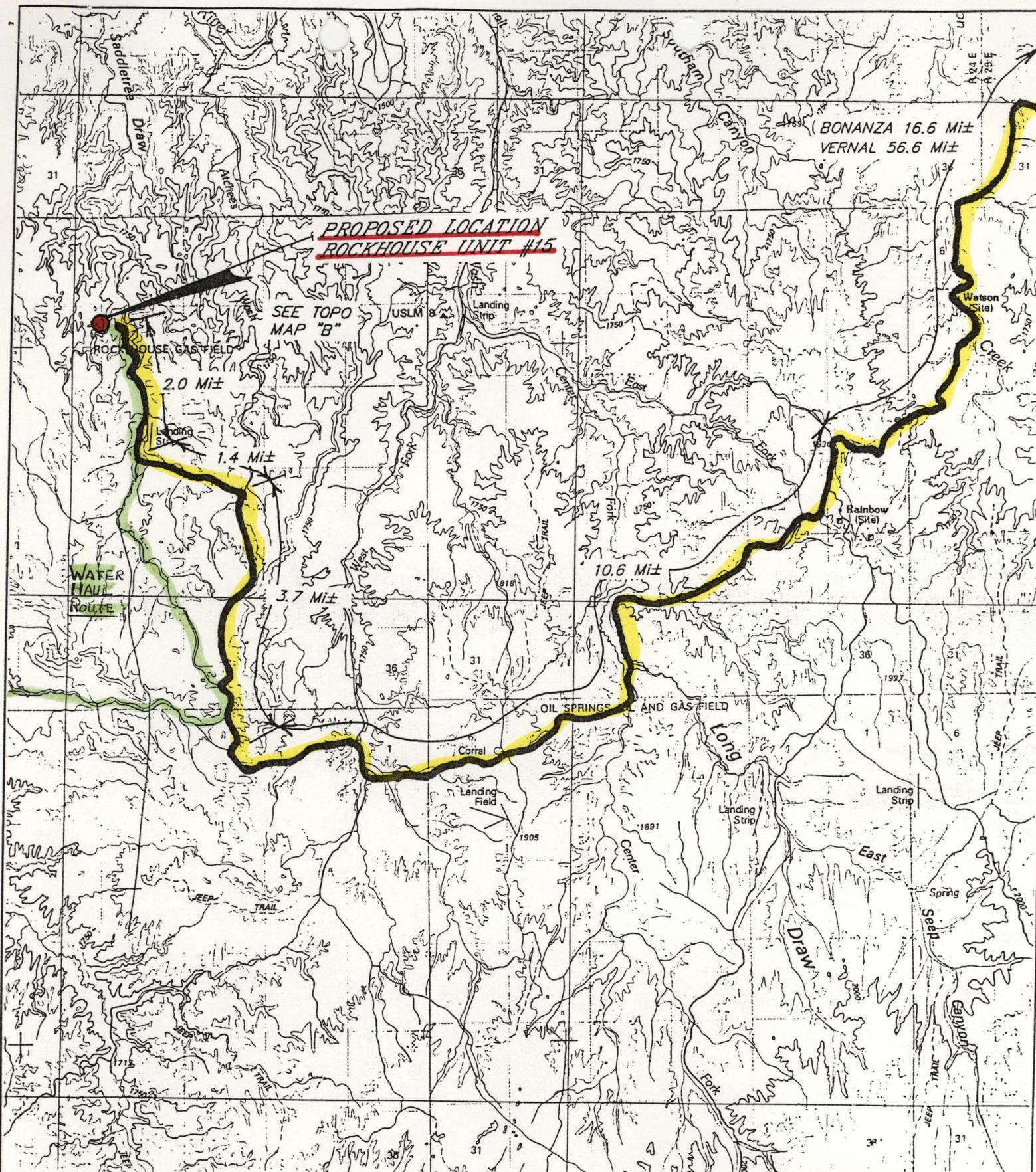


PREPARED BY:

**FOA** Preston Ostler Vernon & Associates, Inc.  
The Engineering Group

P.O. Box 1766, 181 North Federal Avenue, Suite 3, Provo, Utah 84606  
Telephone (801) 708-0441 Fax (801) 708-6400 Telex (801) 701-2111  
(Formerly Stetson Engineering, Inc.)





**PROPOSED LOCATION**  
**ROCKHOUSE UNIT #15**

BONANZA 16.6 Mi±  
VERNAL 56.6 Mi±

SEE TOPO  
MAP "B"

ROCKHOUSE GASFIELD

2.0 Mi±

1.4 Mi±

3.7 Mi±

10.6 Mi±

WATER  
HAUL  
ROUTE

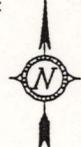
OIL SPRINGS AND GASFIELD

**UNITED UTILITIES INC.**

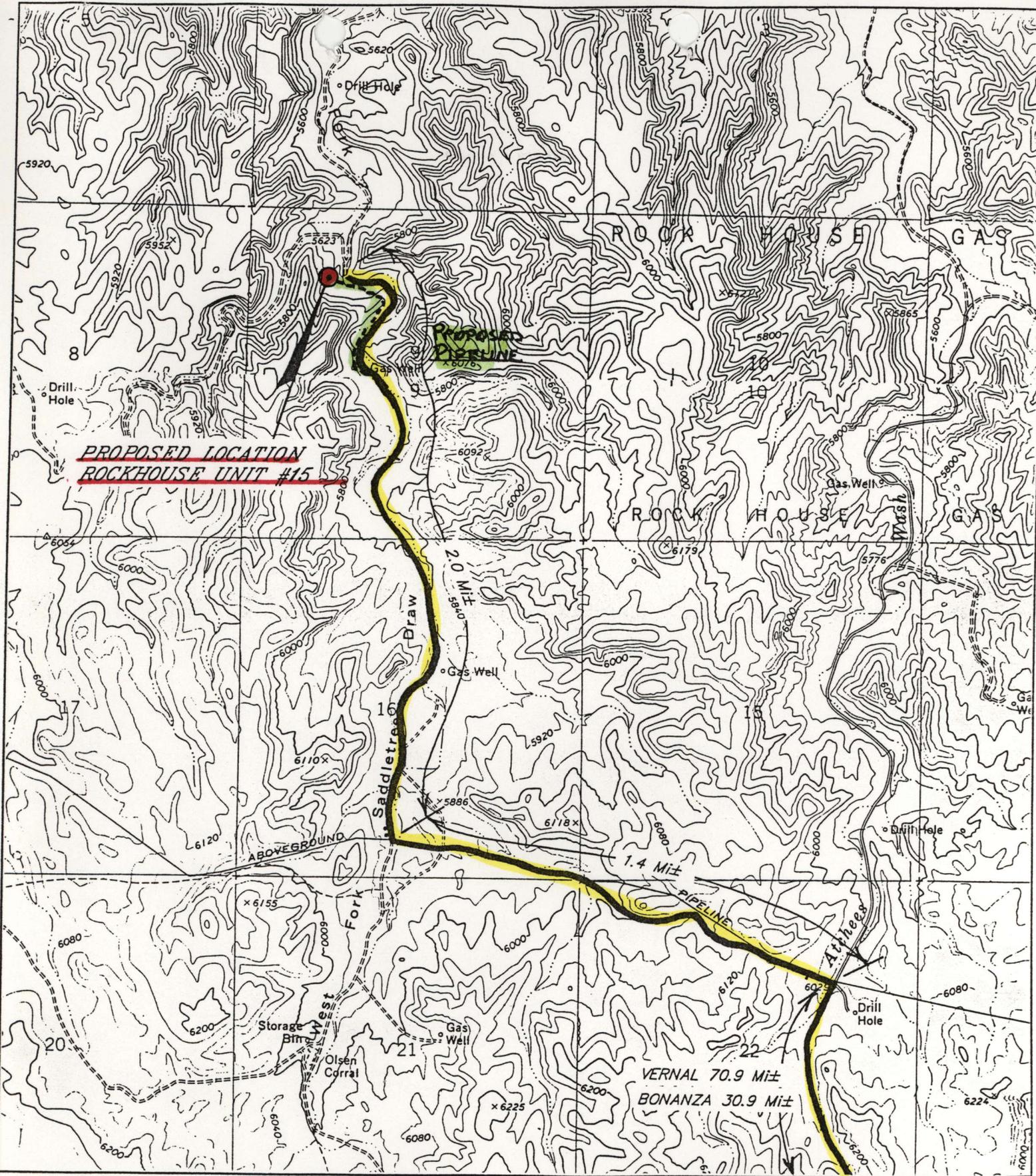
**FOA** Freston Ostler Vernon & Associates, Inc.  
The Engineering Group

ROCKHOUSE UNIT #15  
SECTION 9, T11S, R23E, S.L.B.&M.  
1031' FNL 1300' FWL

P.O. Box 1756, 182 North Vernal Avenue, Suite 2 Vernal, Utah 84078  
Telephone: (801) 769-0641 Fax: (801) 769-1666 Lab: (801) 781-2113



TOPO MAP "A"



# UNITED UTILITIES INC.

ROCKHOUSE UNIT #15  
 SECTION 9, T11S, R23E, S.L.B.&M.  
 1031' FNL 1300' FWL

**FOA** Freston Ostler Vernon & Associates, Inc.  
 The Engineering Group

P.O. Box 1758, 185 North Vernal Avenue, Suite 2 Vernal, Utah 84078  
 Telephone (801) 798-0841 Fax (801) 798-4466 Lab (801) 781-2112



TOPO MAP "B"  
 SCALE: 1" = 2000'



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

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

2. NAME OF OPERATOR  
 United Utilities Corporation

3. ADDRESS OF OPERATOR  
 625 North 100 West Vernal, UT 84078

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface 1031' FNL & 1300' FWL Section 9, T11S, R23E  
 At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 +/- 35 miles from Bonanza, Utah

16. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest d'vig. unit lide, if any) 1300'

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1550'

18. ELEVATIONS (Show whether DF, RT, GR, etc.) 5647.5' GL graded

5. LEASE DESIGNATION AND SERIAL NO.  
 UTU-0779

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

7. UNIT AGREEMENT NAME  
 Rockhouse Unit

8. FARM OR LEASE NAME  
 Federal

9. WELL NO.  
 Rockhouse Unit #15

10. FIELD AND POOL, OR WILDCAT  
 Rockhouse Gas Field

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Section 9 T11S, R23E  
 SLB&M

12. COUNTY OR PARISH  
 Uintah

13. STATE  
 Utah

16. NO. OF ACRES IN LEASE 2442

17. NO. OF ACRES ASSIGNED TO THIS WELL 160

19. PROPOSED DEPTH 5712'

20. ROTARY OR CABLE TOOLS  
 Rotary

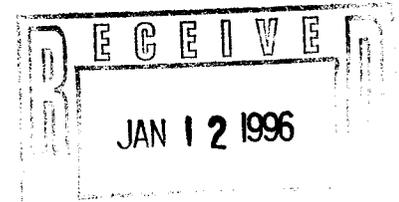
22. APPROX. DATE WORK WILL START\*  
 February 18, 1996

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36#	250'	150 sx
7 7/8"	4 1/2"	10.5#	5712'	1030 sx

Attachments to this APD:

1. Surveyors location plat
2. Well Control Plan ( Pages 2-8 )
3. Surface Use Plan ( Pages 9-18 )
4. Maps & Diagrams
5. Self Certification Statement
6. Hazardous Materials Declaration



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

24. SIGNED Terry A Cox TITLE Agent-Consulting Engineer DATE 1/11/96

(This space for Federal or State office use)

PERMIT NO. 43-047-32734 APPROVAL DATE \_\_\_\_\_

APPROVED BY [Signature] TITLE Section Engineer DATE 2/1/96

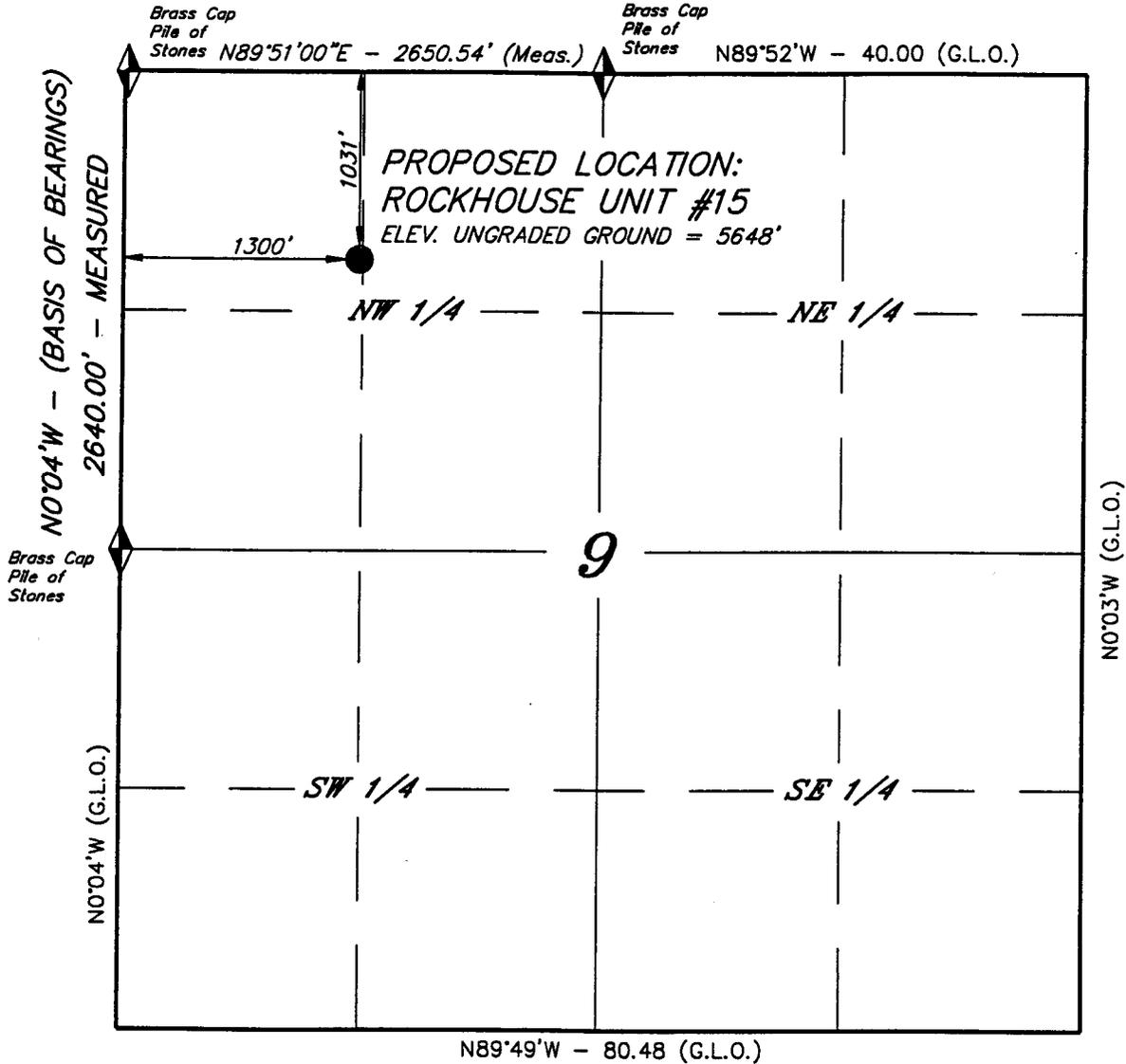
CONDITIONS OF APPROVAL, IF ANY \_\_\_\_\_

\*See Instructions On Reverse Side

# UNITED UTILITIES INC.

WELL LOCATION, ROCKHOUSE UNIT #15, LOCATED  
AS SHOWN IN THE NW 1/4 NW 1/4 OF SECTION 9,  
T11S, R23E, S.L.B.&M., UINTAH COUNTY, UTAH.

## T 1 1 S, R 2 3 E, S. L. B. & M.



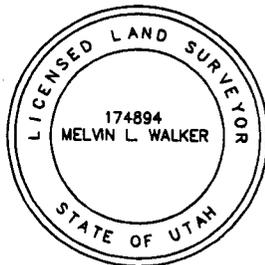
- = SECTION CORNERS LOCATED
- = PROPOSED LOCATION

### BASIS OF ELEVATION

SPOT ELEVATION FROM A BENCHMARK LOCATED ON THE NORTH LINE OF SECTION 17, T11S, R23E, S.L.B.&M. TAKEN FROM THE ARCHY BENCH SE QUADRANGLE PUBLISHED BY THE U.S.G.S. SAID ELEVATION IS MARKED AS BEING 6054 FEET.

THIS IS TO CERTIFY THAT THE PLAT HEREON WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY DIRECT SUPERVISION. THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Melvin L. Walker*  
MELVIN L. WALKER  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 174894  
STATE OF UTAH



**FOA** *Freston Ostler Vernon & Associates, Inc.*  
The Engineering Group

P.O. Box 1706, 183 North Federal Avenue, Suite 2, Fernley, Utah 84478  
Telephone (801) 789-2611 Fax (801) 789-6668 Lab (801) 781-8113

DATE SURVEYED: 12-12-95	DRAWN BY: R.E.H.
SURVEYED BY: G.B. R.H.	DATE DRAWN: 12-13-95
WEATHER: COOL	NOTES:
SCALE: 1" = 1000'	FILE: ROCKHOUSE 15

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 01/12/96

API NO. ASSIGNED: 43-047-32734

WELL NAME: ROCKHOUSE UNIT 15  
 OPERATOR: UNITED UTILITIES CORP (N6360)

PROPOSED LOCATION:  
 NWNW 09 - T11S - R23E  
 SURFACE: 1031-FNL-1300-FWL  
 BOTTOM: 1031-FNL-1300-FWL  
 UINTAH COUNTY  
 ROCKHOUSE FIELD (670)

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

LEASE TYPE: FED  
 LEASE NUMBER: UTU-0779

PROPOSED PRODUCING FORMATION: WSMVD

RECEIVED AND/OR REVIEWED:

Plat

Bond: Federal  State  Fee   
 (Number 47-1028)

Potash (Y/N)

Oil shale (Y/N)

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

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

LOCATION AND SITING:

R649-2-3. Unit: ROCKHOUSE UNIT

R649-3-2. General.

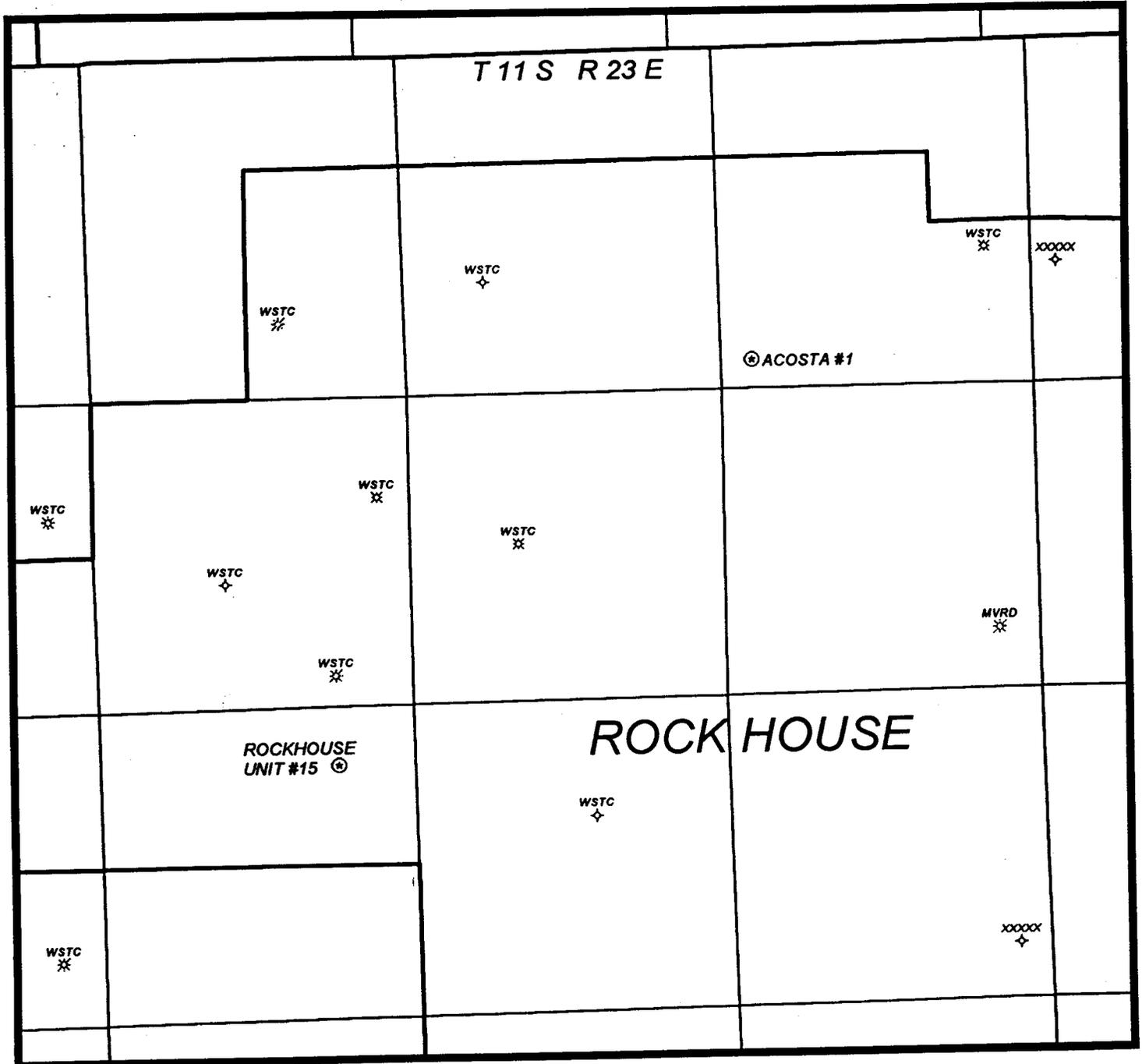
R649-3-3. Exception.

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

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

**UNITED UTILITIES CORP  
 ROCKHOUSE UNIT DEVELOPMENT  
 SECTIONS 3 & 9, T11S, R23E  
 UINTAH COUNTY, UAC R649-2-3**



**STATE SPACING  
 UAC R649-2-3**

**PREPARED:  
 DATE: 1/17/96**

**STATE OF UTAH, DIV OF OIL, GAS & MINERALS**

<b>Operator: UNITED UTILITIES CORP</b>	<b>Well Name: ROCKHOUSE UNIT 15</b>
<b>Project ID: 43-047-32734</b>	<b>Location: SEC. 09 - T118 - R23E</b>

**Design Parameters:**

Mud weight ( 9.50 ppg) : 0.494 psi/ft  
 Shut in surface pressure : 2456 psi  
 Internal gradient (burst) : 0.064 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using air weight  
 Service rating is "Sweet"

**Design Factors:**

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 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	5,712	4.500	10.50	M-50	ST&C	5,712	3.960		
	<b>Load (psi)</b>	<b>Collapse Strgth (psi)</b>	<b>S.F.</b>	<b>Burst Load (psi)</b>	<b>Min Int Strgth (psi)</b>	<b>Yield S.F.</b>	<b>Tension Load (kips)</b>	<b>Strgth (kips)</b>	<b>S.F.</b>
1	2819	3600	1.277	2819	4580	1.62	59.98	124	2.07 J

Prepared by : MATTHEWS, Salt Lake City, Utah  
 Date : 02-01-1996  
 Remarks :

Minimum segment length for the 5,712 foot well is 1,500 feet.  
 SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas temperature of 114°F (Surface 74°F , BHT 154°F & temp. gradient 1.400°/100 ft.)  
 String type: Production  
 The mud gradient and bottom hole pressures (for burst) are 0.494 psi/ft and 2,819 psi, respectively.

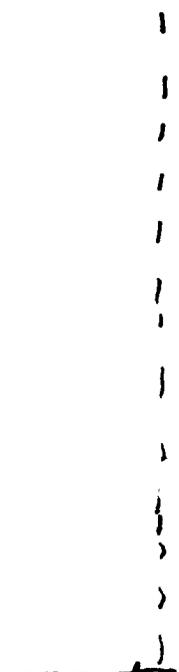
**NOTE:** The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - collapse (with evacuated casing), 1.0 - (uniaxial) burst, 1.8 - API 8rd tension, 1.6 - buttress tension, 1.5 - body yield tension,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

↑  
North

Top  
soil

Reserve  
Pit

wellhead + tree



Heated  
separator

Metu  
House

Water Drain Pipe

Access



22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS





**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)

February 1, 1996

United Utilities Corporation  
625 North 100 West  
Vernal, Utah 84078

Re: Rockhouse Unit #15 Well, 1031' FNL, 1300' FWL, NW NW, Sec. 9, T. 11 S.,  
R. 23 E., Uintah County, Utah

Gentlemen:

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

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-32734.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. J. Firth'.

R. J. Firth  
Associate Director

lwp

Enclosures

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

WAPD



**Operator:** United Utilities Corporation  
**Well Name & Number:** Rockhouse Unit #15  
**API Number:** 43-047-32734  
**Lease:** UTU-0779  
**Location:** NW NW Sec. 9 T. 11 S. R. 23 E.

### Conditions of Approval

#### 1. General

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

#### 2. Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5340.

Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews or Mike Hebertson at (801)538-5340.

#### 3. Reporting Requirements

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

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: UNITED UTILITIES

Well Name: ROCKHOUSE 15

Api No. 43-047-32734

Section 9 Township 11S Range 23E County UINTAH

Drilling Contractor EXETER

Rig # 8

SPUDDED: Date 2/6/96

Time \_\_\_\_\_

How DRY HOLE

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

Reported by D. HACKFORD-DOGM

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

Date: 3/15/96 Signed: JLT

DOGMH

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

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

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

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

2. NAME OF OPERATOR  
United Utilities Corporation

3. ADDRESS OF OPERATOR  
625 North 100 West Vernal, UT 84078

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
At surface 1031' FNL & 1300' FWL Section 9, T11S, R23E  
At proposed prod. zone Same  
43-047-32734  
JAN 12 1996  
FEB 12 1996

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
+/- 35 miles from Bonanza, Utah

6. LEASE DESIGNATION AND SERIAL NO.  
UTU-0779

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

7. UNIT AGREEMENT NAME  
Rockhouse Unit

8. FARM OR LEASE NAME  
Federal

9. WELL NO.  
Rockhouse Unit #15

10. FIELD AND POOL, OR WILDCAT  
Rockhouse Gas Field

11. SEC., T., R., M., OR BLK. AND SUBVY OR AREA  
Section 9 T11S, R23E  
SLB&M

12. COUNTY OR PARISH  
Utah

13. STATE  
Utah

16. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)  
1300'

18. NO. OF ACRES IN LEASE  
2442

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.  
1550'

19. PROPOSED DEPTH  
5712'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5647.5' GL graded

22. APPROX. DATE WORK WILL START\*  
February 18, 1996

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36#	250'	150 sx
7 7/8"	4 1/2"	10.5#	5712'	1030 sx

Attachments to this APD:

1. Surveyors location plat
2. Well Control Plan ( Pages 2-8 )
3. Surface Use Plan ( Pages 9-18 )
4. Maps & Diagrams
5. Self Certification Statement
6. Hazardous Materials Declaration

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

24. SIGNED Terry Cox TITLE Agent-Consulting Engineer DATE 1/11/96

NOTICE OF APPROVAL

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY [Signature] TITLE ASSISTANT DISTRICT MANAGER DATE FEB 01 1996  
CONDITIONS OF APPROVAL, IF ANY: \_\_\_\_\_

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY

44080-6M-054

\*See Instructions On Reverse Side

CONDITIONS OF APPROVAL  
APPLICATION FOR PERMIT TO DRILL

Company/Operator: United Utilities Corporation

Well Name & Number: Rockhouse Unit #15

API Number: 43-047-32734

Lease Number: U - 0779

Location: NWNW Sec. 09 T.11S R. 23E

## 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.

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 3M 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 Mahogany oil shale, identified at 1,262 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  $\pm 1,062$  ft. and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

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 3162.7-2, 3162.7-3, and 3162.7-4 shall be submitted to the appropriate District Office within thirty (30) 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 3162.7-4.

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. 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

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 P. 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.

CONDITIONS OF APPROVAL

SURFACE USE PROGRAM

Because of the abundance of raptor habitat around the well location, another raptor clearance will be needed if the well has not been completed by May 1, 1996.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: UNITED UTILITIES

Well Name: UNITED ROCKHOUSE FEDERAL # 15

Api No. 43-047-32734

Section 9 Township 11S Range 23E County UINTAH

Drilling Contractor EXETER

Rig # 8

SPUDDED: Date 3/21/96

Time \_\_\_\_\_

How ROTARY

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

Reported by D. HACKFORD-DOGM

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

Date: 3/22/96 Signed: JLT

# UNITED

UTILITIES INCORPORATED

March 26, 1996

Ms. Lisha Cordova  
Division of Gas, Oil & Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

Re: Entity Action Form - Form 6  
Rockhouse #15 Gas Well  
Uintah County, Utah

Dear Ms. Cordova:

Enclosed you will find the completed Entity Action Form 6 on the above captioned well. We anticipate completion to follow as soon as drilling is complete, and the engineer will submit the required completion report and well logs as soon as possible thereafter.

Production is anticipated to be from the Wasatch zone at this time, however, if this changes you will be notified. Also, if you need any additional information on the Rockhouse #15, please feel free to contact our Geologist, Ms. Monica Ryden, at (303) 696-9706, or the Petroleum Engineer, Mr. Terry Cox, at (303) 892-9120.

If I can be of any assistance or answer any questions, please call at any time.

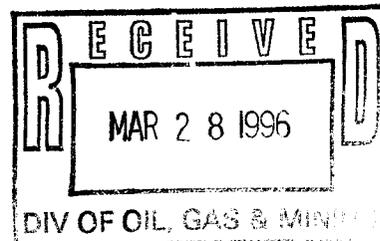
Sincerely,  
UNITED UTILITIES CORPORATION

*De Van Overbeke*  
De Van Overbeke, Production Secretary

:dv  
Enclosure

pc: Monica Ryden, Geologist  
Terry J. Cox, Petroleum Engineer  
Tammy Seiter - Houston Office  
File - Vernal Office

msworks\Rockhouse\RH15\entact15.wps



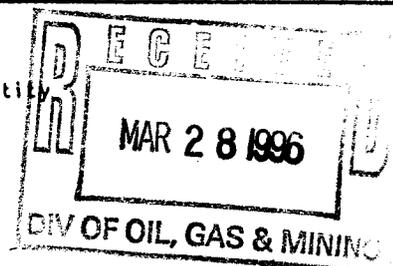
ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
B	<del>99999</del> <del>20205</del>	02025	43-047- <del>32521</del> 32734	ROCKHOUSE #15		910	11S	23E	UINTAH	<del>2-6-96</del> 3/21/96	3/21/96
WELL 1 COMMENTS: The ROCKHOUSE #15 is being drilled in an existing Unit, and is an addition to the ROCKHOUSE UNIT. (Wasatch Zone) <i>Entity added 3-29-96. Lec</i>											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

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

(3/89)



*De Van Overbeke*  
Signature De Van Overbeke  
Production Secretary 3/27/96  
Title Date  
Phone No. (801) 789-2772

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE\*

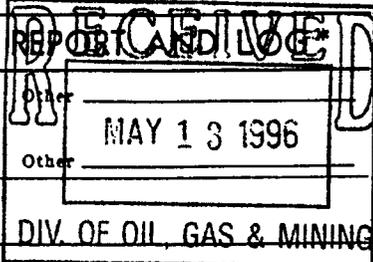
(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.

UTU-0779

**WELL COMPLETION OR RECOMPLETION REPORT**



6. IF INDIAN, ALLUTEE OR TRIBE NAME  
NA

7. UNIT AGREEMENT NAME  
Rockhouse Unit

8. FARM OR LEASE NAME  
Rockhouse Unit

9. WELL NO.  
15

10. FIELD AND POOL, OR WILDCAT  
Rockhouse Gas Field

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA  
Sec. 9, T11S, R23E  
S.L.B. & M

12. COUNTY OR PARISH  
Uintah

13. STATE  
Utah

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

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

2. NAME OF OPERATOR  
United Utilities Corporation

3. ADDRESS OF OPERATOR  
625 North 100 West Vernal, Utah 84078

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface 1,031' FNL & 1,300' FWL Section 9, T11S, R23E  
At top prod. interval reported below Same  
At total depth Same

14. PERMIT NO. 43-044-3273A DATE ISSUED 2/1/96

15. DATE SPUDDED 3/20/96 16. DATE T.D. REACHED 3/28/96 17. DATE COMPL. (Ready to prod.) 4/26/96 18. ELEVATIONS (DP, RER, RT, GR, ETC.)\* 5647.5 GL 19. ELEV. CASINGHEAD 5647.5 GL

20. TOTAL DEPTH, MD & TVD 5,975 21. PLUG. BACK T.D., MD & TVD 5,931 22. IF MULTIPLE COMPL., HOW MANY\* 23. INTERVALS DRILLED BY → 0 - T.D. ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* 4,537' - 4,547' Wasatch 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN CNL/Litho-Density - Induction CBL 5-17-96 27. WAS WELL CORED No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8	36	256	12 1/4	165 sx, to surface	None
4 1/2	10.5	5975	7 7/8	1110 sx to surface	None

29. LINER RECORD

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

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8	4521	

31. PERFORATION RECORD (Interval, size and number) 4,537'-4,547' 4 JSPF

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
4537-4547	85,000# sd + gelled water

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
4/26/96	Flowing	Producing

DATE OF TEST	HOURS TESTED	CHOKER SIZE	PROD'N. FOR TEST PERIOD	OIL—BSL.	GAS—MCF.	WATER—BSL.	GAS-OIL RATIO
4/27/96	24	Open	→	--	942	32	--

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BSL.	GAS—MCF.	WATER—BSL.	OIL GRAVITY-API (CORR.)
350	420	→	--	942	32	--

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold TEST WITNESSED BY D, Williamson

35. LIST OF ATTACHMENTS  
Logs under separate cover

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

SIGNED [Signature] TITLE Agent- Consulting Engineer DATE 5/7/96

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

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 83, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see Item 86.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 83. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sucks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool. Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

FORMATION		TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	GEOLOGIC MARKERS	
		DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURE, AND RECOVERY	CORDED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURE, AND RECOVERY	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
Wasatch	3302	5269	Gas			
Mesaverde	5269	TD				

# UNITED

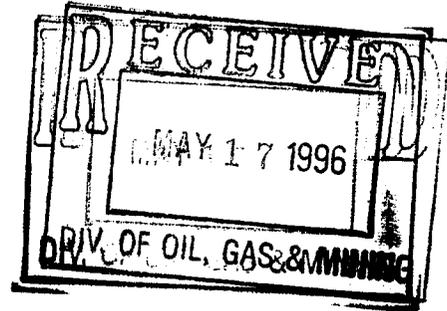
UTILITIES INCORPORATED

May 13, 1996

Department of Natural Resources  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

Attn: Ms. Lisha Cordova

Re: Rockhouse Unit #15 Logs - API 43-047-32734  
Rockhouse Gas Field - Uintah County, Utah



Dear Ms. Cordova:

Enclosed are the following logs on the above captioned well, furnished by Schlumberger:

- Cement Bond Log with Gamma Ray & Collars
- Phasor Induction Gamma Ray Log
- Compensated Neutron Litho-Density Gamma Ray Log

The well is completed and producing from the Wasatch zone. The required Completion Report has been submitted; a copy is enclosed herewith.

If you have any questions, please contact our Geologist, Ms. Monica Ryden, at (303) 696-9706, or the Consulting Petroleum Engineer, Mr. Terry Cox, at (303) 892-9120.

Kindest regards,  
UNITED UTILITIES CORPORATION

*De Van Overbeke*

De Van Overbeke,  
Administrative / Production Secretary

:dv

Enclosures (3)

pc: Terry J. Cox, Consulting Petroleum Engineer  
Monica E. Ryden, Geologist  
Tammy Seiter - Houston Office  
Vernal Office - File

\\msword\rockhous\rock15\logsutah.wps

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE\*

Form approved,  
Budget Bureau No. 42-2566-1

RECEIVED  
MAY 17 1996  
DUPLICATE COPY

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

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

1. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-IN  PLUG BACK  DIFF. RESER.

2. NAME OF OPERATOR  
United Utilities Corporation

3. ADDRESS OF OPERATOR  
625 North 100 West Vernal, Utah 84078

3. LEASE DESIGNATION AND SERIAL NO.  
UTU-0779

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
NA

7. UNIT AGREEMENT NAME  
Rockhouse Unit

8. FARM OR LEASE NAME  
Rockhouse Unit

9. WELL NO.  
15

10. FIELD AND POOL, OR WILDCAT  
Rockhouse Gas Field

11. SEC., T., R., M., OR BLOCK AND STREET OR AREA  
Sec. 9, T11S, R23E  
S.L.B.&M

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface 1,031' FNL & 1,300' FWL Section 9, T11S, R23E  
At top prod. interval reported below Same  
At total depth Same

14. PERMIT NO. 43-047-32734  
DATE ISSUED 2/1/96

12. COUNTY OR PARISH  
Uintah

13. STATE  
Utah

13. DATE SPUNDED 3/20/96 14. DATE T.D. REACHED 3/28/96 17. DATE COMPL. (Ready to prod.) 4/26/96 18. ELEVATIONS (OF, BEH, ET, OR, ETC.)\* 5647.5 GL 19. ELEV. CASINGHEAD 5647.5 GL

20. TOTAL DEPTH, MD & TVD 5,975 21. PLUG BACK T.D., MD & TVD 5,931 22. IF MULTIPLE COMPL., HOW MANY? 23. INTERVALS DRILLED BY ROTARY TOOLS 0 - T.D. CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* 4,537' - 4,547' Wasatch 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN  
CNL/Litho-Density - Induction CBL 27. WAS WELL Cased No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8	36	256	12 1/4	165 sx. to surface	NONE
4 1/2	10.5	3975	7 7/8	110 sx to surface	None

29. LINER RECORD

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

30. TUBING RECORD

SIZE	DEPTH SET (MD)	SACKS SET (MD)
2 3/8	4521	

31. PERFORATION RECORD (Interval, size and number)  
4,537'-4,547' 4 JSPF

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
4537-4547	85,000# sd + gelled water

33. PRODUCTION

DATE FIRST PRODUCTION 4/26/96 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing WELL STATUS (Producing or shut-in) Producing

DATE OF TEST	HOURS TESTED	CHOKER SIZE	PROP'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
4/27/96	24	Open		---	942	32	---

FLOW TUBING PUMPS	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-APT (CORR.)
350	420		---	942	32	---

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold TEST WITNESSED BY D. Williamson

35. LIST OF ATTACHMENTS  
Logs under separate cover

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

SIGNED [Signature] TITLE Agent- Consulting Engineer DATE 5/7 /96

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

**STATE OF UTAH**  
**DIVISION OF OIL, GAS AND MINING**  
 1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801

## MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

TAMARA SEITER  
 UNITED UTILITIES CORP  
 7670 WOODWAY STE 340  
 HOUSTON TX 77063

UTAH ACCOUNT NUMBER: N6360

REPORT PERIOD (MONTH/YEAR): 12 / 96

AMENDED REPORT  (Highlight Changes)

Well Name			Producing Zone	Well Status	Days Oper	Production Volumes			
API Number	Entity	Location				OIL(BBL)	GAS(MCF)	WATER(BBL)	
ROCKHOUSE UNIT 14			WSTC			- UTU 0779			
4304732521	02025	T1S 23E 10							
ROCKHOUSE UNIT 13			WSTC			- UTU 0779			
4304732522	02025	T1S 23E 10							
ROCKHOUSE UNIT 12			WSTC			- UTU 0779			
4304732719	02025	T1S 23E 9							
ROCKHOUSE UNIT 15			WSTC			-	"		
4304732734	02025	T1S 23E 9							
ROCKHOUSE UNIT 17			WSTC			-	"		
4304732760	02025	T1S 23E 9							
ROCKHOUSE UNIT 18			WSTC			-	mL 3221		
4304732762	02025	T1S 23E 16							
ROCKHOUSE UNIT 1			MVRD			-	UO 779		
4304715809	10876	T1S 23E 10							
LAPAGLIA #1			WSTC			-	UTU 66407	Upper Rockhouse - Not a Fed. Unit	
4304732634	11834	T1S 23E 3							
AGOSTA #1			WSTC			-	UTU 66407	Upper Rockhouse - Not a Fed. Unit	
4304732584	11906	T1S 23E 3							
ROCKHOUSE 13-A			GRRV			-	UTU 0779		
4304732753	11949	T1S 23E 10							
<b>TOTALS</b>									

COMMENTS: \* Upper Rockhouse "Lapaglia #1 & Agosta #1" separate chg.

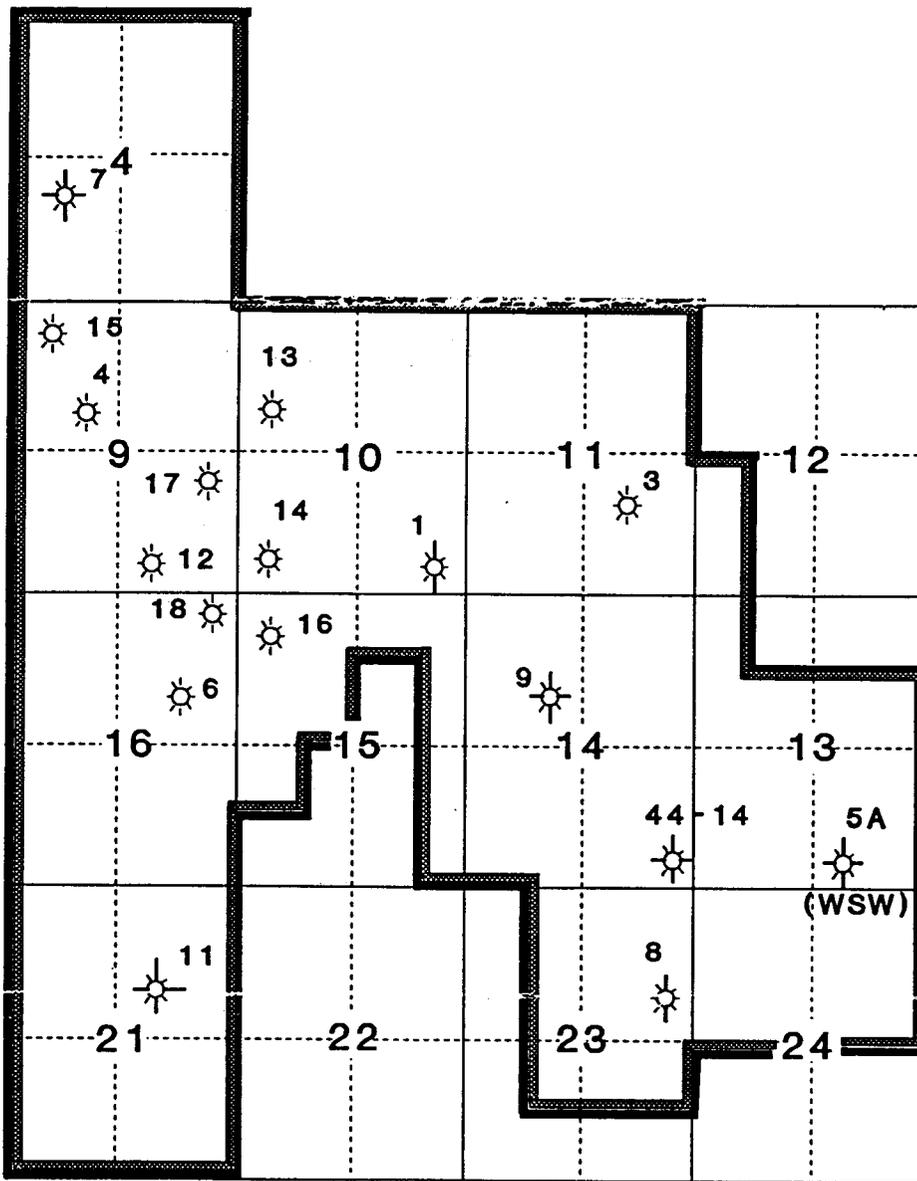
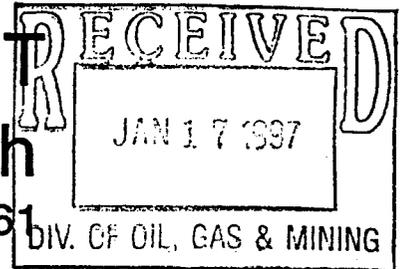
I hereby certify that this report is true and complete to the best of my knowledge.

Date: \_\_\_\_\_

Name and Signature: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

**ROCK HOUSE UNIT**  
**Uintah County, Utah**  
**EFFECTIVE: JANUARY 11, 1961**



**11S**

**23E**

- UNIT AGREEMENT (UTU63030X)
- - -** WASATCH - MESAVERDE PA

AS CONTRACTED FEBRUARY 2, 1966

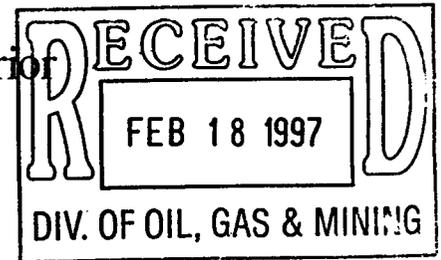
**6,230.45 ACRES**

<b>WSTC-MSVD PA ALLOCATION</b>	
FEDERAL	89.7279%
STATE	10.2721%
6,230.45 Acres	



United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155



**COPY**

February 12, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

United Utilities Incorporated  
Attn: John Lapaglia  
7670 Woodway, Suite 340  
Houston, Texas 77063

Re: Rock House Unit  
Uintah County, Utah

Gentlemen:

We are in receipt of your notice of intent to resign as Unit Operator of the Rock House Unit, effective March 3, 1997.

Please be advised that the resignation shall not become effective for a period of 6 months after notice of intention to resign has been served by the Unit Operator on all working interest owners and this office (February 10), unless a new unit operator is selected, approved and has taken over and assumed the duties and obligations of unit operator prior to the expiration of the six month period. The resignation of the unit operator shall not release United Utilities Incorporated from any liability for any default by it occurring prior to the effective date of resignation.

Until a successor of unit operator is selected and approved, the working interest owners shall be jointly responsible for performance of the duties of Unit Operator, and shall no later than 30 days before such resignation or removal becomes effective (6 months after working interest notification) appoint a common agent to represent them in any action to be taken under the agreement..

If no successor of unit operator is selected and qualified as provided in Section 6 of the unit agreement, this office may at its election declare the unit agreement terminated.

Please provide all interested parties, copies of this correspondence. If you have any questions, please contact Teresa Thompson (801) 539-4047 or Mickey Coulthard (801) 539-4042.

Sincerely,

/s/ Robert A. Henricks

Robert A. Henricks  
Chief, Branch of Fluid Minerals

bcc: District Manager - Vernal  
~~Division Oil Gas & Mining~~  
File - Rock House Unit  
Agr. Sec. Chron  
Fluid Chron

UT931:TAThompson:tt:02-12-97

# FAX

To:

Attn:

Jesha Cordova

Time Sent:

3:28 pm

From:

Sammy

Date:

4/8/97

Number of Pages:

**4**

Fax Number:

(801) 359-3940

(includes this page)

Remarks:

Jesha, I'm faxing you a letter  
where United is Resigning as  
unit operator effective 2/1/97

Please call with any  
questions,  
Thanks, Sammy

**The information contained in this facsimile message is privileged and confidential information, intended for the use of the individual or entity indicated above. Any dissemination, distribution or copy of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone and return the original message to us via the U. S. Postal Service. Thank you.**

# UUC

**UNITED UTILITIES CORPORATION**  
**7670 Woodway Dr., Suite 340**  
**Houston, Texas 77063**  
**Phone: (713) 782-9093**  
**Fax: (713) 782-9095**

# UNITED

## UTILITIES INCORPORATED

April 8, 1997

State of Utah  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801  
ATTN: Lisha Cordova

Re: Resignation of Unit Operator (Rainbow, Rockhouse & Upper Rockhouse)

Dear Lisha Cordova,

Per our conversation on April 7, 1997 United Utilities Corporation has resigned as Unit Operator effective February 1, 1997 and Rosewood Resources Inc. is now the new Operator effective February 1, 1997. Please find the Monthly Oil and Gas Production Report showing Well Name, API # and Location of the Wells so that you can properly update United Utilities and Rosewoods Accounts.

Thanks in advance and have a great day.

Sincerely,  
United Utilities Corporation



Tamara Seiter  
Senior Accountant  
Revenue & Joint Interest Billing

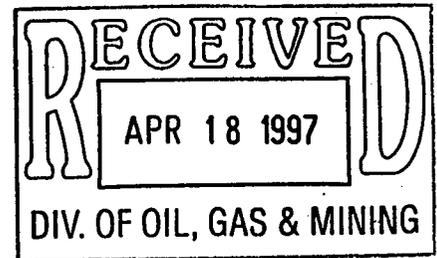
ts

**COPY**



**United States Department of the Interior**

**BUREAU OF LAND MANAGEMENT**  
Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155



IN REPLY REFER TO  
UT-931

April 16, 1997

Rosewood Resources, Inc.  
100 Crescent Court, Suite 500  
Dallas, Texas 75201

Re: Rock House Unit  
Uintah County, Utah

Gentlemen:

On April 10, 1997, we received an indenture dated March 1, 1997, whereby United Utilities Corporation resigned as Unit Operator and Rosewood Resources, Inc. was designated as Successor Unit Operator for the Rock House Unit, Uintah County, Utah.

This indenture was executed by all required parties and the signatory parties have complied with Sections 5 and 6 of the unit agreement. The instrument is hereby approved effective April 16, 1997.

Your nationwide (Montana) oil and gas bond No. 0627 will be used to cover all operations within the Rock House Unit.

It is requested that you notify all interested parties of the change in unit operator. Copies of the approved instruments are being distributed to the appropriate federal offices, with one copy returned herewith.

Sincerely,

/s/ James A. Fouts

for Robert A. Henricks  
Chief, Branch of Fluid Minerals

Enclosure

bcc: District Manager - Vernal (w/enclosure)  
~~Division of Oil, Gas & Mining~~  
Minerals Adjudication Group U-932  
File - Rock House Unit (w/enclosure)  
MMS - Data Management Division  
Agr. Sec. Chron  
Fluid Chron

U-931:TAThompson:tt:April 16, 1997

WELL STATUS REPORTS  
UTAH STATE OFFICE

INSPECTION ITEM	API NO.	WELL NUMBER	QTQT	SEC	TWN	RNG	WELL STATUS	LEASE NAME	OPERATOR
** INSPECTION ITEM 891007314C		ROCK HOUSE WS MV							
✓ 891007314C	430471580900S1	1	SESE	10	11S	23E	TA	UTU0779	UNITED UTILITIES CORPORAT
✓ 891007314C	430473271900S1	12	SWSE	9	11S	23E	PGW	UTU0779	UNITED UTILITIES CORPORAT
✓ 891007314C	430473252200S1	13	SWNW	10	11S	23E	PGW	UTU0779	UNITED UTILITIES CORPORAT
✓ 891007314C	430473252100S1	14	SWSW	10	11S	23E	PGW	UTU0779	UNITED UTILITIES CORPORAT
→ 891007314C	430473273400S1	15	NWNW	9	11S	23E	PGW	UTU0779	UNITED UTILITIES CORPORAT
<del>891007314C</del>	<del>430473276100X1</del>	<del>16</del>	<del>NWNW</del>	<del>15</del>	<del>11S</del>	<del>23E</del>	<del>ABD</del>	<del>UTU0780</del>	<del>UNITED UTILITIES CORPORAT</del>
✓ 891007314C	430473276000S1	17	NESE	9	11S	23E	PGW	UTU0779	UNITED UTILITIES CORPORAT
✓ 891007314C	430473276200S1	18	NENE	16	11S	23E	PGW	STATE	UNITED UTILITIES CORPORAT
✓ 891007314C	430471581000S1	3	NWSE	11	11S	23E	PGW	UTU0778	UNITED UTILITIES CORPORAT
✓ 891007314C	430471581100S1	4	SENW	9	11S	23E	PGW	UTU0779	UNITED UTILITIES CORPORAT
✓ 891007314C	430473180600S1	44-14	SESE	14	11S	23E	ABD	UTU0779	UNITED UTILITIES CORPORAT
<del>891007314C</del>	<del>430471581200S1</del>	<del>5A</del>	<del>SWSE</del>	<del>13</del>	<del>11S</del>	<del>23E</del>	<del>WSW</del>	<del>UTU0779</del>	<del>UNITED UTILITIES CORPORAT</del>
✓ 891007314C	430471581500S1	8	SENE	23	11S	23E	TA	UTU0780	UNITED UTILITIES CORPORAT
** INSPECTION ITEM 891007314X		ROCK HOUSE X							
✓ 891007314X	430473275300S1	13-A	SWNW	10	11S	23E	POW	UTU0779	UNITED UTILITIES CORPORAT

*Prod, addl  
Rehab Ref.  
by BLM*

*Referred Op. to  
Water Rights*

# OPERATOR CHANGE WORKSHEET

Routing	
1-ABC	6-GLH
2-GLH	7-KDK KAS
3-DTSOTS	8-SJ
4-VLD	9-FILE
5-RH GEB	

Attach all documentation received by the division regarding this change.  
Initial each listed item when completed. Write N/A if item is not applicable.

- Change of Operator (well sold)       Designation of Agent  
 Designation of Operator       Operator Name Change Only

The operator of the well(s) listed below has changed, effective: 2-1-97

TO: (new operator)	<u>ROSEWOOD RESOURCES INC</u>	FROM: (old operator)	<u>UNITED UTILITIES CORP.</u>
(address)	<u>100 CRESCENT COURT #500</u>	(address)	<u>7670 WOODWAY STE 340</u>
	<u>DALLAS TX 75201</u>		<u>HOUSTON TX 77063</u>
			<u>TAMARA SEITER</u>
	Phone: <u>(214)871-5710</u>		Phone: <u>(713)782-9093</u>
	Account no. <u>N7510</u>		Account no. <u>N6360</u>

WELL(S) attach additional page if needed: **ROCK HOUSE UNIT**

Name: <b>**SEE ATTACHED**</b>	API: <u>43-047-3213A</u>	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____

## OPERATOR CHANGE DOCUMENTATION

- Lec 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). *(Rec'd 4-8-97)*
- Lec 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). *(X BLM Aprv. 4-16-97)*
- N/A 3. The **Department of Commerce** has been contacted if the new operator above is not currently operating any wells in Utah. Is the company registered with the state? (yes/no) \_\_\_\_\_ If yes, show company file number: \_\_\_\_\_
- Lec 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of Federal and Indian well operator changes should ordinarily take place prior to the division's approval, and before the completion of steps 5 through 9 below.
- Lec 5. Changes have been entered in the **Oil and Gas Information System** (3270) for each well listed above. *(4-30-97)*
- Lec 6. **Cardex** file has been updated for each well listed above. *(5-5-97)*
- Lec 7. **Well file labels** have been updated for each well listed above. *(5-5-97)*
- Lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. *(4-30-97)*
- Lec 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

**ENTITY REVIEW**

- Yes 1. (r649-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no)      If entity assignments were changed, attach copies of Form 6, Entity Action Form.
- N/A 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been notified through normal procedures of entity changes.

**BOND VERIFICATION - (~~FEE WELLS ONLY~~)** *Trust Lands 80,000 Surety # 5836732 "Selico Ins. Co."*

- Yes 1. (r649-3-1) The NEW operator of any fee lease well listed above has furnished a proper bond.
- Yes N/A 2. A copy of this form has been placed in the new and former operator's bond files.
- Yes 3. The FORMER operator has requested a release of liability from their bond (yes/no)     , as of today's date 4-22-97. If yes, division response was made to this request by letter dated                     .

**LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY**

- BTJ 1. Copies of documents have been sent on 5/9/97 to Ed Bonner at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.
- N/A 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated                      19     , of their responsibility to notify all interest owners of this change.

**FILMING**

- Yes 1. All attachments to this form have been microfilmed. Today's date: 6-6-97.

**FILING**

- 1. Copies of all attachments to this form have been filed in each well file.
- 2. The original of this form, and the original attachments are now being filed in the Operator Change file.

**COMMENTS**

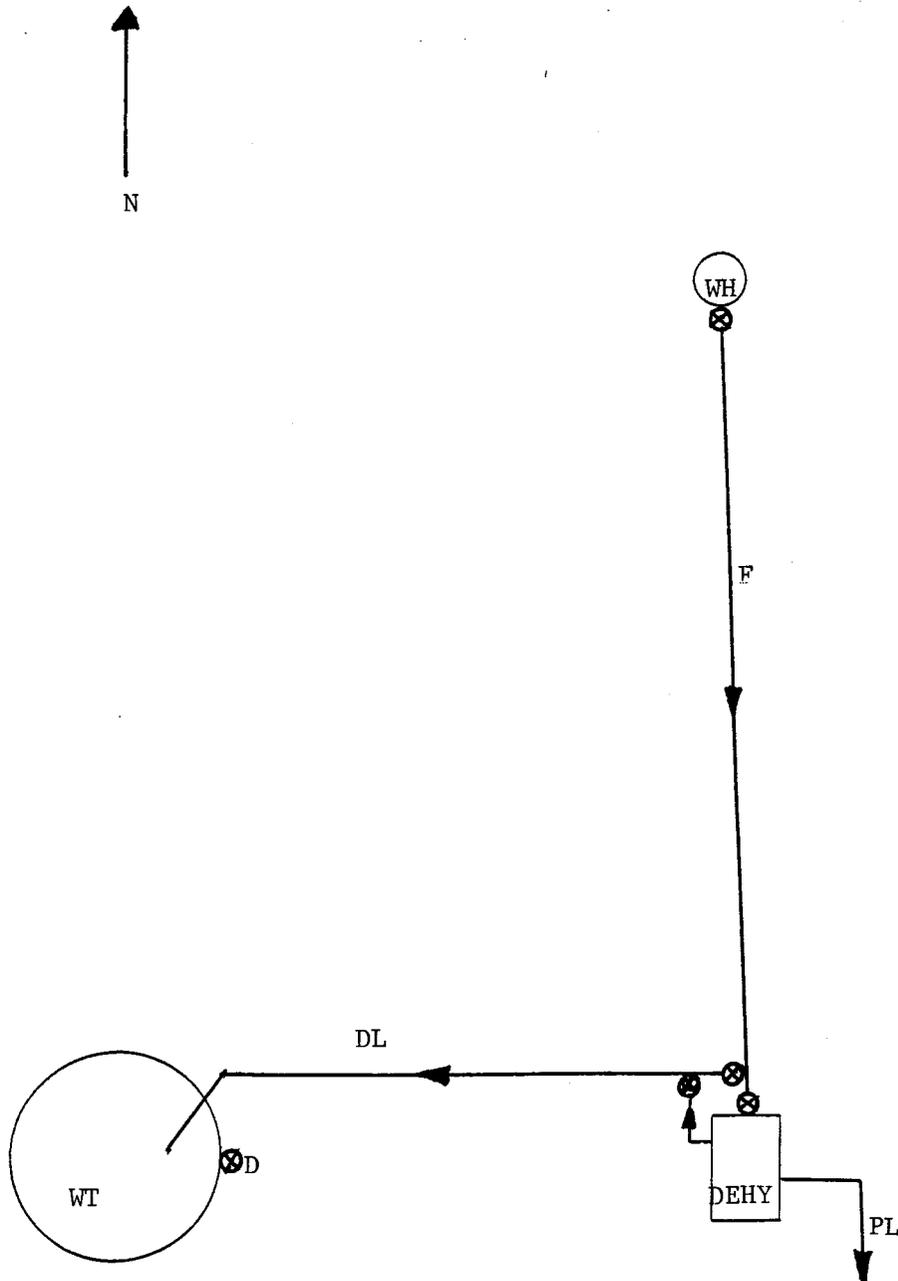
970418 Bim/SY. Aprv. 4-16-97 et. same



ROSEWOOD RESOURCES, INC.  
VERNAL, UT

43.047.32734  
ROCK HOUSE UNIT FEDERAL #15  
ROCK HOUSE UNIT  
AGREEMENT # UTU 63030C  
NW/NW SEC. 9 T11S R23E  
UINTAH COUNTY, UT

Site Security Plan located  
in the Vernal, Utah office.



## LEGEND

<b>F</b>	<b>FLOWLINE</b>
<b>DL</b>	<b>DUMP\BLOWDOWN LINE</b>
<b>CL</b>	<b>CONDENSATE LINE</b>
<b>SL</b>	<b>SALES LINE</b>
<b>PL</b>	<b>WILDHORSE PIPELINE</b>
<b>WH</b>	<b>WELLHEAD</b>
<b>SEP</b>	<b>SEPARATER</b>
<b>ST</b>	<b>STORAGE TANK</b>
<b>WT</b>	<b>WATER TANK</b>
<b>⊗</b>	<b>VALVE</b>
<b>A ⊗</b>	<b>SEALED CL VALVE</b>
<b>B ⊗</b>	<b>SEALED SALES VALVE</b>
<b>D ⊗</b>	<b>SEALED DRAIN VALVE</b>
<b>M</b>	<b>GAS METER</b>
<b>PU</b>	<b>PUMPING UNIT</b>
<b>DEHY</b>	<b>GAS DEHYDRATER</b>
<b>COMP</b>	<b>GAS COMPRESSOR</b>
<b>C ⊗</b>	<b>EQUALIZER LINE</b>

ATTACHMENT TO PRECEDING SITE FACILITY DIAGRAMS

General sealing of valves - sales are by tank gauging.

Production Phase: All drain valves (D) and sales valves (B) are sealed closed. The fill valve (A) and equalizer valve (C) are open and unsealed on the producing tank. The equalizer valve (C) on another tank is open and unsealed to allow production to flow to a spare tank in the event of an upset.

Sales Phase: The tank from which sales are being made will be isolated by sealing close the fill line (A), equalizer line (C), and drain valve (D) prior to shipping. After these valves are sealed closed, the top gauge will be taken. The sales valve (B) on the isolated sales tank will be broken and opened for sales. After sales, the sales valve (B) is sealed closed and the closing gauge is taken. The fill valve (A) and equalizer valve (C) seals are broken and the valves opened, when production is turned back into this tank.

Draining Phase: The tank being drained will be isolated by sealing closed the sales valve (B) and the other drain valves (D) on the other tanks. The top gauge will be taken prior to opening the drain valve (D). The water is drained off and the drain valve (D) is sealed closed and the top gauge is retaken.

<u>Sealed Valves</u>	<u>Producing</u>	<u>Shipping</u>	<u>Draining</u>
A-Fill Valve	open	closed	open
B-Shipping Valve	closed	open	closed
C-Equalizer Valve	open	closed	open
D-Drain Valve	closed	closed	open
E-Hot-oil Valve	closed	closed	closed