

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

FORM 3

AMENDED REPORT   
(highlight changes)

<b>APPLICATION FOR PERMIT TO DRILL</b>		5. MINERAL LEASE NO: ML-47085	6. SURFACE: State
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>		7. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
B. TYPE OF WELL: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER _____ SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. UNIT or CA AGREEMENT NAME:	
2. NAME OF OPERATOR: The Houston Exploration Company		9. WELL NAME and NUMBER: Buck Canyon 15-16-12-21	
3. ADDRESS OF OPERATOR: 1100 Louisiana, Suite 200 CITY Houston STATE TX ZIP 77002		PHONE NUMBER: (713) 830-6800	10. FIELD AND POOL, OR WILDCAT: Buck Canyon
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 740' FSL & 1809' FEL AT PROPOSED PRODUCING ZONE: same as above		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 16 12S 21E	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 52.2 miles south of Vernal, UT		12. COUNTY: Uintah	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 740'	16. NUMBER OF ACRES IN LEASE:	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) 1,300'	19. PROPOSED DEPTH: 8,000	20. BOND DESCRIPTION:	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 6,254 GR	22. APPROXIMATE DATE WORK WILL START: 9/30/2005	23. ESTIMATED DURATION: 30 Days	

24. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT			
11"	8 5/8" J-55 36#	2,000	PREMIUM LITE II	250 SKS	3.38 CF	11.0 PPG
			CLASS "G"	329 SKS	1.2 CF	15.6 PPG
			Calcium Chloride	200 SKS	1.10 CF	15.6 PPG
7 7/8"	4 1/2" N-80 11.6#	8,000	PREMIUM LITE II	200 SKS	3.3 CF	11.0 PPG
			CLASS "G"	400 SKS	1.56 CF	14.3 PPG

25. **ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER     | <input checked="" type="checkbox"/> COMPLETE DRILLING PLAN                                   |
| <input checked="" type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER | <input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER |

**CONFIDENTIAL**

NAME (PLEASE PRINT) William A. Ryan TITLE Agent  
SIGNATURE *William A. Ryan* DATE 9/6/2005

(This space for State use only)

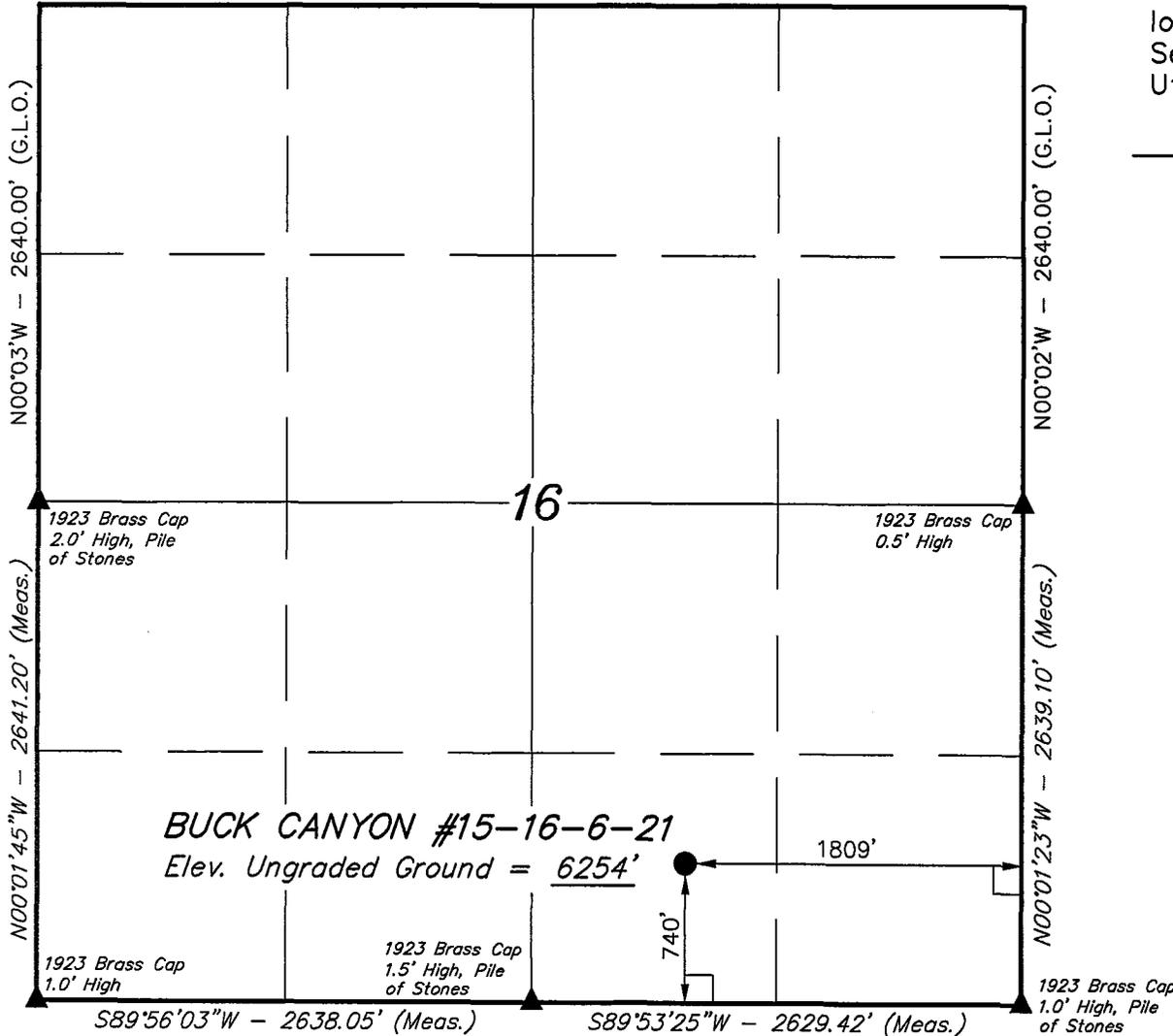
API NUMBER ASSIGNED: 43-047-37120

Approved by the  
Utah Division of  
Oil, Gas and Mining  
Date: 9/6/2005  
By: *[Signature]*  
(See Instructions on Reverse Side)

RECEIVED  
SEP 09 2005  
DIV. OF OIL, GAS & MINING

# T12S, R21E, S.L.B.&M.

S89°52'W - 5272.08' (G.L.O.)

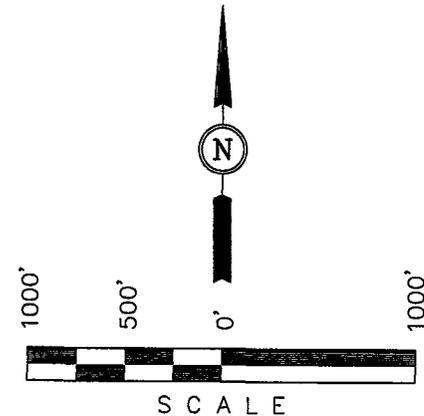


## THE HOUSTON EXPLORATION COMPANY

Well location, BUCK CANYON #15-16-12-21, located as shown in the SW 1/4 SE 1/4 of Section 16, T12S, R21E, S.L.B.&M. Uintah County, Utah.

### BASIS OF ELEVATION

BUCK TRIANGULATION STATION LOCATED IN THE SW 1/4 OF SECTION 23, T12S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN. SE QUADRANGLE, UTAH, UTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6546 FEET.



### CERTIFICATE

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

*Robert J. Hobbs*  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 16194  
 STATE OF UTAH

### BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(AUTONOMOUS NAD 83)  
 LATITUDE = 39°46'06.20" (39.768389)  
 LONGITUDE = 109°34'09.62" (109.569339)  
 (AUTONOMOUS NAD 27)  
 LATITUDE = 39°46'06.32" (39.768422)  
 LONGITUDE = 109°34'07.15" (109.568653)

### LEGEND:

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

## UINTAH ENGINEERING & LAND SURVEYING

85 SOUTH 200 EAST - VERNAL, UTAH 84078

(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 08-16-05	DATE DRAWN: 08-22-05
PARTY A.F. T.C. P.M.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE THE HOUSTON EXPLORATION COMPANY	

**Ten Point Plan**

**The Houston Exploration Company**

**Buck Canyon 15-16-12-21**

Surface Location SW¼ SE ¼, Section 16, T. 12S., R. 21E.

**1. Surface Formation**

Green River

**2. Estimated Formation Tops and Datum:**

<u>Formation</u>	<u>Depth</u>	<u>Datum</u>
Green River	Surface	+6,254' G.L.
Uteland Butte Limestone	3,946	+2,308'
Wasatch	4,080	+2,174'
Mesaverda	5,747	+507'
Buck Tounge	8,080	-1,826'
Castlegate	8,152	-1,898'
Mancos	8,447	-2,193'
TD	8,000	-1,746'

A 11" hole will be drilled to 2,000' +/- . The hole depth will depend on the depth that the Birds Nest Zone is encountered. The hole will be drilled 400' beyond the top of the Birds Nest.

**3. Producing Formation Depth:**

Formation objective includes the Green River, Wasatch, Mesaverde and its sub-members.

Off Set Well information.

Drilling/ Permitted Well:

Buck Canyon 13-16-12-21

Buck Canyon 11-16-12-21

Buck Canyon 9-16-12-21

Abandoned Wells:

G #1-16

SQ #44-16

**4. Proposed Casing:**

<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight/FT</u>	<u>Grade</u>	<u>Coupling &amp; Tread</u>	<u>Casing Depth</u>	<u>New/Used</u>
11	8 5/8	36#	J-55	STC	2000	NEW
7 7/8	4 1/2	11.6#	M-55	LTC	T.D.	NEW

**Cement Program:**

The Surface Casing will be cemented to the Surface as follows:

	<u>Casing Size</u>	<u>Cement Type</u>	<u>Cement Amounts</u>	<u>Cement Yield</u>	<u>Cement Weight</u>
Lead:	8 5/8	Premium Lite II .05#/sk Static Free .25#/sk Cello Flake 5#/sk KOL Seal .002 gps FP-6L 10% Bentonite .5% Sodium Metasilicate 3% Potassium Chloride	250 sks. +/-	3.38ft <sup>3</sup> /sk	11.0 ppg
Tail:	8 5/8	Class "G" 2% Calcium Chloride .25#/sk Cello Flake	329 sks. +/-	1.2ft <sup>3</sup> /sk	15.6 ppg
Top Job:	8 5/8	4% Calcium Chloride .25#/sk Cello Flake	200 sks. +/-	1.10ft <sup>3</sup> /sk	15.6 ppg

Production casing will be cemented to 2,500' or higher as follows:

	<u>Casing Size</u>	<u>Cement Type</u>	<u>Cement Amounts</u>	<u>Cement Yield</u>	<u>Cement Weight</u>
Lead:	4 1/2	Premium Lite II .25#/sk Cello Flake .05#/sk Static Free 5#/sk Kol Seal 3% Potassium Chloride .055 gps FP-6L 10% Bentonite .5 Sodium Metasilicate	200 sks +/-	3.3ft <sup>3</sup> /sk	11.0 ppg
Tail:	4 1/2	Class "G" .05% Static Free 2 Sodium Chloride .1% R-3 2% Bentonite	400 sks +/-	1.56ft <sup>3</sup> /sk	14.3 ppg

**5. BOP and Pressure Containment Data:**

The anticipated bottom hole pressure will be less than 3000 psi.

A 3000-psi WP BOP system as described in the BOP and Pressure Containment Data (attached) will be installed and maintained from the 8 5/8" surface casing. The BOP system including the casing will be pressure tested to minimum standards set forth in "On Shore Order #2". The BOP will be mechanically checked daily during the drilling operation.

**6. Mud Program:**

<u>Interval</u>	<u>Mud weight lbs./gal.</u>	<u>Viscosity Sec./OT.</u>	<u>Fluid Loss MI/30 Mins.</u>	<u>Mud Type</u>
0-2000	Air/Clear Water	-----	No Control	Water/Gel
2000-T.D.	8.4-12.0	30	8-10	Water/Gel

## 7. Auxiliary Equipment

Upper Kelly cock, full opening stabbing valve, 2 1/2" choke manifold and pit level indicator.

## 8. Testing, Coring, Sampling and Logging:

- a) Test: None are anticipated.
- b) Coring: There is the possibility of sidewall coring.
- c) Sampling: Every 10' from 2000' to T.D.
- d) Logging:

Type	Interval
DLL/SFL W/GR and SP	T.D. to Surf. Csg
FDC/CNL W/GR and CAL	T.D. to Surf. Csg

## 9. Abnormalities (including sour gas):

No abnormal pressures, temperatures or other hazards are anticipated. Oil and gas shows are anticipated in the Wasatch Formation. Other wells drilled in the area have not encountered over pressured zones or H<sub>2</sub>S.

## 10. Drilling Schedule:

The anticipated starting date is 9/30/2005, 2004. Duration of operations is expected to be 30 days.

**THE HOUSTON EXPLORATION COMPANY**

**13 POINT SURFACE USE PLAN**

**FOR WELL**

**BUCK CANYON 15-16-12-21**

**LOCATED IN SW  $\frac{1}{4}$  SE  $\frac{1}{4}$**

**SECTION 16, T. 12S, R21E, S.L.B.&M.**

**UINTAH COUNTY, UTAH**

**LEASE NUMBER: ML-47085**

**SURFACE OWNERSHIP: STATE**

1. Existing Roads:

**To reach The Houston Exploration Co. well Buck Canyon 15-16-12-21 in Section 16, T12S, R 21E, Starting in Vernal, Utah:**

**Proceed in a westerly direction from Vernal, UT along US Highway 40 approximately 14.0 miles to the junction of State Hwy 88; exit left and proceed in a southerly direction approximately 17.0 miles to Ouray, UT; proceed in a southerly, then southeasterly direction approximately 19.5 miles on the Seep Ridge Road to the junction of this road and an existing two-track road to the southwest; turn right and proceed in a southwesterly, then southeasterly direction approximately 1.4 miles to the beginning of the proposed access to the southwest; follow road flags in a southwesterly direction approximately 0.3 miles to the proposed location.**

**Total distance from Vernal, Utah to the proposed well location is approximately 52.2 miles.**

All existing roads to the proposed location are State of Utah, BLM maintained or County Class D roads. Please see the attached map for additional details.

2. Planned access road

**The proposed access road will be approximately 1,584' +/- of new construction on lease.**

**The road will be graded once per year minimum and maintained.**

- A) Approximate length 1584 ft
- B) Right of Way width 30 ft
- C) Running surface 18 ft
- D) Surface material Native soil
- E) Maximum grade 5%
- F) Fence crossing None
- G) Culvert None
- H) Turnouts None
- I) Major cuts and fills None
- J) Road Flagged Yes
- K) Access road surface ownership State
- L) All new construction on lease Yes
- M) Pipe line crossing None

Please see the attached location plat for additional details.

**An off lease right-of-way will be required. An SF-299 R-o-W application has been filed with the BLM, Vernal Field Office to upgrade the off lease portion of existing two-track road for the Buck Canyon 9-16-12-21, which will be used to access the proposed location.**

All surface disturbances for the road and location will be within the lease boundary.

3. Location of existing wells

The following wells are located within



for the first three months on new meter installations and at least quarterly thereafter. The authorized officer 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 report will be submitted to the BLM's Vernal District office and State of Utah, Division of Oil, Gas, and Mining. All measurement facilities will conform to API (American Petroleum Institute) and AGA (American Gas Association) standards for gas and liquid hydrocarbon measurement.

5. Location and type of water supply

**Water for drilling and cementing will come from Bitter Creek in Permit # T-75377.**

6. Source of construction materials

All construction material for this location site and access road shall be borrow material accumulated during construction of the location site and access road. Additional road gravel or pit lining material will be obtained from private resources.

7. Methods for handling waste disposal

A) Pit construction and liners:

The reserve pit will be approximately **12 ft.** deep and most of the depth shall be below the surface of the existing ground

Please see the attached plat for details.

The reserve pit will be lined.

The reserve pit will be used to store water for drilling. A semi-closed system will be used to drill the well. All fresh water for drilling will come from a frac tank placed on location and from the rig tank. The pit will be used to hold non-flammable materials such as cuttings, salt, drilling fluids, chemicals, produced fluids, etc.

B) Produced fluids:

Produced water will be confined to the reserve pit, or if deemed necessary, a storage tank for a period not to exceed 90 days after initial production. During the 90-day period an application for approval for permanent disposal method and location will be submitted to the authorized officer. **Evaporation may be used instead of trucking to facilitate closing and reclamation of the reserve pit. A pumping system would be used for evaporation.**

C) Garbage:

A trash cage fabricated from expanded metal will be used to hold trash on location and will be removed to an authorized landfill location.

D) Sewage:

A portable chemical toilet will be supplied for human waste.

Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

E) Site clean-up:

After the rig is moved off the location the well site area will be cleaned and all refuse removed.

B) The net wire shall be no more than 2 inches above the ground. The barbed wire shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.

8. Ancillary facilities

There are no ancillary facilities planned at this time and none are foreseen for the future.

C) Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

9. Well-site layout

Location dimensions are as follows:

D) Standard steel, wood or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than 16 ft.

- A) Pad length 345 ft.
- B) Pad width 245 ft.
- C) Pit depth 12 ft.
- D) Pit length 150 ft.
- E) Pit width 75 ft.
- F) Max cut 19.1 ft.
- G) Max fill 6.3 ft.
- H) Total cut yds. 8,780 cu yds
- I) Pit location south end
- J) Top soil location north end
- K) Access road location east end
- L) Flare Pit corner C

E) All wire shall be stretched by using a stretching device before it is attached to the corner posts.

10. Plans for restoration of the surface

Please see the attached location diagram for additional details.

Prior to construction of the location, the top 6 inches of soil material will be stripped off the location and the pit area. The topsoil removed and piled will amount to approximately 1,690 cubic yards of material. Topsoil will be stockpiled in one distinct pile. Placement of the topsoil is noted on the attached location plat. The topsoil pile from the location will be seeded as soon as the soil is stock piled with the seed mix listed. When all drilling and completion activities have been completed and the pit back-filled the topsoil from the pit area will be

All pits will be fenced according to the following minimum standards:

- A) Thirty nine inch net wire shall be used with at least one strand of wire on top of the net wire.

spread on the pit area. The pit area will be seeded when the soil has been spread. The unused portion of the location (the area outside the dead men) will be re-contoured.

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

Changes to the drainage during the construction activities shall be restored to its original line of flow or as near as possible when the pit is back-filled

All disturbed areas will be re-contoured to the approximate natural contours. Prior to back filling the pit the fences around the reserve pit will be removed.

The reserve pit will be reclaimed within 90 days of well completion. If the reserve pit has not dried sufficiently to allow back filling, an extension on the time requirement for back filling the pit will be requested. Once reclamation activities have begun, they shall be completed within 30 days.

After the reserve pit has been reclaimed, no depressions in the soil covering the reserve pit will be allowed. The objective is to keep seasonal rainfall and run off from seeping into the soil used to cover the reserve pit. Diversion ditches and water bars will be used to divert the run off as needed.

When restoration activities have been completed, the location site and new access road cuts and

shoulders shall be reseeded. Prior to reseeding, all disturbed areas will be scarified and left with a rough surface.

A) Seeding dates:

Seed will be spread when topsoil is stock piled and when reclamation work is performed.

The seed mix and quantity list will be used whether the seed is broadcast or drilled.

B) Seed Mix

**To be determined by the Authorized Officer.**

11. Surface ownership:

<b>Access road</b>	<b>State</b>
<b>Location</b>	<b>State</b>
<b>Pipeline</b>	<b>State</b>

12. Other information:

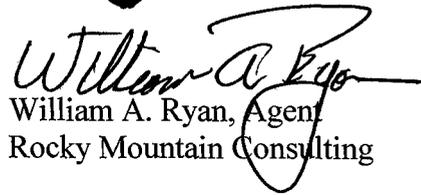
A) Vegetation

The vegetation coverage is Slight. The majority of the existing vegetation consists of non-native species. Rabbit brush, bitter brush, and Indian Rice grass and Sagebrush are also found on the location.

B) Dwellings:

There are no dwelling or other facilities within a one-mile radius of the location.

- C) Archeology:
- The location has been surveyed. A copy of that survey will be forwarded to your office.
- If, during operations, any archaeological or historical sites, or any objects of antiquity (subject to the antiquities act of June 8, 1906) are discovered, all operations, which would affect such sites, will be suspended and the discovery reported promptly to the surface management agency.
- D) Water:
- The nearest water is the Willow Creek located 2 miles to the southwest.**
- E) Chemicals:
- No pesticides, herbicides or other possible hazardous chemicals will be used without prior application.
- F) Notification:
- a) Location Construction  
At least forty eight (48) hours prior to construction of location and access roads.
  - b) Location completion  
Prior to moving on the drilling rig.
  - c) Spud notice  
At least twenty-four (24) hours prior to spudding the well.
  - d) Casing string and cementing
- At least twenty-four (24) hours prior to running casing and cementing all casing strings.
- e) BOP and related equipment tests  
At least twenty-four (24) hours prior to initial pressure tests.
  - f) First production notice  
Within five (5) business days after the new well begins, or production resumes after well has been off production for more than 90 days.
- G) Flare pit:
- The flare pit will be located in **corner C** of the reserve pit outside the pit fences and 100 feet from the bore hole on the east side of the location. All fluids will be removed from the pit within 48 hours of occurrence.
13. Lessees or Operator's representative and certification
- A) Representative
- William A. Ryan  
Rocky Mountain Consulting  
290 S 800 E  
Vernal, UT 84078
- Office 435-789-0968  
Fax 435-789-0970  
Cellular 435-828-0968
- All lease and/or unit operations will be conducted in such a

  
William A. Ryan, Agent  
Rocky Mountain Consulting

manner that full compliance is made with all applicable laws, regulations, onshore oil and gas orders, and any applicable notices to lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

**Onsite Dates:**

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

**B) Certification:**

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 presently exist, that the statements made in this plan are, to the best of my knowledge and belief, true and correct, and that the work associated with the operation proposed herein will be performed by The Houston Exploration Company and its contractors and subcontractors in conformity with this plan and terms and conditions with this plan and the terms and conditions under which it is approved.

Date 9/6/05

### Statement of use of Hazardous Materials

No chemical(s) from the EPA's consolidated list of Chemicals subject to Reporting under Title III of the Superfund Amendments and Reauthorization, Act (SARA) of 1986 will be used, produced, transported, stored, disposed, or associated with the proposed action. No extremely hazardous substances, as defined in 40 cfr 355, will be used, produced, stored, transported, disposed, or associated with the proposed action.

If you require additional information please contact:

William A Ryan  
Agent for The Houston Exploration Company  
Rocky Mountain Consulting  
290 S 800 E  
Vernal, UT 84078

435-789-0968 Office  
435-828-0968 Cell  
435-789-0970 Fax

**THE HOUSTON EXPLORATION COMPANY**  
**BUCK CANYON #15-16-12-21**  
 LOCATED IN UINTAH COUNTY, UTAH  
 SECTION 16, T12S, R21E, S.L.B.&M.

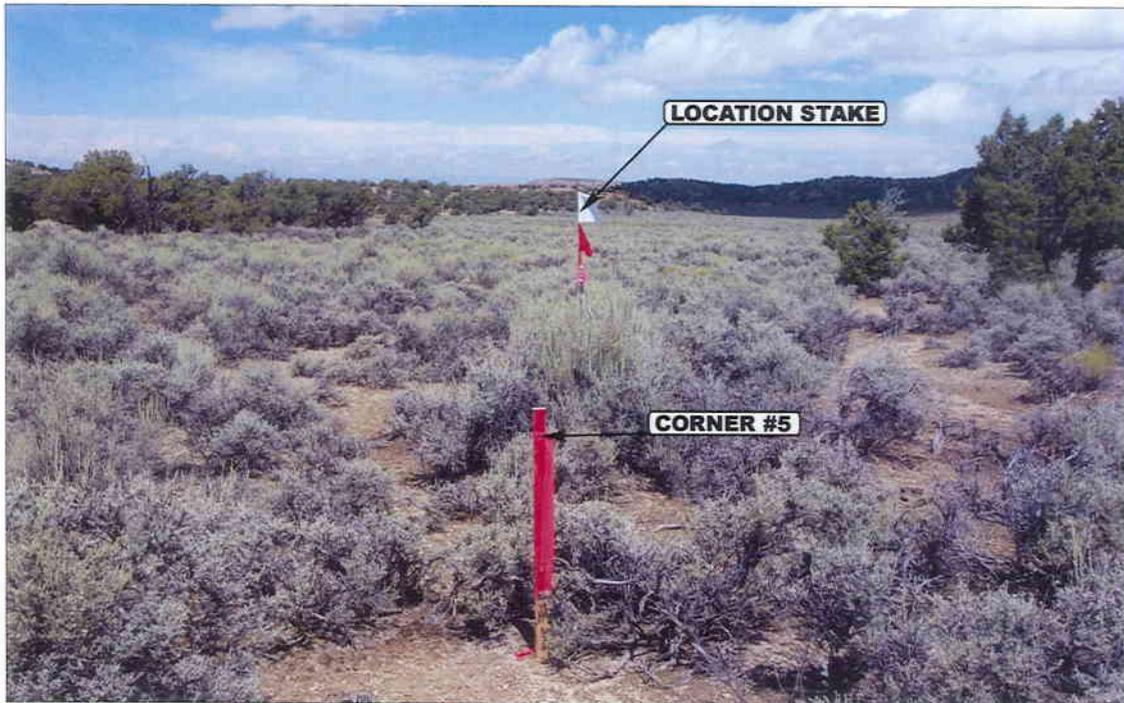


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHERLY

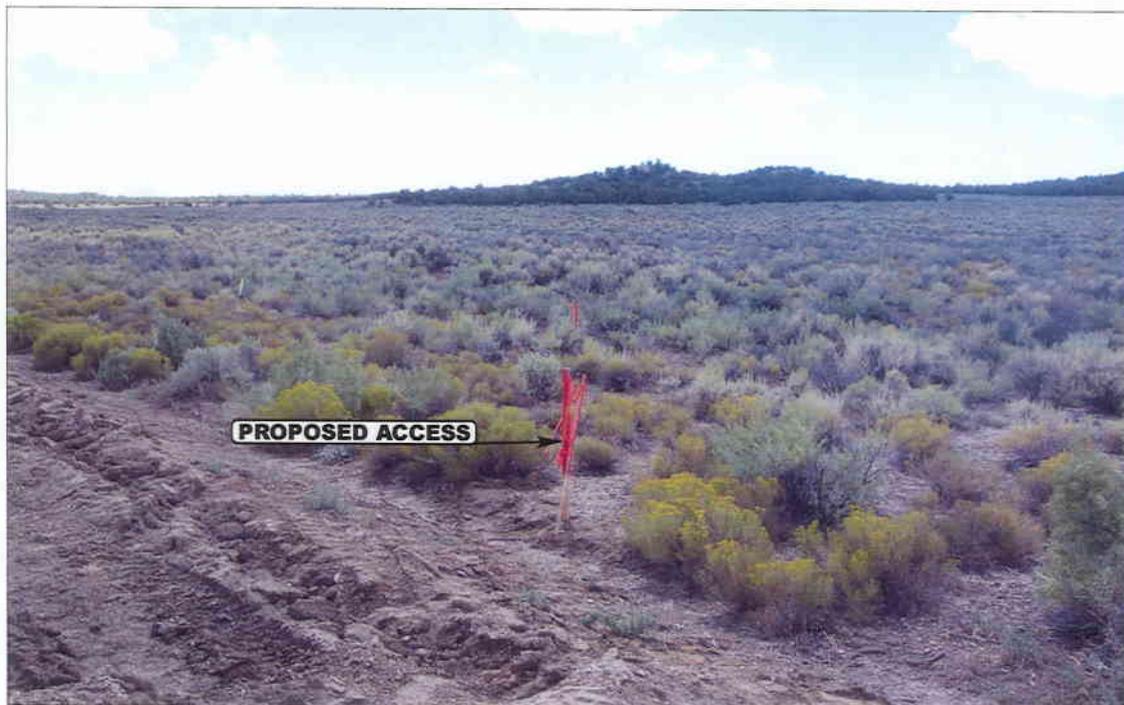


PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: SOUTHWESTERLY



**U  
E  
L  
I  
S** Uintah Engineering & Land Surveying  
 85 South 200 East Vernal, Utah 84078  
 435-789-1017 uels@uelsinc.com

<b>LOCATION PHOTOS</b>	<b>08</b>	<b>18</b>	<b>05</b>	<b>PHOTO</b>
	MONTH	DAY	YEAR	
TAKEN BY: A.F.	DRAWN BY: C.P.		REVISED: 00-00-00	



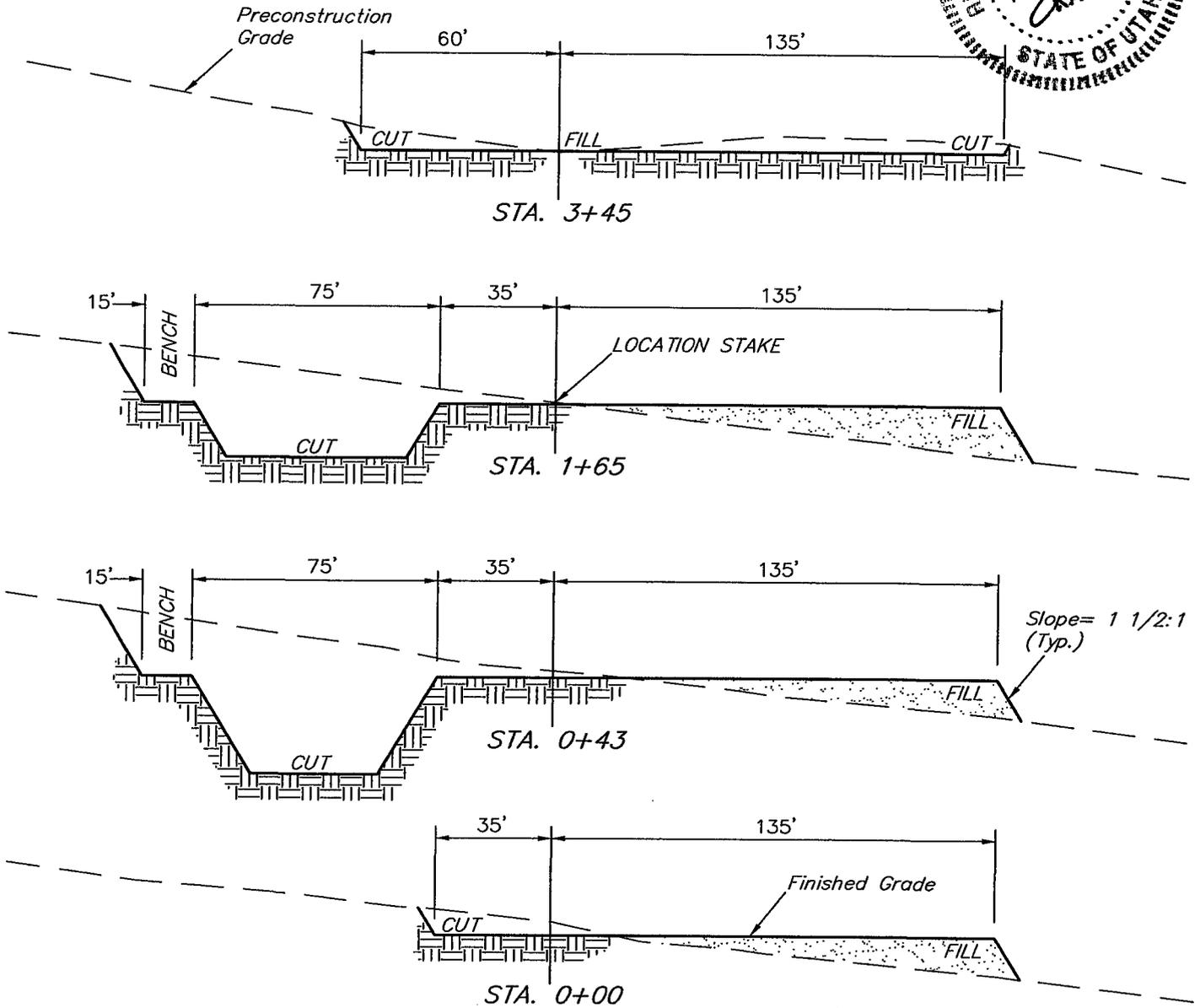
THE HOUSTON EXPLORATION COMPANY

FIGURE #2

TYPICAL CROSS SECTIONS FOR  
 BUCK CANYON #15-16-12-21  
 SECTION 16, T12S, R21E, S.L.B.&M.  
 740' FSL 1809' FEL

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

DATE: 08-22-05  
 Drawn By: P.M.



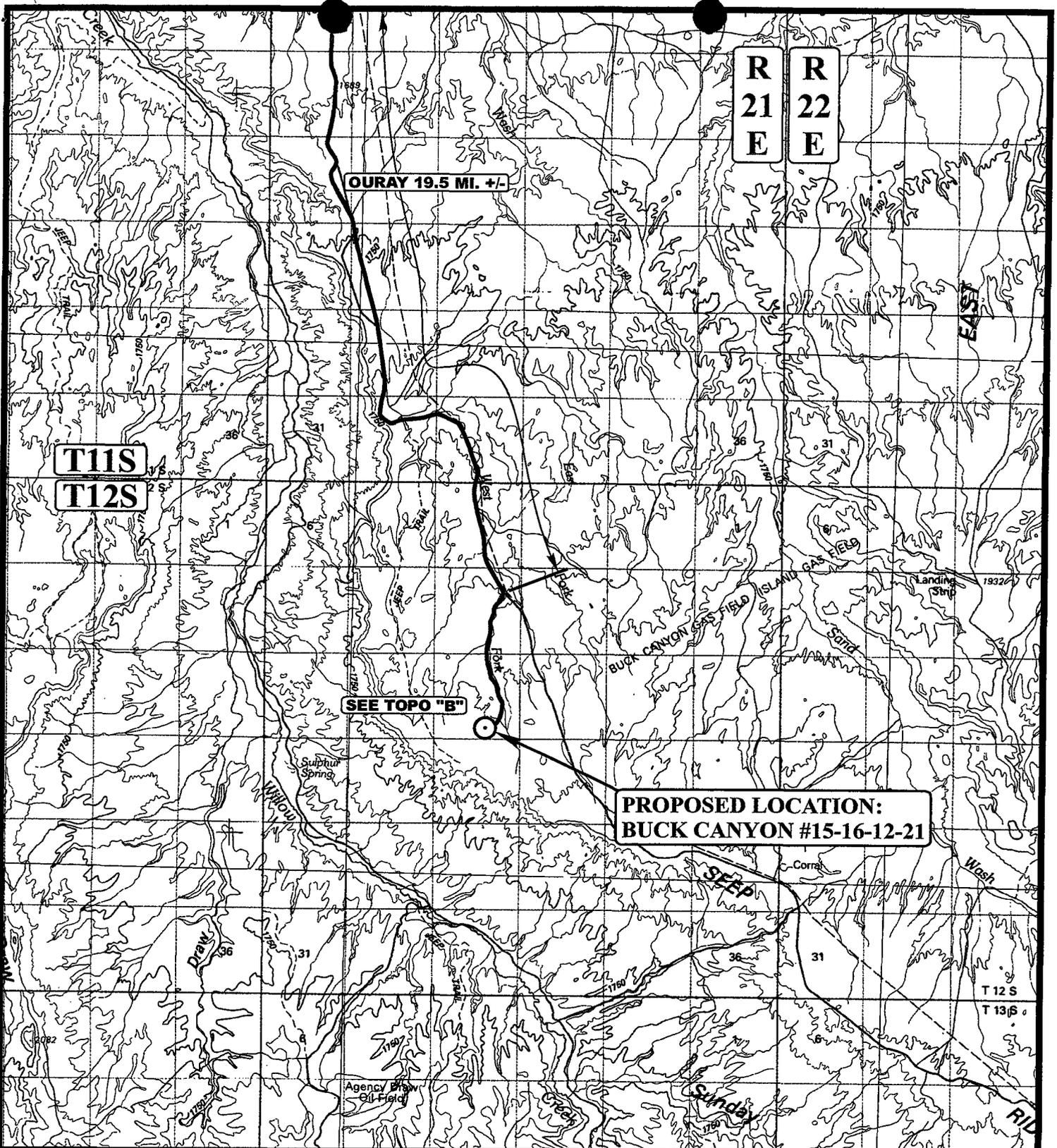
\* NOTE:  
 FILL QUANTITY INCLUDES  
 5% FOR COMPACTION

NOTE:  
 Topsoil should not be  
 Stripped Below Finished  
 Grade on Substructure Area.

APPROXIMATE YARDAGES

CUT	
(6") Topsoil Stripping	= 1,690 Cu. Yds.
Remaining Location	= 7,090 Cu. Yds.
<b>TOTAL CUT</b>	<b>= 8,780 CU.YDS.</b>
<b>FILL</b>	<b>= 5,390 CU.YDS.</b>

EXCESS MATERIAL	= 3,390 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 3,390 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 0 Cu. Yds.



**LEGEND:**

○ PROPOSED LOCATION

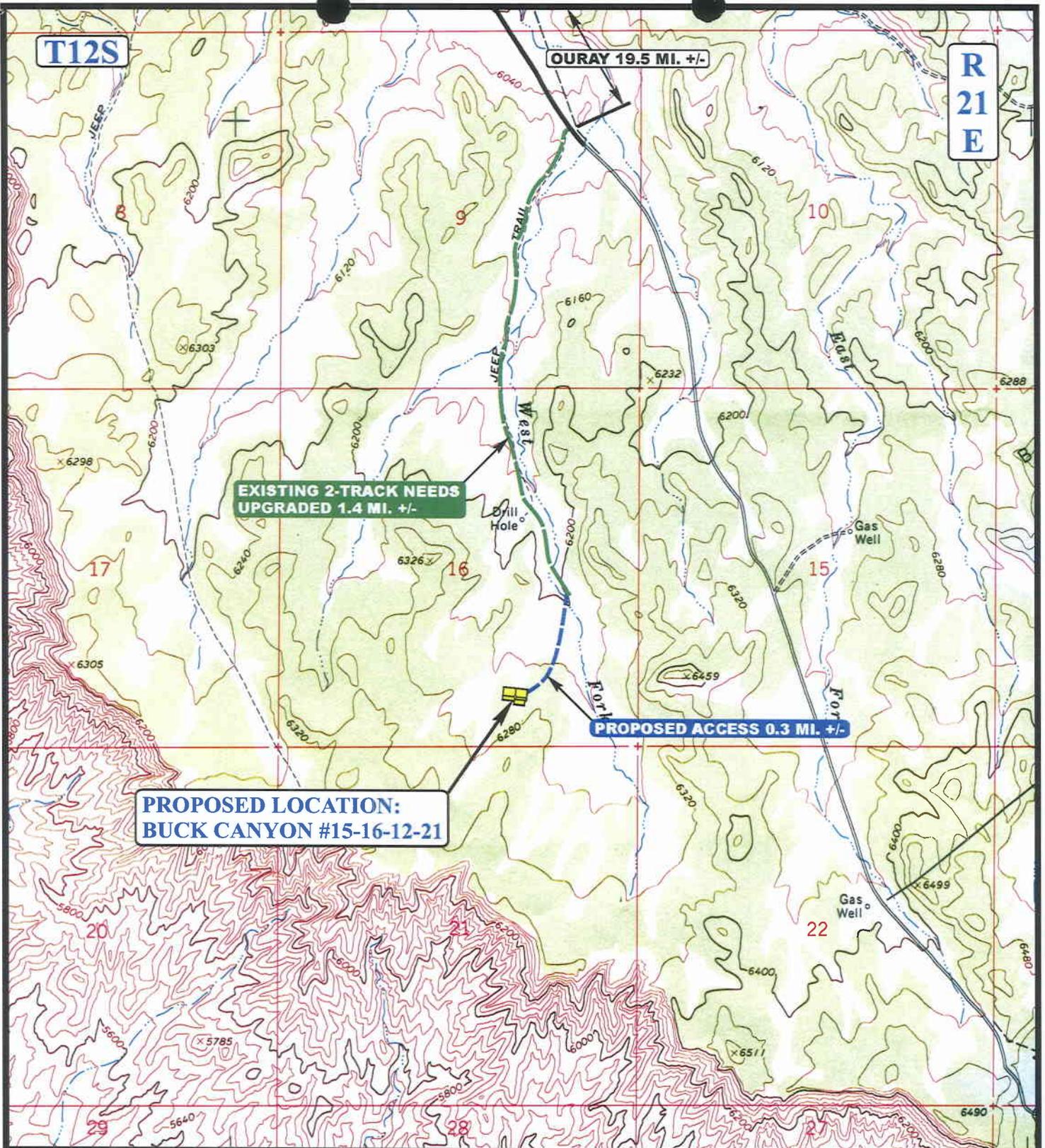


**THE HOUSTON EXPLORATION COMPANY**

**BUCK CANYON #15-16-12-21**  
**SECTION 16, T12S, R21E, S.L.B.&M.**  
**740' FSL 1809' FEL**

**UEIS** **Uintah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
 (435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC MAP** **08 18 05**  
 MONTH DAY YEAR  
**SCALE: 1:100,000** **DRAWN BY: C.P.** **REVISED: 00-00-00** **TOPO**



T12S

OURAY 19.5 MI. +/-

R 21 E

EXISTING 2-TRACK NEEDS UPGRADED 1.4 MI. +/-

PROPOSED ACCESS 0.3 MI. +/-

PROPOSED LOCATION:  
BUCK CANYON #15-16-12-21

**LEGEND:**

-  EXISTING ROAD
-  PROPOSED ACCESS ROAD
-  EXISTING 2-TRACK NEEDS UPGRADED



**THE HOUSTON EXPLORATION COMPANY**

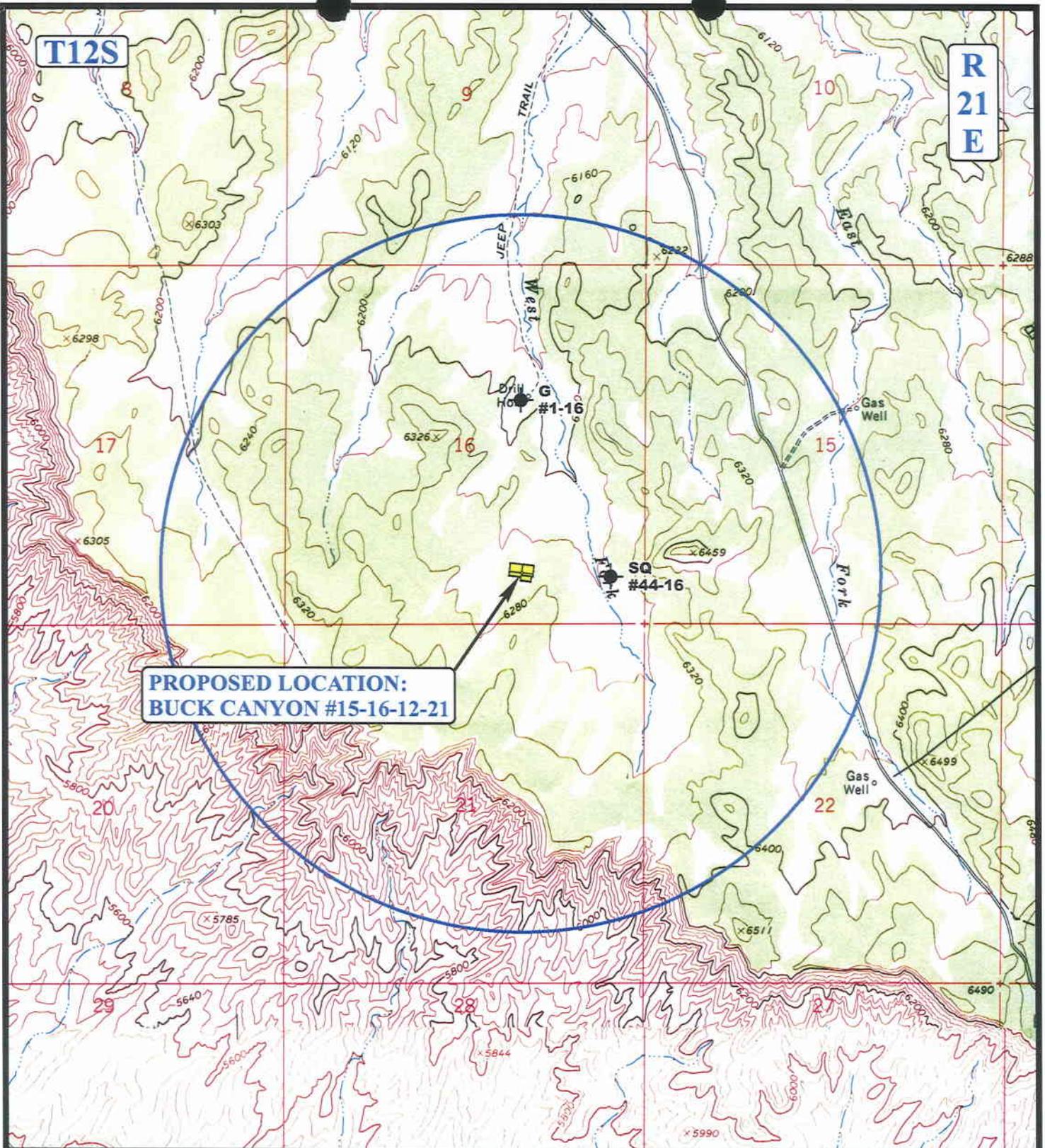
**BUCK CANYON #15-16-12-21**  
**SECTION 16, T12S, R21E, S.L.B.&M.**  
**740' FSL 1809' FEL**



**Utah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
 (435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC MAP** **08 18 05**  
 MONTH DAY YEAR  
 SCALE: 1" = 2000' DRAWN BY: C.P. REVISED: 00-00-00





**PROPOSED LOCATION:  
BUCK CANYON #15-16-12-21**

**LEGEND:**

- |                   |                         |
|-------------------|-------------------------|
| ⊗ DISPOSAL WELLS  | ⊗ WATER WELLS           |
| ● PRODUCING WELLS | ⊖ ABANDONED WELLS       |
| ● SHUT IN WELLS   | ⊖ TEMPORARILY ABANDONED |



**THE HOUSTON EXPLORATION COMPANY**

**BUCK CANYON #15-16-12-21**  
**SECTION 16, T12S, R21E, S.L.B.&M.**  
**740' FSL 1809' FEL**



**Uintah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
 (435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC** 08 18 05  
**MAP** MONTH DAY YEAR

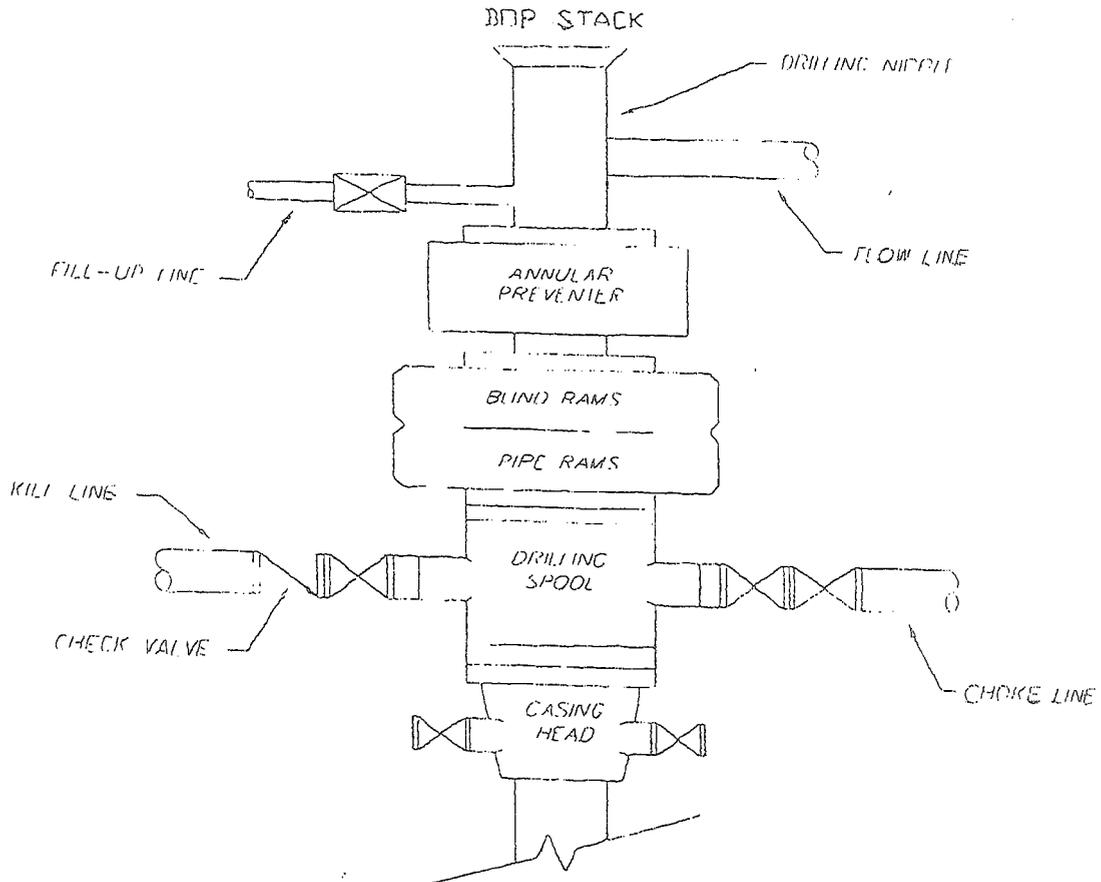
SCALE: 1" = 2000' DRAWN BY: C.P. REVISED: 00-00-00



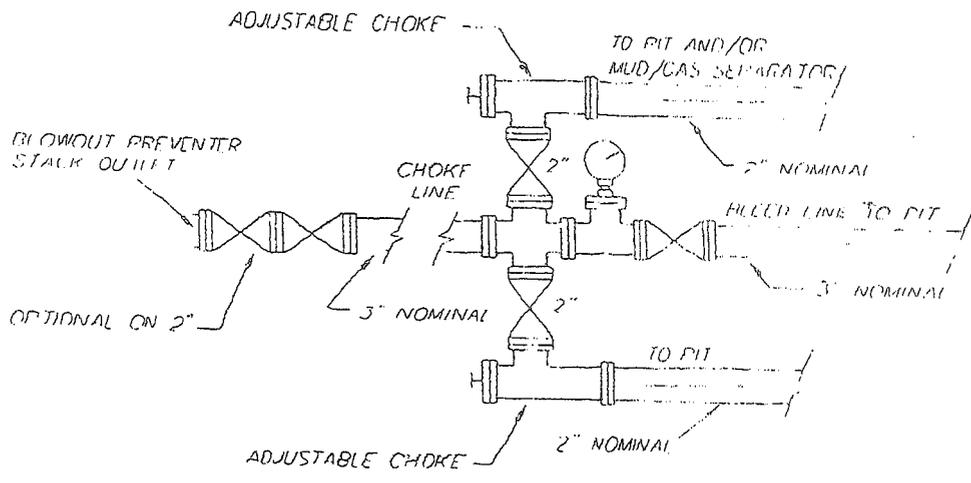


# THE HOUSTON EXPLORATION COMPANY

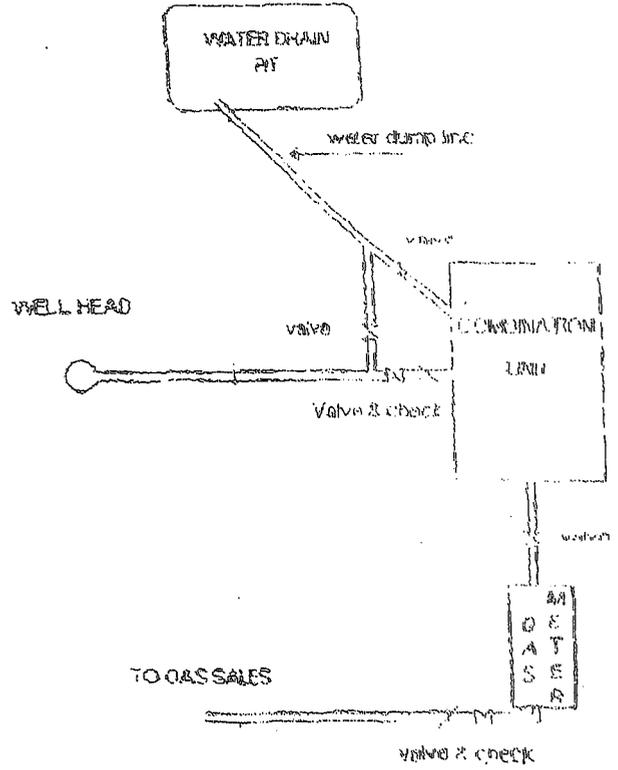
## TYPICAL 3,000 p.s.i. BLOWOUT PREVENTER SCHEMATIC



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



TYPICAL  
CASWELL



**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 09/09/2005

API NO. ASSIGNED: 43-047-37120

WELL NAME: BUCK CYN 15-16-12-21  
 OPERATOR: HOUSTON EXPLORATION CO, ( N2525 )  
 CONTACT: BILL RYAN

PHONE NUMBER: 435-789-0968

PROPOSED LOCATION:

SWSE 16 120S 210E  
 SURFACE: 0740 FSL 1809 FEL  
 BOTTOM: 0740 FSL 1809 FEL  
 UINTAH  
 BUCK CANYON ( 565 )

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	D.R.D	10/4/05
Geology		
Surface		

LEASE TYPE: 3 - State  
 LEASE NUMBER: ML-47085  
 SURFACE OWNER: 3 - State  
 PROPOSED FORMATION: MNCS  
 COALBED METHANE WELL? NO

LATITUDE: 39.76838  
 LONGITUDE: -109.5686

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]  
(No. 104155044 )
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. T75377 )
- RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )
- Fee Surf Agreement (Y/N)
- Intent to Commingle (Y/N)

LOCATION AND SITING:

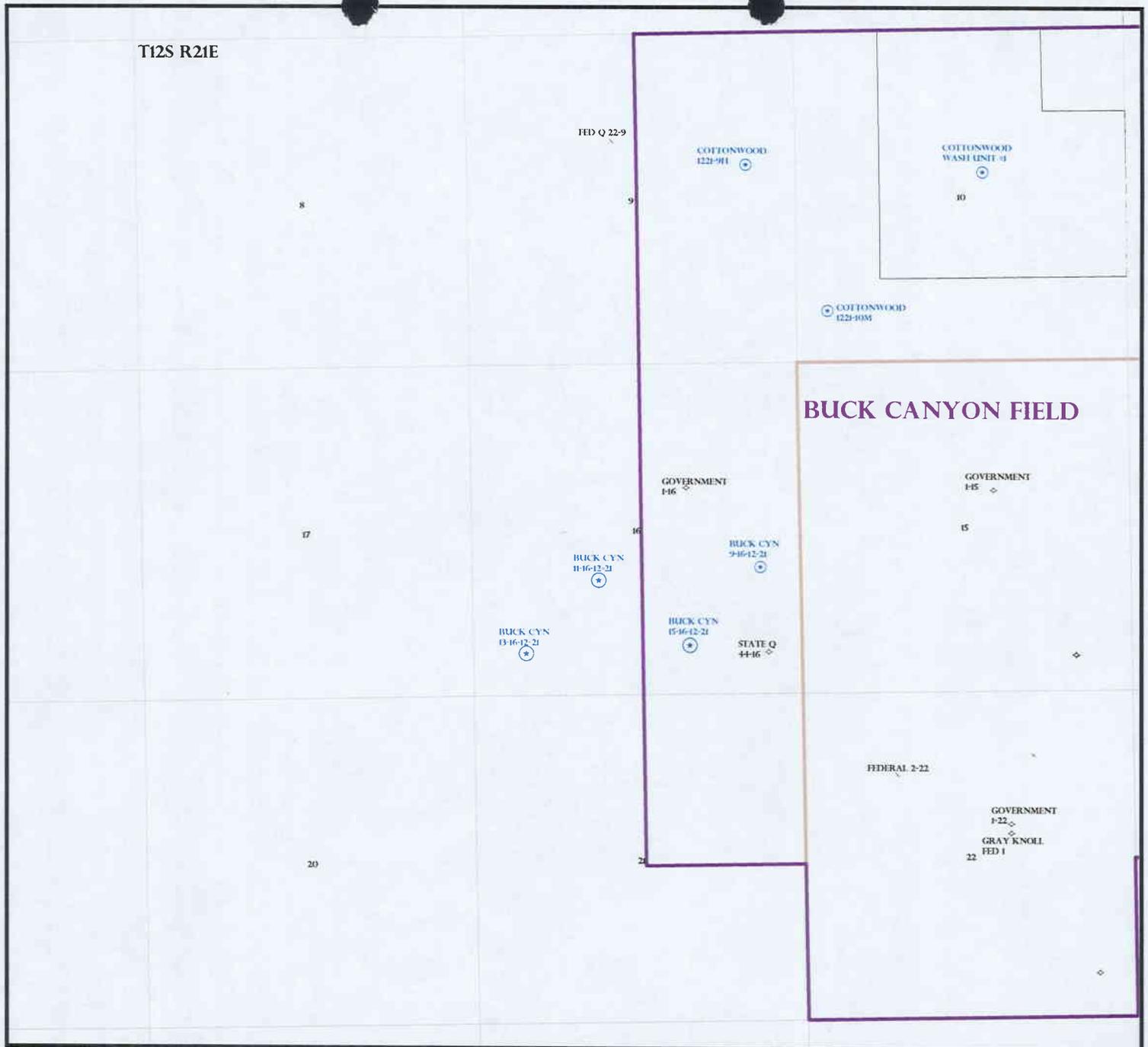
- R649-2-3.  
Unit \_\_\_\_\_
- R649-3-2. General  
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit  
Board Cause No: \_\_\_\_\_  
Eff Date: \_\_\_\_\_  
Siting: \_\_\_\_\_
- R649-3-11. Directional Drill

COMMENTS:

Needs Presite (09-20-05)

STIPULATIONS:

- 1- Spacing WHP
- 2- STATEMENT OF BASIS
- 3- Cement St. p#3 (4 1/2" production, 2500' MD)



OPERATOR: THE HOUSTON EXPL CO (N2525)

SEC: 16 T. 12S R. 21E

FIELD: BUCK CANYON (565)

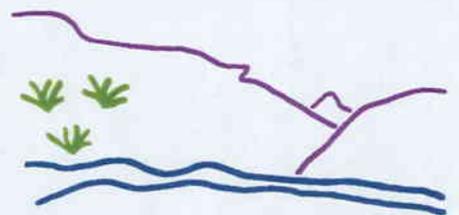
COUNTY: Uintah

SPACING: R649-3-2 / GENERAL SITING

- Field Status**
- ABANDONED
  - ACTIVE
  - COMBINED
  - INACTIVE
  - PROPOSED
  - STORAGE
  - TERMINATED

- Unit Status**
- EXPLORATORY
  - GAS STORAGE
  - NF PP OIL
  - NF SECONDARY
  - PENDING
  - PI OIL
  - PP GAS
  - PP GEOTHERML
  - PP OIL
  - SECONDARY
  - TERMINATED

- Wells Status**
- GAS INJECTION
  - GAS STORAGE
  - LOCATION ABANDONED
  - NEW LOCATION
  - PLUGGED & ABANDONED
  - PRODUCING GAS
  - PRODUCING OIL
  - SHUT-IN GAS
  - SHUT-IN OIL
  - TEMP. ABANDONED
  - TEST WELL
  - WATER INJECTION
  - WATER SUPPLY
  - WATER DISPOSAL
  - DRILLING



Utah Oil Gas and Mining



PREPARED BY: DIANA WHITNEY  
DATE: 09-SEPTEMBER-2005

**DIVISION OF OIL, GAS AND MINING  
APPLICATION FOR PERMIT TO DRILL  
STATEMENT OF BASIS**

**OPERATOR:** \_\_\_\_\_ THE HOUSTON EXPLORATION COMPANY  
**WELL NAME & NUMBER:** \_\_\_\_\_ BUCK CANYON 15-16-12-21  
**API NUMBER:** \_\_\_\_\_ 43-047-37120  
**LOCATION:** 1/4,1/4 SW/SE Sec: 16 TWP: 12S RNG: 21E 740' FSL 1809' FEL

**Geology/Ground Water:**

Houston proposes to set 2,000' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,200'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this site is the Green River Formation. This area is a recharge area for Green River Formation aquifers. The Green River Formation is made up of interbedded limestones, shales and sandstones. The proposed casing and cementing program should adequately protect the aquifer and any underground sources of useable water.

**Reviewer:** \_\_\_\_\_ Brad Hill \_\_\_\_\_ **Date:** \_\_\_\_\_ 09-21-05 \_\_\_\_\_

**Surface:**

The pre-site investigation of the surface was performed on 9/20/05. This site is on state surface, with state minerals. Ed Bonner of SITLA was invited to attend this inspection but was not present. Ben Williams of DWR stated that this site is high value deer and elk winter range and a nesting area for Ferruginous Hawk. Mr. Williams requested that this site be closed to drilling from Nov 1 to April 15 for deer and elk considerations and also closed from March 1 to July 15 for the Ferruginous Hawk.

**Reviewer:** \_\_\_\_\_ Richard Powell \_\_\_\_\_ **Date:** \_\_\_\_\_ 9/20/2005 \_\_\_\_\_

**Conditions of Approval/Application for Permit to Drill:**

1. A synthetic liner with a minimum thickness of 12 mils with a felt subliner shall be properly installed and maintained in the reserve pit.

**ON-SITE PREDRILL EVALUATION**  
**Division of Oil, Gas and Mining**

**OPERATOR:** THE HOUSTON EXPLORATION COMPANY  
**WELL NAME & NUMBER:** BUCK CANYON 15-16-12-21  
**API NUMBER:** 43-047-37120  
**LEASE:** ML-47085      **FIELD/UNIT:** BUCK CANYON  
**LOCATION:** 1/4,1/4 SW/SE Sec: 16 TWP: 12S RNG: 21E 740' FSL 1809' FEL  
**LEGAL WELL SITING:** 460 F SEC. LINE; 460 F 1/4,1/4 LINE; 920 F ANOTHER WELL.  
**GPS COORD (UTM):** 4402820 12S0622602      **SURFACE OWNER:** STATE.

**PARTICIPANTS**

Richard Powell (DOGM), Doug Hammond (Enduring Resources), Mike Stewart (Ponderosa Oilfield Service), Ben Williams (DWR), Ginger Stringham (Houston Exploration).

**REGIONAL/LOCAL SETTING & TOPOGRAPHY**

Location is set on relatively flat area surrounded by scattered slopes and ridges. Drainage from this location is gently to the north toward a dry creek bed. The deep Willow Creek Canyon drainage lies approximately .25 miles to the south. Ouray, UT is approximately 19.5 miles to the north.

**SURFACE USE PLAN**

**CURRENT SURFACE USE:** Livestock and Wildlife Grazing.

**PROPOSED SURFACE DISTURBANCE:** Location will be 345' by 245'. Proposed new access road to be approximately 0.3 miles. Existing two-track road to be upgraded for approximately 1.4 miles.

**LOCATION OF EXISTING WELLS WITHIN A 1-MILE RADIUS:** See attached map from GIS database.

**LOCATION OF PRODUCTION FACILITIES AND PIPELINES:** All production facilities will be on location and added after drilling well. Pipeline will follow access road.

**SOURCE OF CONSTRUCTION MATERIAL:** All construction material will be borrowed from site during construction of location.

**ANCILLARY FACILITIES:** None will be required.

**WILL DRILLING AT THIS LOCATION GENERATE PUBLIC INTEREST OF CONCERNS? (EXPLAIN):** Unlikely.

**WASTE MANAGEMENT PLAN:**

Drilled cuttings will be settled into reserve pit. Liquids from pit will be allowed to evaporate. Formation water will be confined to storage tanks. Portable toilets, sewage holding tanks, and onsite sewage

treatment equipment will be handled by commercial contractors and regulated by the appropriate health authority. Trash will be contained in trash baskets and disposed of at an approved landfill.

**ENVIRONMENTAL PARAMETERS**

AFFECTED FLOODPLAINS AND/OR WETLANDS: none

FLORA/FAUNA: Sagebrush, Greasewood, Prickly Pear, and Cheat grass / Deer, Elk, Rodents, Raptors, Coyote, Songbirds, Rabbit, Bobcat, Pronghorn.

SOIL TYPE AND CHARACTERISTICS: Light brown sandy clay. Soil in this location appears to be fairly deep as evidenced by dense and fairly tall sagebrush.

EROSION/SEDIMENTATION/STABILITY: Very little natural erosion. Sedimentation and stability are not a problem and location construction shouldn't cause an increase in stability or erosion problems.

PALEONTOLOGICAL POTENTIAL: None observed.

**RESERVE PIT**

CHARACTERISTICS: 150' BY 75' and twelve feet deep.

LINER REQUIREMENTS (Site Ranking Form attached): A liner and felt sub-liner will be required for reserve pit. Site ranking score is 30.

**SURFACE RESTORATION/RECLAMATION PLAN:**

Will be per SITLA.

SURFACE AGREEMENT: As per SITLA.

CULTURAL RESOURCES/ARCHAEOLOGY: Center stake was marked by "Sagebrush" 9/14/05.

**OTHER OBSERVATIONS/COMMENTS**

**ATTACHMENTS**

Photos of this site were taken and placed on file.

RICHARD POWELL  
DOGM REPRESENTATIVE

9/20/05 01:45 PM  
DATE/TIME

**Evaluation Ranking Criteria and Ranking Score  
For Reserve and Onsite Pit Liner Requirements**

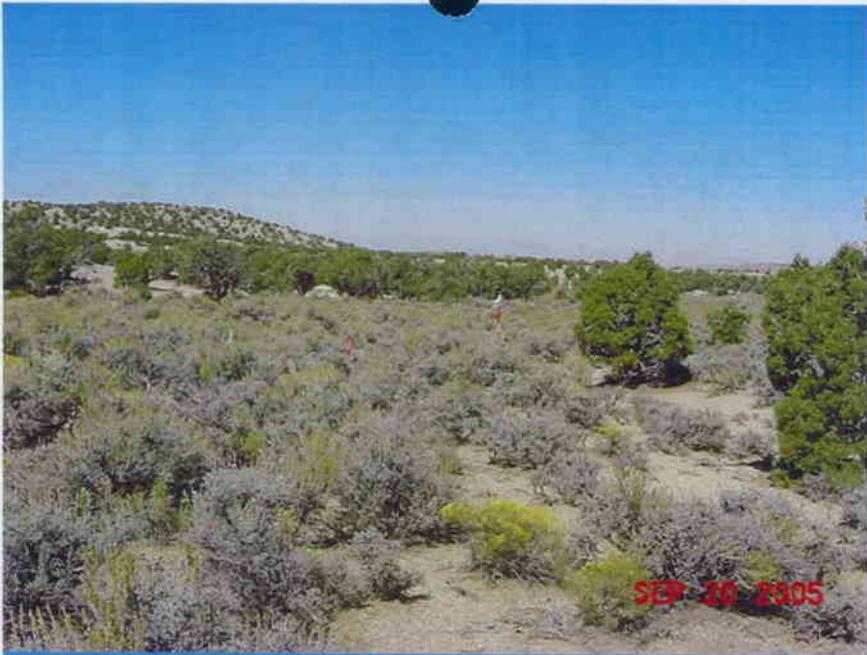
<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
Distance to Groundwater (feet)		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	
<25 or recharge area	20	<u>5</u>
Distance to Surf. Water (feet)		
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	<u>0</u>
Distance to Nearest Municipal Well (feet)		
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	20	<u>0</u>
Distance to Other Wells (feet)		
>1320	0	
300 to 1320	10	
<300	20	<u>0</u>
Native Soil Type		
Low permeability	0	
Mod. permeability	10	
High permeability	20	<u>20</u>
Fluid Type		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud Fluid	15	
containing significant levels of hazardous constituents	20	<u>5</u>
Drill Cuttings		
Normal Rock	0	
Salt or detrimental	10	<u>0</u>
Annual Precipitation (inches)		
<10	0	
10 to 20	5	
>20	10	<u>0</u>
Affected Populations		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	<u>0</u>
Presence of Nearby Utility Conduits		
Not Present	0	
Unknown	10	
Present	15	<u>0</u>
<b>Final Score</b>	<u>30</u>	<b>(Level I Sensitivity)</b>

Sensitivity Level I = 20 or more; total containment is required.

Sensitivity Level II = 15-19; lining is discretionary.

Sensitivity Level III = below 15; no specific lining is required.

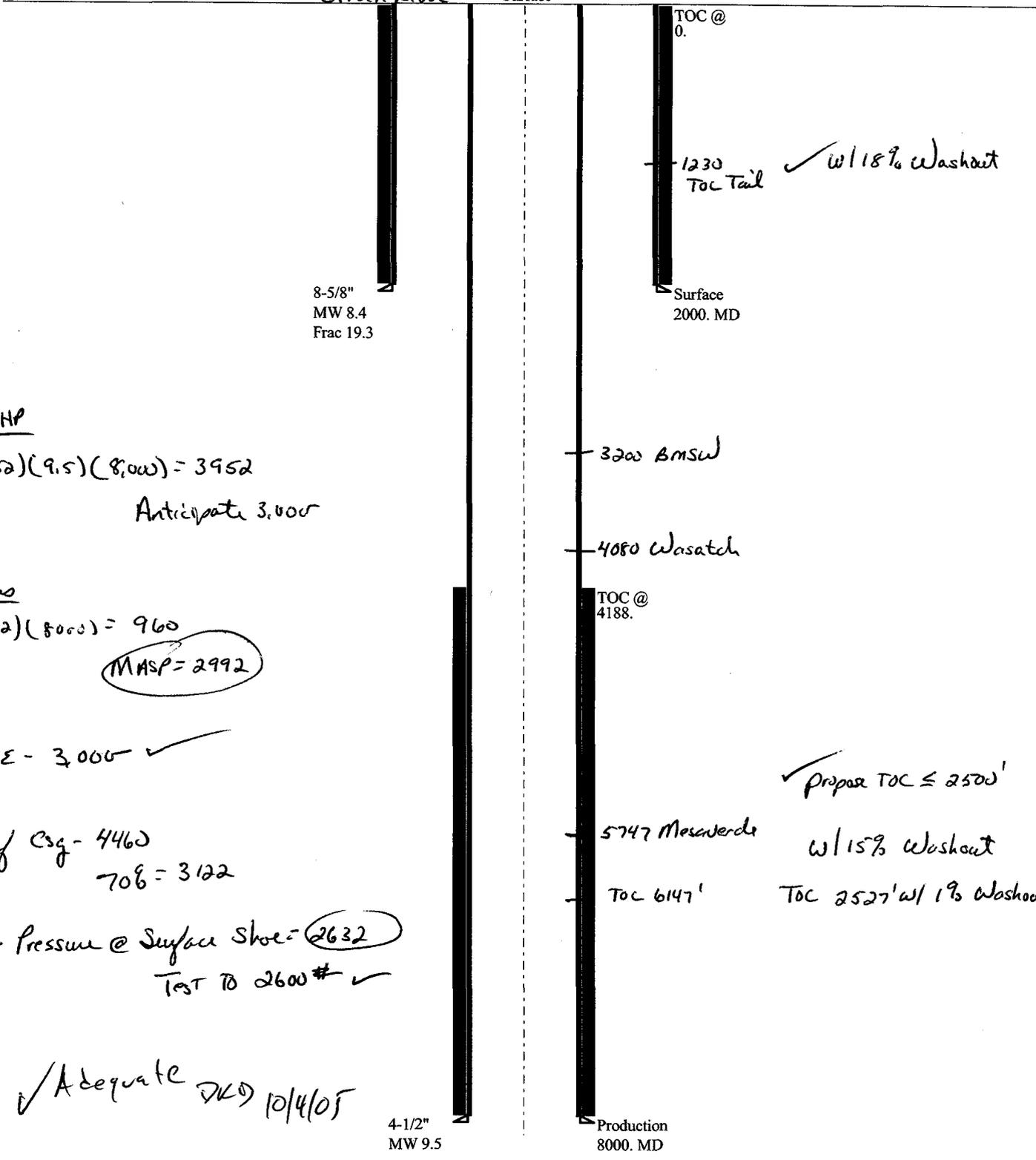




10-05 Houston Buck Cyn 15-16-12-21  
Casing Schematic

Green River

Surface



8-5/8"  
MW 8.4  
Frac 19.3

TOC @  
0.

1230  
TOC Tail

✓ w/ 18% Washout

Surface  
2000. MD

3200 BMSW

4080 Wasatch

TOC @  
4188.

5747 Mesaverde

TOC 6147'

✓ Prepare TOC ≤ 2500'

w/ 15% Washout

TOC 2527' w/ 1% Washout

4-1/2"  
MW 9.5

Production  
8000. MD

BHP

$$(0.052)(9.5)(8,000) = 3952$$

Anticipate 3,000

Gas

$$(12)(8000) = 960$$

MASP = 2992

BOPE - 3,000 ✓

Surf Csg - 4460

$$706 = 3122$$

Max Pressure @ Surface Shoe = 2632

Test to 2600# ✓

✓ Adequate 2600 10/4/05

Well name:	<b>10-05 Houston Buck Cyn 15-16-12-21</b>	
Operator:	<b>Houston Exploration Company</b>	
String type:	Surface	Project ID: 43-047-37120
Location:	Uintah County, Utah	

**Design parameters:**

**Collapse**  
Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**  
Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 93 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 299 ft

**Burst**

Max anticipated surface pressure: 457 psi  
Internal gradient: 0.436 psi/ft  
Calculated BHP 1,330 psi

**Burst:**

Design factor 1.00

Cement top: Surface

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Non-directional string.

Tension is based on air weight.  
Neutral point: 1,749 ft

**Re subsequent strings:**

Next setting depth: 8,000 ft  
Next mud weight: 9.500 ppg  
Next setting BHP: 3,948 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,000 ft  
Injection pressure 2,000 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	2000	8.625	36.00	J-55	ST&C	2000	2000	7.7	143.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	873	3450	3.953	1330	4460	3.35	72	434	6.03 J

Prepared by: Clinton Dworshak  
Utah Div. of Oil & Mining

Phone: (801) 538-5280  
FAX: (801)359-3940

Date: October 4, 2005  
Salt Lake City, Utah

**ENGINEERING STIPULATIONS -**  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>10-05 Houston Buck Cyn 15-16-12-21</b>	
Operator:	<b>Houston Exploration Company</b>	
String type:	Production	Project ID: 43-047-37120
Location:	Uintah County, Utah	

**Design parameters:**

**Collapse**

Mud weight: 9.500 ppg  
Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 457 psi  
Internal gradient: 0.436 psi/ft  
Calculated BHP: 3,948 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 6,864 ft

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 177 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 4,188 ft

Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8000	4.5	11.60	M-65	LT&C	8000	8000	3.875	185.4
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	3948	5560	1.408	3948	6320	1.60	93	188	2.03 J

Prepared by: Clinton Dworshak  
Utah Div. of Oil & Mining

Phone: (801) 538-5280  
FAX: (801)359-3940

Date: October 4, 2005  
Salt Lake City, Utah

**ENGINEERING STIPULATIONS -**

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

**From:** Ed Bonner  
**To:** Whitney, Diana  
**Date:** 9/28/2005 11:35:37 AM  
**Subject:** Well Clearance

The following wells have been given cultural resource clearance by the Trust Lands Cultural Resources Group:

The Houston Exploration Company

Buck Canyon 9-16-12-21  
Buck Canyon 11-16-12-21  
Buck Canyon 13-16-12-21  
Buck Canyon 15-16-12-21

EOG Resources, Inc

Chapita Wells Unit 701-2  
State of Utah 17-8-18-14

If you have any questions regarding this matter please give me a call.

**CC:** Garrison, LaVonne; Hill, Brad; Hunt, Gil

**OPERATOR CHANGE WORKSHEET**

1. DJJ

2. CDW

**X Change of Operator (Well Sold)**

Designation of Agent/Operator

Operator Name Change

Merger

The operator of the well(s) listed below has changed, effective:

**11/4/2005**

**FROM: (Old Operator):**

N2525-The Houston Exploration Company  
1100 Louisiana, Suite 2000  
Houston, TX 77002

Phone: 1-(713) 830-6938

**TO: ( New Operator):**

N2750-Enduring Resources, LLC  
475 17th Street, Suite 1500  
Denver, CO 80202

Phone: 1-(303) 350-5102

CA No.

Unit:

**WELL(S)**

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS	
BONANZA 16-22-9-24	22	090S	240E	4304737254		Federal	GW	APD	C
BONANZA 10-22-9-24	22	090S	240E	4304737255		Federal	GW	APD	C
BONANZA 15-26-9-24	26	090S	240E	4304737256		Federal	GW	APD	C
BONANZA 16-26-9-24	26	090S	240E	4304737257		Federal	GW	APD	C
SOUTHMAN CYN 3-30-9-24	30	090S	240E	4304737258		Federal	GW	APD	C
SOUTHMAN CYN 7-30-9-24	30	090S	240E	4304737259		Federal	GW	APD	C
SOUTHMAN CYN 5-30-9-24	30	090S	240E	4304737260		Federal	GW	APD	C
SOUTHMAN CYN 1-30-9-24	30	090S	240E	4304737261		Federal	GW	APD	C
E BENCH 9-17-11-22	17	110S	220E	4304737262		Federal	GW	APD	C
ASPHALT WASH 13-5	05	110S	240E	4304736235	15012	Federal	GW	DRL	
ASPHALT WASH 11-7-11-24	07	110S	240E	4304737263		Federal	GW	APD	C
ASPHALT WASH 12-9-11-24	09	110S	240E	4304737264		Federal	GW	NEW	C
ASPHALT WASH 3-9-11-24	09	110S	240E	4304737265		Federal	GW	APD	C
BUCK CYN 9-16-12-21	16	120S	210E	4304737091	14994	State	GW	DRL	C
BUCK CYN 15-16-12-21	16	120S	210E	4304737120		State	GW	APD	C

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 10/26/2005
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 10/26/2005
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 9/29/2005
- Is the new operator registered in the State of Utah: YES Business Number: 5771233-0161
- If **NO**, the operator was contacted on: \_\_\_\_\_
- (R649-9-2) Waste Management Plan has been received on: \_\_\_\_\_ Requested 9/29/05
- Inspections of LA PA state/fee well sites complete on: n/a

6c. Reports current for Production/Disposition & Sundries on: 9/29/2005

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA n/a

8. **Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: \_\_\_\_\_ not yet

9. **Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a

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

**DATA ENTRY:**

- 1. Changes entered in the **Oil and Gas Database** on: 12/14/2005
- 2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 12/14/2005
- 3. Bond information entered in RBDMS on: 12/14/2005
- 4. Fee/State wells attached to bond in RBDMS on: 12/14/2005
- 5. Injection Projects to new operator in RBDMS on: n/a
- 6. Receipt of Acceptance of Drilling Procedures for APD/New on: 12/1/2005

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

1. Federal well(s) covered by Bond Number: UTB000173

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

1. Indian well(s) covered by Bond Number: n/a

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

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number RLB0008031

2. The **FORMER** operator has requested a release of liability from their bond on: n/a  
The Division sent response by letter on: \_\_\_\_\_

**LEASE INTEREST OWNER NOTIFICATION:**

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

**COMMENTS:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**State of Utah**

**Department of  
Natural Resources**

MICHAEL R. STYLER  
*Executive Director*

**Division of  
Oil, Gas & Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

October 5, 2005

Houston Exploration Company  
1100 Louisiana, Suite 2000  
Houston, TX 77002

Re: Buck Canyon 15-16-12-21 Well, 740' FSL, 1809' FEL, SW SE, Sec. 16,  
T. 12 South, R. 21 East, 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 43-047-37120.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
SITLA

Operator: Houston Exploration Company  
Well Name & Number Buck Canyon 15-16-12-21  
API Number: 43-047-37120  
Lease: ML-47085

Location: SW SE                      Sec. 16                      T. 12 South                      R. 21 East

### 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**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- 24 hours prior to cementing or testing casing
- 24 hours prior to testing blowout prevention equipment
- 24 hours prior to spudding the well
- within 24 hours of any emergency changes made to the approved drilling program
- prior to commencing operations to plug and abandon the well

The following are Division of Oil, Gas and Mining contacts and their work telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at (801) 538-5338
- Carol Daniels at (801) 538-5284 (spud)

3. **Reporting Requirements**

All required reports, forms and submittals will 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.

4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.

5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

6. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.
7. Cement volume for the 4 1/2" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to  $\pm 2500'$  MD as indicated in the submitted drilling plan.

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

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-47085
2. NAME OF OPERATOR: The Houston Exploration Company <i>N2525</i>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A
3. ADDRESS OF OPERATOR: 1100 Louisiana, Ste. 2000 CITY Houston STATE TX ZIP 77002		7. UNIT or CA AGREEMENT NAME: N/A
4. LOCATION OF WELL FOOTAGES AT SURFACE: 740' FSL - 1,809' FEL SWSE S.L.B.& M.		8. WELL NAME and NUMBER: Buck Canyon 15-16-12-21
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 16 12S 21E S		9. API NUMBER: 4304737120
STATE: UTAH		10. FIELD AND POOL, OR WILDCAT: Wildcat

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>11/4/2005</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Change of Operator</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

Change of operator from Houston Exploration Company to Enduring Resources, LLC effective 11-04-2005

Enduring Resources, LLC  
475 17th Street, Suite 1500  
Denver, Colorado 80202

*N2750*

Operator No. N2750  
Utah State Bond #RLB0008031

Contact: Frank Hutto 303-350-5102

ENDURING RESOURCES, LLC

X *Frank Hutto*  
BY: Frank Hutto  
TITLE: Vice President - Operations

DATE: *11/14/05*

NAME (PLEASE PRINT) <u><i>Steve L. Thomson</i></u>	TITLE <u><i>Rockies Manager</i></u>
SIGNATURE <u><i>Steve L. Thomson</i></u>	DATE <u><i>11-11-05</i></u>

(This space for State use only)

APPROVED *12/14/05*  
*Earlene Russell*  
Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

RECEIVED  
NOV 17 2005  
DIV. OF OIL, GAS & MINING

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

**Request to Transfer Application or Permit to Drill**

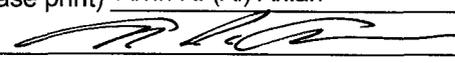
(This form should accompany a Sundry Notice, Form 9, requesting APD transfer)

<b>Well name:</b>	Buck Canyon 15-16-12-21
<b>API number:</b>	4304737120
<b>Location:</b>	Qtr-Qtr: SWSE Section: 16 Township: 12S Range: 21E
<b>Company that filed original application:</b>	Houston Exploration Company
<b>Date original permit was issued:</b>	10/05/2005
<b>Company that permit was issued to:</b>	Houston Exploration Company

Check one	Desired Action:
	<b>Transfer pending (unapproved) Application for Permit to Drill to new operator</b>
	The undersigned as owner with legal rights to drill on the property, hereby verifies that the information as submitted in the pending Application for Permit to Drill, remains valid and does not require revision. The new owner of the application accepts and agrees to the information and procedures as stated in the application.
✓	<b>Transfer approved Application for Permit to Drill to new operator</b>
	The undersigned as owner with legal rights to drill on the property as permitted, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.	Yes	No
If located on private land, has the ownership changed?		✓
If so, has the surface agreement been updated?		✓
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?		✓
Have there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?		✓
Have there been any changes to the access route including ownership or right-of-way, which could affect the proposed location?		✓
Has the approved source of water for drilling changed?		✓
Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?		✓
Is bonding still in place, which covers this proposed well? Bond No. <u>RLB0008031</u>	✓	

Any desired or necessary changes to either a pending or approved Application for Permit to Drill that is being transferred, should be filed on a Sundry Notice, Form 9, or amended Application for Permit to Drill, Form 3, as appropriate, with necessary supporting information as required.

Name (please print) Alvin R. (Al) Arlian Title Landman - Regulatory Specialist  
 Signature  Date 11/30/2005  
 Representing (company name) Enduring Resources, LLC

The person signing this form must have legal authority to represent the company or individual(s) to be listed as the new operator on the Application for Permit to Drill.

(3/2004)

**RECEIVED**  
**DEC 01 2005**  
DIV OF OIL, GAS & MINING

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

FORM 9

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

<b>1. TYPE OF WELL</b>			5. LEASE DESIGNATION AND SERIAL NUMBER: MML-47085
OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <u>CONFIDENTIAL</u>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME: n/a
2. NAME OF OPERATOR: Enduring Resources, LLC			7. UNIT or CA AGREEMENT NAME: n/a
3. ADDRESS OF OPERATOR: 475 17th Street, Suite 1500 CITY Denver STATE CO ZIP 80202		PHONE NUMBER: (303) 350-5719	8. WELL NAME and NUMBER: Buck Canyon 12-21-34-16 (15-16)
4. LOCATION OF WELL			9. API NUMBER: 4304737120
FOOTAGES AT SURFACE: 740' FSL - 1809' FEL		COUNTY: Uintah	
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 16 12S 21E S		STATE: UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: <u>8/25/2006</u>	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>Request for APD Extension</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

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

Enduring Resources, LLC respectfully request an extension to the expiration date of this Application for Permit to Drill ....

FROM: 10/5/2006  
TO: 10/5/2007

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 09-27-06  
By: [Signature]

NAME (PLEASE PRINT) <u>Evette Bissett</u>	TITLE <u>Regulatory Compliance Assistant</u>
SIGNATURE <u>[Signature]</u>	DATE <u>8/25/2006</u>

(This space for State use only)

9/29/06  
RM

AUG 30 2006

**Application for Permit to Drill  
Request for Permit Extension  
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

**API:** 4304737120  
**Well Name:** Buck Canyon 12-21-34-16  
**Location:** 740' FSL - 1809' FEL, SWSE, Sec 16, T12S-R21E  
**Company Permit Issued to:** Enduring Resources, LLC  
**Date Original Permit Issued:** 10/5/2005

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes  No

Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes  No

Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes  No

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes  No

Has the approved source of water for drilling changed? Yes  No

Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes  No

Is bonding still in place, which covers this proposed well? Yes  No

*Gwette Bissett*  
Signature

8/25/2006  
Date

**Title:** Regulatory Compliance Assistant

**Representing:** Enduring Resources, LLC

**AUG 30 2006**

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

**CONFIDENTIAL**

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:

MML-47085

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

n/a

7. UNIT or CA AGREEMENT NAME:

n/a

8. WELL NAME and NUMBER:

Buck Canyon 12-21-34-16 (15-16)

9. API NUMBER:

4304737120

10. FIELD AND POOL, OR WILDCAT:

Wildcat

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL

OIL WELL

GAS WELL

OTHER \_\_\_\_\_

2. NAME OF OPERATOR:

Enduring Resources, LLC

3. ADDRESS OF OPERATOR:

475 17th Street, Suite 1500 CITY Denver

STATE CO ZIP 80202

PHONE NUMBER:

(303) 350-5719

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 740' FSL - 1809' FEL

COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 16 12S 21E S

STATE:

UTAH

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

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

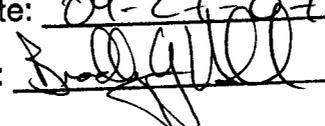
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Enduring Resources, LLC respectfully request an extension to the expiration date of this Application for Permit to Drill ....

FROM: 9/27/2007  
TO: 9/27/2008

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 09-27-07

By: 

9-28-07  
Rm

NAME (PLEASE PRINT) Alvin R. (Al) Ariian

TITLE Landman - Regulatory Specialist

SIGNATURE 

DATE 9/21/2007

(This space for State use only)

RECEIVED

SEP 25 2007

**Application for Permit to Drill  
Request for Permit Extension  
Validation**

(this form should accompany the Sundry Notice requesting permit extension)

**API:** 4304737120  
**Well Name:** Buck Canyon 12-21-34-16  
**Location:** 740' FSL - 1809' FEL, SWSE, Sec 16, T12S-R21E  
**Company Permit Issued to:** Enduring Resources, LLC  
**Date Original Permit Issued:** 10/5/2005

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.

Following is a checklist of some items related to the application, which should be verified.

If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes  No

Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes  No

Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes  No

Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes  No

Has the approved source of water for drilling changed? Yes  No

Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes  No

Is bonding still in place, which covers this proposed well? Yes  No



Signature

9/21/2007

Date

Title: Landman - Regulatory Specialist

Representing: Enduring Resources, LLC

RECEIVED

SEP 25 2007

DIV. OF OIL, GAS & MINING



**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

**Division of Oil, Gas and Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

October 23, 2008

Al Arlian  
Enduring Resources, LLC  
475 17<sup>TH</sup> Street, Suite 1500  
Denver, CO 80202

43 047 37120  
BUCK Cyn 15-16-12-21  
12S 21E 16

Re: Rescind APDs

Dear Mr. Arlian:

Enclosed find the list of APDs that are being rescinded due to no drilling activity for more than the two year time frame. Therefore, approval to drill these wells is hereby rescinded, effective October 23, 2008.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject locations.

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

Sincerely,

  
Diana Mason  
Environmental Scientist

cc: Well File  
SITLA, Ed Bonner



Buck Canyon 12-21-23-16  
Buck Canyon 12-21-14-16  
Buck Canyon 12-21-34-16  
Asphalt Wash 11-24-34-16  
Asphalt Wash 11-24-21-16  
Asphalt Wash 11-24-13-16  
Asphalt Wash 11-24-32-16  
Asphalt Wash 11-24-24-16  
Asphalt Wash 11-24-11-16  
Archy Bench 12-23-31-16  
Bonanza 9-25-12-30  
Bonanza 9-25-22-30  
Bonanza 9-25-23-30  
Bonanza 9-25-14-20  
Southam Canyon 9-24-44-36 (FEE)  
Rainbow 12-24-41-16  
Rainbow 12-24-12-16  
Little Pack 12-20-41-16  
Little Pack 12-20-32-32