

November 7, 2007

Mrs. Diana Mason  
State of Utah  
Division of Oil Gas and Mining  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: Application for Permit to Drill—XTO Energy, Inc.  
LCU 1-36F - 782' FNL & 823' FEL, NE/4 NE/4,  
Section 36, T10S, R20E, SLB&M, Uintah County, Utah

Dear Diana;

On behalf of XTO Energy, Inc. Buys & Associates, Inc. respectfully submits the enclosed original and one copy of the Application for Permit to Drill (APD) for the above referenced SITLA surface and mineral vertical well. The location of the surface and target location as well as all points along the intended well bore path are within Cause No. 259-01 and are not within 460 feet of the unit boundary or any uncommitted tracts. Included with the APD is the following supplemental information:

Exhibit "A" - Survey plats, layouts and photos of the proposed well site;

Exhibit "B" - Proposed location maps with access and utility corridors;

Exhibit "C" - Production site layout;

Exhibit "D" - Drilling Plan;

Exhibit "E" - Surface Use Plan with APD Certification;

Exhibit "F" - Typical BOP and Choke Manifold diagram;

Exhibit "G" - Cultural and Paleontological Clearance Reports.

Thank you very much for your timely consideration of this application. Please feel free to contact myself or Ken Secrest of XTO Energy, Inc. at 435-722-4521 if you have any questions or need additional information.

Sincerely,

*Don Hamilton*

Don Hamilton  
Agent for XTO Energy, Inc.

cc: Fluid Mineral Group, BLM—Vernal Field Office  
Ken Secrest, XTO Energy, Inc.

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DIV. OF OIL, GAS & MINING

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-47391	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: N/A	
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: Little Canyon Unit	
2. NAME OF OPERATOR: XTO Energy, Inc.		9. WELL NAME and NUMBER: LCU 1-36F	
3. ADDRESS OF OPERATOR: P.O. Box 1360 CITY Roosevelt STATE UT ZIP 84066		PHONE NUMBER: (435) 722-4521	10. FIELD AND POOL, OR WILDCAT: <del>Undesignated</del> <i>Natural Drifts</i>
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 782' FNL & 823' FEL, <i>619126X 4418416Y</i> AT PROPOSED PRODUCING ZONE: <i>39.909350 - 109.606320</i>		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 10S 20E S	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 12.92 miles southeast of Ouray, Utah		12. COUNTY: Uintah	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 782'	16. NUMBER OF ACRES IN LEASE: 640	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) 1,021'	19. PROPOSED DEPTH: 9,200	20. BOND DESCRIPTION: 104312 762	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 5,347' ungraded ground	22. APPROXIMATE DATE WORK WILL START: 1/15/2008	23. ESTIMATED DURATION: 14 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
12-1/4"	9-5/8" J-55 ST 36#	2,200	see Drilling Plan
7-7/8"	5-1/2" N-80 LT 17#	9,200	see Drilling Plan

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 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

NAME (PLEASE PRINT) Don Hamilton TITLE Agent for XTO Energy, Inc.  
SIGNATURE Don Hamilton DATE 11/7/2007

(This space for State use only)

API NUMBER ASSIGNED: 43-047-39780 **Approved by the Utah Division of Oil, Gas and Mining**

(11/2001)

Date: 12-17-07  
By: [Signature]

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NOV 09 2007  
DIV. OF OIL, GAS & MINING

# T10S, R20E, S.L.B.&M.

1928 Brass Cap,  
0.7' High, Pile  
of Stones

S89°11'18"W - 2634.04' (Meas.)

S89°11'23"W - 2634.46' (Meas.)

1928 Brass Cap,  
2.5' High, Pile  
of Stones

1928 Brass Cap,  
1.2' High, Pile  
of Stones,  
Scattered Stone

LCU #1-36F  
Elev. Ungraded Ground = 5347'

R  
20  
E

R  
21  
E

N00°52'48"E - 2667.11' (Meas.)

N00°05'29"W  
1313.07' (Meas.)

N00°15'47"W  
1430.27' (Meas.)

S00°13'49"E - 2660.74' (Meas.)

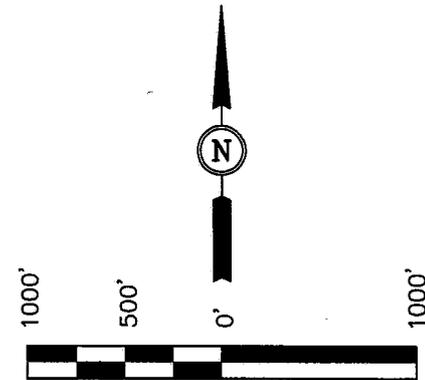
S00°35'29"W - 2670.50' (Meas.)

1928 Brass Cap,  
0.2' High, Pile  
of Stones

36

Brass Cap

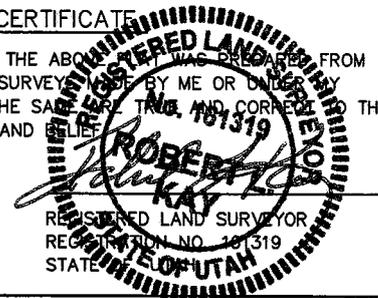
**BASIS OF BEARINGS**  
BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



SCALE

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE WAS PREPARED FROM  
FIELD NOTES OF ACTUAL SURVEY CONDUCTED BY ME OR UNDER MY  
SUPERVISION AND THAT THE SAID PLAN, MAP, AND CORNER MARKS ARE THE  
BEST OF MY KNOWLEDGE AND BELIEF.



REGISTERED LAND SURVEYOR  
REGISTRATION NO. 181319  
STATE OF UTAH

**LEGEND:**

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

Sec. 1  
Sec. 6

1928 Brass  
Cap, 1.3'  
High, Pile  
of Stones

C.C.  
Set Marked  
Stone, Pile  
of Stones

N89°56'23"W  
1336.89'  
(Meas. To C.C.)

1928 Brass Cap,  
0.5' High, Large  
Pile of Stones

Set  
Marked  
Stone

1928 Brass  
Cap, 1.2' High,  
Set Marked  
Stone, Pile of  
Stones

S89°47'10"W  
1340.06' (Meas.)

S89°55'32"W  
1332.01' (Meas.)

T10S  
T11S

(NAD 83)  
LATITUDE = 39°54'33.49" (39.909303)  
LONGITUDE = 109°36'25.21" (109.607003)  
(NAD 27)  
LATITUDE = 39°54'33.61" (39.909336)  
LONGITUDE = 109°36'22.73" (109.606314)

**UINTAH ENGINEERING & LAND SURVEYING**  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 08-31-07	DATE DRAWN: 09-18-07
PARTY B.B. K.D. S.L.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE XTO ENERGY, INC.	

# XTO ENERGY INC.

LCU 1-36F

APD Data

November 6, 2007

Location: 782' FNL & 823' FEL, Sec. 36, T10S,R20E County: Uintah State: Utah

GREATEST PROJECTED TD: 9200' MD  
APPROX GR ELEV: 5347'

OBJECTIVE: Wasatch/Mesaverde  
Est KB ELEV: 5361' (14' AGL)

## 1. MUD PROGRAM:

INTERVAL	0' to 2200'	2200' to 9200'
HOLE SIZE	12.25"	7.875"
MUD TYPE	FW/Spud Mud	KCl Based LSND / Gel Chemical
WEIGHT	8.4	8.6-9.20
VISCOSITY	NC	30-60
WATER LOSS	NC	8-15

Remarks: Use fibrous materials as needed to control seepage and lost circulation. Pump high viscosity sweeps as needed for hole cleaning. Raise viscosity at TD for logging. Reduce viscosity after logging for cementing purposes. The mud system will be monitored visually/manually.

## 2. CASING PROGRAM:

Surface Casing: 9.625" casing set at  $\pm$  2200' in a 12.25" hole filled with 8.4 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'-2200'	2200'	36#	J-55	ST&C	2020	3.66	394	8.921	8.765	2.10	3.66	4.97

Production Casing: 5.5" casing set at  $\pm$  9200' in a 7.875" hole filled with 9.2 ppg mud.

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'-9200'	9200'	17#	N-80	LT&C	6280	7740	348	4.892	4.767	1.80	2.22	2.23

Collapse and burst loads calculated at TVD with 0.1 psi/ft gas gradient back up.

## 3. WELLHEAD:

- A. Casing Head: Larkin Fig 92 (or equivalent), 9" nominal, 2,000 psig WP (4,000 psig test) with 8-5/8" 8rnd thread on bottom (or slip-on, weld-on) and 11-3/4" 8rnd thread on top.
- B. Tubing Head: Larkin Fig 612 (or equivalent), 6.456" nominal, 5,000 psig WP, 5-1/2" 8rnd female thread on bottom (or slip-on, weld-on), 8-5/8" 8rnd thread on top.

**4. CEMENT PROGRAM:**

A. Surface: 9.625", 36#, J-55, ST&C casing to be set at ±2200' in 12.25" hole.

LEAD:

±362 sx of Type V cement (or equivalent) typically containing accelerator and LCM.

*12.8 ppg yield 1.92 ft<sup>3</sup>/sx*

TAIL:

225 sx of Type V cement (or equivalent) typically containing accelerator and LCM.

*15.8 ppg yield 1.15 ft<sup>3</sup>/sx*

**Total estimated slurry volume for the 9.625" surface casing is 956.5 ft<sup>3</sup>. Slurry includes 35% excess of calculated open hole annular volume to 2200'.**

B. Production: 5.5", 17#, N-80 (or equiv.), LT&C casing to be set at ±9200' in 7.875" hole.

LEAD:

±470 sx of Premium Plus V Blend. (Type V/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 11.6 ppg, 3.12 ft<sup>3</sup>/sk, 17.71 gal wtr/sx.

TAIL:

300 sx Class G or equivalent cement with poz, bonding additive, LCM, dispersant, & fluid loss mixed at 13.0 ppg, 1.75 cuft/sx, 9.09 gal/sx.

**Total estimated slurry volume for the 5.5" production casing is 1992 ft<sup>3</sup>. Slurry includes 15% excess of calculated open hole annular volume.**

**Note: The slurry design may change slightly based upon actual conditions. Final cement volumes will be determined from the caliper logs plus 15% or greater excess. The cement is designed to circulate on surface and intermediate casing strings.**

**5. LOGGING PROGRAM:**

- A. Mud Logger: The mud logger will come on at intermediate casing point and will remain on the hole until TD. The mud will be logged in 10' intervals.
- B. Open Hole Logs as follows: Run Array Induction/SFL/GR/SP fr/TD (9200') to the bottom of the surface csg. Run Neutron/Lithodensity/Pe/GR/Cal from TD (9200') to 2200'.

**6. FORMATION TOPS:**

FORMATION	Sub-Sea Elev. (@SHL)	TVD (@SHL)
Wasatch Tongue	1,520	3,846
Green River Tongue	1,190	4,176
Wasatch*	1,075	4,291
Chapita Wells*	375	4,991
Uteland Buttes	-880	6,246
Mesaverde*	-1,590	6,956
Castlegate	N/A	N/A
TD**	-3,833	9,200

\* Primary Objective

**7. ANTICIPATED OIL, GAS, & WATER ZONES:**

A.

<b>Formation</b>	<b>Expected Fluids</b>	<b>Well Depth Top</b>
Wasatch Tongue	Oil/Gas/Water	3,846
Green River Tongue	Oil/Gas/Water	4,176
Wasatch*	Gas/Water	4,291
Chapita Wells*	Gas/Water	4,991
Uteland Buttes	Gas/Water	6,246
Mesaverde*	Gas/Water	6,956
Castlegate	Gas/Water	NA

- A. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.
- B. There are no known potential sources of H<sub>2</sub>S.
- C. Expected bottom hole pressures are between 4100 psi and 4600 psi.

**8. BOP EQUIPMENT:**

Surface will not utilize a bop stack.

Intermediate hole will be drilled using a diverter stack with rotating head rated at 250 psi w.p.

Production hole will be drilled with a 3000 psi BOP stack.

Minimum specifications for pressure control equipment are as follows:

Ram Type: 11" Hydraulic double ram with annular, 3000 psi w.p.

Ram type preventers and associated equipment shall be tested to approved stack working pressure if isolated by test plug or to 70% of internal yield pressure of casing. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed-off pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10% in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test plug shall be open during test of BOP stack.

Annular type preventers (if used) shall be tested to 50% of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above test shall be performed:

- a. when initially installed:
- b. whenever any seal subject to test pressure is broken
- c. following related repairs: and
- d. at 30 day intervals

Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s) shall be held open or the ball removed.

Annular preventers (if used) shall be functionally operated at least weekly.

Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

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., and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests. Pressure tests shall apply to all related well control equipment.

BOP systems shall be consistent with API RP53. Pressure tests will be conducted before drilling out from under casing strings which have been set and cemented in place. Test pressures for BOP equipment are as follows:

- Annular BOP -- 1500 psi
- Ram type BOP -- 3000 psi
- Kill line valves -- 3000 psi
- Choke line valves and choke manifold valves -- 3000 psi
- Chokes -- 3000 psi
- Casing, casinghead & weld -- 1500 psi
- Upper kelly cock and safety valve -- 3000 psi
- Dart valve -- 3000 psi

Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection will be recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

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

- a. The size and rating of the BOP stack is shown on the attached diagram.
- b. A choke line and a kill line are to be properly installed.
- c. The accumulator system shall have a pressure capacity to provide for repeated operation of hydraulic preventers.
- d. Drill string safety valve(s), to fit all tools in the drill string, are to be maintained on the rig floor while drilling operations are in progress.
- e. See attached BOP & Choke manifold diagrams.

9. **COMPANY PERSONNEL:**

<b><u>Name</u></b>	<b><u>Title</u></b>	<b><u>Office Phone</u></b>	<b><u>Home Phone</u></b>
John Egelston	Drilling Engineer	505-333-3163	505-330-6902
Bobby Jackson	Drilling Superintendent	505-333-3224	505-486-4706
Glen Christiansen	Project Geologist	817-885-2800	

## SURFACE USE PLAN

### CONDITIONS OF APPROVAL

**Name of Operator:** XTO Energy, Inc.  
**Address:** P.O. Box 1360; 978 North Crescent  
Roosevelt, Utah 84066  
**Well Location:** LCU 1-36F  
782' FNL & 823' FEL, NE/4 NE/4  
Section 36, T10S, R20E, SLB&M, Uintah County, Utah

**A Uintah County Road encroachment is necessary to construct the new access from the existing Uintah County Road 2810 (Seep Ridge Road).**

The surface owner or surface owner representative and dirt contractor will be provided with an approved copy of the surface use plan of operations and approved conditions of approval before initiating construction.

The onsite inspection for the referenced well is pending at this time.

1. Location of Existing Roads:

- a. The proposed well site is located approximately 12.92 miles southeast of Ouray, UT.
- b. Directions to the proposed well site have been attached at the end of Exhibit B.
- c. The use of roads under State and County Road Department maintenance are necessary to access the Little Canyon Unit area. A Uintah County Road encroachment is necessary to construct the new access from the existing Uintah County Road 2810 (Seep Ridge Road).
- d. All existing roads will be maintained and kept in good repair during all phases of operation.
- e. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.
- f. Since no improvements are anticipated to the State, County, Tribal or BLM access roads no topsoil striping will occur.
- g. An off-lease federal Right-of-Way is not anticipated for the access road since access presently exists to the lease boundary servicing the LCU 1-36F.

2. New or Reconstructed Access Roads:

- a. From the existing Uintah County Road 2810 (Seep Ridge Road) an access is proposed trending west approximately 130' to the proposed well site. The access consists of entirely new disturbance and crosses no significant drainages. A road design plan is not anticipated at this time.
- b. The proposed access road will consist of a 24' travel surface within a 30' disturbed area.
- c. SITLA approval to construct and utilize the proposed access road is requested with this application.

- d. A maximum grade of 10% will be maintained throughout the project with no cuts and fills required to access the well.
- e. No turnouts are proposed since the access road is only 130' long and adequate site distance exists in all directions.
- f. No low-water crossings are necessary, One culvert is anticipated as the proposed access road leaves the county road surface. Adequate drainage structures will be incorporated into the road.
- g. No surfacing material will come from federal or Indian lands.
- h. No gates or cattle guards are anticipated at this time.
- i. Surface disturbance and vehicular travel will be limited to the approved location access road.
- j. All access roads and surface disturbing activities will conform to the standards outlined in the Bureau of Land Management and Forest Service publication: Surface Operating Standards for Oil and Gas Exploration and Development, (1989).
- k. The operator will be responsible for all maintenance of the access road including drainage structures.

3. Location of Existing Wells:

- a. Exhibit B has a map reflecting these wells within a one mile radius of the proposed well.

4. Location of Existing and/or Proposed Production Facilities:

- a. All permanent structures will be painted a flat, non-reflective Desert Brown /Carlsbad Canyon to match the standard environmental colors. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded.
- b. Site security guidelines identified in 43 CFR 3163.7-5 and Onshore Oil and Gas Order No. 3 will be adhered to.
- c. A gas meter run will be constructed and located on lease within 500 feet of the wellhead. Meter runs will be housed and/or fenced. All gas production and measurement shall comply with the provisions of 43 CFR 3162. 7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.
- d. A tank battery will be constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank. All loading lines and valves will be placed inside the berm surrounding the tank battery. All liquid hydrocarbons production and measurement shall conform to the provisions of 43 CFR 3162.7-3 and Onshore Oil and Gas Order No. 4 and Onshore Oil and Gas Order No. 5 for natural gas production and measurement.
- e. Any necessary pits will be properly fenced to prevent any wildlife and livestock entry.
- f. All access roads will be maintained as necessary to prevent erosion and accommodate year-round traffic. The road will be maintained in a safe useable condition.
- g. The site will require periodic maintenance to ensure that drainages are kept open and free of

debris, ice, and snow, and that surfaces are properly treated to reduce erosion, fugitive dust, and impacts to adjacent areas.

- h. A pipeline corridor containing a single steel gas pipeline and a single steel or poly pipe water pipeline is associated with this application and is being applied for at this time. The proposed pipeline corridor will leave the east side of the well site and traverse 936' south to the existing LCU 8-36F pipeline corridor
- i. The gas pipeline will be a 12" or less buried line and the water pipeline will be a 12" or less buried line within a 75' wide disturbed pipeline corridor. The use of the proposed well site and access roads will facilitate the staging of the pipeline corridor construction. A new buried pipeline corridor length of approximately 936' is associated with this well.
- j. An existing pipeline corridor upgrade is proposed from the existing LCU 8-36F tie-in location to the LCU compressor facility along the existing pipeline route.
- k. The gas pipeline will be a 12" or less buried line and the water pipeline will be a 12" or less buried line within a single trench and within a 75' wide disturbed pipeline corridor. The use of the existing well site and access roads will facilitate the staging of the pipeline corridor upgrade. An upgrade to a 75' wide buried pipeline corridor of approximately 3,500 is associated with this application.
- l. The proposed pipeline and pipeline upgrade are contained within SITLA surface.
- m. XTO Energy, Inc. intends to bury the pipeline where possible and connect the pipeline together utilizing conventional welding technology.

5. Location and Type of Water Supply:

- a. No water supply pipelines will be laid for this well.
- b. No water well will be drilled for this well.
- c. Drilling water for this well will be hauled on the road(s) shown in Attachment No. 3.
- d. Water will be hauled from one of the following sources:
  - o Water Permit # 43-10447, Section 33, T8S, R20E;
  - o Water Permit #43-2189, Section 33, T8S, R20E;
  - o Water Permit #49-2158, Section 33, T8S, R20E;
  - o Water Permit #49-2262, Section 33, T8S, R20E;
  - o Water Permit #49-1645, Section 5, T9S, R22E;
  - o Water Permit #43-9077, Section 32, T6S, R20E;
  - o Tribal Resolution 06-183, Section 22, T10S, R20E;

6. Source of Construction Material:

- a. The use of materials will conform to 43 CFR 3610.2-3.
- b. No construction materials will be removed from Ute Tribal or BLM lands.
- c. If any gravel is used, it will be obtained from a state approved gravel pit.

7. Methods of Handling Waste:

- a. All wastes associated with this application will be contained and disposed of utilizing approved facilities.
- b. Drill cuttings will be contained and buried on site.
- c. The reserve pit will be located outboard of the location and along the south side of the pad.
- d. The reserve pit will be constructed so as not to leak, break, or allow any discharge.
- e. The reserve pit will be lined with 16 mil minimum thickness plastic nylon reinforced liner material. The liner will overlay a felt liner pad only if rock is encountered during excavation. The pit liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc., that could puncture the liner will be disposed of in the pit. Pit walls will be sloped no greater than 2:1. A minimum 2-foot freeboard will be maintained in the pit at all times during the drilling and completion operation.
- f. The reserve pit has been located in cut material. Three sides of the reserve pit will be fenced before drilling starts. The fourth side will be fenced as soon as drilling is completed, and shall remain until the pit is dry. After the reserve pit has dried, all areas not needed for production will be rehabilitated.
- g. No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of the well. 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, testing, or completion of the well.
- h. Trash will be contained in a trash cage and hauled away to an approved disposal site as necessary but no later than at the completion of drilling operations. The contents of the trash container will be hauled off periodically to the approved Uintah County Landfill near Vernal, Utah.
- i. Produced fluids from the well other than water will be produced into a test tank until such time as construction of production facilities is completed. Any spills of oil, gas, salt water or other produced fluids will be cleaned up and removed.
- j. After initial clean-up, a 400 bbl tank will be installed to contain produced waste water. This water will be transported from the tank to an approved XTO Energy, Inc. disposal well for disposal.
- k. Produced water from the production well will be disposed of at the RBU 13-11F or RBU 16-19F disposal wells in accordance with Onshore Order #7.
- l. Any salts and/or chemicals, which are an integral part of the drilling system, will be disposed of in the same manner as the drilling fluid.
- m. Sanitary facilities will be on site at all times during operations. Sewage will be placed in a portable chemical toilet and the toilet replaced periodically utilizing a licensed contractor to transport by truck the portable chemical toilet so that its contents can be delivered to the Vernal Wastewater Treatment Facility in accordance with state and county regulations.

8. Ancillary Facilities:

- a. Garbage Containers and Portable Toilets are the only ancillary facilities proposed in this application.
- b. No camps, airstrips or staging areas are proposed with this application.

9. Well Site Layout: (See Exhibit B)

- a. The well will be properly identified in accordance with 43 CFR 3162.6.
- b. Access to the well pad will be from the east.
- c. The pad and road designs are consistent with SITLA specification
- d. A pre-construction meeting with responsible company representative, contractors, and the SITLA will be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road will be construction-staked prior to this meeting.
- e. The pad has been staked at its maximum size; however it will be constructed smaller if possible, depending upon rig availability. Should the layout change, this application will be amended and approved utilizing a sundry notice.
- f. All surface disturbing activities, will be supervised by a qualified, responsible company representative who is aware of the terms and conditions of the APD and specifications in the approved plans.
- g. All cut and fill slopes will be such that stability can be maintained for the life of the activity.
- h. Diversion ditches will be constructed as shown around the well site to prevent surface waters from entering the well site area.
- i. The site surface will be graded to drain away from the pit to avoid pit spillage during large storm events.
- j. The stockpiled topsoil (first 6 inches or maximum available) will be stored in a windrow on the uphill side of the location to prevent any possible contamination. All topsoil will be stockpiled for reclamation in such a way as to prevent soil loss and contamination.
- k. Pits will remain fenced until site cleanup.
- l. The blooie line will be located at least 100 feet from the well head.
- m. Water injection may be implemented if necessary to minimize the amount of fugitive dust.

10. Plans for Restoration of the Surface (Interim Reclamation and Final Reclamation):

- a. Site reclamation for a producing well will be accomplished for portions of the site not required for the continued operation of the well.
- b. Upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1. Once the reserve pit is dry, the plastic nylon reinforced liner shall be torn and perforated

before backfilling of the reserve pit. The reserve pit and that portion of the location not needed for production facilities/operations will be re-contoured to the approximate natural contours.

- c. Following BLM published Best Management Practices the interim reclamation will be completed within 90 days of completion of the well to reestablish vegetation, reduce dust and erosion and compliment the visual resources of the area.
  - a. All equipment and debris will be removed from the area proposed for interim reclamation and the pit area will be backfilled and re-contoured.
  - b. The area outside of the rig anchors and other disturbed areas not needed for the operation of the well will be re-contoured to blend with the surrounding area and reseeded at 12 lbs /acre with the following native grass seeds:
    - o Crested Wheat Grass (6 lbs / acre)
    - o Needle and Thread Grass (3 lbs / acre)
    - o Rice Grass (3 lbs / acre)
  - c. Reclaimed areas receiving incidental disturbance during the life of the producing well will be re-contoured and reseeded as soon as practical.
- d. The Operator will control noxious weeds along access road use authorizations, pipeline route authorizations, well sites, or other applicable facilities by spraying or mechanical removal. A list of noxious weeds may be obtained from the SITLA or the appropriate County Extension Office. On SITLA administered land, it is required that a Pesticide Use Proposal be submitted and approved prior to the application of herbicides, pesticides or possibly hazardous chemicals.
- e. Prior to final abandonment of the site, all disturbed areas, including the access road, will be scarified and left with a rough surface. The site will then be seeded and/or planted as prescribed by the SITLA. The SITLA recommended seed mix will be detailed within their approval documents.

11. Surface and Mineral Ownership:

- a. Surface Ownership – State of Utah – under the management of the SITLA -State Office, 675 East 500 South, Suite 500, Salt Lake, City, Utah 84102-2818; 801-538-5100.
- b. Mineral Ownership – State of Utah – under the management of the SITLA -State Office, 675 East 500 South, Suite 500, Salt Lake, City, Utah 84102-2818; 801-538-5100.

12. Other Information:

- a. Operators Contact Information:

Title	Name	Office Phone	Mobile Phone	e-mail
Company Rep.	Ken Secrest	435-722-4521	435-828-1450	Ken_Secrest@xtoenergy.com
Agent	Don Hamilton	435-719-2018	435-719-2018	starpoint@etv.net

- b. AIA Archaeological has conducted a Class III archeological survey. A copy of the report is attached and has also been submitted under separate cover to the appropriate agencies by AIA Archaeological.
- c. Alden Hamblin has conducted a paleontological survey. A copy of the report is attached and has also been submitted under separate cover to the appropriate agencies by Alden Hamblin.

Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application and that bond coverage is provided under XTO Energy, Inc's SITLA bond 104312-762. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 7<sup>th</sup> day of November, 2007.

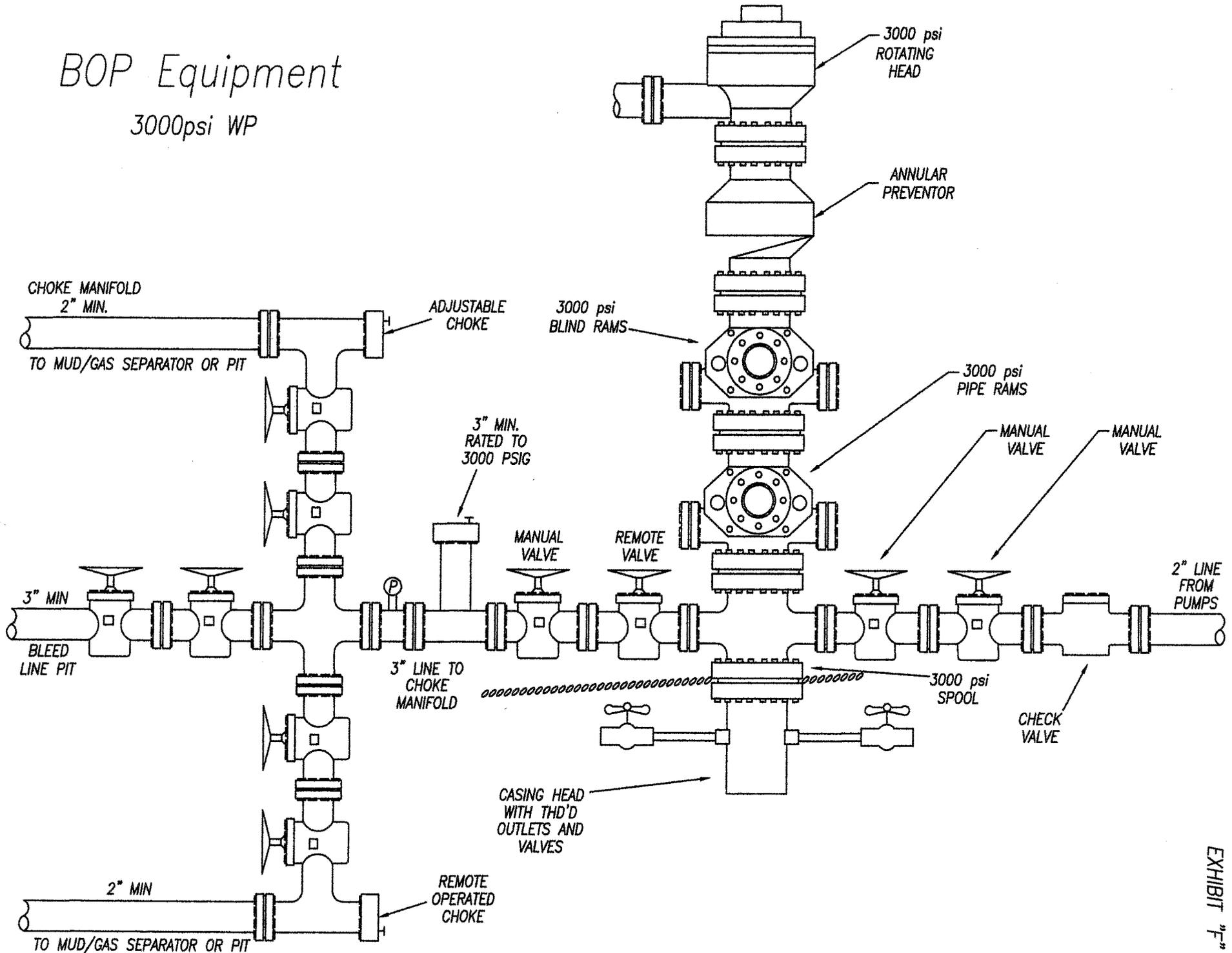
Don Hamilton

Don Hamilton -- Agent for XTO Energy, Inc.  
2580 Creekview Road  
Moab, Utah 84532

435-719-2018  
starpoint@etv.net

# BOP Equipment

3000psi WP



XTO Energy Corporation;  
Little Canyon Unit #1-36F: A Cultural  
Resource Inventory for a well  
its access and pipeline,  
Uintah County, Utah.

By  
James A. Truesdale

James A. Truesdale  
Principal Investigator

Prepared For  
XTO Energy Corporation  
1400 North State Street  
P.O.Box 1360  
Roosevelt, Utah  
84066

Prepared By  
AN INDEPENDENT ARCHAEOLOGIST  
P.O.Box 153  
Laramie, Wyoming  
82073

Utah Project # U-06-AY-584(s)

October 9, 2007

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## Introduction

An Independent Archaeologist (AIA) was contacted by a representative of XTO Energy Corporation, to conduct a cultural resources investigation of the proposed Little Canyon Unit (LCU) #1-36F well, its access and pipeline. The location of the project area is the NE/NE 1/4 of Section 36, T10S, R20E Uintah County, Utah (Figure 1).

The proposed LCU #1-36F well's centerstake footage (Alternate #1) is 782' FNL, 823' FEL. The proposed LCU #1-36F well's centerstake Universal Transverse Mercator (UTM) centroid coordinate is Zone 12, North American Datum (NAD) 83, 06/19/064.96 mE 44/18/618.48 mN + 5m.

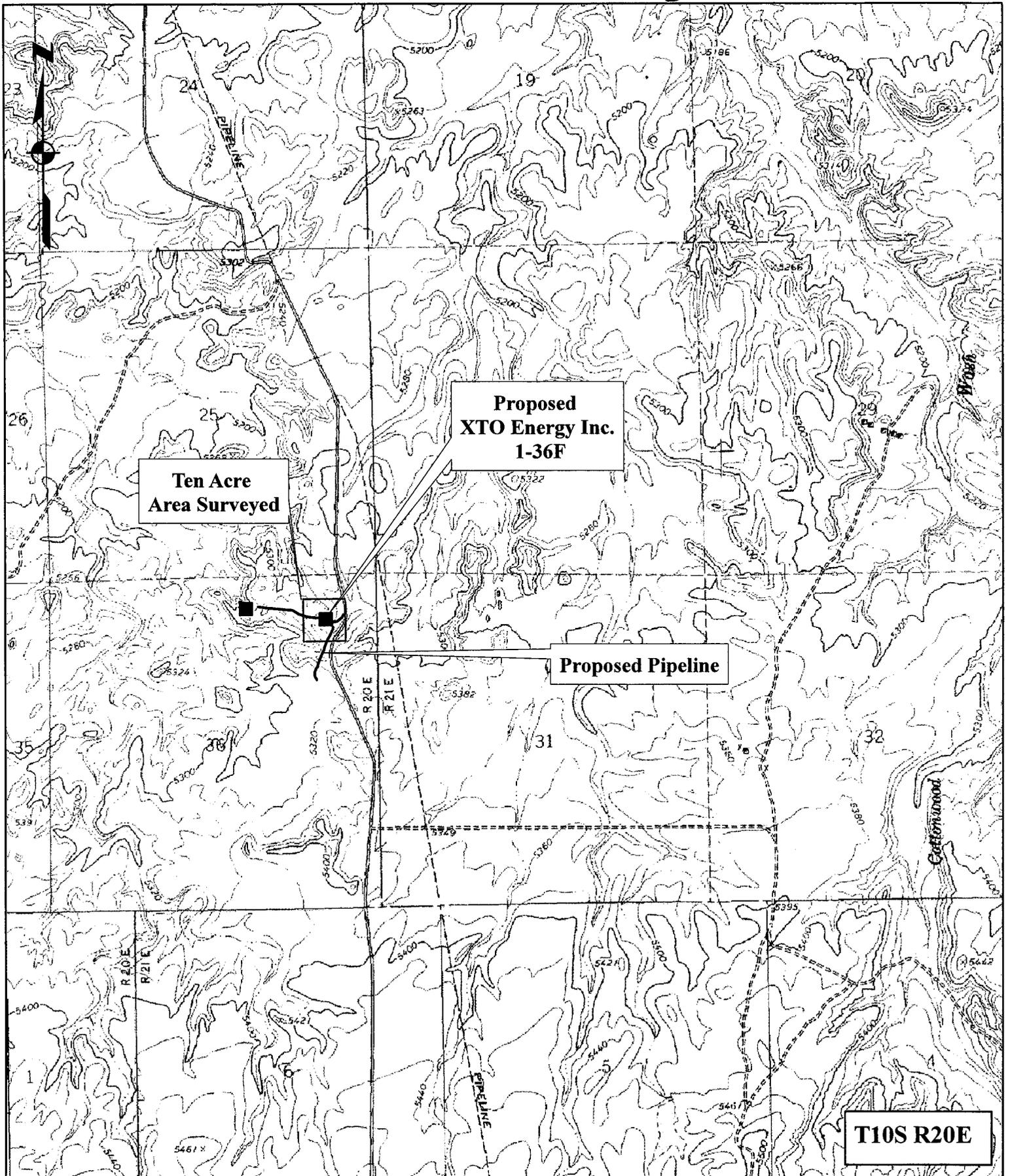
The proposed access is the existing Seep Ridge road that is located adjacent immediately east of the proposed well pad. From The LCU #1-36F well pad, the proposed pipeline trends south 1000 feet (304.8 m) to the existing LCU #8-36F well and its pipeline.

The land is administered by the Utah School Institutional Trust Land Administration (SITLA). A total of 12.29 acres (10 block, 2.29 linear) was surveyed. The fieldwork was conducted on September 27, 2007 by AIA owner and principal James Truesdale. All the field notes and maps are located in the AIA office in Laramie, Wyoming.

## File Search

A file search was conducted by the Office of the Utah Division of State History (UDSH), Antiquities Section, Records Division on May 24, 2007. An additional file search was conducted at the Vernal BLM office in March of 2006 by the author. An update of AIA's USGS 7.5'/1968 (photorevised 1987) Big Pack Mountain NW quadrangle map from the UDSH's Big Pack Mountain NW quadrangle base map occurred on November 8, 2003 and again on February 3, 2004. The UDSH SHPO GIS file search reported that fourteen previous projects (U-97-AY-810, U-98-AY-283, U-01-AY-319, U-04-AY-079, U-05-AY-290, U-05-AY-332, U-05-AY-1074, U-06-AY-129, U-06-AY-130, U-06-AY-131, U-06-AY-132, U-06-AY-133, U-06-AY-424 and U-06-AY-426) have been conducted in the general area (Section 36 of T10S R20E). In addition, the Utah SHPO GIS files search indicated that one site (42UN5227) had been previously recorded in Section 36 of T10S R20E.

Site 42UN5227 is located in the SW/SE ¼ of Section 36 of T10S R20E. Thus the site is located 1 mile to the south of the present project area. The site will not be impacted by subsequent construction of the proposed LCU #1-36F well, its access or pipeline.



**Figure 1. Location of the proposed XTO Energy Inc. 1-36F well and pipeline on 1968 7.5' USGS Quadrangle Map Big Pack Mountain NE, Duchesne County, Utah.**

After review of AIA base maps and cultural records, no additional projects and/or cultural materials (sites, isolates) have been previously recorded in the immediate project area.

### Environment

Physiographically, the project is located in the Little Canyon Unit in the Uinta Basin, 14 miles south of Ouray, Utah. The Uinta Basin is structurally the lowest part of the Colorado Plateau geographical province (Thornbury 1965:425). The Uinta

basin is a large, relatively flat, bowl shaped, east-west asymmetrical syncline near the base of the Uinta Mountains. The topography is characteristic of sloping surfaces that incline northward and are mainly dip slopes on the harder layers of Green River and Uinta Formations (Stokes 1986).

A thick section of more than 9000 feet (2743.9 m) of early Tertiary rocks are exposed (Childs 1950). These rocks are mainly Paleocene and Eocene in age and consist of sandstone, clay and shale lacustrine, fluvial, and deltaic continental deposits, most famous of which are the lacustrine Green River Beds.

The immediate project area is situated on upland desert hills, ridges and benches 2 miles east of Willow Creek Canyon. The area is characterized as having steep ridges and/or buttes of relatively thick Uinta Formation sandstone, with thinner layers of clays and shale. The hills, ridges and buttes are dissected by several steep sided ephemeral drainage washes with wide flat alluvial plains. Portions of the desert hardpan and bedrock are covered with various sizes of residual angular to tabular pieces of eroding sandstone, clay and shale. Many of the higher hills and ridges exhibit ancient terrace (pediment) surfaces containing pebble and cobble gravel. Some of these pebbles and cobbles exhibit a dark brown to black desert varnish (patination). In addition, many of the hills and ridge slopes are covered with aeolian sand that may reach a depth of 100 to 150 cm.

Vegetation in the Little Canyon Unit area is characteristic of a low sagebrush community with shadscale and greasewood. Species observed in the project area include; big sagebrush (Artemisia tridentata), shadscale (Atriplex confertifolia), saltbush (Atriplex nuttallii), rabbitbrush (Chrysothamnus viscidiflorus), winterfat (Eurotia lanata), greasewood (Sarcobatus baileyi), wild buckwheat, (Erigonum ovalifolium), desert trumpet (Erigonum inflatum), Indian rice grass (Oryzopsis hymenoides), western wheatgrass (Agropyron smithii), spiked wheatgrass (Agropyron sp.), crested wheatgrass (Agropyron cristatum), June grass (Koeleria cristata), cheat grass (Bromus tectorum), desert globemallow (Bromus tectorum), lupine (Lupinus sp.), larkspur (Delphinium sp.), Indian paintbrush (Castilleja chromosa), peppergrass (Lepidium perfoliatum), scalloped phacelia (Phacelia

intergrifolian), birdsage evening primrose (Oenothera deltoides), Russian thistle (Salsola kali), Russian knapweed (Centaurea repens), and prickly pear cactus (Opuntia sp.). In addition, a riparian community dominated by cottonwood (Populus sp.), willow (Salix sp.), and salt cedar (tamerix) can be found along Willow Creek located approximately 1 mile west.

Little Canyon Unit (LCU) #1-36F

The proposed LCU #1-36F well pad is situated on the top and gentle northern slope of a small hill (Figures 2 and 3). The hill is located on a small east to west trending upland ridge. The well is also situated along the southern side of a small southeast to northwest trending ephemeral drainage wash. This small broad ephemeral drainage wash is located adjacent 300 feet (91.4 m)



Figure 2. View to west at the proposed LCU #1-36F centerstake and well pad area.

north of the proposed well pad. The well pad location is part of an upland bench system of hills, ridges, benches and drainages that drain west to Willow Creek. The sediments on the well location are colluvial in nature. These colluvial deposits consist of shallow ( $\leq 5$  cm), tan to light brown, poorly sorted, moderately compacted, sandy clay loam, mixed with angular pieces of sandstone, clay and shale on the ridge tops and flat areas (Figure 3). Exposed and eroding tan to light brown sandstone and

shale bedrock dominates the well pad landscape. Vegetation consists of low sagebrush, saltbush, rabbitbrush, greasewood, bunchgrasses (wheatgrass, cheat grass, Indian rice-grass), barrel and prickly pear cactus. The proposed well location is 5282.6 feet (1613.60 m) AMSL.

The proposed access is the existing Seep Ridge road that is located adjacent immediately east of the proposed LCU #1-36F well pad. From the LCU #1-36F well location, the proposed pipeline trends 1000 feet (304.8 m) south to the existing LCU #8-36F well and its pipeline. The proposed pipeline begins at the LCU #1-36F well location and trends south up and over a hill along the west side of the Seep Ridge road before dropping off a relatively steep hillside and across a small ephemeral drainage wash to the existing LCU #8-36F well and its pipeline. Sediments along the

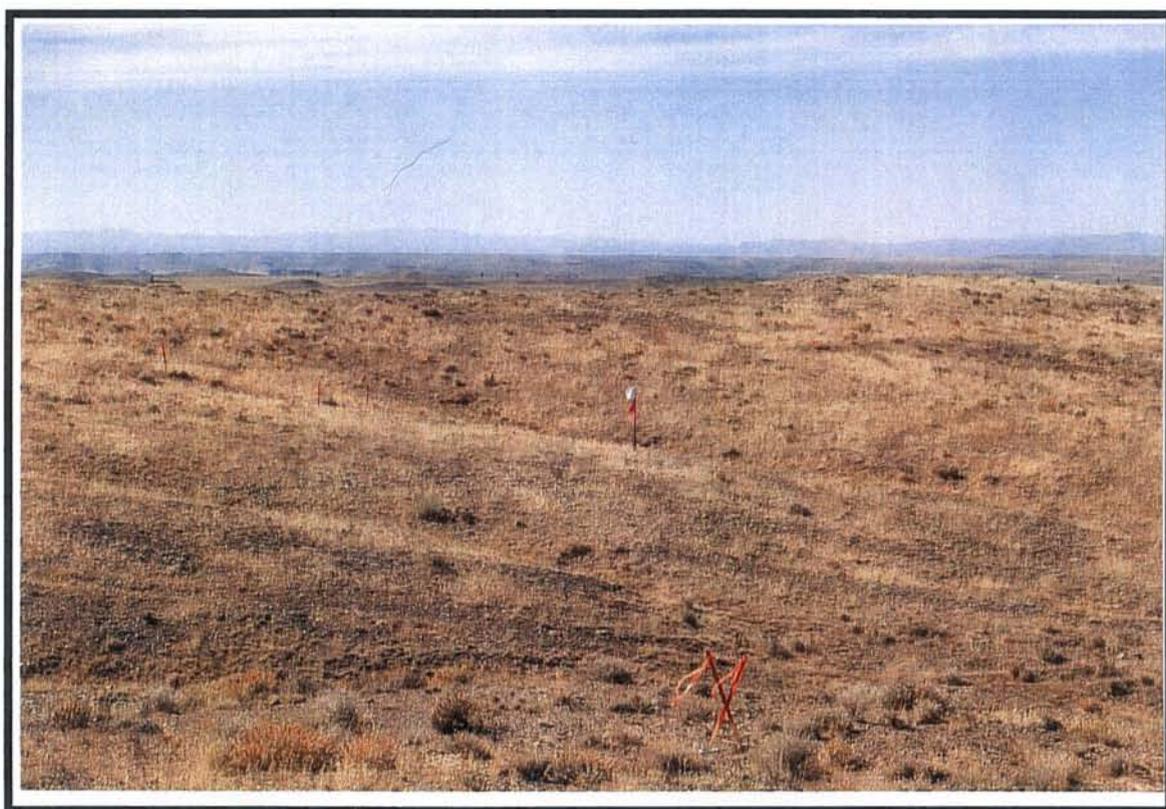


Figure 3. Closer view to west of the proposed Little Canyon Unit #1-36F well pad and the colluvial deposits on and surrounding the proposed LCU #1-36F well pad area.

pipeline consist of a shallow (5 to 10 cm), poorly sorted, loosely compacted, colluvial sandy clay loam. These colluvial deposits overlie sandstone, clay and shale bedrock. Vegetation along the access and pipeline is sparse and consists of low sagebrush, greasewood, rabbitbrush, saltbush, Russian thistle, bunchgrasses (wheatgrass, cheat grass, Indian rice-grass), and prickly pear cactus.

## Field Methods

A total of 10 acres was surveyed around the centerstake of the proposed LCU 1-36F well location to allow for relocation of the pad if necessary. The survey was accomplished by walking transects spaced no more than 15 meters apart. The proposed access is the existing Seep Ridge road that is located adjacent immediately east of the proposed well pad. Therefore no linear acres were surveyed for the access. However, the proposed pipeline corridor surveyed is 1000 feet (304.8 m) long and 100 feet (30.4 m) wide, 2.29 acres. Thus, 2.29 linear acres was surveyed.

Geologic landforms (rockshelters, alcoves, ridge tops and saddles) and areas of subsurface exposure (ant hills, blowouts, rodent holes and burrow, eroding slopes and cutbanks) were examined with special care in order to locate cultural resources (sites, isolates) and possibly help assess a site's sedimentary integrity and potential for the presence and/or absence of buried intact cultural deposits. All exposures of sandstone cliff faces, alcoves or rockshelters, and talus slopes were surveyed.

When cultural materials are discovered, a more thorough survey of the immediate vicinity is conducted in order to locate any associated artifacts and to determine the horizontal extent (surface area) of the site. If no other artifacts are located during the search then the initial artifact was recorded as an isolated find. At times, isolated formal tools (typical end scrapers, projectile points) were drawn and measured. The isolate was then described and its location plotted on a U.S.G.S. topographic map and UTM coordinates are recorded.

When sites are found an Intermountain Antiquities Computer System (IMACS) form was used to record the site. At all sites, selected topographic features, site boundaries, stone tools and cultural features (hearths, foundations, trash dumps and trails) are mapped. Sites were mapped with a Brunton compass, Trimble Geophysical 3 and/or Garmin E-Trex GPS units, and pacing off distances from a mapping station (datum, PVC with aluminum tag). All debitage is inventoried using standard recording techniques (Truesdale et al 1995:7) according to material type, basic flake type, and so on. Selected (mostly complete) stone tools and projectile points are drawn and measured. All features (rockart panel(s), hearths, foundations, trash dumps and trails) are measured and described, while selected features are either drawn or photographed.

Site location data is recorded by a Trimble GeoExplorer 3 Global Positioning System (GPS) and Garmin GPS III Plus and/or a E-Trex GPS. Site elevation and Universal Transverse Mercator (UTM) grid data, its Estimated Position Error (EPE) and Dilution of Precision (DOP) were recorded. Using the GPS data, the site

location was then placed on a USGS 7.5' quadrangle map.

### Results

A total of 12.29 (10 block, 2.29 linear) acres were surveyed for cultural resources by AIA within and around the proposed XTO Energy Corporation Little Canyon Unit (LCU) #1-36F well, and along its access and pipeline. No cultural resources (sites, isolates) were recorded on or around the proposed LCU #1-36F or along its access and pipeline.

A moderate scatter of modern trash (plastic bottles, sanitary food cans, miscellaneous metal, wire, green, brown and clear glass bottles and bottle fragments, foam insulation, etc.) can be found on and surrounding the existing well pads and along the existing oil and gas field service roads in the Little Canyon Unit area.

### Recommendations

A total of 12.29 (10 block, 2.29 linear) acres were surveyed for cultural resources by AIA within and around the proposed XTO Energy Corporation Little Canyon Unit #1-36F well, and along its access and pipeline. No cultural resources (sites, isolates) were recorded on or around the proposed LCU #1-36F or along its access and pipeline.

A moderate scatter of modern trash (plastic bottles, sanitary food cans, miscellaneous metal, wire, green, brown and clear glass bottles and bottle fragments, foam insulation, etc.) can be found on and surrounding the existing well pads and along the existing oil and gas field service roads in the Little Canyon Unit area.

Sediments on and surrounding the proposed well pad, and along its access and pipeline are shallow. Therefore, the possibility of buried and/or intact cultural materials on the proposed well pad or along its access and pipeline is low. No cultural resources (historic properties, isolates) were recorded during the survey for the proposed LCU #1-36F well, its access and pipeline. Therefore, no additional archaeological work is necessary and clearance is recommended for the construction of the Little Canyon Unit #1-36F well pad, its access, and pipeline.

REFERENCES CITED

Childs, O.E.

1950 Geologic history of the Uinta Basin, Utah Geological and Mineralogical Survey. Guidebook to the Geology of Utah, No. 5:49-59.

Stokes, William D.

1986 Geology of Utah. Contributions by the Utah Museum of Natural History, and the Utah Geological and Mineral Survey Department of Natural Resources. Utah Museum of Natural History, Occasional Papers, No. 6.

Thornbury, William D.

1965 Regional Geomorphology of the United States. John Wiley & Sons, Inc.

Truesdale, James A., Kathleen E Hiatt, and Clifford Duncan

1995 Cultural Resource Inventory of the Proposed Ouray Gravel Pit Location, Uintah-Ouray Ute Reservation, Uintah County, Utah. Report prepared for U & W Construction, Ft. Duchesne, Utah by AIA, Laramie, Wyoming.

# PALEONTOLOGY EVALUATION SHEET

---

**PROJECT:** XTO Energy, Inc. – LCU #1-36F

**LOCATION:** 15 miles south of Ouray, Uintah County, Utah. Section 36, 782' FNL 823' FEL, T10S, R20E, S.L.B.&M.

**OWNERSHIP:** PRIV[ ] STATE[ X ] BLM[ ] USFS[ ] NPS[ ] IND[ ] MIL[ ] OTHER[ ]

**DATE:** October 2, 2007

**GEOLOGY/TOPOGRAPHY:** Rock outcrops in this area are the lower part of Uinta Formation, Eocene age. There is a short access road to the well location which sits just west of the Seep Ridge Road on a north of a low ridge. Area is of moderate to low relief with a drainage down the east quarter. There are rock exposures on the northeast side and some on the northwest. Surface is mostly slope wash of angular rock fragments with sand and silt.

**PALEONTOLOGY SURVEY:** YES [ X ] NO Survey [ ] PARTIAL Survey [ ]  
Pedestrian Survey of Uinta Formation rock exposures at the well pad/pit and along the access road and pipeline.

**SURVEY RESULTS:** Invertebrate [ ] Plant [ ] Vertebrate [ ] Trace [ ] No Fossils Found [ X ]

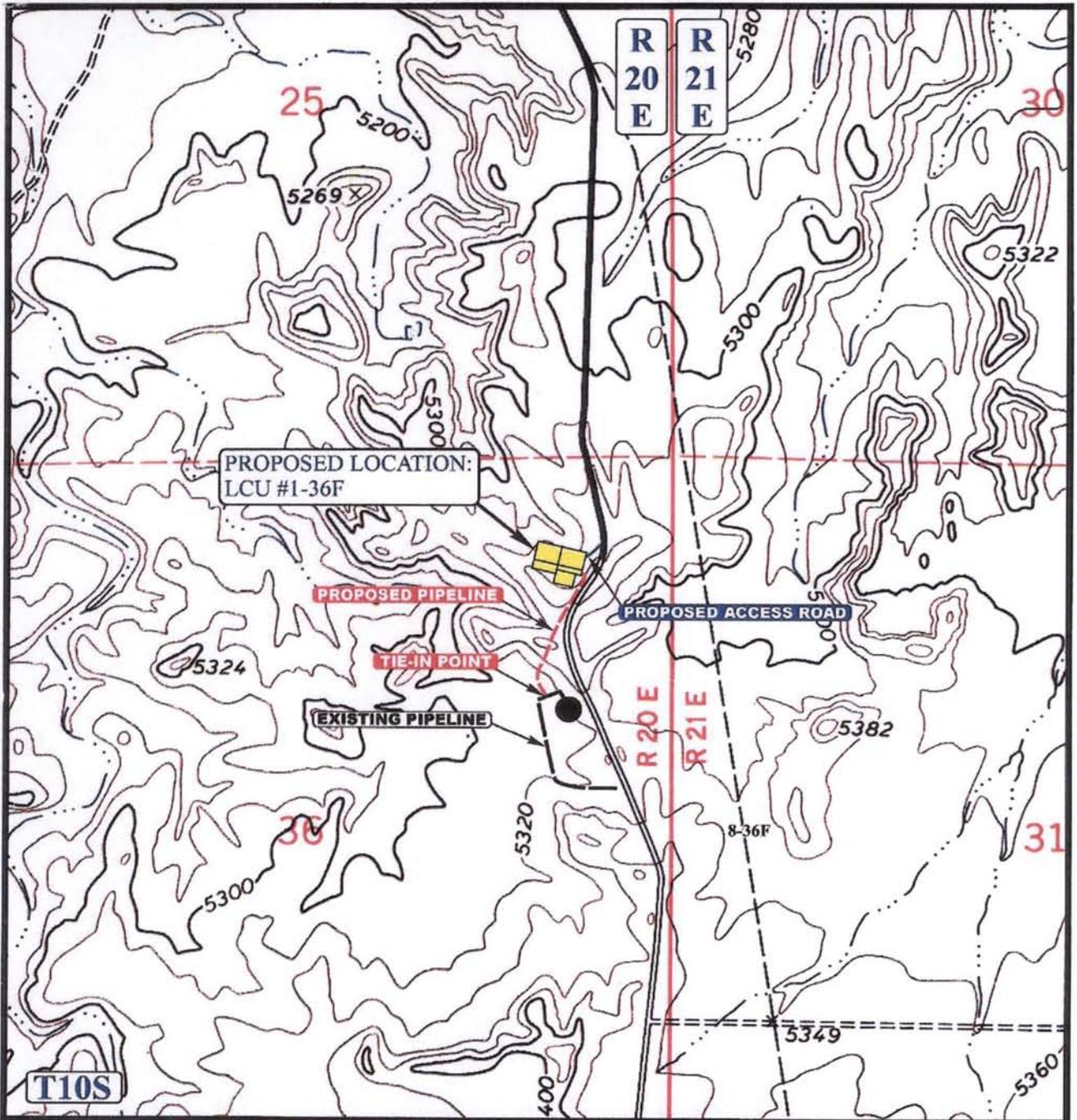
**PALEONTOLOGY SENSITIVITY:** HIGH [ ] MEDIUM [ ] LOW [ X ] (PROJECT SPECIFIC)

**MITIGATION RECOMMENDATIONS:** NONE [ X ] OTHER [ ] (SEE BELOW)

There is always some potential for discovery of significant paleontological resources in the Uinta Formation. If significant vertebrate fossils (mammals, crocodiles, complete turtle shells, etc.) are encountered during construction, work should stop in that area and a paleontologist should be contacted to evaluate the material discovered.

**PALEONTOLOGIST:** Alden H. Hamblin

*A.H. Hamblin Paleontological Consulting, 3793 N. Minersville Highway, Cedar City, Utah 84720 (435) 867-8355*  
Utah State Paleontological Permit # 07-355, BLM paleontological Resources Permit # UT-S-05-02,  
Utah Professional Geologist License – 5223011-2250.



APPROXIMATE TOTAL PIPELINE DISTANCE = 936' +/-

**LEGEND:**

-  EXISTING PIPELINE
-  PROPOSED PIPELINE
-  PROPOSED ACCESS



**XTO ENERGY, INC.**

LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL

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

**TOPOGRAPHIC MAP** **6** **7** **01**  
MONTH DAY YEAR  
SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 09-04-07 Z.L. **D**  
TOPO

**XTO ENERGY, INC.**  
**LCU #1-36F**  
**SECTION 36, T10S, R20E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 14.4 MILES ON THE SEEP RIDGE ROAD TO THE BEGINNING OF THE PROPOSED ACCESS TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 130' TO THE PROPOSED LOCATION.

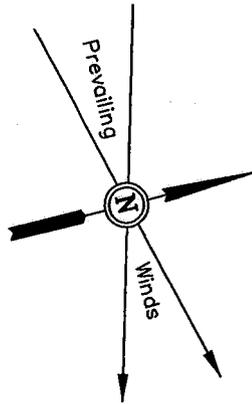
TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 45.4 MILES.

**XTO ENERGY, INC.**

**LOCATION LAYOUT FOR**

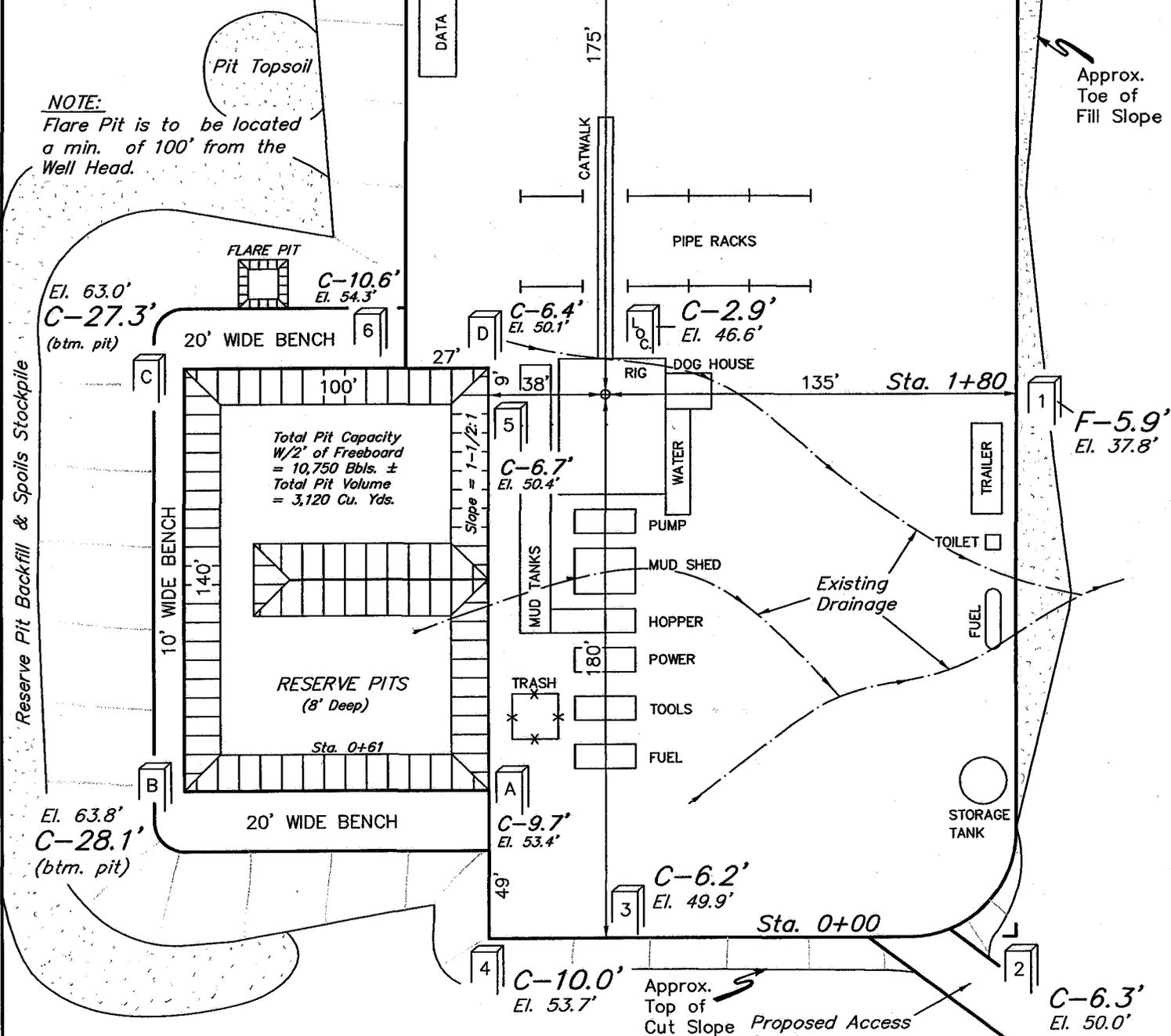
LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL

(Topsoil Stockpile C-10.7'  
El. 54.4')



SCALE: 1" = 50'  
DATE: 09-18-07  
Drawn By: S.L.

**NOTE:**  
Flare Pit is to be located  
a min. of 100' from the  
Well Head.



Elev. Ungraded Ground at Location Stake = 5346.6'  
Elev. Graded Ground at Location Stake = 5343.7'

**UINTAH ENGINEERING & LAND SURVEYING**  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

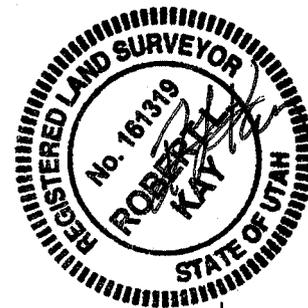
# XTO ENERGY, INC.

## TYPICAL CROSS SECTIONS FOR

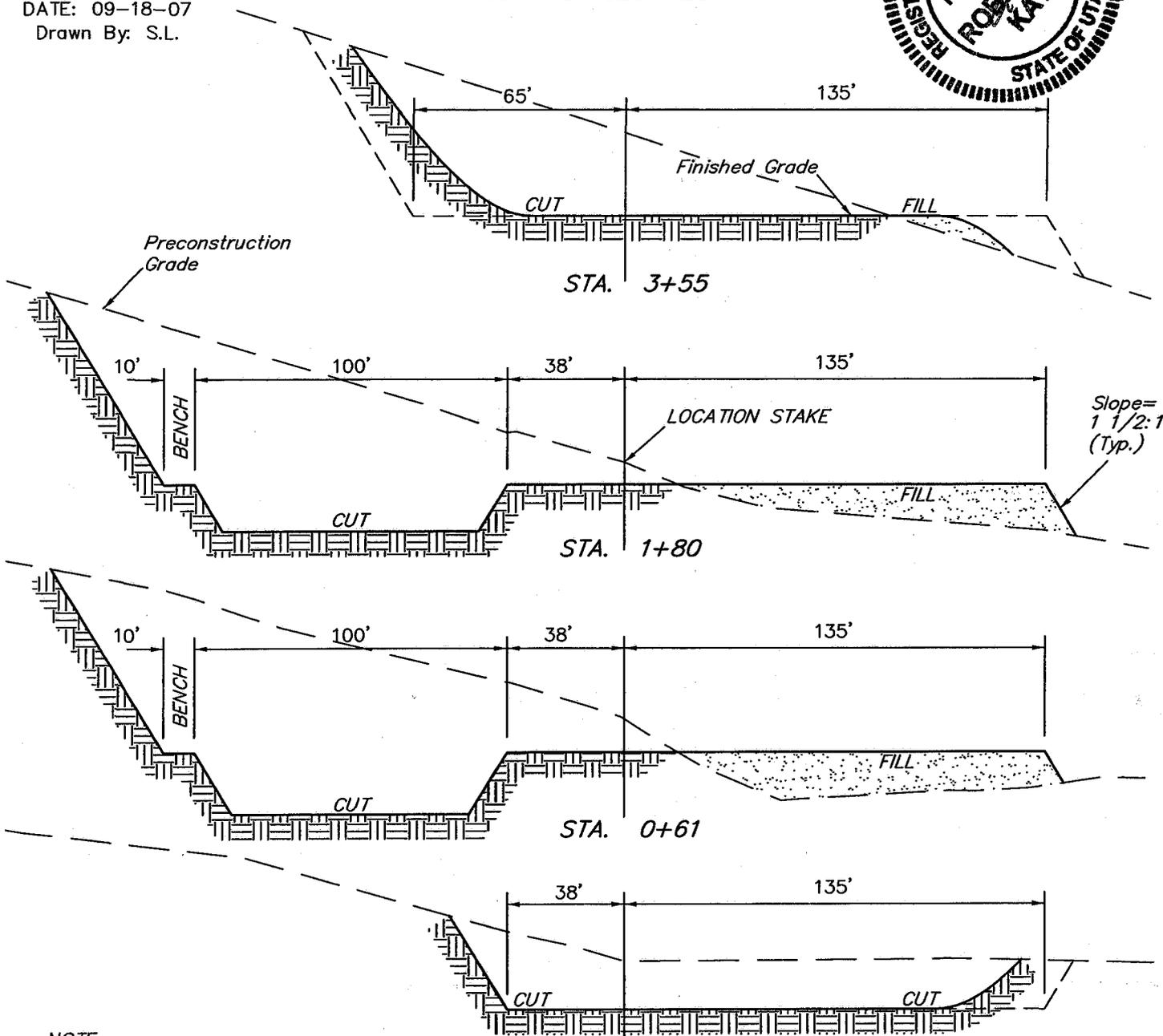
LCU #1-36F

SECTION 36, T10S, R20E, S.L.B.&M.

782' FNL 823' FEL



1" = 20'  
 X-Section Scale  
 1" = 50'  
 DATE: 09-18-07  
 Drawn By: S.L.



**NOTE:**

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

**APPROXIMATE YARDAGES**

**CUT**

(6") Topsoil Stripping = 2,120 Cu. Yds.

Remaining Location = 26,460 Cu. Yds.

**TOTAL CUT = 28,580 CU.YDS.**

**FILL = 5,190 CU.YDS.**

**\* NOTE:**

FILL QUANTITY INCLUDES 5% FOR COMPACTION

EXCESS MATERIAL = 23,390 Cu. Yds.

Topsoil & Pit Backfill = 3,680 Cu. Yds.

(1/2 Pit Vol.)

EXCESS UNBALANCE = 19,710 Cu. Yds.

(After Interim Rehabilitation)

**UINTAH ENGINEERING & LAND SURVEYING**

85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

**XTO ENERGY, INC.**  
**LCU #1-36F**  
 LOCATED IN UINTAH COUNTY, UTAH  
 SECTION 36, T10S, R20E, S.L.B.&M.

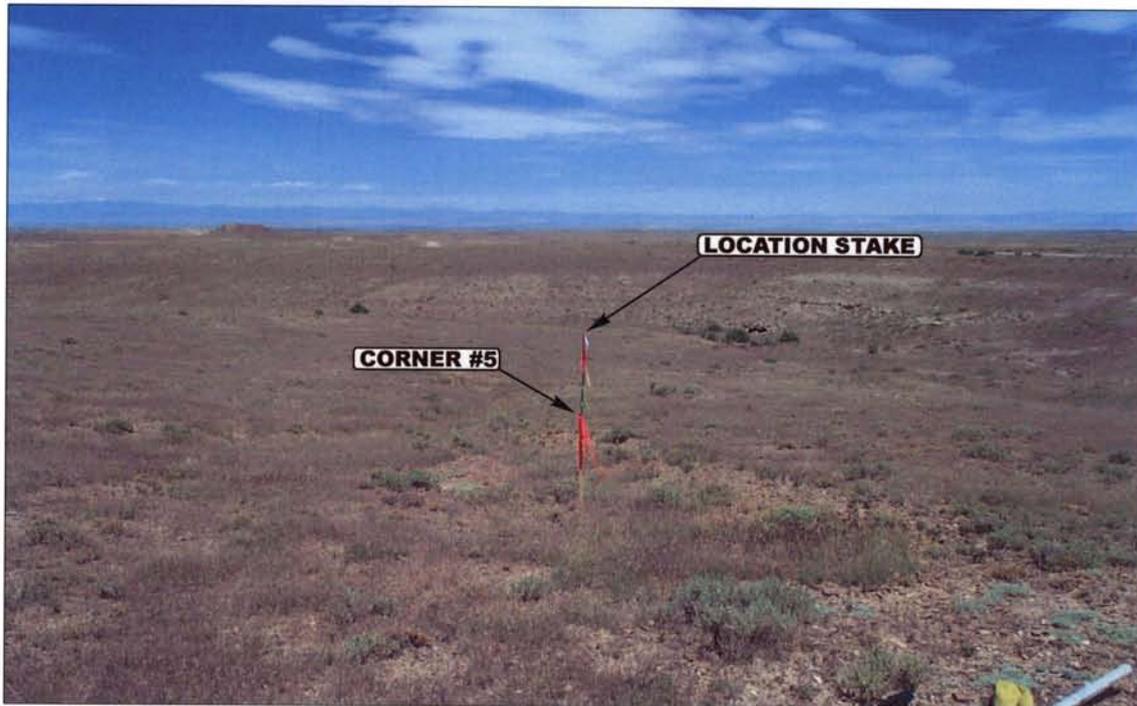


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: WESTERLY



**UELS** Uintah Engineering & Land Surveying  
 85 South 200 East Vernal, Utah 84078  
 435-789-1017 uels@uelsinc.com

**LOCATION PHOTOS**

<b>6</b>	<b>7</b>	<b>01</b>
MONTH	DAY	YEAR

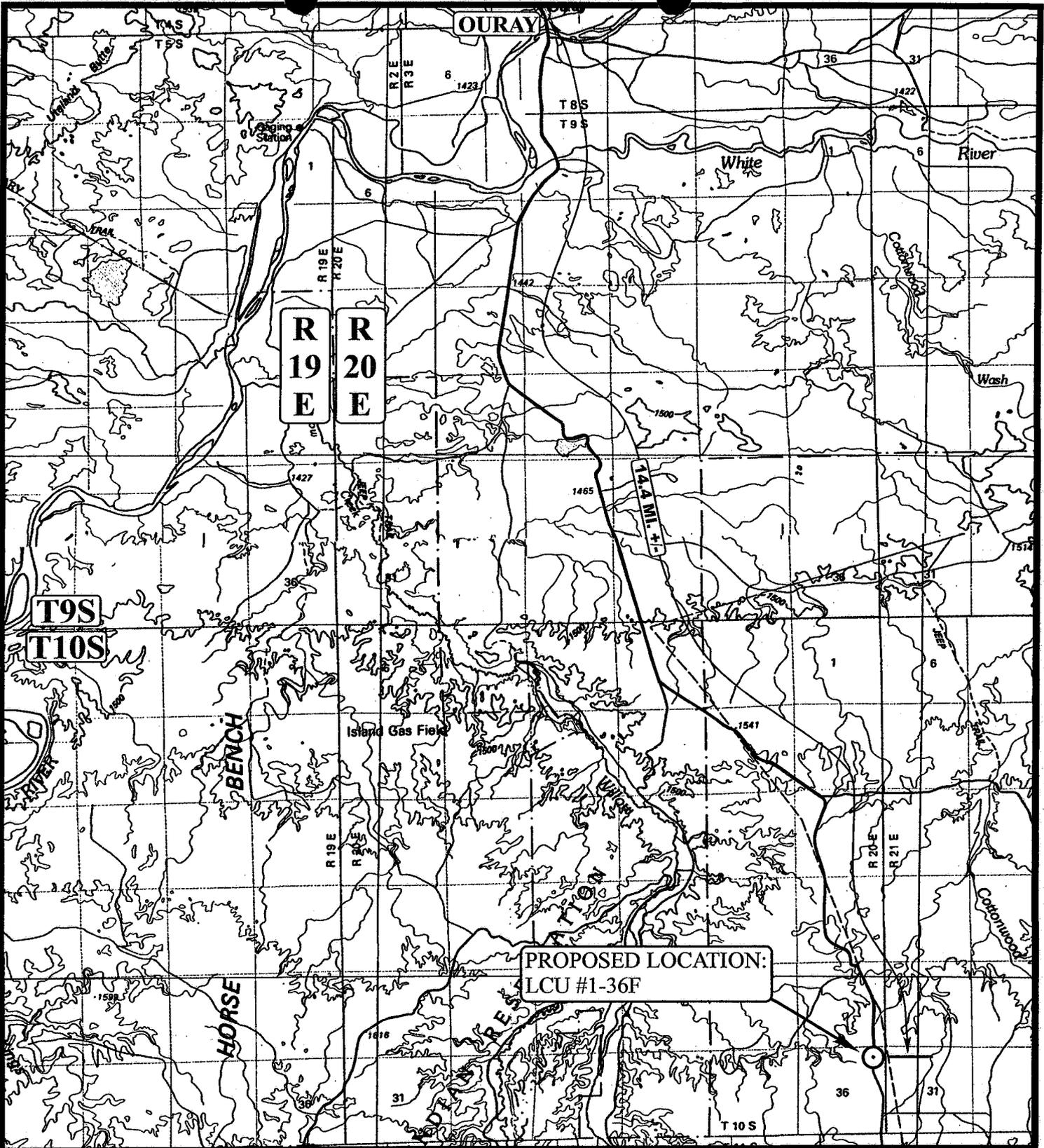
PHOTO

TAKEN BY: B.B.

DRAWN BY: J.L.G.

REV: 09-04-07 Z.L.

- Since 1964 -



PROPOSED LOCATION:  
LCU #1-36F

**LEGEND:**

○ PROPOSED LOCATION



**XTO ENERGY, INC.**

LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL



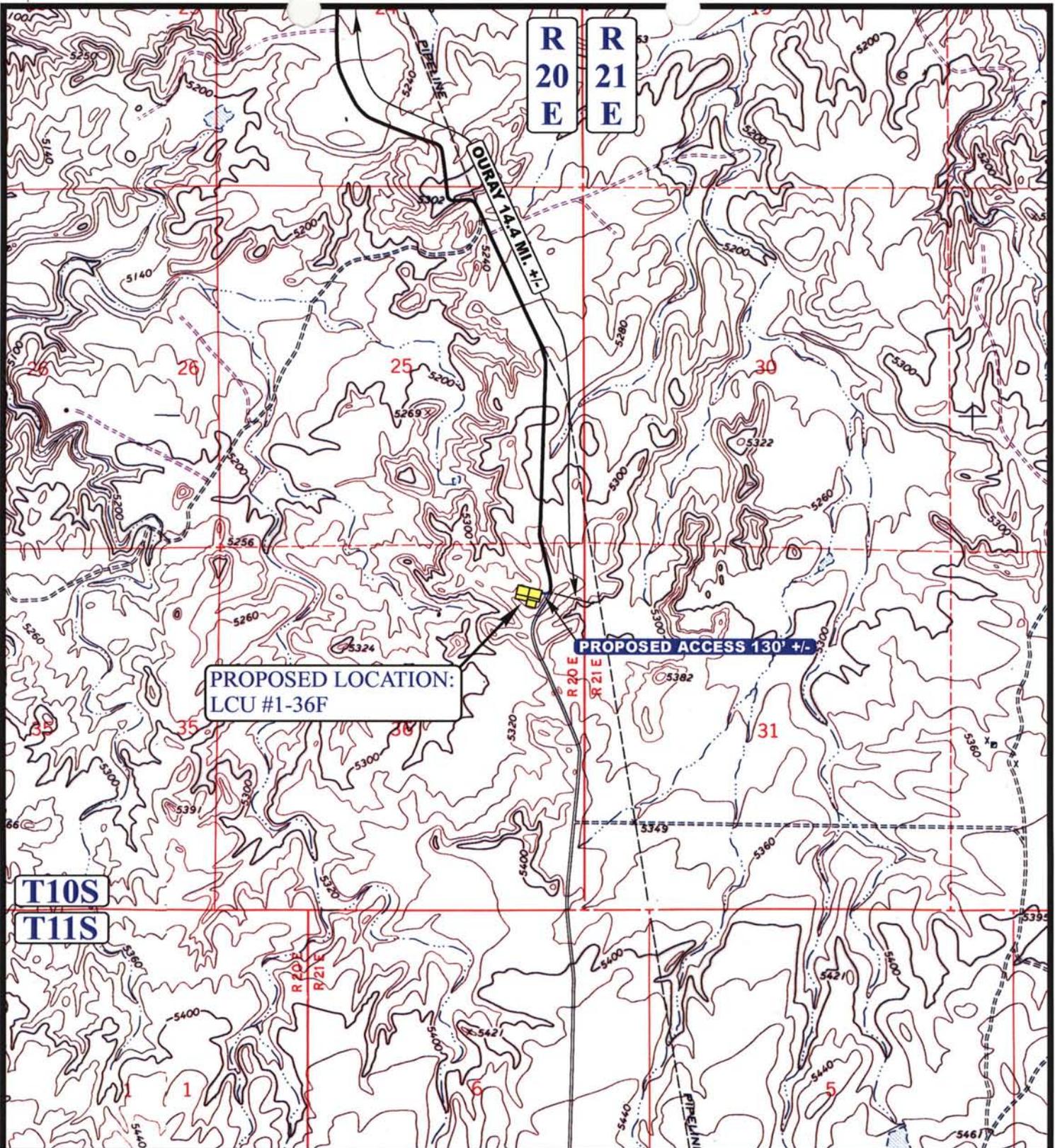
Utah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

TOPOGRAPHIC  
MAP

6	7	01
MONTH	DAY	YEAR

SCALE: 1 : 100,000 DRAWN BY: J.L.G. REV: 09-04-07 Z.L.





R  
20  
E

R  
21  
E

OURAY 1.4 MI. +/-

PROPOSED LOCATION:  
LCU #1-36F

PROPOSED ACCESS 130' +/-

T10S  
T11S

**LEGEND:**

- - - - - PROPOSED ACCESS ROAD
- EXISTING ROAD



**XTO ENERGY, INC.**

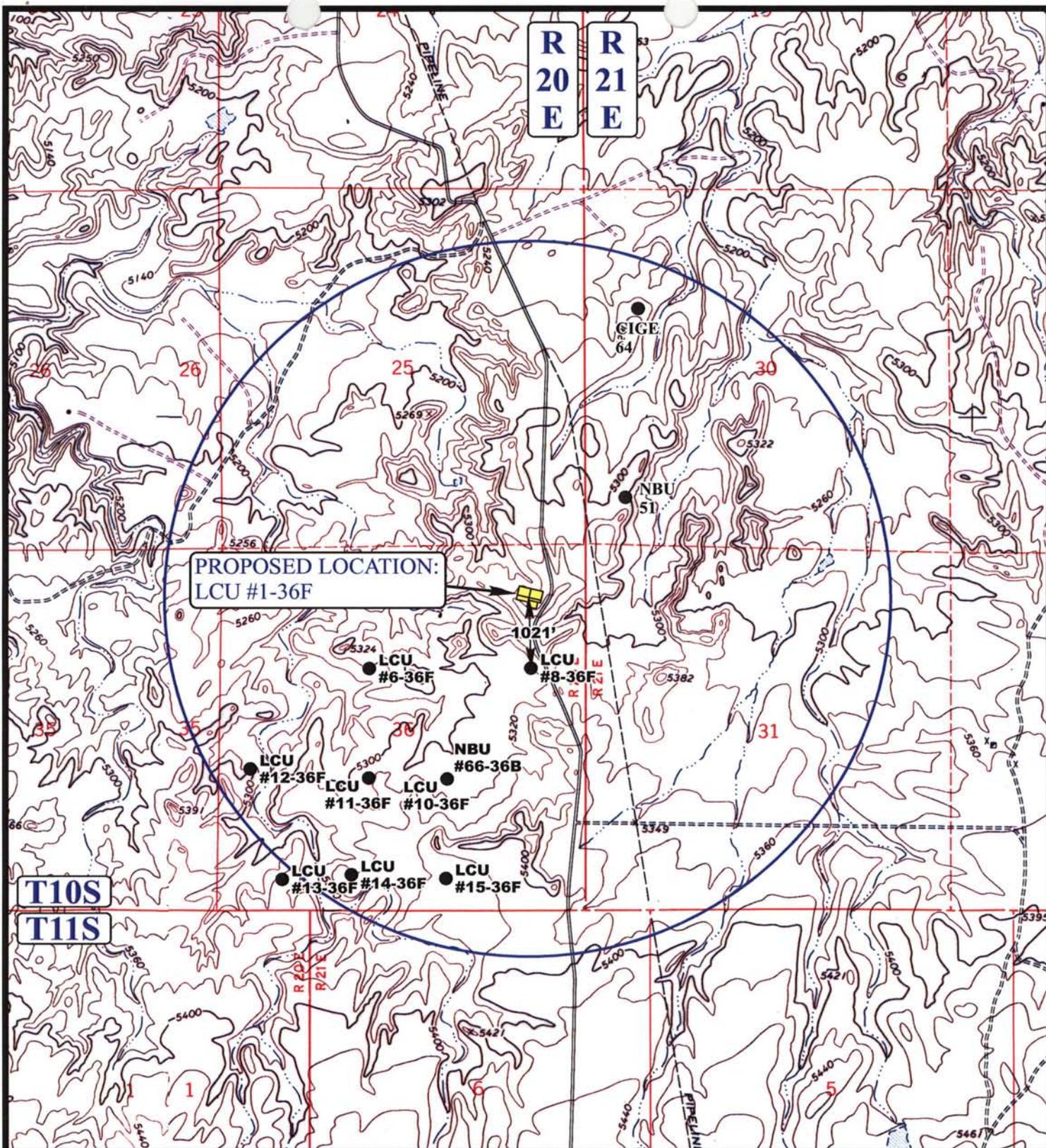
LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL



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

**TOPOGRAPHIC MAP**  
6 MONTH 7 DAY 01 YEAR  
SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 09-04-07 Z.L.





**PROPOSED LOCATION:  
LCU #1-36F**

**R  
20  
E**

**R  
21  
E**

**T10S  
T11S**

**LEGEND:**

- ⊗ DISPOSAL WELLS
- PRODUCING WELLS
- ⬮ SHUT IN WELLS
- ⊗ WATER WELLS
- ⬮ ABANDONED WELLS
- ⬮ TEMPORARILY ABANDONED

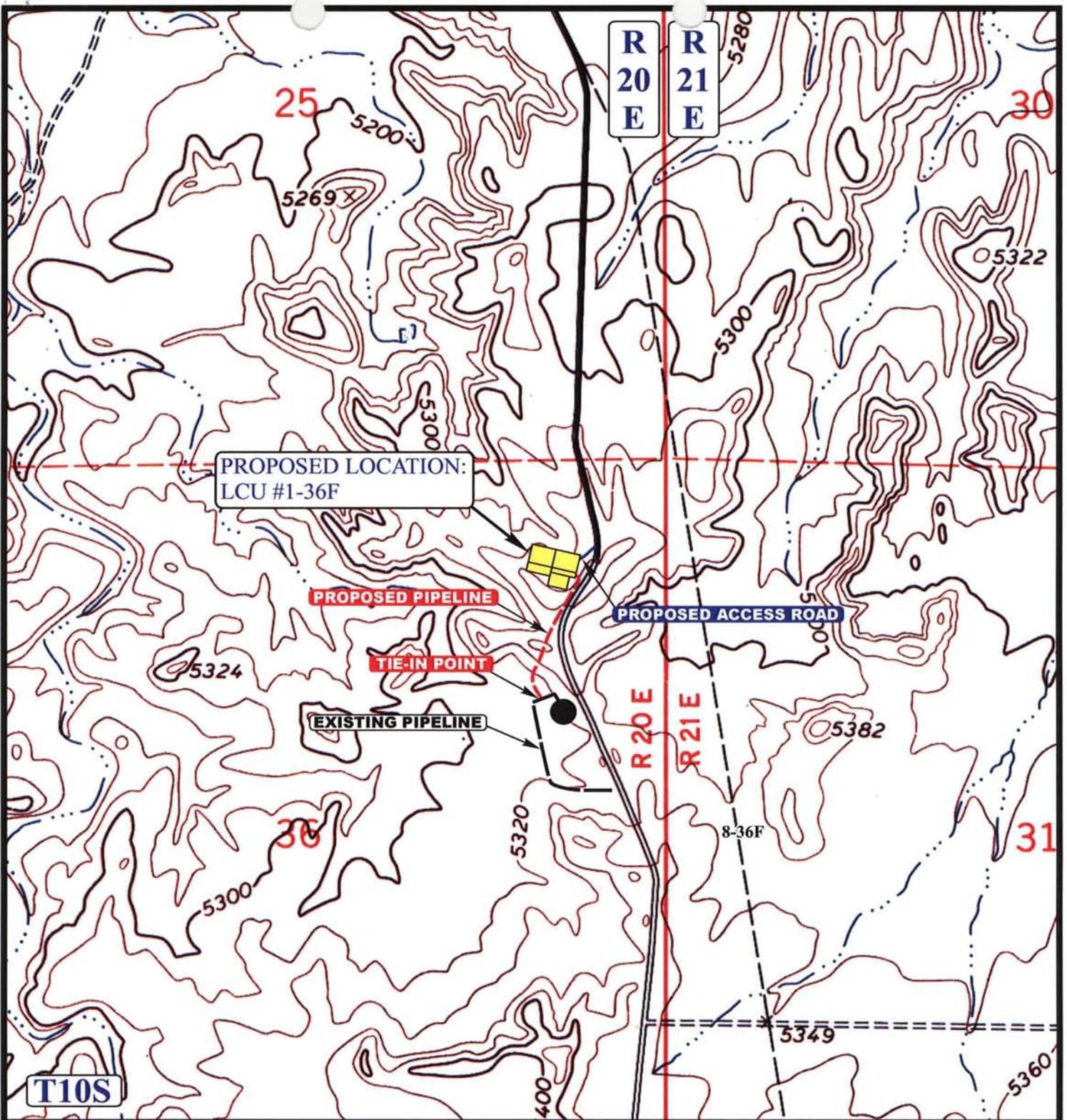
**XTO ENERGY, INC.**

**LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL**



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

<b>TOPOGRAPHIC MAP</b>	<b>6</b> MONTH	<b>7</b> DAY	<b>01</b> YEAR	<b>C TOPO</b>
SCALE: 1" = 2000'	DRAWN BY: J.L.G.		REV: 09-04-07 Z.L.	



**APPROXIMATE TOTAL PIPELINE DISTANCE = 936' +/-**

**LEGEND:**

-  EXISTING PIPELINE
-  PROPOSED PIPELINE
-  PROPOSED ACCESS



**XTO ENERGY, INC.**

LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL



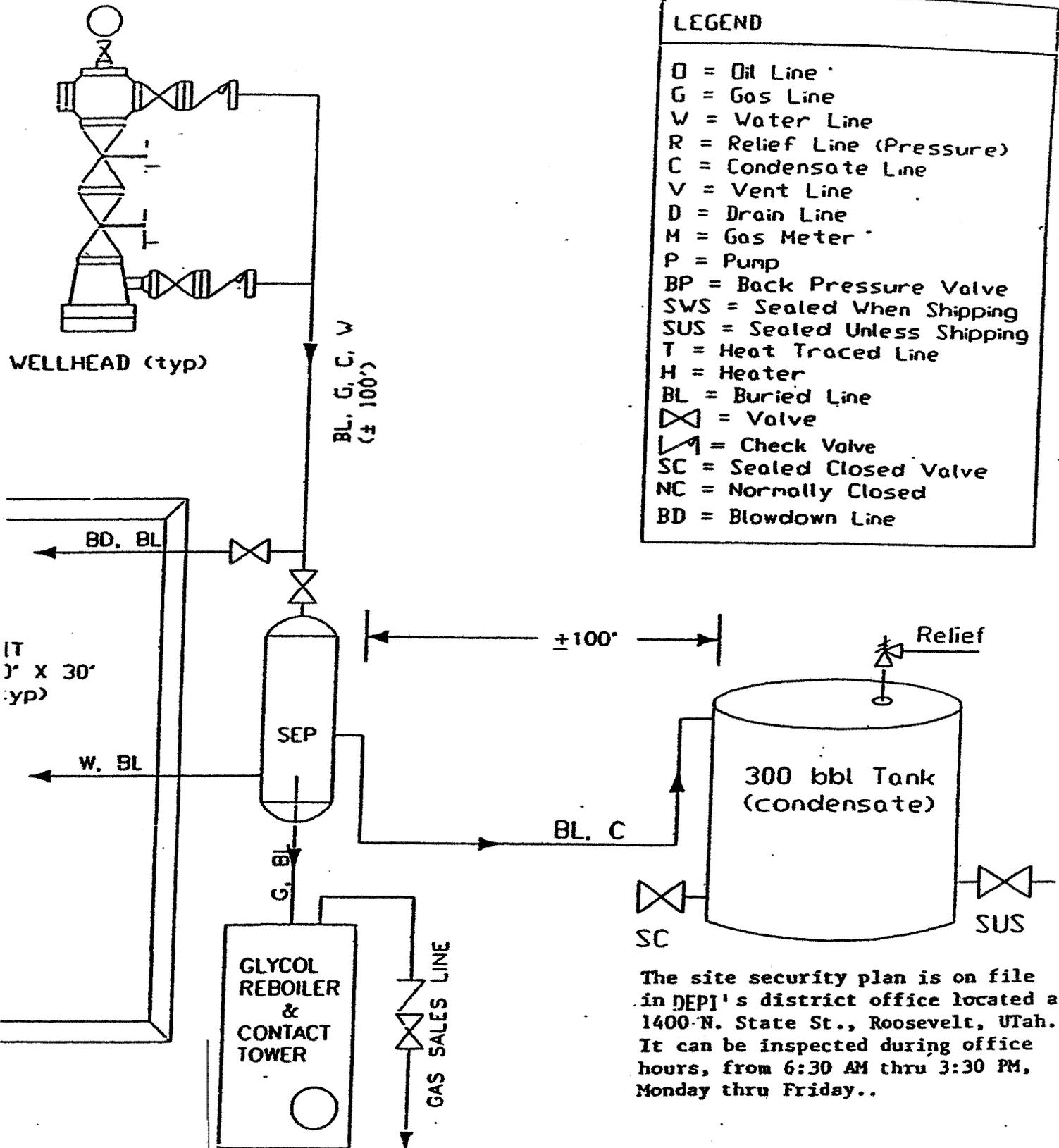
**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC  
MAP**

<b>6</b>	<b>7</b>	<b>01</b>
MONTH	DAY	YEAR

SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 09-04-07 Z.L.

**D  
TOPO**



**LEGEND**

- O = Oil Line
- G = Gas Line
- W = Water Line
- R = Relief Line (Pressure)
- C = Condensate Line
- V = Vent Line
- D = Drain Line
- M = Gas Meter
- P = Pump
- BP = Back Pressure Valve
- SWS = Sealed When Shipping
- SUS = Sealed Unless Shipping
- T = Heat Traced Line
- H = Heater
- BL = Buried Line
-  = Valve
-  = Check Valve
- SC = Sealed Closed Valve
- NC = Normally Closed
- BD = Blowdown Line

The site security plan is on file in DEPI's district office located at 1400 N. State St., Roosevelt, Utah. It can be inspected during office hours, from 6:30 AM thru 3:30 PM, Monday thru Friday..

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 11/09/2007

API NO. ASSIGNED: 43-047-39780
--------------------------------

WELL NAME: LCU 1-36F  
 OPERATOR: XTO ENERGY INC ( N2615 )  
 CONTACT: DON HAMILTON

PHONE NUMBER: 435-722-4521

PROPOSED LOCATION:

NENE 36 100S 200E  
 SURFACE: 0782 FNL 0823 FEL  
 BOTTOM: 0782 FNL 0823 FEL  
 COUNTY: UINTAH  
 LATITUDE: 39.90935 LONGITUDE: -109.6063  
 UTM SURF EASTINGS: 619126 NORTHINGS: 4418416  
 FIELD NAME: NATURAL BUTTES ( 630 )

INSPECT LOCATN BY: / /		
Tech Review	Initials	Date
Engineering	DKD	12/7/07
Geology		
Surface		

LEASE TYPE: 3 - State  
 LEASE NUMBER: ML-47391  
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: WSMVD  
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

- Plat
- Bond: Fed[] Ind[] Sta[] Fee[]  
(No. 104312762 )
- Potash (Y/N)
- Oil Shale 190-5 (B) or 190-3 or 190-13
- Water Permit  
(No. 43-10447 )
- RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )
- Fee Surf Agreement (Y/N)
- Intent to Commingle (Y/N)

LOCATION AND SITING:

- R649-2-3.
- Unit: LITTLE CANYON
- R649-3-2. General  
Siting: 460 From Qtr/Qtr & 920' Between Wells
- R649-3-3. Exception
- Drilling Unit  
Board Cause No: 259-01  
Eff Date: 8-18-2006  
Siting: 4100' fr wharf & uncom in tract
- R649-3-11. Directional Drill

COMMENTS: Needs Permit (11-27-07)

STIPULATIONS: 1- STATEMENT OF BASIS  
2- OIL SHALE  
3- Surface Csg Cont stip



# Application for Permit to Drill

## Statement of Basis

11/29/2007

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
596	43-047-39780-00-00		GW	S	No
<b>Operator</b>	XTO ENERGY INC	<b>Surface Owner-APD</b>			
<b>Well Name</b>	LCU 1-36F	<b>Unit</b>			
<b>Field</b>	UNDESIGNATED	<b>Type of Work</b>			
<b>Location</b>	NENE 36 10S 20E S 782 FNL 823 FEL GPS Coord (UTM) 619126E 4418416N				

### Geologic Statement of Basis

XTO proposes to set 2,200 feet of surface casing cemented to the surface. The base of the moderately saline water is estimated at 4,400 feet. A search of Division of Water Rights records shows 1 water well within a 10,000 foot radius of the proposed location. This well is over a mile from the proposed location. The well is owned by the BLM it is listed as used for stock watering. The surface formation at this location is the Uinta Formation. The well depth is listed as 2,500 feet. The Uinta Formation is made up of discontinuous sands interbedded with shales and are not expected to produce prolific aquifers. The proposed surface casing and cement should adequately protect any near surface aquifers. The production string cement should be brought up above the base of the moderately saline water to prevent it from mixing with fresher waters up hole.

Brad Hill  
APD Evaluator

11/29/2007  
Date / Time

### Surface Statement of Basis

The general area is approximately 13 miles southwest of Ouray, Utah and in an oil field Unit known as Little Canyon. The area is characterized by rolling hills and benches, which are frequently intersected by somewhat gentle to deep draws running westerly a distance of about 3 miles into Willow Creek. The draws are occasionally rimmed with steep side hills, which have exposed sand stone bedrock cliffs along the rims. Willow Creek contains a perennial stream. No other seeps, springs or streams are known to exist in the area. An occasional pond collecting runoff for livestock and antelope occurs.

The LCU 1-36F proposed gas well is 12.9 miles southeast of Ouray and is accessed by the Seep Ridge Road. A new road 130 feet in length will be constructed to the west from this road. This road will cross an existing 8-inch pipeline owned by XTO, which will be buried at the crossing.

The location begins at the crest of a ridge and extends to the north with the cut from the ridge being placed as fill on the side slope. Three fingered shallow drainages begin within the location and will be filled. No diversions around the location are needed. These drainages join a deeper drainage to the north. This drainage runs west toward Willow Creek.

Both the surface and minerals are owned by SITLA. Ed Bonner and Jim Davis of SITLA were invited to the pre-site evaluation. Neither attended. This investigation did not reveal any significant issues or situations, which should prohibit access to or drilling and operating the well at this site.

Ben Williams representing the UDWR stated the area is classified as yearlong crucial habitat for antelope but water not forage is the factor limiting the growth of the herd. He did not recommend any restrictions for this species. No other wildlife species are expected to be significantly affected. He furnished Ken Secriest of XTO, a copy of his evaluation and a recommended seed mix to be used when the site is re-vegetated.

Floyd Bartlett  
Onsite Evaluator

11/27/2007  
Date / Time

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# Application for Permit to Drill

## Statement of Basis

11/29/2007

Utah Division of Oil, Gas and Mining

Page 2

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### Conditions of Approval / Application for Permit to Drill

#### Category

#### Condition

Pits

A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the reserve pit.

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

Operator XTO ENERGY INC  
Well Name LCU 1-36F  
API Number 43-047-39780-0 APD No 596 Field/Unit UNDESIGNATED  
Location: 1/4,1/4 NENE Sec 36 Tw 10S Rng 20E 782 FNL 823 FEL  
GPS Coord (UTM) 619128 4418416 Surface Owner

### Participants

Floyd Bartlett (DOGM), Ken Secrist, Jody Mecham, Zander Mcentire (XTO Energy, INC.), Ben Williams (UDWR), Brandon Bowthorpe (U.E.L.S.), David Allen (LaRose Construction), Randy Jackson (Jackson Construction)

### Regional/Local Setting & Topography

The general area is approximately 13 miles southwest of Ouray, Utah and in an oil field Unit known as Little Canyon. The area is characterized by rolling hills and benches, which are frequently intersected by somewhat gentle to deep draws running westerly a distance of about 3 miles into Willow Creek. The draws are occasionally rimmed with steep side hills, which have exposed sand stone bedrock cliffs along the rims. Willow Creek contains a perennial stream. No other seeps, springs or streams are known to exist in the area. An occasional pond collecting runoff for livestock and antelope occurs.

The LCU 1-36F proposed gas well is 12.9 miles southeast of Ouray and is accessed by the Seep Ridge Road. A new road 130 feet in length will be constructed to the west from this road. This road will cross an existing 8-inch pipeline owned by XTO, which will be buried at the crossing.

The location begins at the crest of a ridge and extends to the north with the cut from the ridge being placed as fill on the side slope. Three fingered shallow drainages begin within the location and will be filled. No diversions around the location are needed. These drainages join a deeper drainage to the north. This drainage runs west toward Willow Creek.

Both the surface and minerals are owned by SITLA. This investigation did not reveal any significant issues or situations, which should prohibit access to or drilling and operating the well at this site.

### Surface Use Plan

#### Current Surface Use

Grazing  
Recreational  
Wildlife Habitat

#### New Road

Miles	Well Pad	Src Const Material	Surface Formation
0.01	Width 243	Length 355	Onsite
			UNTA

Ancillary Facilities N

### Waste Management Plan Adequate? Y

### Environmental Parameters

Affected Floodplains and/or Wetland N

#### Flora / Fauna

Moderately vegetated with Gardner saltbrush, Curly mesquite, winter fat, globe mallow, pepper grass, horsebrush, shadscale, cheat grass and mustard weed.

Antelope, coyotes, rabbits and miscellaneous small mammals and birds.

**Soil Type and Characteristics**

Shallow gravely deep sandy clay loam with some small surface rock.

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diversion Required** N

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

**Paleo Survey Run?** N **Paleo Potential Observed?** **Cultural Survey Run?** Y **Cultural Resources?** N

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

<b>Distance to Groundwater (feet)</b>	>200	0
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	300 to 1320	10
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>	<10	0
<b>Affected Populations</b>	<10	0
<b>Presence Nearby Utility Conduits</b>	Not Present	0

**Final Score** 25 **Sensitivity Level**

**Characteristics / Requirements**

A 100' x 140' x 8' deep reserve pit is planned in an area of cut on the southwest side of the location. It will be lined with a 16-mil liner with an appropriate thickness of felt sub- liner.

**Closed Loop Mud Required?** N **Liner Required?** Y **Liner Thickness** 16 **Pit Underlayment Required?** Y

**Other Observations / Comments**

ATV's were used to access the site.

Floyd Bartlett  
Evaluator

11/27/2007  
Date / Time

2007-12 XTO LCU 1-36F

Casing Schematic

BHP  $0.052(9200)9.2 = 4401 \text{ psi}$   
anticipate 4100-4600

Gas  $.12(9200) = 1104$   
 $4401 - 1104 = 3297 \text{ psi, MASP}$   
 $(.22)(9200) = 2024$   
MASP = 2377 psi

BOPE surf drilled at arr,  
3M 2200 to T.D. ✓  
9-5/8" MW 8.4 Frac 19.3

Burst 3520  
70% 2464 psi

Max P@ surf shoe  
 $.22(7000) = 1540$   
 $4401 - 1540 = 2861 \text{ psi}$

test to 2400 psi ✓

Stop surf. cont. ✓

✓ Adequate DCD 12/7/07

Surface 12 1/2" 15 1/2"

Uinta

TOC @ 547. to surf. w/ 7%, tail @ 1624'

✓ \* stop

TOC @ 1520. to surf. w/ 1752' TOC tail.

Surface 2200. MD

384' Wasatch Tongue  
4171' Green River Tongue  
4291' Wasatch  
4400' # BALSW

4991' Chapita Wells ✓

6246' Utland Buttes

6956' Mesaverde  
7175' TOC tail

5-1/2" MW 9.2

Production 9200. MD

Well name:

2007-12 XTO LCU 1-36F

Operator: XTO Energy, Inc.

String type: Surface

Project ID:

43-047-39780

Location: Uintah Co.

**Design parameters:**

**Collapse**

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

**Burst**

Max anticipated surface pressure: 1,936 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,200 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: 1,926 ft

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 96 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 185 ft

Cement top: 547 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 9,200 ft  
Next mud weight: 9.200 ppg  
Next setting BHP: 4,397 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,200 ft  
Injection pressure: 2,200 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	2200	9.625	36.00	J-55	ST&C	2200	2200	8.796	954.9
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	960	2020	2.104	2200	3520	1.60	79	394	4.98 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Minerals

Phone: 810-538-5357

Date: December 6, 2007  
Salt Lake City, Utah

**ENGINEERING STIPULATIONS: NONE**

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

Collapse is based on a vertical depth of 2200 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

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

Well name:

2007-12 XTO LCU 1-36F

Operator: XTO Energy, Inc.

String type: Production

Project ID:

43-047-39780

Location: Uintah Co.

**Design parameters:**

**Collapse**

Mud weight: 9.200 ppg  
Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 2,373 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 4,397 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: 7,917 ft

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 194 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 368 ft

Cement top: 1,520 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	9200	5.5	17.00	N-80	LT&C	9200	9200	4.767	1200.8
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	4397	6290	1.431	4397	7740	1.76	156	348	2.23 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Minerals

Phone: 810-538-5357

Date: December 6, 2007  
Salt Lake City, Utah

**ENGINEERING STIPULATIONS: NONE**

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

Collapse is based on a vertical depth of 9200 ft, a mud weight of 9.2 ppg. The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

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

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

November 16, 2007

Memorandum

To: Assistant District Manager Minerals, Vernal District  
From: Michael Coulthard, Petroleum Engineer  
Subject: 2007 Plan of Development Little Canyon Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2007 within the Little Canyon Unit, Uintah County, Utah.

API#	WELL NAME	LOCATION
------	-----------	----------

(Proposed PZ Wasatch/MesaVerde)

43-047-39788	LCU 07-36F Sec 36 T10S R20E 1991 FNL 2059 FEL	
43-047-39780	LCU 01-36F Sec 36 T10S R20E 0782 FNL 0823 FEL	
43-047-39781	LCU 02-36F Sec 36 T10S R20E 0577 FNL 2112 FEL	
43-047-39782	LCU 04-36F Sec 36 T10S R20E 0860 FNL 0889 FWL	
43-047-39783	LCU 09-36F Sec 36 T10S R20E 1879 FSL 0766 FEL	
43-047-39784	LCU 16-36F Sec 36 T10S R20E 0815 FSL 0471 FEL	

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Little Canyon Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:11-16-07



JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

**Division of Oil Gas and Mining**

JOHN R. BAZA  
Division Director

December 17, 2007

XTO Energy, Inc.  
P O Box 1360  
Roosevelt, UT 84066

Re: Little Canyon Unit 1-36-F Well, 782' FNL, 823' FEL, NE NE, Sec. 36, T. 10 South,  
R. 20 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 43-047-39780.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

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

Operator: XTO Energy, Inc.  
Well Name & Number Little Canyon Unit 1-36-F  
API Number: 43-047-39780  
Lease: ML-47391

Location: NE NE                      Sec. 36                      T. 10 South                      R. 20 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 action during drilling of this well:

- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment – contact Dan Jarvis
- 24 hours prior to spudding the well – contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program – contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well – contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well – contact Dustin Doucet
- Any changes to the approved drilling plan – contact Dustin Doucet

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

- Dan Jarvis at:                      (801) 538-5338 office                      (801) 942-0873 home
- Carol Daniels at:                      (801) 538-5284 office
- Dustin Doucet at:                      (801) 538-5281 office                      (801) 733-0983 home

#### 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. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.
7. Surface casing shall be cemented to the surface.

RECEIVED  
MINERAL FIELD OFFICE  
2007 NOV -9 PM 2:39  
DEPT. OF THE INTERIOR  
BUREAU OF LAND MGMT.

November 7, 2007

Mrs. Diana Mason  
State of Utah  
Division of Oil Gas and Mining  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: Application for Permit to Drill—XTO Energy, Inc.  
LCU 1-36F - 782' FNL & 823' FEL, NE/4 NE/4,  
Section 36, T10S, R20E, SLB&M, Uintah County, Utah

43 047 39780

Dear Diana;

On behalf of XTO Energy, Inc. Buys & Associates, Inc. respectfully submits the enclosed original and one copy of the Application for Permit to Drill (APD) for the above referenced SITLA surface and mineral vertical well. The location of the surface and target location as well as all points along the intended well bore path are within Cause No. 259-01 and are not within 460 feet of the unit boundary or any uncommitted tracts. Included with the APD is the following supplemental information:

- Exhibit "A" - Survey plats, layouts and photos of the proposed well site;
- Exhibit "B" - Proposed location maps with access and utility corridors;
- Exhibit "C" - Production site layout;
- Exhibit "D" - Drilling Plan;
- Exhibit "E" - Surface Use Plan with APD Certification;
- Exhibit "F" - Typical BOP and Choke Manifold diagram;
- Exhibit "G" - Cultural and Paleontological Clearance Reports.

Thank you very much for your timely consideration of this application. Please feel free to contact myself or Ken Secrest of XTO Energy, Inc. at 435-722-4521 if you have any questions or need additional information.

Sincerely,

*Don Hamilton*

Don Hamilton  
Agent for XTO Energy, Inc.

cc: Fluid Mineral Group, BLM—Vernal Field Office  
Ken Secrest, XTO Energy, Inc.

RECEIVED  
FEB 07 2008  
DIV. OF OIL, GAS & MINING

FILE COPY

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

FORM 3

AMENDED REPORT   
(highlight changes)

**APPLICATION FOR PERMIT TO DRILL** - 9 PM 2:39

5. MINERAL LEASE NO.: ML-47391      6. SURFACE: State

7. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

8. UNIT or CA AGREEMENT NAME: Little Canyon Unit

9. WELL NAME and NUMBER: LCU 1-36F

10. FIELD AND POOL, OR WILDCAT: undesignated

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 36 10S 20E S

12. COUNTY: Uintah      13. STATE: UTAH

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 12.92 miles southeast of Ouray, Utah

15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET): 782'

16. NUMBER OF ACRES IN LEASE: 640

17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40

18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET): 1,021'

19. PROPOSED DEPTH: 9,200

20. BOND DESCRIPTION: 104312 762

21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 5,347' ungraded ground

22. APPROXIMATE DATE WORK WILL START: 1/15/2008

23. ESTIMATED DURATION: 14 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
12-1/4"	9-5/8" J-55 ST 36#	2,200	see Drilling Plan
7-7/8"	5-1/2" N-80 LT 17#	9,200	see Drilling Plan

25. **ATTACHMENTS**

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

WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER       COMPLETE DRILLING PLAN

EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER       FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Don Hamilton      TITLE Agent for XTO Energy, Inc.

SIGNATURE Don Hamilton      DATE 11/7/2007

(This space for State use only)

API NUMBER ASSIGNED: \_\_\_\_\_

APPROVAL: \_\_\_\_\_

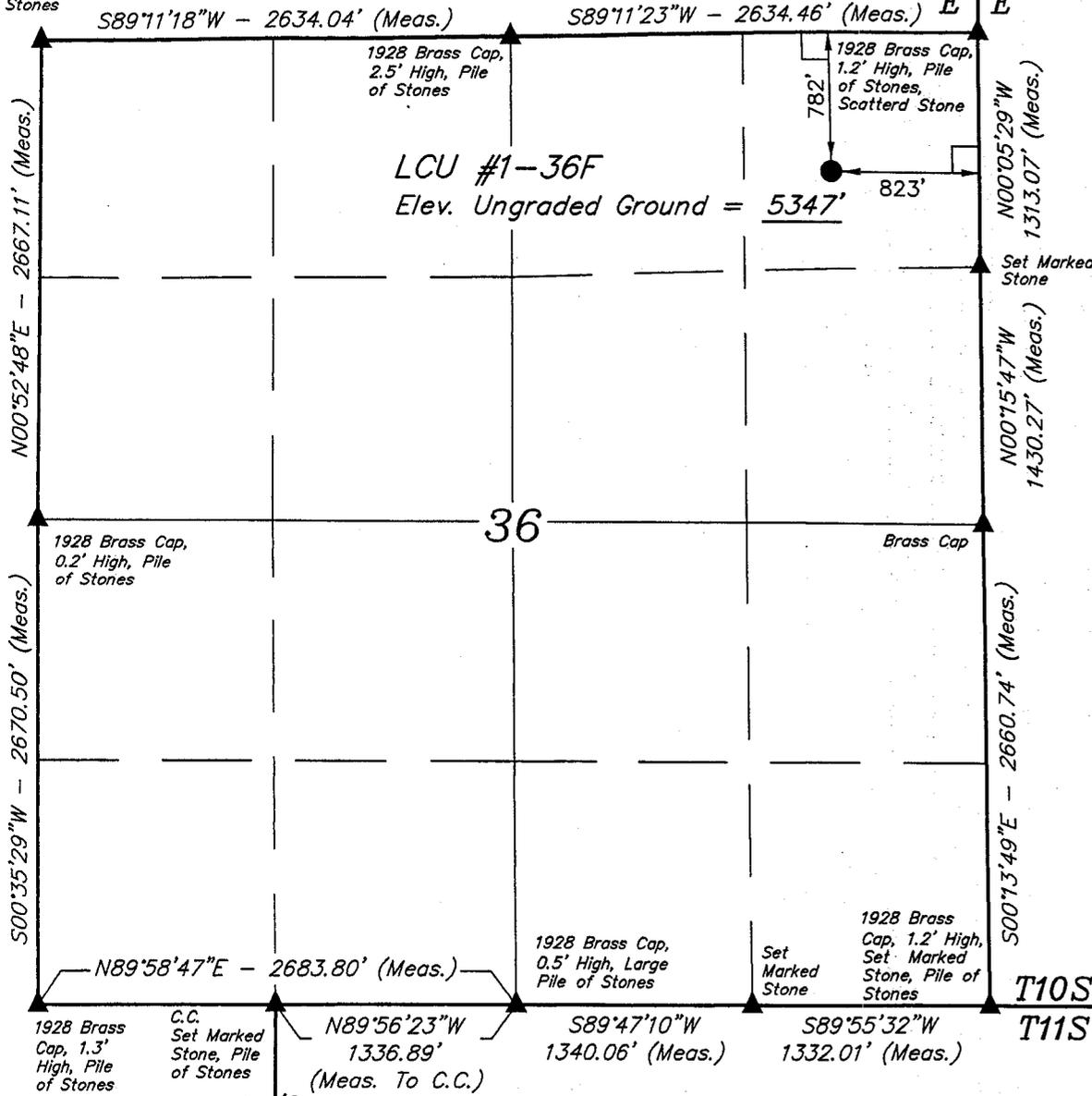
RECEIVED ACCEPTED BY BLM FOR UNIT PURPOSES ONLY  
FEB 07 2008 FEB 5 2008  
DIV. OF OIL, GAS & MINING

# T10S, R20E, S.L.B.&M.

R  
20  
E

Well location, LCU #1-36F, located as shown in the NE 1/4 NE 1/4 of Section 36, T10S, R20E, S.L.B.&M., Uintah County Utah.

1928 Brass Cap,  
0.7' High, Pile  
of Stones

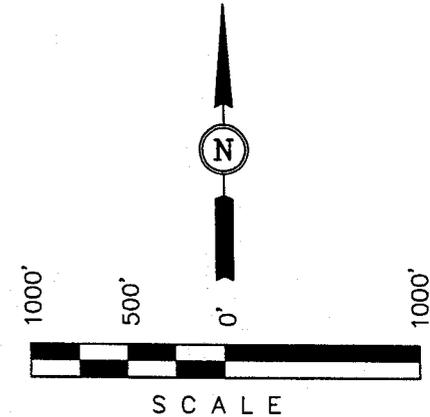


## BASIS OF ELEVATION

SPOT ELEVATION AT THE SOUTHWEST CORNER OF SECTION 20, T10S, R20E, S.L.B.&M., TAKEN FROM THE BIG PACK MTN. NW, QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5251 FEET.

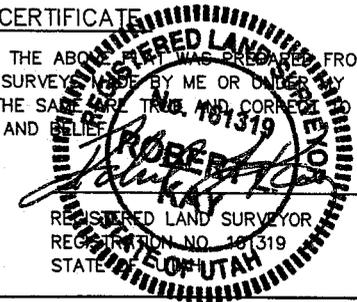
## BASIS OF BEARINGS

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



## CERTIFICATE

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



## LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = SECTION CORNERS LOCATED.

(NAD 83)  
 LATITUDE = 39°54'33.49" (39.909303)  
 LONGITUDE = 109°36'25.21" (109.607003)  
 (NAD 27)  
 LATITUDE = 39°54'33.61" (39.909336)  
 LONGITUDE = 109°36'22.73" (109.606314)

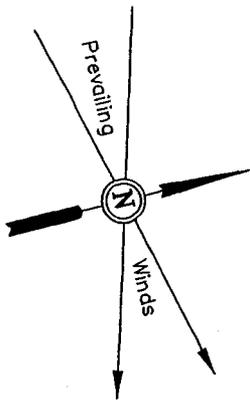
**UINTAH ENGINEERING & LAND SURVEYING**  
 85 SOUTH 200 EAST - VERNAL, UTAH 84078  
 (435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 08-31-07	DATE DRAWN: 09-18-07
PARTY B.B. K.D. S.L.	REFERENCES G.L.O. PLAT	
WEATHER WARM	FILE XTO ENERGY, INC.	

XTO ENERGY, INC.

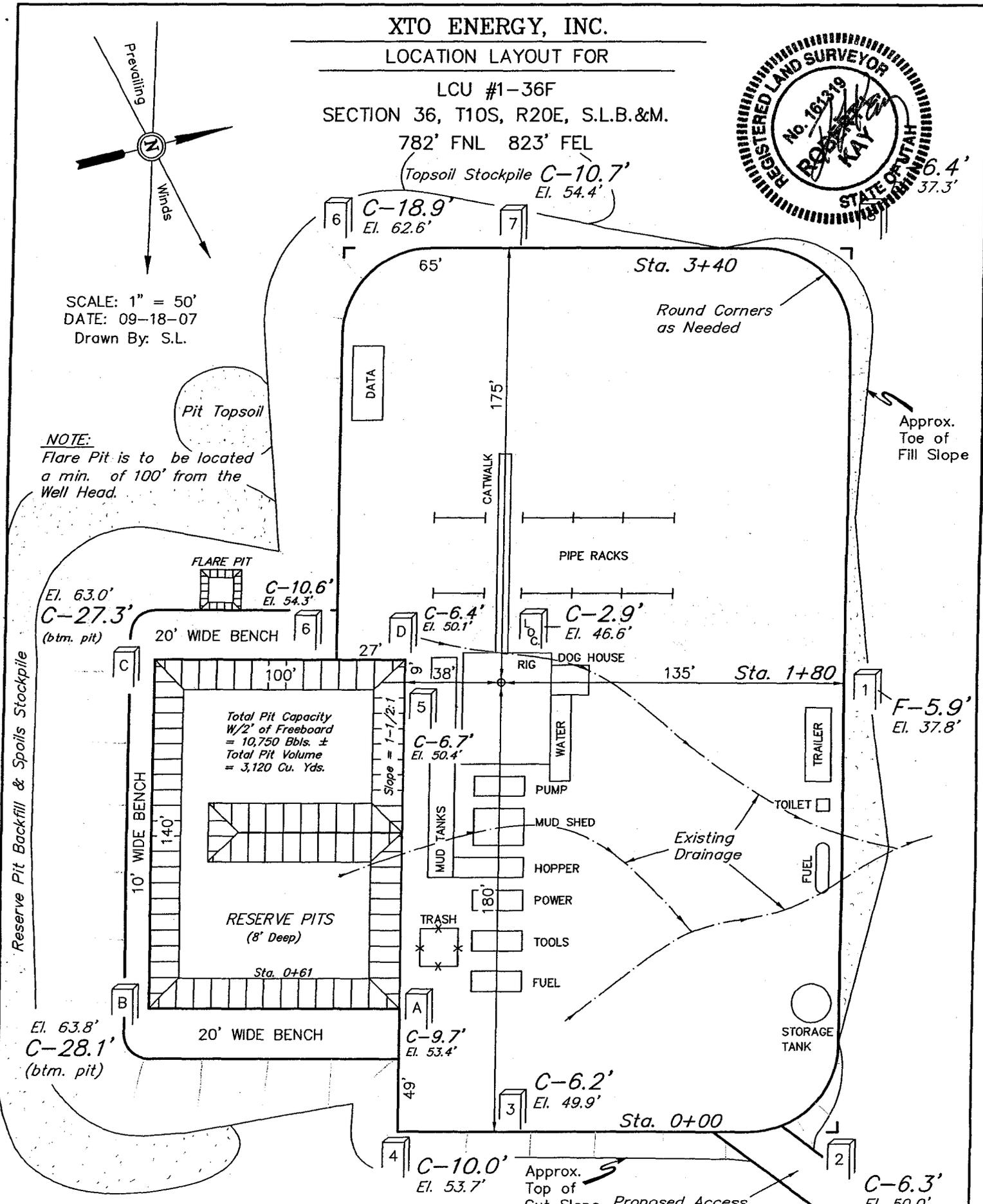
LOCATION LAYOUT FOR

LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL



SCALE: 1" = 50'  
DATE: 09-18-07  
Drawn By: S.L.

**NOTE:**  
Flare Pit is to be located  
a min. of 100' from the  
Well Head.



Reserve Pit Backfill & Spoils Stockpile

Elev. Ungraded Ground at Location Stake = 5346.6'  
Elev. Graded Ground at Location Stake = 5343.7'

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

**XTO ENERGY, INC.**

**TYPICAL CROSS SECTIONS FOR**

LCU #1-36F

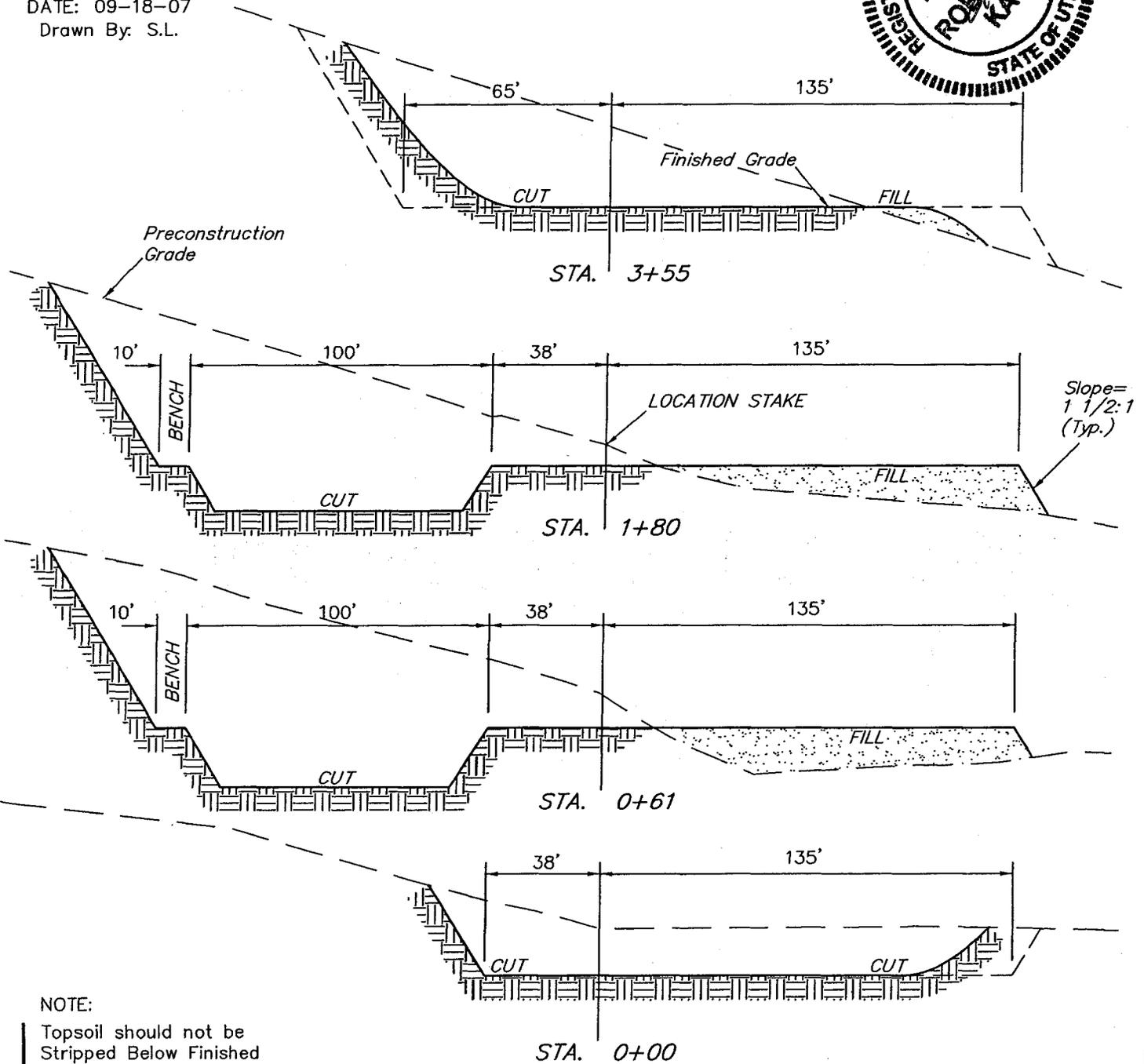
SECTION 36, T10S, R20E, S.L.B.&M.

782' FNL 823' FEL



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

DATE: 09-18-07  
Drawn By: S.L.



**NOTE:**

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

**APPROXIMATE YARDAGES**

**CUT**

(6") Topsoil Stripping = 2,120 Cu. Yds.

Remaining Location = 26,460 Cu. Yds.

**TOTAL CUT = 28,580 CU.YDS.**

**FILL = 5,190 CU.YDS.**

**\* NOTE:**

FILL QUANTITY INCLUDES 5% FOR COMPACTION

EXCESS MATERIAL = 23,390 Cu. Yds.

Topsoil & Pit Backfill (1/2 Pit Vol.) = 3,680 Cu. Yds.

EXCESS UNBALANCE (After Interim Rehabilitation) = 19,710 Cu. Yds.

**UINTAH ENGINEERING & LAND SURVEYING**

85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

# XTO ENERGY, INC.

LCU #1-36F

LOCATED IN UINTAH COUNTY, UTAH  
SECTION 36, T10S, R20E, S.L.B.&M.

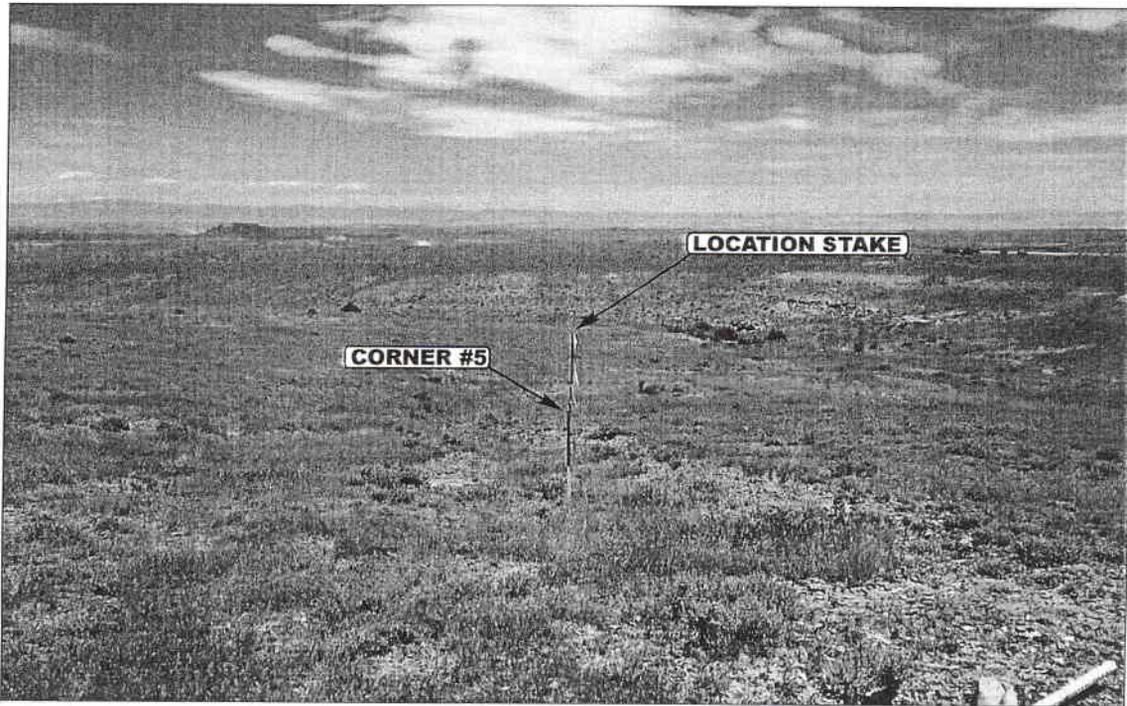


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: WESTERLY



**UELS**

Uintah Engineering & Land Surveying

85 South 200 East Vernal, Utah 84078  
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

6  
MONTH

7  
DAY

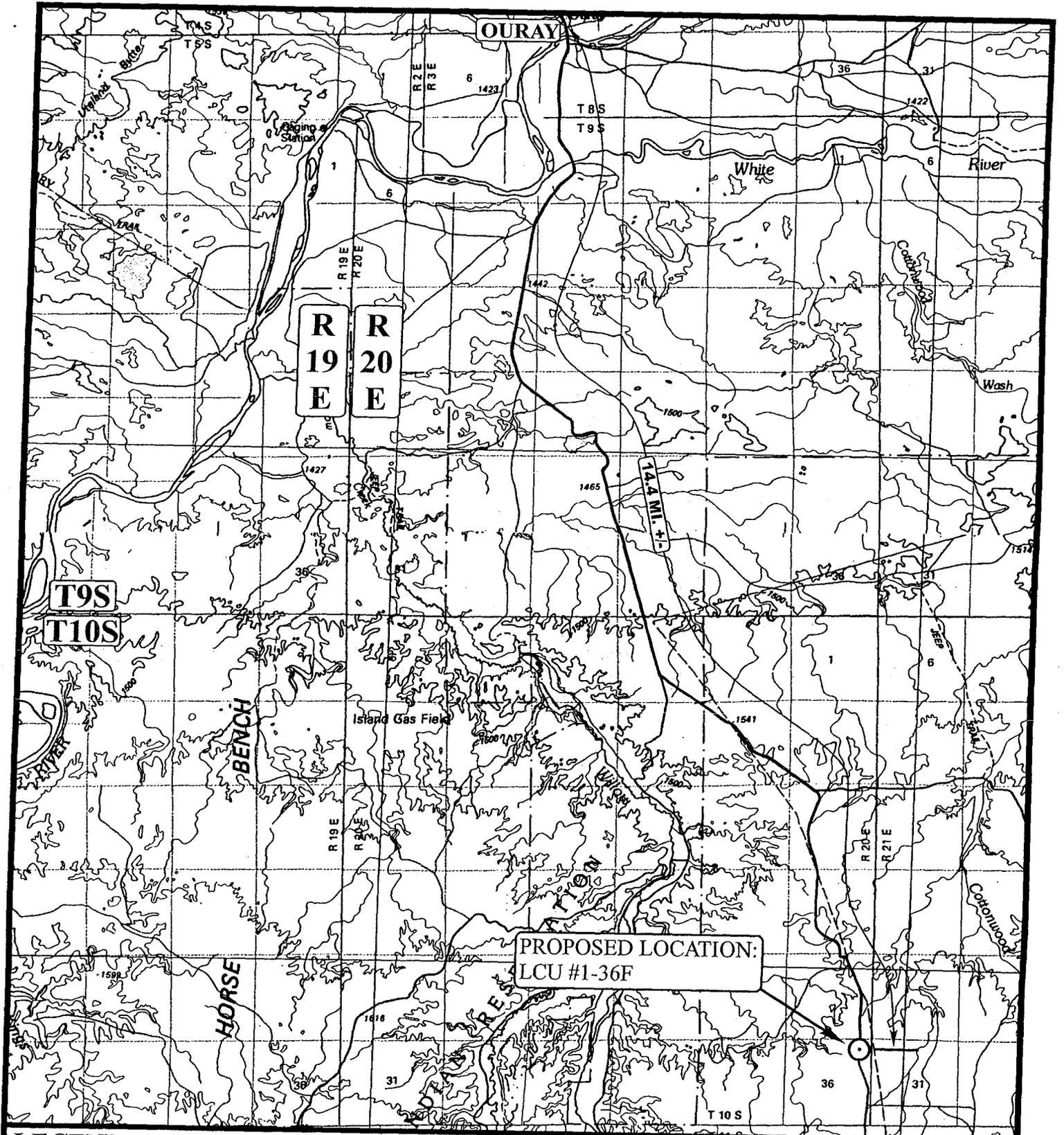
01  
YEAR

PHOTO

TAKEN BY: B.B.

DRAWN BY: J.L.G.

REV: 09-04-07 Z.L.



PROPOSED LOCATION:  
LCU #1-36F

**LEGEND:**

○ PROPOSED LOCATION



**XTO ENERGY, INC.**

LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL



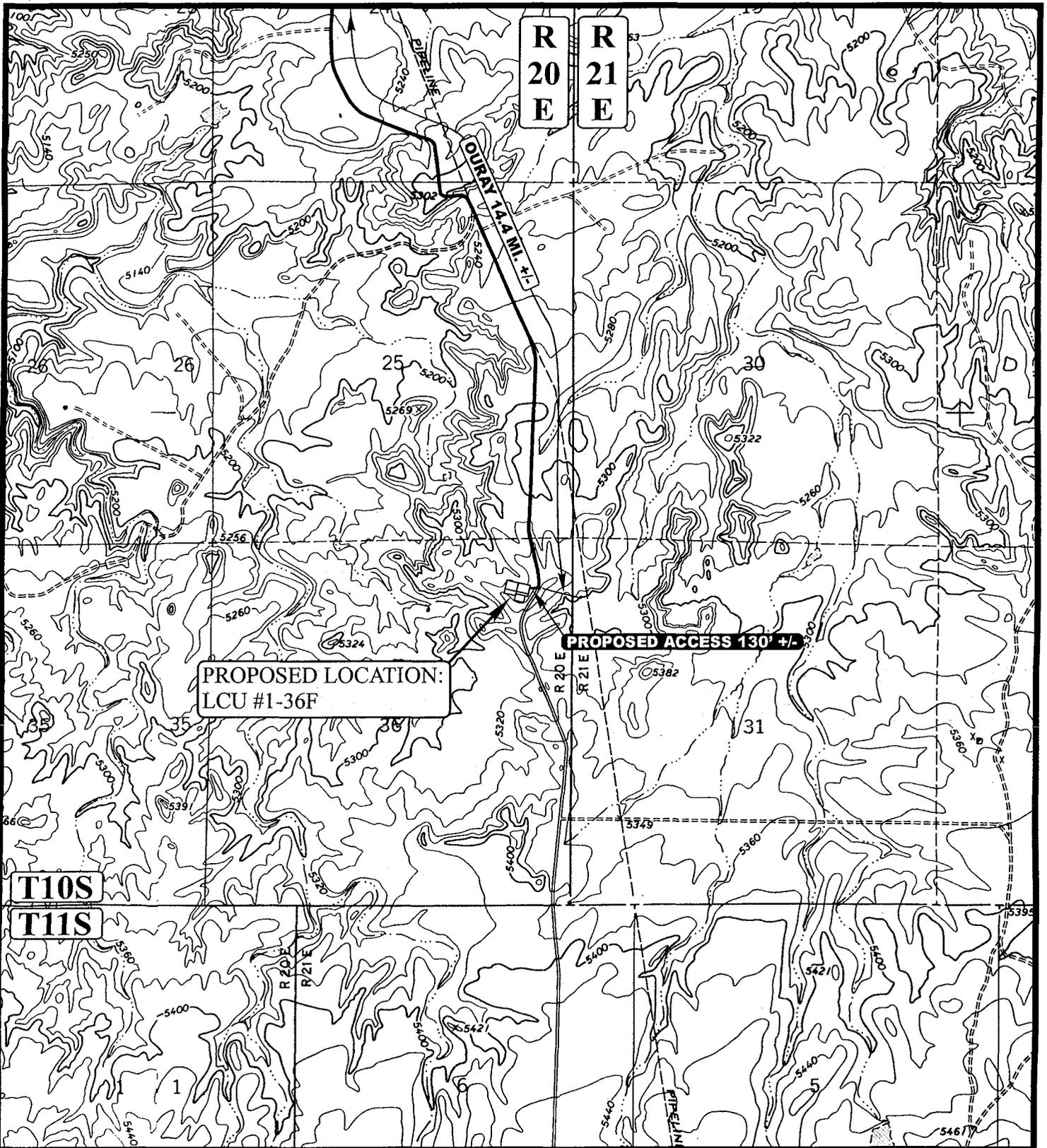
Utah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

TOPOGRAPHIC  
MAP

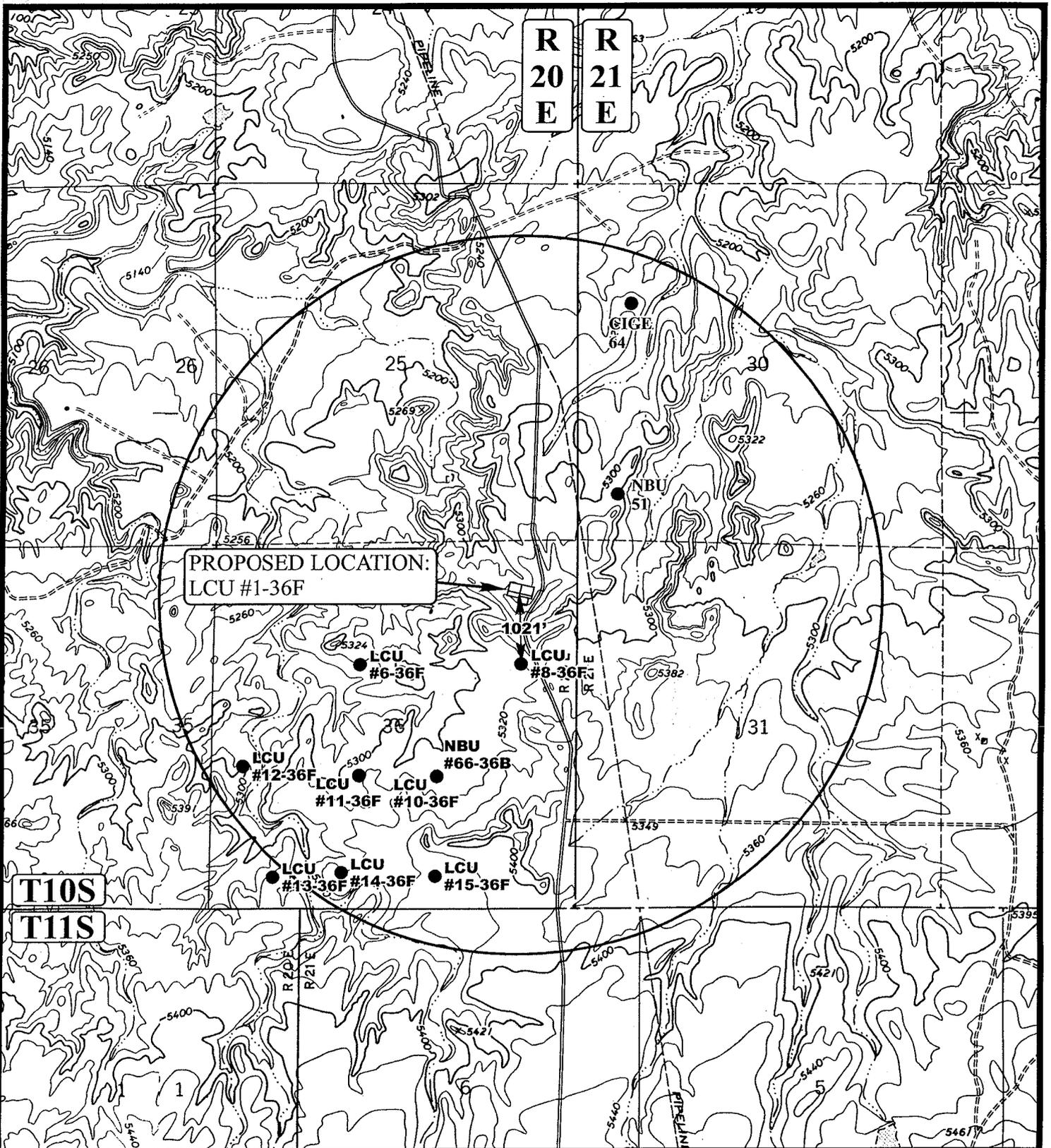
6 7 01  
MONTH DAY YEAR

SCALE: 1 : 100,000 DRAWN BY: J.L.G. REV: 09-04-07 Z.L.





<p><b>LEGEND:</b></p> <p>----- PROPOSED ACCESS ROAD</p> <p>————— EXISTING ROAD</p>	<p><b>XTO ENERGY, INC.</b></p> <p>LCU #1-36F</p> <p>SECTION 36, T10S, R20E, S.L.B.&amp;M.</p> <p>782' FNL 823' FEL</p>						
<p><b>UEIS</b></p> <p>Uintah Engineering &amp; Land Surveying        85 South 200 East Vernal, Utah 84078        (435) 789-1017 * FAX (435) 789-1813</p>	<p><b>TOPOGRAPHIC MAP</b></p> <table border="1" style="margin: auto;"> <tr> <td style="padding: 2px;">6</td> <td style="padding: 2px;">7</td> <td style="padding: 2px;">01</td> </tr> <tr> <td style="font-size: 8px;">MONTH</td> <td style="font-size: 8px;">DAY</td> <td style="font-size: 8px;">YEAR</td> </tr> </table> <p>SCALE: 1" = 2000'   DRAWN BY: J.L.G.   REV: 09-04-07 Z.L.</p> <p style="font-size: 2em; font-weight: bold; text-align: right;">B</p> <p style="text-align: right;">TOPO</p>	6	7	01	MONTH	DAY	YEAR
6	7	01					
MONTH	DAY	YEAR					



R 20 E  
R 21 E

PROPOSED LOCATION:  
LCU #1-36F

T10S  
T11S

**LEGEND:**

- DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED



**XTO ENERGY, INC.**

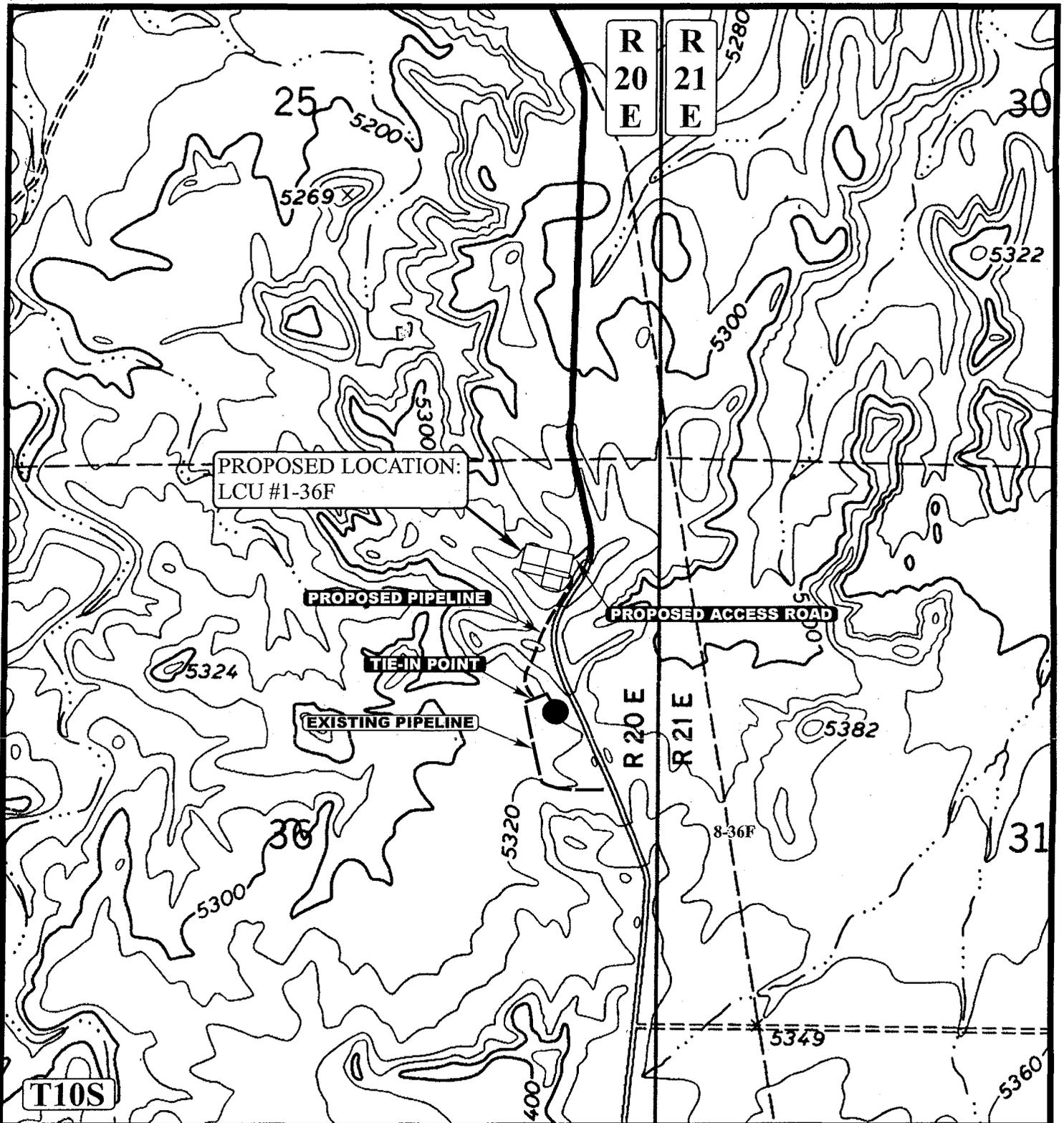
LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.  
782' FNL 823' FEL

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

**TOPOGRAPHIC**  
**MAP**  
 SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 09-04-07 Z.L.

<b>6</b>	<b>7</b>	<b>01</b>
MONTH	DAY	YEAR

**C**  
**TOPO**



APPROXIMATE TOTAL PIPELINE DISTANCE = 936' +/-

**LEGEND:**

- EXISTING PIPELINE
- - - PROPOSED PIPELINE
- PROPOSED ACCESS



**XTO ENERGY, INC.**

LCU #1-36F  
 SECTION 36, T10S, R20E, S.L.B.&M.  
 782' FNL 823' FEL



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

TOPOGRAPHIC  
 MAP

6	7	01
MONTH	DAY	YEAR

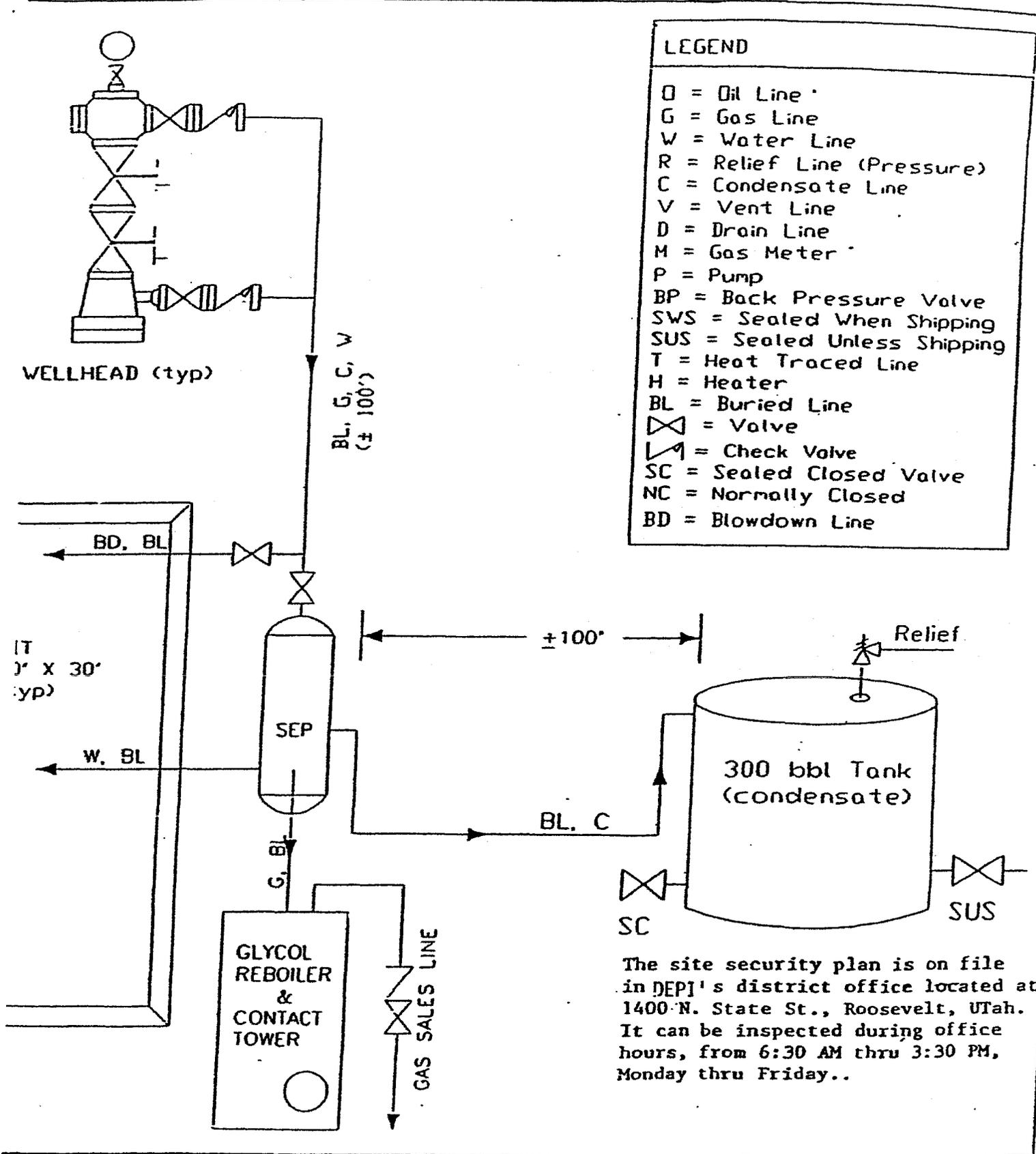
**D**  
 TOPO

SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 09-04-07 Z.L.

XTO ENERGY, INC.  
LCU #1-36F  
SECTION 36, T10S, R20E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 14.4 MILES ON THE SEEP RIDGE ROAD TO THE BEGINNING OF THE PROPOSED ACCESS TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 130' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 45.4 MILES.



**LEGEND**

- O = Oil Line
- G = Gas Line
- W = Water Line
- R = Relief Line (Pressure)
- C = Condensate Line
- V = Vent Line
- D = Drain Line
- M = Gas Meter
- P = Pump
- BP = Back Pressure Valve
- SWS = Sealed When Shipping
- SUS = Sealed Unless Shipping
- T = Heat Traced Line
- H = Heater
- BL = Buried Line
- ⊗ = Valve
- ↗ = Check Valve
- SC = Sealed Closed Valve
- NC = Normally Closed
- BD = Blowdown Line

The site security plan is on file in DEPI's district office located at 1400 N. State St., Roosevelt, Utah. It can be inspected during office hours, from 6:30 AM thru 3:30 PM, Monday thru Friday..

# XTO ENERGY INC.

LCU 1-36F

APD Data

November 6, 2007

Location: 782' FNL & 823' FEL, Sec. 36, T10S,R20E

County: Uintah

State: Utah

GREATEST PROJECTED TD: 9200' MD

OBJECTIVE: Wasatch/Mesaverde

APPROX GR ELEV: 5347'

Est KB ELEV: 5361' (14' AGL)

## 1. MUD PROGRAM:

INTERVAL	0' to 2200'	2200' to 9200'
HOLE SIZE	12.25"	7.875"
MUD TYPE	FW/Spud Mud	KCl Based LSND / Gel Chemical
WEIGHT	8.4	8.6-9.20
VISCOSITY	NC	30-60
WATER LOSS	NC	8-15

Remarks: Use fibrous materials as needed to control seepage and lost circulation. Pump high viscosity sweeps as needed for hole cleaning. Raise viscosity at TD for logging. Reduce viscosity after logging for cementing purposes. The mud system will be monitored visually/manually.

## 2. CASING PROGRAM:

Surface Casing: 9.625" casing set at ± 2200' in a 12.25" hole filled with 8.4 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'-2200'	2200'	36#	J-55	ST&C	2020	3.66	394	8.921	8.765	2.10	3.66	4.97

Production Casing: 5.5" casing set at ±9200' in a 7.875" hole filled with 9.2 ppg mud.

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'-9200'	9200'	17#	N-80	LT&C	6280	7740	348	4.892	4.767	1.80	2.22	2.23

Collapse and burst loads calculated at TVD with 0.1 psi/ft gas gradient back up.

## 3. WELLHEAD:

- A. Casing Head: Larkin Fig 92 (or equivalent), 9" nominal, 2,000 psig WP (4,000 psig test) with 8-5/8" 8rnd thread on bottom (or slip-on, weld-on) and 11-3/4" 8rnd thread on top.
- B. Tubing Head: Larkin Fig 612 (or equivalent), 6.456" nominal, 5,000 psig WP, 5-1/2" 8rnd female thread on bottom (or slip-on, weld-on), 8-5/8" 8rnd thread on top.

**4. CEMENT PROGRAM:**

A. Surface: 9.625", 36#, J-55, ST&C casing to be set at ±2200' in 12.25" hole.

LEAD:

±362 sx of Type V cement (or equivalent) typically containing accelerator and LCM.

TAIL:

225 sx of Type V cement (or equivalent) typically containing accelerator and LCM.

*Total estimated slurry volume for the 9.625" surface casing is 956.5 ft<sup>3</sup>. Slurry includes 35% excess of calculated open hole annular volume to 2200'.*

B. Production: 5.5", 17#, N-80 (or equiv.), LT&C casing to be set at ±9200' in 7.875" hole.

LEAD:

±470 sx of Premium Plus V Blend. (Type V/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 11.6 ppg, 3.12 ft<sup>3</sup>/sk, 17.71 gal wtr/sx.

TAIL:

300 sx Class G or equivalent cement with poz, bonding additive, LCM, dispersant, & fluid loss mixed at 13.0 ppg, 1.75 cuft/sx, 9.09 gal/sx.

*Total estimated slurry volume for the 5.5" production casing is 1992 ft<sup>3</sup>. Slurry includes 15% excess of calculated open hole annular volume.*

*Note: The slurry design may change slightly based upon actual conditions. Final cement volumes will be determined from the caliper logs plus 15% or greater excess. The cement is designed to circulate on surface and intermediate casing strings.*

**5. LOGGING PROGRAM:**

A. Mud Logger: The mud logger will come on at intermediate casing point and will remain on the hole until TD. The mud will be logged in 10' intervals.

B. Open Hole Logs as follows: Run Array Induction/SFL/GR/SP fr/TD (9200') to the bottom of the surface csg. Run Neutron/Lithodensity/Pe/GR/Cal from TD (9200') to 2200'.

**6. FORMATION TOPS:**

<b>FORMATION</b>	<b>Sub-Sea Elev. (@SHL)</b>	<b>TVD (@SHL)</b>
Wasatch Tongue	1,520	3,846
Green River Tongue	1,190	4,176
Wasatch*	1,075	4,291
Chapita Wells*	375	4,991
Uteland Buttes	-880	6,246
Mesaverde*	-1,590	6,956
Castlegate	N/A	N/A
TD**	-3,833	9,200

\* Primary Objective

7. **ANTICIPATED OIL, GAS, & WATER ZONES:**

A.

Formation	Expected Fluids	Well Depth Top
Wasatch Tongue	Oil/Gas/Water	3,846
Green River Tongue	Oil/Gas/Water	4,176
Wasatch*	Gas/Water	4,291
Chapita Wells*	Gas/Water	4,991
Uteland Buttes	Gas/Water	6,246
Mesaverde*	Gas/Water	6,956
Castlegate	Gas/Water	NA

- A. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.
- B. There are no known potential sources of H<sub>2</sub>S.
- C. Expected bottom hole pressures are between 4100 psi and 4600 psi.

8. **BOP EQUIPMENT:**

Surface will not utilize a bop stack.

Intermediate hole will be drilled using a diverter stack with rotating head rated at 250 psi w.p.

Production hole will be drilled with a 3000 psi BOP stack.

Minimum specifications for pressure control equipment are as follows:

Ram Type: 11" Hydraulic double ram with annular, 3000 psi w.p.

Ram type preventers and associated equipment shall be tested to approved stack working pressure if isolated by test plug or to 70% of internal yield pressure of casing. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed-off pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10% in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test plug shall be open during test of BOP stack.

Annular type preventers (if used) shall be tested to 50% of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above test shall be performed:

- a. when initially installed:
- b. whenever any seal subject to test pressure is broken
- c. following related repairs: and
- d. at 30 day intervals

Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s) shall be held open or the ball removed.

Annular preventers (if used) shall be functionally operated at least weekly.

Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

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., and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests. Pressure tests shall apply to all related well control equipment.

BOP systems shall be consistent with API RP53. Pressure tests will be conducted before drilling out from under casing strings which have been set and cemented in place. Test pressures for BOP equipment are as follows:

- Annular BOP -- 1500 psi
- Ram type BOP -- 3000 psi
- Kill line valves -- 3000 psi
- Choke line valves and choke manifold valves -- 3000 psi
- Chokes -- 3000 psi
- Casing, casinghead & weld -- 1500 psi
- Upper kelly cock and safety valve -- 3000 psi
- Dart valve -- 3000 psi

Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection will be recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

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

- a. The size and rating of the BOP stack is shown on the attached diagram.
- b. A choke line and a kill line are to be properly installed.
- c. The accumulator system shall have a pressure capacity to provide for repeated operation of hydraulic preventers.
- d. Drill string safety valve(s), to fit all tools in the drill string, are to be maintained on the rig floor while drilling operations are in progress.
- e. See attached BOP & Choke manifold diagrams.

9. **COMPANY PERSONNEL:**

<b><u>Name</u></b>	<b><u>Title</u></b>	<b><u>Office Phone</u></b>	<b><u>Home Phone</u></b>
John Egelston	Drilling Engineer	505-333-3163	505-330-6902
Bobby Jackson	Drilling Superintendent	505-333-3224	505-486-4706
Glen Christiansen	Project Geologist	817-885-2800	

## SURFACE USE PLAN

### CONDITIONS OF APPROVAL

**Name of Operator:** XTO Energy, Inc.  
**Address:** P.O. Box 1360; 978 North Crescent  
Roosevelt, Utah 84066  
**Well Location:** LCU 1-36F  
782' FNL & 823' FEL, NE/4 NE/4  
Section 36, T10S, R20E, SLB&M, Uintah County, Utah

**A Uintah County Road encroachment is necessary to construct the new access from the existing Uintah County Road 2810 (Seep Ridge Road).**

The surface owner or surface owner representative and dirt contractor will be provided with an approved copy of the surface use plan of operations and approved conditions of approval before initiating construction.

The onsite inspection for the referenced well is pending at this time.

1. Location of Existing Roads:

- a. The proposed well site is located approximately 12.92 miles southeast of Ouray, UT.
- b. Directions to the proposed well site have been attached at the end of Exhibit B.
- c. The use of roads under State and County Road Department maintenance are necessary to access the Little Canyon Unit area. A Uintah County Road encroachment is necessary to construct the new access from the existing Uintah County Road 2810 (Seep Ridge Road).
- d. All existing roads will be maintained and kept in good repair during all phases of operation.
- e. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.
- f. Since no improvements are anticipated to the State, County, Tribal or BLM access roads no topsoil striping will occur.
- g. An off-lease federal Right-of-Way is not anticipated for the access road since access presently exists to the lease boundary servicing the LCU 1-36F.

2. New or Reconstructed Access Roads:

- a. From the existing Uintah County Road 2810 (Seep Ridge Road) an access is proposed trending west approximately 130' to the proposed well site. The access consists of entirely new disturbance and crosses no significant drainages. A road design plan is not anticipated at this time.
- b. The proposed access road will consist of a 24' travel surface within a 30' disturbed area.
- c. SITLA approval to construct and utilize the proposed access road is requested with this application.

- d. A maximum grade of 10% will be maintained throughout the project with no cuts and fills required to access the well.
- e. No turnouts are proposed since the access road is only 130' long and adequate site distance exists in all directions.
- f. No low-water crossings are necessary, One culvert is anticipated as the proposed access road leaves the county road surface. Adequate drainage structures will be incorporated into the road.
- g. No surfacing material will come from federal or Indian lands.
- h. No gates or cattle guards are anticipated at this time.
- i. Surface disturbance and vehicular travel will be limited to the approved location access road.
- j. All access roads and surface disturbing activities will conform to the standards outlined in the Bureau of Land Management and Forest Service publication: Surface Operating Standards for Oil and Gas Exploration and Development, (1989).
- k. The operator will be responsible for all maintenance of the access road including drainage structures.

3. Location of Existing Wells:

- a. Exhibit B has a map reflecting these wells within a one mile radius of the proposed well.

4. Location of Existing and/or Proposed Production Facilities:

- a. All permanent structures will be painted a flat, non-reflective Desert Brown /Carlsbad Canyon to match the standard environmental colors. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded.
- b. Site security guidelines identified in 43 CFR 3163.7-5 and Onshore Oil and Gas Order No. 3 will be adhered to.
- c. A gas meter run will be constructed and located on lease within 500 feet of the wellhead. Meter runs will be housed and/or fenced. All gas production and measurement shall comply with the provisions of 43 CFR 3162. 7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.
- d. A tank battery will be constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank. All loading lines and valves will be placed inside the berm surrounding the tank battery. All liquid hydrocarbons production and measurement shall conform to the provisions of 43 CFR 3162.7-3 and Onshore Oil and Gas Order No. 4 and Onshore Oil and Gas Order No. 5 for natural gas production and measurement.
- e. Any necessary pits will be properly fenced to prevent any wildlife and livestock entry.
- f. All access roads will be maintained as necessary to prevent erosion and accommodate year-round traffic. The road will be maintained in a safe useable condition.
- g. The site will require periodic maintenance to ensure that drainages are kept open and free of

debris, ice, and snow, and that surfaces are properly treated to reduce erosion, fugitive dust, and impacts to adjacent areas.

- h. A pipeline corridor containing a single steel gas pipeline and a single steel or poly pipe water pipeline is associated with this application and is being applied for at this time. The proposed pipeline corridor will leave the east side of the well site and traverse 936' south to the existing LCU 8-36F pipeline corridor
- i. The gas pipeline will be a 12" or less buried line and the water pipeline will be a 12" or less buried line within a 75' wide disturbed pipeline corridor. The use of the proposed well site and access roads will facilitate the staging of the pipeline corridor construction. A new buried pipeline corridor length of approximately 936' is associated with this well.
- j. An existing pipeline corridor upgrade is proposed from the existing LCU 8-36F tie-in location to the LCU compressor facility along the existing pipeline route.
- k. The gas pipeline will be a 12" or less buried line and the water pipeline will be a 12" or less buried line within a single trench and within a 75' wide disturbed pipeline corridor. The use of the existing well site and access roads will facilitate the staging of the pipeline corridor upgrade. An upgrade to a 75' wide buried pipeline corridor of approximately 3,500 is associated with this application.
- l. The proposed pipeline and pipeline upgrade are contained within SITLA surface.
- m. XTO Energy, Inc. intends to bury the pipeline where possible and connect the pipeline together utilizing conventional welding technology.

5. Location and Type of Water Supply:

- a. No water supply pipelines will be laid for this well.
- b. No water well will be drilled for this well.
- c. Drilling water for this well will be hauled on the road(s) shown in Attachment No. 3.
- d. Water will be hauled from one of the following sources:
  - o Water Permit # 43-10447, Section 33, T8S, R20E;
  - o Water Permit #43-2189, Section 33, T8S, R20E;
  - o Water Permit #49-2158, Section 33, T8S, R20E;
  - o Water Permit #49-2262, Section 33, T8S, R20E;
  - o Water Permit #49-1645, Section 5, T9S, R22E;
  - o Water Permit #43-9077, Section 32, T6S, R20E;
  - o Tribal Resolution 06-183, Section 22, T10S, R20E;

6. Source of Construction Material:

- a. The use of materials will conform to 43 CFR 3610.2-3.
- b. No construction materials will be removed from Ute Tribal or BLM lands.
- c. If any gravel is used, it will be obtained from a state approved gravel pit.

7. Methods of Handling Waste:

- a. All wastes associated with this application will be contained and disposed of utilizing approved facilities.
- b. Drill cuttings will be contained and buried on site.
- c. The reserve pit will be located outboard of the location and along the south side of the pad.
- d. The reserve pit will be constructed so as not to leak, break, or allow any discharge.
- e. The reserve pit will be lined with 16 mil minimum thickness plastic nylon reinforced liner material. The liner will overlay a felt liner pad only if rock is encountered during excavation. The pit liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc., that could puncture the liner will be disposed of in the pit. Pit walls will be sloped no greater than 2:1. A minimum 2-foot freeboard will be maintained in the pit at all times during the drilling and completion operation.
- f. The reserve pit has been located in cut material. Three sides of the reserve pit will be fenced before drilling starts. The fourth side will be fenced as soon as drilling is completed, and shall remain until the pit is dry. After the reserve pit has dried, all areas not needed for production will be rehabilitated.
- g. No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of the well. 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, testing, or completion of the well.
- h. Trash will be contained in a trash cage and hauled away to an approved disposal site as necessary but no later than at the completion of drilling operations. The contents of the trash container will be hauled off periodically to the approved Uintah County Landfill near Vernal, Utah.
- i. Produced fluids from the well other than water will be produced into a test tank until such time as construction of production facilities is completed. Any spills of oil, gas, salt water or other produced fluids will be cleaned up and removed.
- j. After initial clean-up, a 400 bbl tank will be installed to contain produced waste water. This water will be transported from the tank to an approved XTO Energy, Inc. disposal well for disposal.
- k. Produced water from the production well will be disposed of at the RBU 13-11F or RBU 16-19F disposal wells in accordance with Onshore Order #7.
- l. Any salts and/or chemicals, which are an integral part of the drilling system, will be disposed of in the same manner as the drilling fluid.
- m. Sanitary facilities will be on site at all times during operations. Sewage will be placed in a portable chemical toilet and the toilet replaced periodically utilizing a licensed contractor to transport by truck the portable chemical toilet so that its contents can be delivered to the Vernal Wastewater Treatment Facility in accordance with state and county regulations.

8. Ancillary Facilities:

- a. Garbage Containers and Portable Toilets are the only ancillary facilities proposed in this application.
- b. No camps, airstrips or staging areas are proposed with this application.

9. Well Site Layout: (See Exhibit B)

- a. The well will be properly identified in accordance with 43 CFR 3162.6.
- b. Access to the well pad will be from the east.
- c. The pad and road designs are consistent with SITLA specification
- d. A pre-construction meeting with responsible company representative, contractors, and the SITLA will be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road will be construction-staked prior to this meeting.
- e. The pad has been staked at its maximum size; however it will be constructed smaller if possible, depending upon rig availability. Should the layout change, this application will be amended and approved utilizing a sundry notice.
- f. All surface disturbing activities, will be supervised by a qualified, responsible company representative who is aware of the terms and conditions of the APD and specifications in the approved plans.
- g. All cut and fill slopes will be such that stability can be maintained for the life of the activity.
- h. Diversion ditches will be constructed as shown around the well site to prevent surface waters from entering the well site area.
- i. The site surface will be graded to drain away from the pit to avoid pit spillage during large storm events.
- j. The stockpiled topsoil (first 6 inches or maximum available) will be stored in a windrow on the uphill side of the location to prevent any possible contamination. All topsoil will be stockpiled for reclamation in such a way as to prevent soil loss and contamination.
- k. Pits will remain fenced until site cleanup.
- l. The blooie line will be located at least 100 feet from the well head.
- m. Water injection may be implemented if necessary to minimize the amount of fugitive dust.

10. Plans for Restoration of the Surface (Interim Reclamation and Final Reclamation):

- a. Site reclamation for a producing well will be accomplished for portions of the site not required for the continued operation of the well.
- b. Upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1. Once the reserve pit is dry, the plastic nylon reinforced liner shall be torn and perforated

before backfilling of the reserve pit. The reserve pit and that portion of the location not needed for production facilities/operations will be re-contoured to the approximate natural contours.

- c. Following BLM published Best Management Practices the interim reclamation will be completed within 90 days of completion of the well to reestablish vegetation, reduce dust and erosion and compliment the visual resources of the area.
  - a. All equipment and debris will be removed from the area proposed for interim reclamation and the pit area will be backfilled and re-contoured.
  - b. The area outside of the rig anchors and other disturbed areas not needed for the operation of the well will be re-contoured to blend with the surrounding area and reseeded at 12 lbs /acre with the following native grass seeds:
    - o Crested Wheat Grass (6 lbs / acre)
    - o Needle and Thread Grass (3 lbs / acre)
    - o Rice Grass (3 lbs / acre)
  - c. Reclaimed areas receiving incidental disturbance during the life of the producing well will be re-contoured and reseeded as soon as practical.
- d. The Operator will control noxious weeds along access road use authorizations, pipeline route authorizations, well sites, or other applicable facilities by spraying or mechanical removal. A list of noxious weeds may be obtained from the SITLA or the appropriate County Extension Office. On SITLA administered land, it is required that a Pesticide Use Proposal be submitted and approved prior to the application of herbicides, pesticides or possibly hazardous chemicals.
- e. Prior to final abandonment of the site, all disturbed areas, including the access road, will be scarified and left with a rough surface. The site will then be seeded and/or planted as prescribed by the SITLA. The SITLA recommended seed mix will be detailed within their approval documents.

11. Surface and Mineral Ownership:

- a. Surface Ownership – State of Utah – under the management of the SITLA -State Office, 675 East 500 South, Suite 500, Salt Lake, City, Utah 84102-2818; 801-538-5100.
- b. Mineral Ownership – State of Utah – under the management of the SITLA -State Office, 675 East 500 South, Suite 500, Salt Lake, City, Utah 84102-2818; 801-538-5100.

12. Other Information:

- a. Operators Contact Information:

Title	Name	Office Phone	Mobile Phone	e-mail
Company Rep.	Ken Secrest	435-722-4521	435-828-1450	Ken_Secrest@xtoenergy.com
Agent	Don Hamilton	435-719-2018	435-719-2018	starpoint@etv.net

- b. AIA Archaeological has conducted a Class III archeological survey. A copy of the report is attached and has also been submitted under separate cover to the appropriate agencies by AIA Archaeological.
- c. Alden Hamblin has conducted a paleontological survey. A copy of the report is attached and has also been submitted under separate cover to the appropriate agencies by Alden Hamblin.

Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application and that bond coverage is provided under XTO Energy, Inc's SITLA bond 104312-762. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 7<sup>th</sup> day of November, 2007.

Don Hamilton

Don Hamilton -- Agent for XTO Energy, Inc.  
2580 Creekview Road  
Moab, Utah 84532

435-719-2018  
starpoint@etv.net

# BOP Equipment

3000psi WP

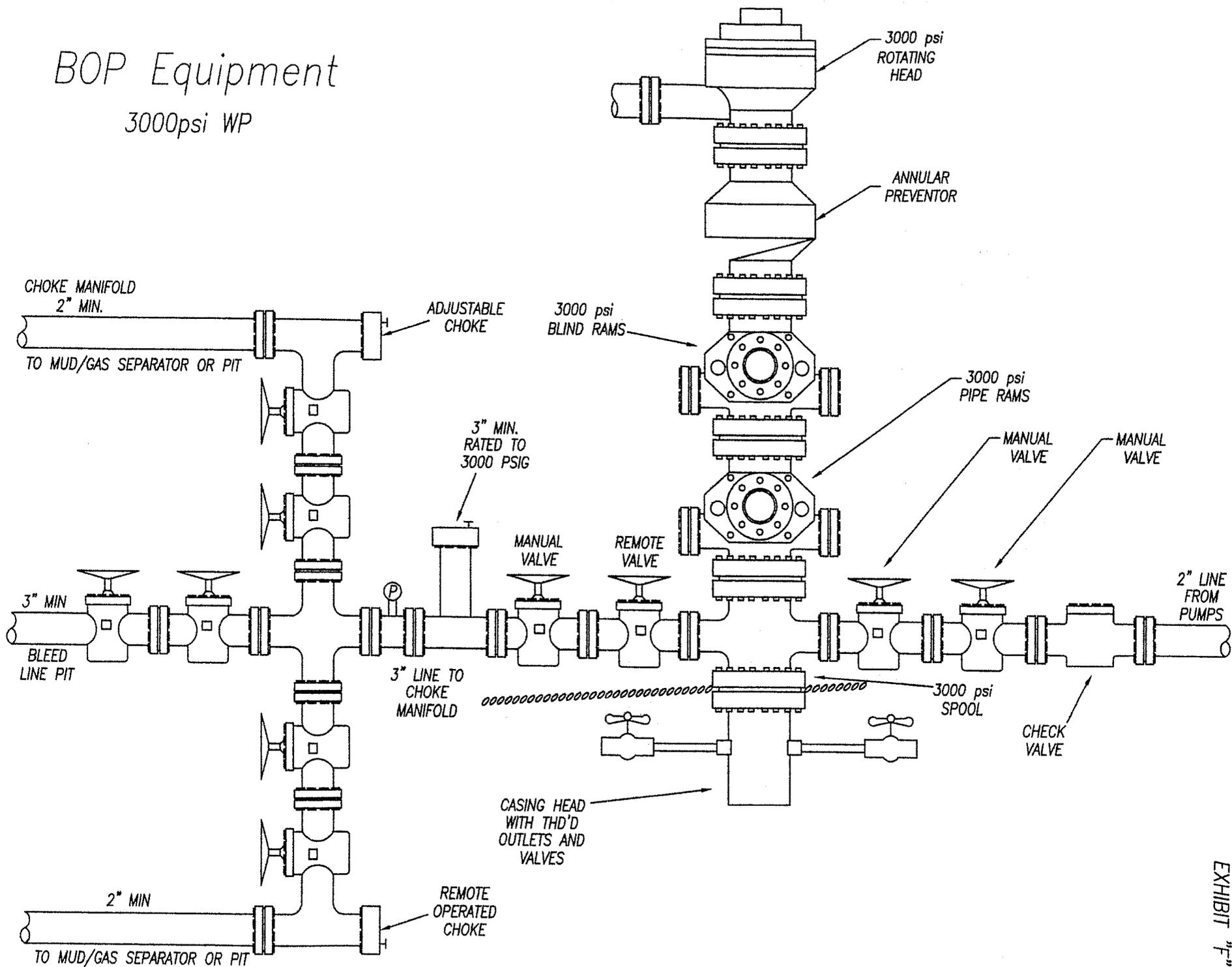


EXHIBIT "F"

XTO Energy Corporation;  
Little Canyon Unit #1-36F: A Cultural  
Resource Inventory for a well  
its access and pipeline,  
Uintah County, Utah.

By  
James A. Truesdale

James A. Truesdale  
Principal Investigator

Prepared For  
XTO Energy Corporation  
1400 North State Street  
P.O.Box 1360  
Roosevelt, Utah  
84066

Prepared By  
AN INDEPENDENT ARCHAEOLOGIST  
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Laramie, Wyoming  
82073

Utah Project # U-06-AY-584(s)

October 9, 2007

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## Introduction

An Independent Archaeologist (AIA) was contacted by a representative of XTO Energy Corporation, to conduct a cultural resources investigation of the proposed Little Canyon Unit (LCU) #1-36F well, its access and pipeline. The location of the project area is the NE/NE 1/4 of Section 36, T10S, R20E Uintah County, Utah (Figure 1).

The proposed LCU #1-36F well's centerstake footage (Alternate #1) is 782' FNL, 823' FEL. The proposed LCU #1-36F well's centerstake Universal Transverse Mercator (UTM) centroid coordinate is Zone 12, North American Datum (NAD) 83, 06/19/064.96 mE 44/18/618.48 mN  $\pm$  5m.

The proposed access is the existing Seep Ridge road that is located adjacent immediately east of the proposed well pad. From The LCU #1-36F well pad, the proposed pipeline trends south 1000 feet (304.8 m) to the existing LCU #8-36F well and its pipeline.

The land is administered by the Utah School Institutional Trust Land Administration (SITLA). A total of 12.29 acres (10 block, 2.29 linear) was surveyed. The fieldwork was conducted on September 27, 2007 by AIA owner and principal James Truesdale. All the field notes and maps are located in the AIA office in Laramie, Wyoming.

## File Search

A file search was conducted by the Office of the Utah Division of State History (UDSH), Antiquities Section, Records Division on May 24, 2007. An additional file search was conducted at the Vernal BLM office in March of 2006 by the author. An update of AIA's USGS 7.5'/1968 (photorevised 1987) Big Pack Mountain NW quadrangle map from the UDSH's Big Pack Mountain NW quadrangle base map occurred on November 8, 2003 and again on February 3, 2004. The UDSH SHPO GIS file search reported that fourteen previous projects (U-97-AY-810, U-98-AY-283, U-01-AY-319, U-04-AY-079, U-05-AY-290, U-05-AY-332, U-05-AY-1074, U-06-AY-129, U-06-AY-130, U-06-AY-131, U-06-AY-132, U-06-AY-133, U-06-AY-424 and U-06-AY-426) have been conducted in the general area (Section 36 of T10S R20E). In addition, the Utah SHPO GIS files search indicated that one site (42UN5227) had been previously recorded in Section 36 of T10S R20E.

Site 42UN5227 is located in the SW/SE  $\frac{1}{4}$  of Section 36 of T10S R20E. Thus the site is located 1 mile to the south of the present project area. The site will not be impacted by subsequent construction of the proposed LCU #1-36F well, its access or pipeline.

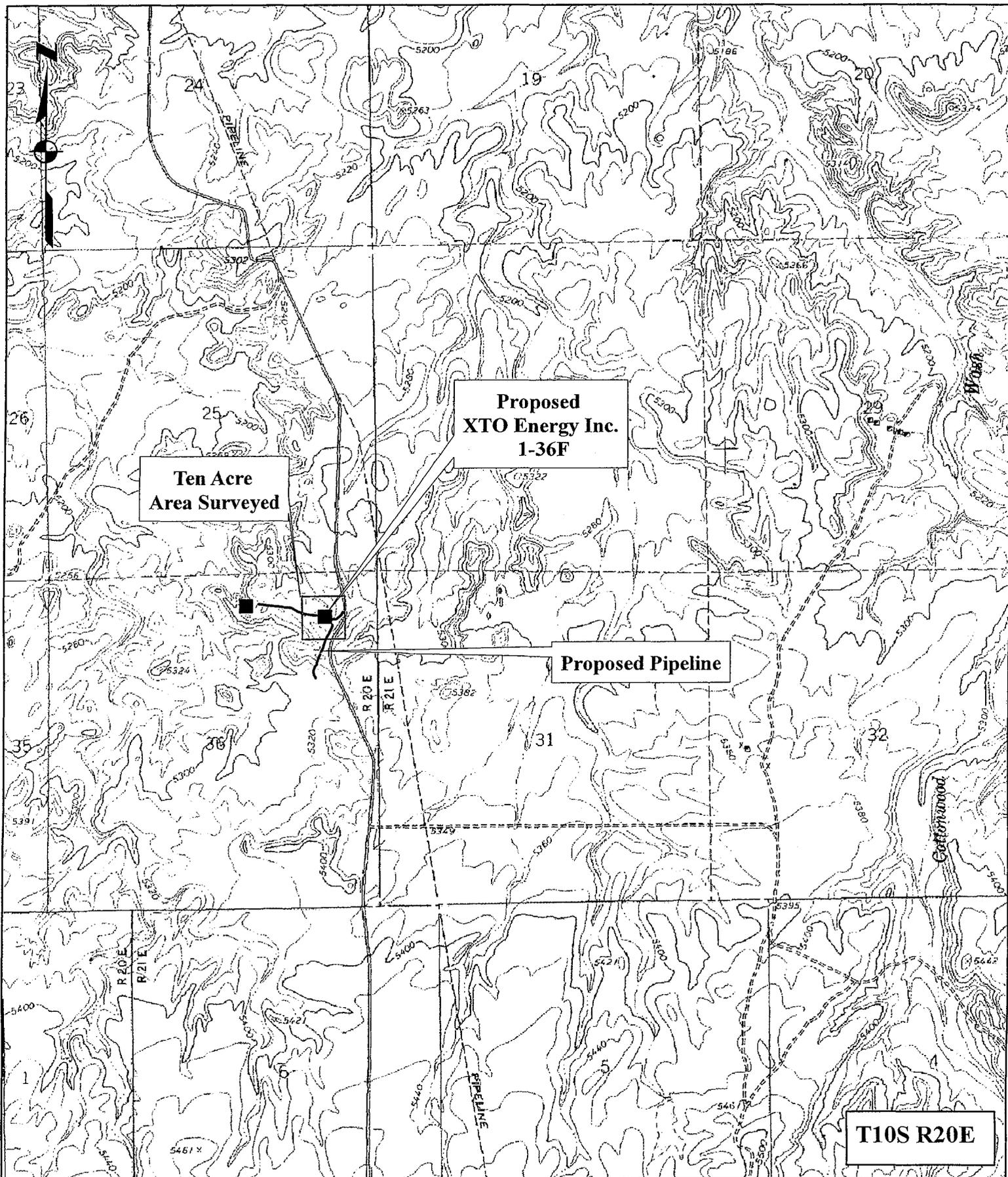


Figure 1. Location of the proposed XTO Energy Inc. 1-36F well and pipeline on 1968 7.5' USGS Quadrangle Map Big Pack Mountain NE, Duchesne County, Utah.

After review of AIA base maps and cultural records, no additional projects and/or cultural materials (sites, isolates) have been previously recorded in the immediate project area.

### Environment

Physiographically, the project is located in the Little Canyon Unit in the Uinta Basin, 14 miles south of Ouray, Utah. The Uinta Basin is structurally the lowest part of the Colorado Plateau geographical province (Thornbury 1965:425). The Uinta

basin is a large, relatively flat, bowl shaped, east-west asymmetrical syncline near the base of the Uinta Mountains. The topography is characteristic of sloping surfaces that incline northward and are mainly dip slopes on the harder layers of Green River and Uinta Formations (Stokes 1986).

A thick section of more than 9000 feet (2743.9 m) of early Tertiary rocks are exposed (Childs 1950). These rocks are mainly Paleocene and Eocene in age and consist of sandstone, clay and shale lacustrine, fluvial, and deltaic continental deposits, most famous of which are the lacustrine Green River Beds.

The immediate project area is situated on upland desert hills, ridges and benches 2 miles east of Willow Creek Canyon. The area is characterized as having steep ridges and/or buttes of relatively thick Uinta Formation sandstone, with thinner layers of clays and shale. The hills, ridges and buttes are dissected by several steep sided ephemeral drainage washes with wide flat alluvial plains. Portions of the desert hardpan and bedrock are covered with various sizes of residual angular to tabular pieces of eroding sandstone, clay and shale. Many of the higher hills and ridges exhibit ancient terrace (pediment) surfaces containing pebble and cobble gravel. Some of these pebbles and cobbles exhibit a dark brown to black desert varnish (patination). In addition, many of the hills and ridge slopes are covered with aeolian sand that may reach a depth of 100 to 150 cm.

Vegetation in the Little Canyon Unit area is characteristic of a low sagebrush community with shad scale and greasewood. Species observed in the project area include; big sagebrush (Artemesia tridentata), shadscale (Atriplex confertifolia), saltbush (Atriplex nuttallii), rabbitbrush (Chrysothamnus viscidiflorus), winterfat (Eurotia lanata), greasewood (Sarcobatus baileyi), wild buckwheat, (Erigonum ovalifolium), desert trumpet (Erigonum inflatum), Indian rice grass (Oryzopsis hymenoides), western wheatgrass (Agropyron smithii), spiked wheatgrass (Agropyron sp.), crested wheatgrass (Agropyron cristatum), June grass (Koeleria cristata), cheat grass (Bromus tectorum), desert globemallow (Bromus tectorum), lupine (Lupinus sp.), larkspur (Delphinium sp.), Indian paintbrush (Castilleja chromosa), peppergrass (Lepidium perfoliatum), scalloped phacelia (Phacelia

intergrifolian), birdsage evening primrose (Oenothera deltoides), Russian thistle (Salsola kali), Russian knapweed (Centaurea repens), and prickly pear cactus (Opuntia sp.). In addition, a riparian community dominated by cottonwood (Populus sp.), willow (Salix sp.), and salt cedar (tamerix) can be found along Willow Creek located approximately 1 mile west.

Little Canyon Unit (LCU) #1-36F

The proposed LCU #1-36F well pad is situated on the top and gentle northern slope of a small hill (Figures 2 and 3). The hill is located on a small east to west trending upland ridge. The well is also situated along the southern side of a small southeast to northwest trending ephemeral drainage wash. This small broad ephemeral drainage wash is located adjacent 300 feet (91.4 m)

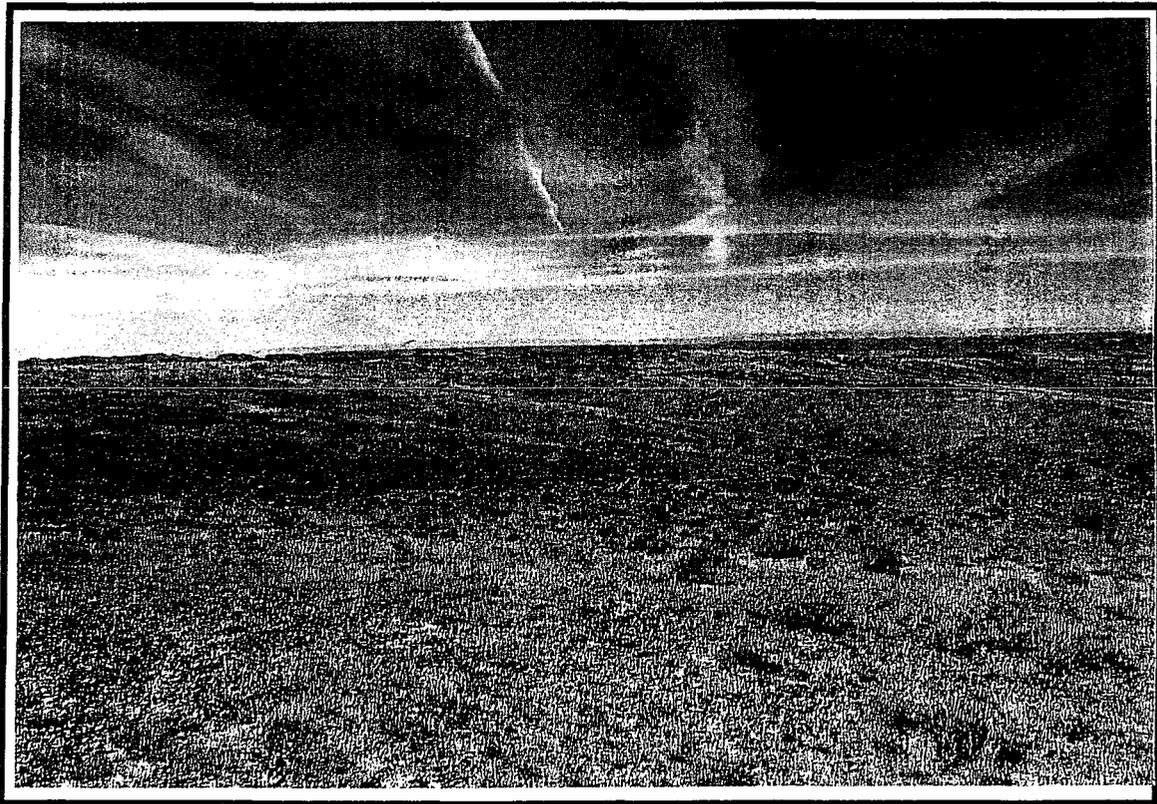


Figure 2. View to west at the proposed LCU #1-36F centerstake and well pad area.

north of the proposed well pad. The well pad location is part of an upland bench system of hills, ridges, benches and drainages that drain west to Willow Creek. The sediments on the well location are colluvial in nature. These colluvial deposits consist of shallow (< 5 cm), tan to light brown, poorly sorted, moderately compacted, sandy clay loam, mixed with angular pieces of sandstone, clay and shale on the ridge tops and flat areas (Figure 3). Exposed and eroding tan to light brown sandstone and

shale bedrock dominates the well pad landscape. Vegetation consists of low sagebrush, saltbush, rabbitbrush, greasewood, bunchgrasses (wheatgrass, cheat grass, Indian rice-grass), barrel and prickly pear cactus. The proposed well location is 5282.6 feet (1613.60 m) AMSL.

The proposed access is the existing Seep Ridge road that is located adjacent immediately east of the proposed LCU #1-36F well pad. From the LCU #1-36F well location, the proposed pipeline trends 1000 feet (304.8 m) south to the existing LCU #8-36F well and its pipeline. The proposed pipeline begins at the LCU #1-36F well location and trends south up and over a hill along the west side of the Seep Ridge road before dropping off a relatively steep hillside and across a small ephemeral drainage wash to the existing LCU #8-36F well and its pipeline. Sediments along the

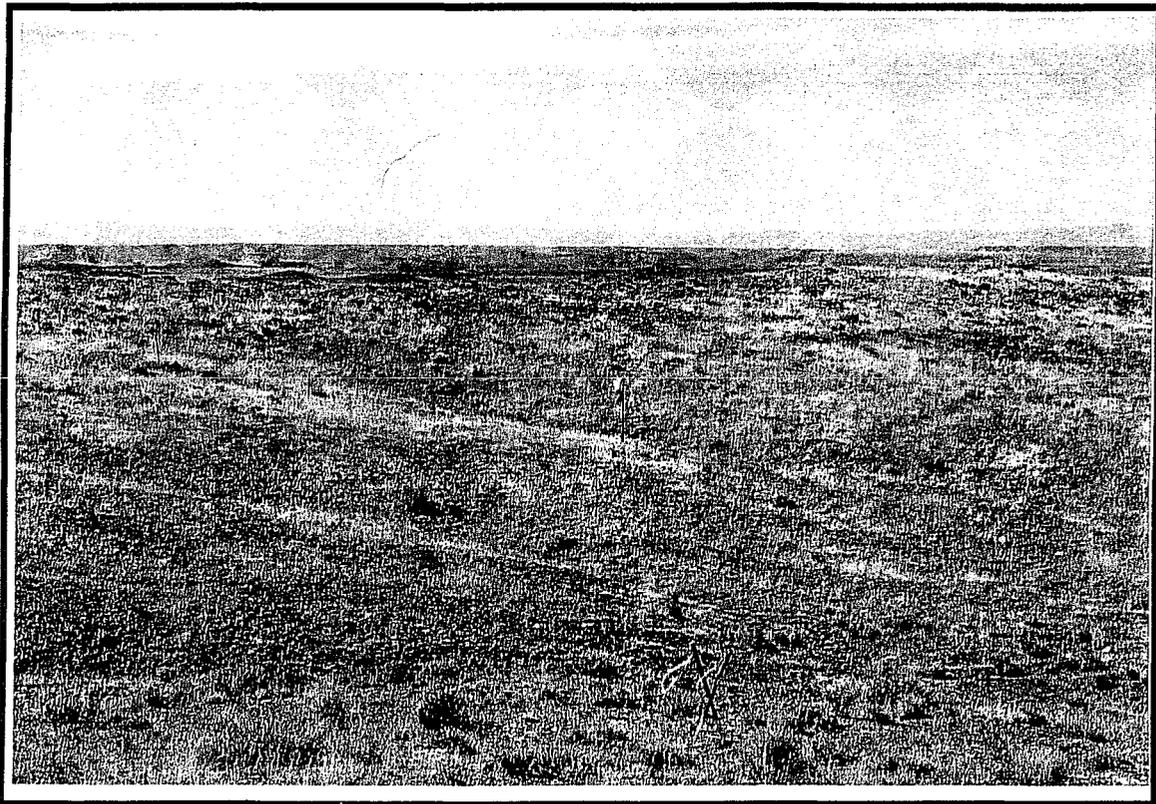


Figure 3. Closer view to west of the proposed Little Canyon Unit #1-36F well pad and the colluvial deposits on and surrounding the proposed LCU #1-36F well pad area.

pipeline consist of a shallow (5 to 10 cm), poorly sorted, loosely compacted, colluvial sandy clay loam. These colluvial deposits overlies sandstone, clay and shale bedrock. Vegetation along the access and pipeline is sparse and consists of low sagebrush, greasewood, rabbitbrush, saltbush, Russian thistle, bunchgrasses (wheatgrass, cheat grass, Indian rice-grass), and prickly pear cactus.

## Field Methods

A total of 10 acres was surveyed around the centerstake of the proposed LCU 1-36F well location to allow for relocation of the pad if necessary. The survey was accomplished by walking transects spaced no more than 15 meters apart. The proposed access is the existing Seep Ridge road that is located adjacent immediately east of the proposed well pad. Therefore no linear acres were surveyed for the access. However, the proposed pipeline corridor surveyed is 1000 feet (304.8 m) long and 100 feet (30.4 m) wide, 2.29 acres. Thus, 2.29 linear acres was surveyed.

Geologic landforms (rockshelters, alcoves, ridge tops and saddles) and areas of subsurface exposure (ant hills, blowouts, rodent holes and burrow, eroding slopes and cutbanks) were examined with special care in order to locate cultural resources (sites, isolates) and possibly help assess a site's sedimentary integrity and potential for the presence and/or absence of buried intact cultural deposits. All exposures of sandstone cliff faces, alcoves or rockshelters, and talus slopes were surveyed.

When cultural materials are discovered, a more thorough survey of the immediate vicinity is conducted in order to locate any associated artifacts and to determine the horizontal extent (surface area) of the site. If no other artifacts are located during the search then the initial artifact was recorded as an isolated find. At times, isolated formal tools (typical end scrapers, projectile points) were drawn and measured. The isolate was then described and its location plotted on a U.S.G.S. topographic map and UTM coordinates are recorded.

When sites are found an Intermountain Antiquities Computer System (IMACS) form was used to record the site. At all sites, selected topographic features, site boundaries, stone tools and cultural features (hearths, foundations, trash dumps and trails) are mapped. Sites were mapped with a Brunton compass, Trimble Geophysical 3 and/or Garmin E-Trex GPS units, and pacing off distances from a mapping station (datum, PVC with aluminum tag). All debitage is inventoried using standard recording techniques (Truesdale et al 1995:7) according to material type, basic flake type, and so on. Selected (mostly complete) stone tools and projectile points are drawn and measured. All features (rockart panel(s), hearths, foundations, trash dumps and trails) are measured and described, while selected features are either drawn or photographed.

Site location data is recorded by a Trimble GeoExplorer 3 Global Positioning System (GPS) and Garmin GPS III Plus and/or a E-Trex GPS. Site elevation and Universal Transverse Mercator (UTM) grid data, its Estimated Position Error (EPE) and Dilution of Precision (DOP) were recorded. Using the GPS data, the site

location was then placed on a USGS 7.5' quadrangle map.

### Results

A total of 12.29 (10 block, 2.29 linear) acres were surveyed for cultural resources by AIA within and around the proposed XTO Energy Corporation Little Canyon Unit (LCU) #1-36F well, and along its access and pipeline. No cultural resources (sites, isolates) were recorded on or around the proposed LCU #1-36F or along its access and pipeline.

A moderate scatter of modern trash (plastic bottles, sanitary food cans, miscellaneous metal, wire, green, brown and clear glass bottles and bottle fragments, foam insulation, etc.) can be found on and surrounding the existing well pads and along the existing oil and gas field service roads in the Little Canyon Unit area.

### Recommendations

A total of 12.29 (10 block, 2.29 linear) acres were surveyed for cultural resources by AIA within and around the proposed XTO Energy Corporation Little Canyon Unit #1-36F well, and along its access and pipeline. No cultural resources (sites, isolates) were recorded on or around the proposed LCU #1-36F or along its access and pipeline.

A moderate scatter of modern trash (plastic bottles, sanitary food cans, miscellaneous metal, wire, green, brown and clear glass bottles and bottle fragments, foam insulation, etc.) can be found on and surrounding the existing well pads and along the existing oil and gas field service roads in the Little Canyon Unit area.

Sediments on and surrounding the proposed well pad, and along its access and pipeline are shallow. Therefore, the possibility of buried and/or intact cultural materials on the proposed well pad or along its access and pipeline is low. No cultural resources (historic properties, isolates) were recorded during the survey for the proposed LCU #1-36F well, its access and pipeline. Therefore, no additional archaeological work is necessary and clearance is recommended for the construction of the Little Canyon Unit #1-36F well pad, its access, and pipeline.

## REFERENCES CITED

Childs, O.E.

1950 Geologic history of the Uinta Basin, Utah Geological and Mineralogical Survey. Guidebook to the Geology of Utah, No. 5:49-59.

Stokes, William D.

1986 Geology of Utah. Contributions by the Utah Museum of Natural History, and the Utah Geological and Mineral Survey Department of Natural Resources. Utah Museum of Natural History, Occasional Papers, No. 6.

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1965 Regional Geomorphology of the United States. John Wiley & Sons, Inc.

Truesdale, James A., Kathleen E Hiatt, and Clifford Duncan

1995 Cultural Resource Inventory of the Proposed Ouray Gravel Pit Location, Uintah-Ouray Ute Reservation, Uintah County, Utah. Report prepared for U & W Construction, Ft. Duchesne, Utah by AIA, Laramie, Wyoming.

# PALEONTOLOGY EVALUATION SHEET

---

**PROJECT:** XTO Energy, Inc. – LCU #1-36F

**LOCATION:** 15 miles south of Ouray, Uintah County, Utah. Section 36, 782' FNL 823' FEL, T10S, R20E, S.L.B.&M.

**OWNERSHIP:** PRIV[ ] STATE[ X ] BLM[ ] USFS[ ] NPS[ ] IND[ ] MIL[ ] OTHER[ ]

**DATE:** October 2, 2007

**GEOLOGY/TOPOGRAPHY:** Rock outcrops in this area are the lower part of Uinta Formation, Eocene age. There is a short access road to the well location which sits just west of the Seep Ridge Road on a north of a low ridge. Area is of moderate to low relief with a drainage down the east quarter. There are rock exposures on the northeast side and some on the northwest. Surface is mostly slope wash of angular rock fragments with sand and silt.

**PALEONTOLOGY SURVEY:** YES [ X ] NO Survey [ ] PARTIAL Survey [ ]  
Pedestrian Survey of Uinta Formation rock exposures at the well pad/pit and along the access road and pipeline.

**SURVEY RESULTS:** Invertebrate [ ] Plant [ ] Vertebrate [ ] Trace [ ] No Fossils Found [ X ]

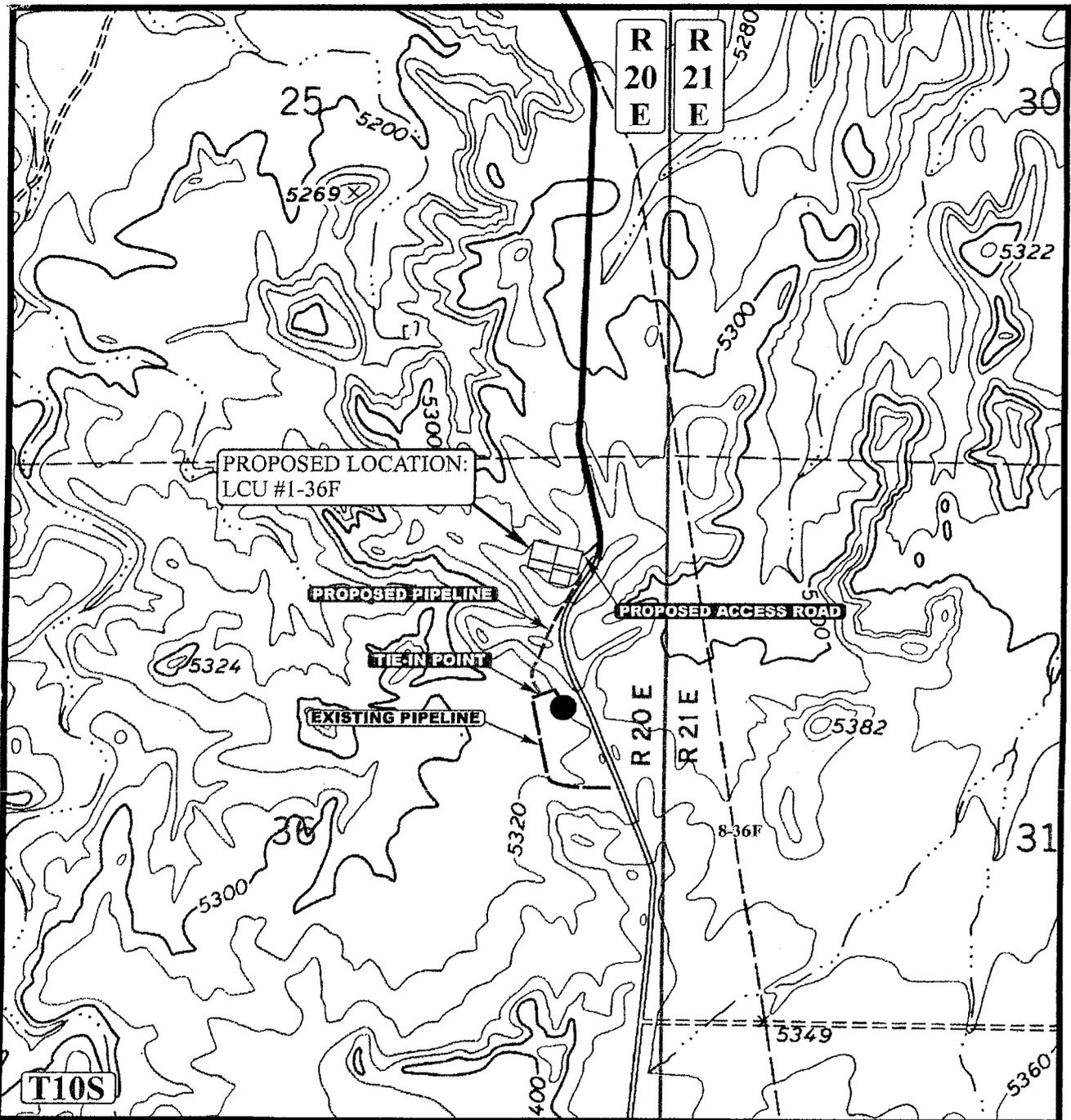
**PALEONTOLOGY SENSITIVITY:** HIGH [ ] MEDIUM [ ] LOW [ X ] (PROJECT SPECIFIC)

**MITIGATION RECOMMENDATIONS:** NONE [ X ] OTHER [ ] (SEE BELOW)

There is always some potential for discovery of significant paleontological resources in the Uinta Formation. If significant vertebrate fossils (mammals, crocodiles, complete turtle shells, etc.) are encountered during construction, work should stop in that area and a paleontologist should be contacted to evaluate the material discovered.

**PALEONTOLOGIST:** Alden H. Hamblin

*A.H. Hamblin Paleontological Consulting, 3793 N. Minersville Highway, Cedar City, Utah 84720 (435) 867-8355*  
Utah State Paleontological Permit # 07-355, BLM paleontological Resources Permit # UT-S-05-02,  
Utah Professional Geologist License – 5223011-2250.



APPROXIMATE TOTAL PIPELINE DISTANCE = 936' +/-

**LEGEND:**

- EXISTING PIPELINE
- - - - - PROPOSED PIPELINE
- PROPOSED ACCESS



**XTO ENERGY, INC.**

LCU #1-36F  
 SECTION 36, T10S, R20E, S.L.B.&M.  
 782' FNL 823' FEL



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

TOPOGRAPHIC MAP

6	7	01
MONTH	DAY	YEAR

SCALE: 1" = 2000' DRAWN BY: J.L.G. REV: 09-04-07 Z.L.



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

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ML-47391**

**SUNDRY NOTICES AND REPORTS ON WELLS**

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

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.

7. UNIT or CA AGREEMENT NAME:  
**Little Canyon Unit**

1. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER \_\_\_\_\_

8. WELL NAME and NUMBER:  
**LCU 1-36F**

2. NAME OF OPERATOR:  
**XTO Energy, Inc.**

9. API NUMBER:  
**4304739780**

3. ADDRESS OF OPERATOR:  
**P.O. Box 1360** CITY **Roosevelt** STATE **UT** ZIP **84066** PHONE NUMBER: **(435) 722-4521**

10. FIELD AND POOL, OR WILDCAT:  
**Natural Buttes**

4. LOCATION OF WELL  
FOOTAGES AT SURFACE: **782' FNL & 823' FEL** COUNTY: **Uintah**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **NENE 36 10S 20E S** STATE: **UTAH**

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input 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 checked="" 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: <u>Permit Extension</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

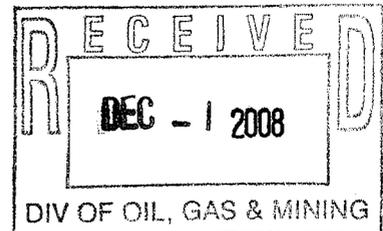
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

XTO Energy, Inc. hereby requests a one year extension of the state permit for the referenced well.

This is the first extension that has been requested.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: 12-01-08  
By: [Signature]



NAME (PLEASE PRINT) Kendell Johnson TITLE Agent for XTO Energy, Inc.  
SIGNATURE [Signature] DATE 11/14/2008

(This space for State use only)

**COPY SENT TO OPERATOR**

Date: 12.4.2008

Initials: \_\_\_\_\_



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

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

**API:** 4304739780  
**Well Name:** LCU 1-36F  
**Location:** 782' FNL & 823' FEL, NE NE Sec. 36, T10, R20E  
**Company Permit Issued to:** XTO Energy, Inc.  
**Date Original Permit Issued:** 12/17/2007

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

Kendell Johnson

11/14/2008

Signature

Date

Title: Kendell Johnson

Representing: XTO Energy, Inc.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-47391
	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  _____
	<b>7. UNIT or CA AGREEMENT NAME:</b> LITTLE CANYON
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> LCU 1-36F
<b>2. NAME OF OPERATOR:</b> XTO ENERGY INC	<b>9. API NUMBER:</b> 43047397800000
<b>3. ADDRESS OF OPERATOR:</b> 382 Road 3100 , Aztec, NM, 87410	<b>PHONE NUMBER:</b> 505 333-3159 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0782 FNL 0823 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENE Section: 36 Township: 10.0S Range: 20.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
	<b>COUNTY:</b> UINTAH
	<b>STATE:</b> UTAH

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

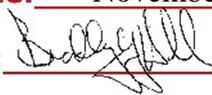
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 12/1/2010	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____

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

XTO hereby requests a one year extension on the State permit for the referenced well.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

Date: November 30, 2009

By: 

<b>NAME (PLEASE PRINT)</b> Eden Fine	<b>PHONE NUMBER</b> 505 333-3664	<b>TITLE</b> Permitting Clerk
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/30/2009	



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Request for Permit Extension Validation Well Number 43047397800000**

**API:** 43047397800000

**Well Name:** LCU 1-36F

**Location:** 0782 FNL 0823 FEL QTR NENE SEC 36 TWNP 100S RNG 200E MER S

**Company Permit Issued to:** XTO ENERGY INC

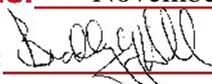
**Date Original Permit Issued:** 12/17/2007

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 rightof- 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

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Eden Fine **Date:** 11/30/2009  
**Title:** Permitting Clerk **Representing:** XTO ENERGY INC

**Date:** November 30, 2009  
**By:** 



GARY R. HERBERT  
Governor

GREG BELL  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

December 28, 2010

XTO Energy Inc.  
382 Road 3100  
Aztec, NM 87410

Re: APD Rescinded – Little Canyon Unit 1-36F, Sec. 36, T. 10S, R. 20E  
Uintah County, Utah API No. 43-047-39780

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on December 17, 2007. On December 1, 2008 and November 30, 2009, the Division granted a one-year APD extension. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective December 17, 2010.

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

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  
Ed Bonner, SITLA