

December 21, 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 4-2H**

*Surface Location: 1,357' FNL & 1,905' FWL, SE/4 NW/4,  
Target Location: 725' FNL & 759' FWL, Lot 4 (NW/4 NW/4),  
Section 2, T11S, 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 directional 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" - Directional Drilling Plan with Directional Drilling Report;
- 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 (2 copies)  
Ken Secrest, XTO Energy, Inc.

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**DEC 24 2007**

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: <b>ML-48771</b>	6. SURFACE: <b>State</b>
1A. TYPE OF WORK: <b>DRILL</b> <input checked="" type="checkbox"/> <b>REENTER</b> <input type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/>			7. IF INDIAN, ALLOTTEE OR TRIBE NAME: <b>N/A</b>	
B. TYPE OF WELL: <b>OIL</b> <input type="checkbox"/> <b>GAS</b> <input checked="" type="checkbox"/> <b>OTHER</b> _____ <b>SINGLE ZONE</b> <input type="checkbox"/> <b>MULTIPLE ZONE</b> <input checked="" type="checkbox"/>			8. UNIT or CA AGREEMENT NAME: <b>Little Canyon Unit</b>	
2. NAME OF OPERATOR: <b>XTO Energy, Inc.</b>			9. WELL NAME and NUMBER: <b>LCU 4-2H</b>	
3. ADDRESS OF OPERATOR: <b>P.O. Box 1360</b> <small>CITY</small> <b>Roosevelt</b> <small>STATE</small> <b>UT</b> <small>ZIP</small> <b>84066</b>		PHONE NUMBER: <b>(435) 722-4521</b>	10. FIELD AND POOL, OR WILDCAT: <b>Natural Dunes Hill Creek</b>	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>1,357' FNL &amp; 1,905' FWL, SE/4 NW/4,</b> AT PROPOSED PRODUCING ZONE: <b>725' FNL &amp; 759' FWL, Lot 4 (NW/4 NW/4),</b>			11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>2 11S 20E S</b>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: <b>13.60 miles south of Ouray, Utah</b>			12. COUNTY: <b>Uintah</b>	13. STATE: <b>UTAH</b>
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) <b>1,357'</b>	16. NUMBER OF ACRES IN LEASE: <b>638.50</b>	17. NUMBER OF ACRES ASSIGNED TO THIS WELL: <b>40</b>		
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) <b>15'</b>	19. PROPOSED DEPTH: <b>9489</b> <b>9,500</b>	20. BOND DESCRIPTION: <b>104312 762</b>		
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): <b>5,398' ungraded ground</b>	22. APPROXIMATE DATE WORK WILL START: <b>3/1/2008</b>	23. ESTIMATED DURATION: <b>14 days</b>		

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	
17-1/2"	<del>12-5/8"</del> 14" H-40 ST	48# 40' 500	see Drilling Plan	
12-1/4"	9-5/8" J-55 ST	36# 2315' 400	see Drilling Plan	
7-7/8"	5-1/2" N-80 LT	17# 9489' 9,500	see Drilling Plan	
			(9245' TVD)	

25. ATTACHMENTS	
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:	
<input checked="" type="checkbox"/> WELL PLAN 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 12/21/2007

(This space for State use only)

API NUMBER ASSIGNED: 43-047-39888

APPROVAL:

**RECEIVED**  
**DEC 24 2007**

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-48771	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 4-2H	
3. ADDRESS OF OPERATOR: P.O. Box 1360 Roosevelt UT 84066			PHONE NUMBER: (435) 722-4521	10. FIELD AND POOL, OR WILDCAT: Natural Buttes	
4. LOCATION OF WELL (FOOTAGES)  AT SURFACE: 1,357' FNL & 1,905' FWL, SE/4 NW/4, AT PROPOSED PRODUCING ZONE: 725' FNL & 759' FWL, Lot 4 (NW/4 NW/4),				11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  2 11S 20E S	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 13.60 miles south of Ouray, Utah				12. COUNTY: Uintah	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 1,357'		16. NUMBER OF ACRES IN LEASE: 638.50		17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) 15'		19. PROPOSED DEPTH: 9,489		20. BOND DESCRIPTION: 104312 762	
21. ELEVATIONS (SHOW WHETHER OF, RT, GR, ETC.): 5,398' ungraded ground		22. APPROXIMATE DATE WORK WILL START: 3/1/2008		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
	14" Cond.	40	
12-1/4"	9-5/8" J-55 ST 36#	2,315	see Drilling Plan
7-7/8"	5-1/2" N-80 LT 17#	9,489	see Drilling Plan
			(9250' TVD)

**25. ATTACHMENTS**

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> WELL PLAN 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 6/11/2008

(This space for State use only)

API NUMBER ASSIGNED: 43-047-39884

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

**RECEIVED**

JUN 11 2008

Date: 06-17-08  
By: [Signature]

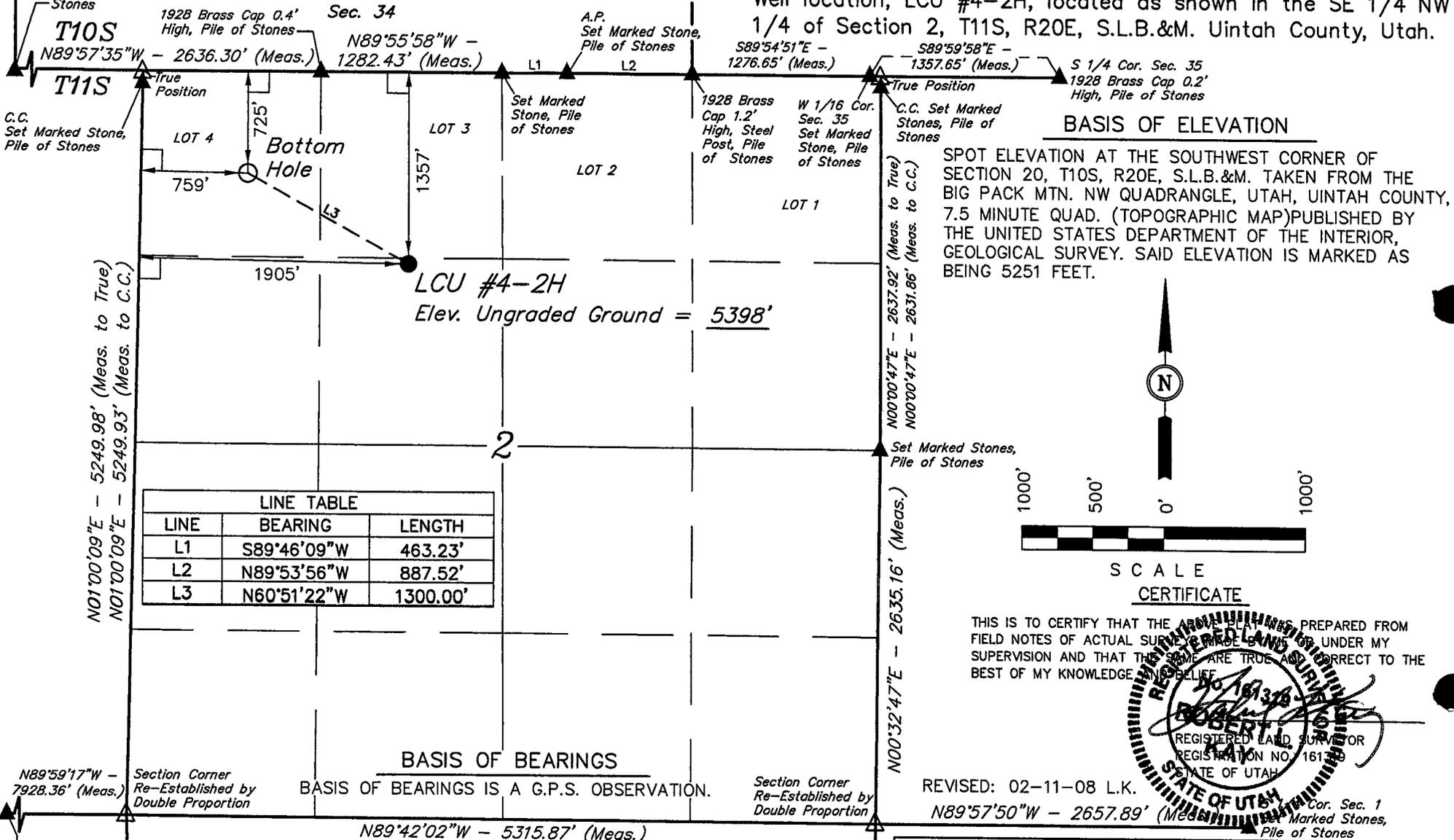
DIV. OF OIL, GAS & MINING

SW Cor. Sec. 34  
1928 Brass Cap  
1.3' High, Pile of  
Stones

# T11S, R20E, S.L.B.&M.

XTO ENERGY, INC.

Well location, LCU #4-2H, located as shown in the SE 1/4 NW  
1/4 of Section 2, T11S, R20E, S.L.B.&M. Uintah County, Utah.



LINE TABLE		
LINE	BEARING	LENGTH
L1	S89°46'09"W	463.23'
L2	N89°53'56"W	887.52'
L3	N60°51'22"W	1300.00'

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

**LEGEND:**

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

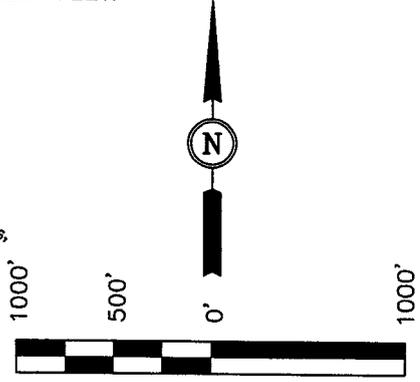
BY DOUBLE PROPORTION METHOD. (NOT SET)

(NAD 83)  
LATITUDE = 39°53'34.45" (39.892903)  
LONGITUDE = 109°38'56.87" (109.649131)

(NAD 27)  
LATITUDE = 39°53'34.58" (39.892939)  
LONGITUDE = 109°38'54.38" (109.648439)

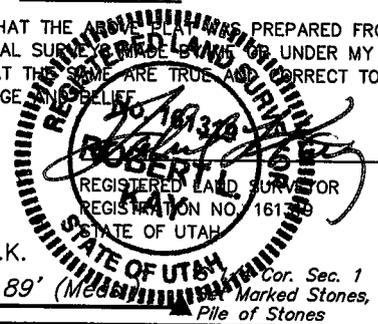
**BASIS OF ELEVATION**

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.



SCALE  
CERTIFICATE

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



REVISED: 02-11-08 L.K.  
N89°57'50"W - 2657.89' (Meas.)

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

SCALE 1" = 1000'	DATE SURVEYED: 03-20-06	DATE DRAWN: 3-22-06
PARTY B.B. B.C. P.M.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE XTO ENERGY, INC	

S 1/4 Cor. Sec. 3  
Set Marked Stones,  
Pile of Stones

N01°47'08"W - 2650.69' (Meas.)

E 1/4 Cor. Sec. 10  
Set Stone

E 1/4 Cor. Sec. 14  
Set Marked Stone,  
Scattered Stones

# XTO ENERGY INC.

LCU 4-2H

APD Data

May 30, 2008

Location: 1357' FNL & 1905' FWL, Sec. 2, T11S, R20E County: Uintah

State: Utah

Bottomhole Location: 725' FNL & 759' FWL, Sec. 2, T11S, R20E

GREATEST PROJECTED TD: 9489' MD/ 9250' TVD  
APPROX GR ELEV: 5398'

OBJECTIVE: Wasatch/Mesaverde  
Est KB ELEV: 5412' (14' AGL)

## 1. MUD PROGRAM:

INTERVAL	0' to 2315'	2315' to 9489'
HOLE SIZE	12.25"	7.875"
MUD TYPE	FW/Spud Mud	KCl Based LSND / Gel Chemical
WEIGHT	8.80	8.6-9.2
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 ±2315'MD/2200'TVD in a 12.25" hole filled with 8.8 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'-2315'	2315'	36#	J-55	ST&C	2020	3520	394	8.921	8.765	2.57	4.47	4.73

Production Casing: 5.5" casing set at ±9489'MD/9250'TVD in a 7.875" hole filled with 9.20 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'-9489'	9489'	17#	N-80	LT&C	6280	7740	348	4.892	4.767	1.79	2.21	2.16

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 9-5/8" 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 (or equiv.), ST&C casing to be set at ±2315' in 12.25" hole.

### LEAD:

±231 sx of Premium Plus V Blend. (Type V/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 11.0 ppg, 3.82 ft<sup>3</sup>/sk, 22.95 gal wtr/sx.

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**DIV. OF OIL, GAS & MINING**

TAIL:

350 sx Class G or equivalent cement with bonding additive, LCM, dispersant, & fluid loss mixed at 15.6 ppg, 1.2 cuft/sx

*Total estimated slurry volume for the 9.625" surface casing is 1302.9 ft<sup>3</sup>. Slurry includes 75% excess of calculated open hole annular volume to 2315'.*

B. Production: 5.5", 17#, N-80 (or equiv.), LT&C casing to be set at ±9489' in 7.875" hole.

LEAD:

±314 sx of Premium Plus V Blend. (Type V/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 11.6 ppg, 3.10 ft<sup>3</sup>/sk, 17.71 gal wtr/sx.

TAIL:

400 sx Class G or equivalent cement with poz, bonding additive, LCM, dispersant, & fluid loss mixed at 13.0 ppg, 1.49 cuft/sx, 9.09 gal/sx.

*Total estimated slurry volume for the 5.5" production casing is 1569.7 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 casing string. The production casing is designed for 1815' top of cement..*

**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 (9489') to the bottom of the surface csg. Run Neutron/Lithodensity/Pe/GR/Cal from TD (9489') to 2315'. Run Gamma Ray to surface.

**6. FORMATION TOPS:**

Please see attached directional plan.

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

A.

Formation	Expected Fluids	TV Depth Top
Wasatch Tongue	Oil/Gas/Water	3,742
Green River Tongue	Oil/Gas/Water	4,087
<b>Wasatch*</b>	Gas/Water	4,232
<b>Chapita Wells*</b>	Gas/Water	5,117
Uteland Buttes	Gas/Water	6,202
<b>Mesaverde*</b>	Gas/Water	6,967
Castlegate	Gas/Water	NA

- B. 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.
- C. There are no known potential sources of H<sub>2</sub>S.

D. The bottomhole pressure is anticipated to be between 4200 psi and 4600 psi.

**8. BOP EQUIPMENT:**

Surface will not utilize a bop stack.

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 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	

# **XTO Energy**

**Natural Buttes Wells(NAD83)**

**LCU 4-2H**

**LCU 4-2H**

**LCU 4-2H**

**Plan: Sundry'd Wellbore**

## **Standard Planning Report**

**28 May, 2008**

**RECEIVED**

**JUN 02 2008**

**DIV. OF OIL, GAS & MINING**



# Well Name: LCU 4-2H

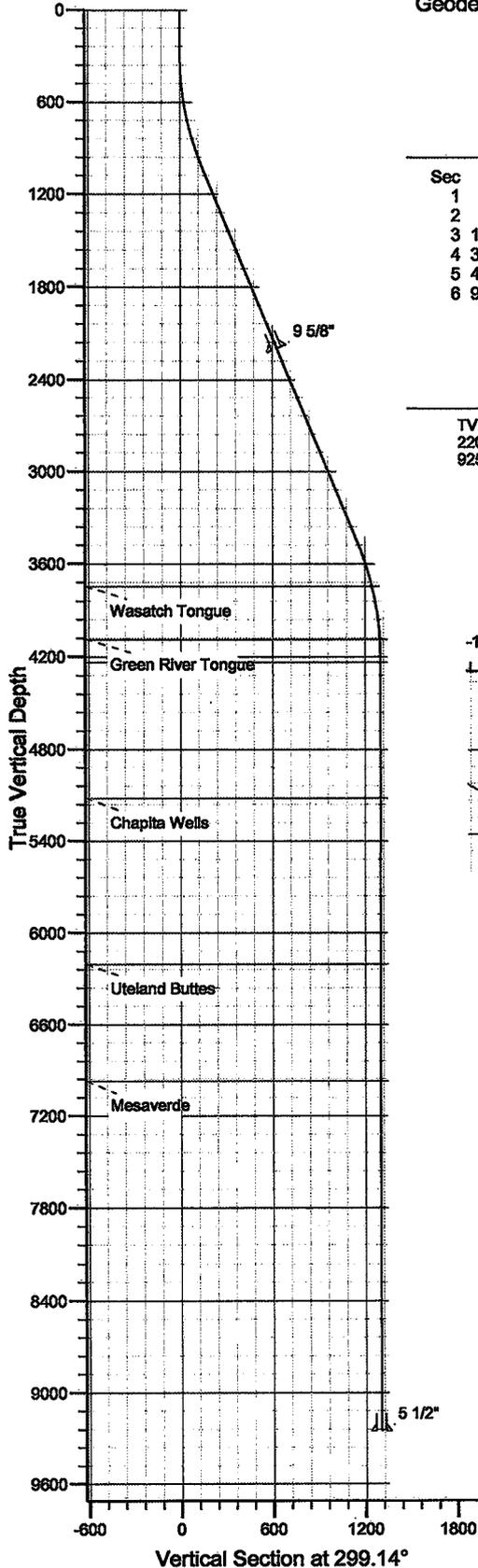
San Juan Division  
Drilling Department

Calculation Method: Minimum Curvature  
Geodetic Datum: North American Datum 1983  
Lat: 39° 53' 34.451 N  
Long: 109° 38' 56.872 W



Azimuths to True North  
Magnetic North: 11.56°

Magnetic Field  
Strength: 52619.3nT  
Dip Angle: 65.85°  
Date: 12/4/2007  
Model: IGRF200510



### SECTION DETAILS

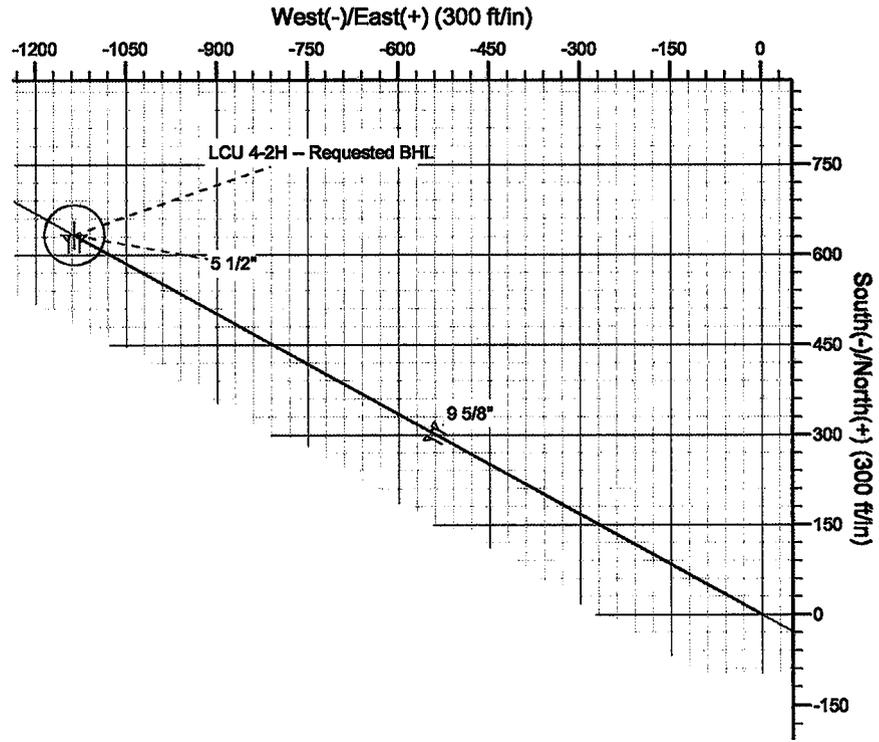
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1049.5	22.49	299.14	1030.4	70.7	-126.8	3.00	299.14	145.2	
4	3689.4	22.49	299.14	3469.6	562.3	-1008.6	0.00	0.00	1154.8	
5	4438.9	0.00	0.00	4200.0	633.0	-1135.5	3.00	180.00	1300.0	LCU 4-2H - Requested BHL
6	9488.9	0.00	0.00	9250.0	633.0	-1135.5	0.00	0.00	1300.0	

### CASING DETAILS

TVD	MD	Name	Size
2200.0	2315.3	9 5/8"	9-5/8
9250.0	9488.9	5 1/2"	5-1/2

### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3742.0	3976.4	Wasatch Tongue
4087.0	4325.8	Green River Tongue
4232.0	4470.9	Wasatch
5117.0	5355.9	Chapita Wells
6202.0	6440.9	Uteland Buttes
6967.0	7205.9	Mesaverde



# XTO Energy, Inc.

## Planning Report

**Database:** EDM 2003.14 Single User Db  
**Company:** XTO Energy  
**Project:** Natural Buttes Wells(NAD83)  
**Site:** LCU 4-2H  
**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
**Design:** Sundry'd Wellbore

**Local Co-ordinate Reference:** Well LCU 4-2H  
**TVD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Natural Buttes Wells(NAD83), Vernal, UT		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Utah Northern Zone		

<b>Site</b>	LCU 4-2H, T11S, R20E				
<b>Site Position:</b>		<b>Northing:</b>	3,125,894.87 ft	<b>Latitude:</b>	39° 53' 34.451 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,159,853.51 ft	<b>Longitude:</b>	109° 38' 56.872 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	1.22 °

<b>Well</b>	LCU 4-2H, S-Well to Wasatch/Mesaverde					
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	3,125,894.87 ft	<b>Latitude:</b>	39° 53' 34.451 N
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	2,159,853.51 ft	<b>Longitude:</b>	109° 38' 56.872 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	5,398.0 ft	<b>Ground Level:</b>	5,398.0 ft

<b>Wellbore</b>	LCU 4-2H				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/4/2007	11.56	65.85	52,619

<b>Design</b>	Sundry'd Wellbore				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	299.14	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Bull Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,049.5	22.49	299.14	1,030.4	70.7	-126.8	3.00	3.00	0.00	299.14	
3,689.4	22.49	299.14	3,469.6	562.3	-1,008.6	0.00	0.00	0.00	0.00	
4,438.9	0.00	0.00	4,200.0	633.0	-1,135.5	3.00	-3.00	0.00	180.00	LCU 4-2H – Requeste
9,488.9	0.00	0.00	9,250.0	633.0	-1,135.5	0.00	0.00	0.00	0.00	

# XTO Energy, Inc.

## Planning Report

**Database:** EDM 2003.14 Single User Db  
**Company:** XTO Energy  
**Project:** Natural Buttes Wells(NAD83)  
**Site:** LCU 4-2H  
**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
**Design:** Sundry'd Wellbore

**Local Co-ordinate Reference:** Well LCU 4-2H  
**TVD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	3.00	299.14	400.0	1.3	-2.3	2.6	3.00	3.00	0.00
500.0	6.00	299.14	499.6	5.1	-9.1	10.5	3.00	3.00	0.00
600.0	9.00	299.14	598.8	11.4	-20.5	23.5	3.00	3.00	0.00
700.0	12.00	299.14	697.1	20.3	-36.5	41.7	3.00	3.00	0.00
800.0	15.00	299.14	794.3	31.7	-56.8	65.1	3.00	3.00	0.00
900.0	18.00	299.14	890.2	45.5	-81.6	93.5	3.00	3.00	0.00
1,000.0	21.00	299.14	984.4	61.8	-110.8	126.9	3.00	3.00	0.00
1,049.5	22.49	299.14	1,030.4	70.7	-126.8	145.2	3.00	3.00	0.00
1,100.0	22.49	299.14	1,077.1	80.1	-143.7	164.5	0.00	0.00	0.00
1,200.0	22.49	299.14	1,169.5	98.7	-177.1	202.7	0.00	0.00	0.00
1,300.0	22.49	299.14	1,261.9	117.3	-210.5	241.0	0.00	0.00	0.00
1,400.0	22.49	299.14	1,354.3	136.0	-243.9	279.2	0.00	0.00	0.00
1,500.0	22.49	299.14	1,446.7	154.6	-277.3	317.5	0.00	0.00	0.00
1,600.0	22.49	299.14	1,539.1	173.2	-310.7	355.7	0.00	0.00	0.00
1,700.0	22.49	299.14	1,631.5	191.8	-344.1	394.0	0.00	0.00	0.00
1,800.0	22.49	299.14	1,723.9	210.5	-377.5	432.2	0.00	0.00	0.00
1,900.0	22.49	299.14	1,816.3	229.1	-410.9	470.5	0.00	0.00	0.00
2,000.0	22.49	299.14	1,908.6	247.7	-444.3	508.7	0.00	0.00	0.00
2,100.0	22.49	299.14	2,001.0	266.3	-477.7	547.0	0.00	0.00	0.00
2,200.0	22.49	299.14	2,093.4	285.0	-511.1	585.2	0.00	0.00	0.00
2,300.0	22.49	299.14	2,185.8	303.6	-544.5	623.4	0.00	0.00	0.00
2,315.3	22.49	299.14	2,200.0	306.4	-549.7	629.3	0.00	0.00	0.00
<b>9 5/8"</b>									
2,400.0	22.49	299.14	2,278.2	322.2	-577.9	661.7	0.00	0.00	0.00
2,500.0	22.49	299.14	2,370.6	340.8	-611.3	699.9	0.00	0.00	0.00
2,600.0	22.49	299.14	2,463.0	359.5	-644.7	738.2	0.00	0.00	0.00
2,700.0	22.49	299.14	2,555.4	378.1	-678.2	776.4	0.00	0.00	0.00
2,800.0	22.49	299.14	2,647.8	396.7	-711.6	814.7	0.00	0.00	0.00
2,900.0	22.49	299.14	2,740.2	415.3	-745.0	852.9	0.00	0.00	0.00
3,000.0	22.49	299.14	2,832.6	433.9	-778.4	891.2	0.00	0.00	0.00
3,100.0	22.49	299.14	2,925.0	452.6	-811.8	929.4	0.00	0.00	0.00
3,200.0	22.49	299.14	3,017.4	471.2	-845.2	967.6	0.00	0.00	0.00
3,300.0	22.49	299.14	3,109.8	489.8	-878.6	1,005.9	0.00	0.00	0.00
3,400.0	22.49	299.14	3,202.2	508.4	-912.0	1,044.1	0.00	0.00	0.00
3,500.0	22.49	299.14	3,294.6	527.1	-945.4	1,082.4	0.00	0.00	0.00
3,600.0	22.49	299.14	3,387.0	545.7	-978.8	1,120.6	0.00	0.00	0.00
3,689.4	22.49	299.14	3,469.6	562.3	-1,008.6	1,154.8	0.00	0.00	0.00
3,700.0	22.17	299.14	3,479.4	564.3	-1,012.2	1,158.8	3.00	-3.00	0.00
3,800.0	19.17	299.14	3,573.0	581.5	-1,043.0	1,194.1	3.00	-3.00	0.00
3,900.0	16.17	299.14	3,668.2	596.3	-1,069.5	1,224.5	3.00	-3.00	0.00
3,976.4	13.88	299.14	3,742.0	605.9	-1,086.8	1,244.3	3.00	-3.00	0.00
<b>Wasatch Tongue</b>									
4,000.0	13.17	299.14	3,765.0	608.6	-1,091.6	1,249.8	3.00	-3.00	0.00
4,100.0	10.17	299.14	3,862.9	618.4	-1,109.3	1,270.0	3.00	-3.00	0.00
4,200.0	7.17	299.14	3,961.7	625.8	-1,122.4	1,285.1	3.00	-3.00	0.00
4,300.0	4.17	299.14	4,061.2	630.6	-1,131.1	1,295.0	3.00	-3.00	0.00
4,325.8	3.39	299.14	4,087.0	631.4	-1,132.5	1,296.7	3.00	-3.00	0.00
<b>Green River Tongue</b>									
4,400.0	1.17	299.14	4,161.1	632.8	-1,135.1	1,299.6	3.00	-3.00	0.00

# XTO Energy, Inc.

## Planning Report

**Database:** EDM 2003.14 Single User Db  
**Company:** XTO Energy  
**Project:** Natural Buttes Wells(NAD83)  
**Site:** LCU 4-2H  
**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
**Design:** Sundry'd Wellbore

**Local Co-ordinate Reference:** Well LCU 4-2H  
**TVD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,438.9	0.00	0.00	4,200.0	633.0	-1,135.5	1,300.0	3.00	-3.00	0.00
<b>LCU 4-2H -- Requested BHL</b>									
4,470.9	0.00	0.00	4,232.0	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
<b>Wasatch</b>									
4,500.0	0.00	0.00	4,261.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,361.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,461.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,561.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,661.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,761.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,100.0	0.00	0.00	4,861.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,200.0	0.00	0.00	4,961.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,061.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,355.9	0.00	0.00	5,117.0	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
<b>Chapita Wells</b>									
5,400.0	0.00	0.00	5,161.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,261.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,361.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,461.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,561.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,661.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,761.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,100.0	0.00	0.00	5,861.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,200.0	0.00	0.00	5,961.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,061.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,161.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,440.9	0.00	0.00	6,202.0	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
<b>Uteland Buttes</b>									
6,500.0	0.00	0.00	6,261.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,361.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,461.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,561.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,661.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,761.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,100.0	0.00	0.00	6,861.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,961.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,205.9	0.00	0.00	6,967.0	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
<b>Mesaverde</b>									
7,300.0	0.00	0.00	7,061.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,161.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,261.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,361.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,461.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,561.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,661.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,000.0	0.00	0.00	7,761.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,100.0	0.00	0.00	7,861.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,200.0	0.00	0.00	7,961.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,061.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,161.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,261.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,361.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,461.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00

# XTO Energy, Inc.

## Planning Report

**Database:** EDM 2003.14 Single User Db  
**Company:** XTO Energy  
**Project:** Natural Buttes Wells(NAD83)  
**Site:** LCU 4-2H  
**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
**Design:** Sundry'd Wellbore

**Local Co-ordinate Reference:** Well LCU 4-2H  
**TVD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,800.0	0.00	0.00	8,561.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,661.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,761.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,861.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
9,200.0	0.00	0.00	8,961.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,061.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,161.1	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
9,488.9	0.00	0.00	9,250.0	633.0	-1,135.5	1,300.0	0.00	0.00	0.00	
5 1/2"										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N-S (ft)	+E-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
LCU 4-2H -- Requested	0.00	0.00	4,200.0	633.0	-1,135.5	3,126,503.57	2,158,704.82	39° 53' 40.705 N	109° 39' 11.436 W	
- hit/miss target										
- Shape										
- plan hits target										
- Circle (radius 50.0)										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
2,315.3	2,200.0	9 5/8"	9-5/8	12-1/4		
9,488.9	9,250.0	5 1/2"	5-1/2	7-7/8		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,976.4	3,742.0	Wasatch Tongue		0.00		
4,325.8	4,087.0	Green River Tongue		0.00		
4,470.9	4,232.0	Wasatch		0.00		
5,355.9	5,117.0	Chapita Wells		0.00		
6,440.9	6,202.0	Uteland Buttes		0.00		
7,205.9	6,967.0	Mesaverde		0.00		

## BOPE REVIEW

XTO Energy LCU 4-2H API 43-047-39888

Well Name	XTO Energy LCU 4-2H API 43-047-39888		
	String 1	String 2	String 3
Casing Size (")	13 3/8	9 5/8	5 1/2
Setting Depth (TVD)	500	4205	9248
Previous Shoe Setting Depth (TVD)	0	500	4205
Max Mud Weight (ppg)	8.4	8.8	9.2
BOPE Proposed (psi)	0	250	3000
Casing Internal Yield (psi)	1730	3520	7740
Operators Max Anticipated Pressure (psi)	4600		9.6 ppg

Calculations	String 1	13 3/8 "	
Max BHP [psi]	.052*Setting Depth*MW =	218	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	158	NO
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	108	NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	108	NO
Required Casing/BOPE Test Pressure		250 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		0 psi	*Assumes 1psi/ft frac gradient

Calculations	String 2	9 5/8 "	
Max BHP [psi]	.052*Setting Depth*MW =	1924	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	1420	NO diverter stack and rotating head rated at 250 psi
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	999	NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	1109	NO
Required Casing/BOPE Test Pressure		2464 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		500 psi	*Assumes 1psi/ft frac gradient

Calculations	String 3	5 1/2 "	
Max BHP [psi]	.052*Setting Depth*MW =	4424	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	3314	NO
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	2390	YES
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth) =	3315	YES
Required Casing/BOPE Test Pressure		3000 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		3520 psi	*Assumes 1psi/ft frac gradient

## 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 4-2H  
*Surface Location:* 1,357' FNL & 1,905' FWL, SE/4 NW/4,  
*Target Location:* 725' FNL & 759' FWL, Lot 4 (NW/4 NW/4),  
Section 2, T11S, R20E, SLB&M, Uintah County, Utah

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.

**The proposed well will utilize the previously approved LCU 6-2H / LCU 3-2H pad and access and pipeline corridors.**

1. Location of Existing Roads:

- a. The proposed well site is located approximately 13.60 miles south 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. However, an encroachment permit is not anticipated since no upgrades to the State or County Road system are proposed at this time.
- 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 or pipeline corridor since both are located within the existing lease boundary.

2. New or Reconstructed Access Roads:

- a. From the existing LCU 5-2H access road an access is proposed trending northwest approximately 0.2 miles 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 0.2 miles long and adequate site distance exists in all directions.
- f. No culverts or low-water crossings are necessary. 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 southeast side of the well site and traverse 1,157' southeast to the existing LCU 5-2H 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 1,157' is associated with this well.
- j. The proposed pipeline and pipeline upgrade are contained within SITLA surface.
- k. 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 Exhibit "B".
- 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 southwest 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 southeast.
- 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 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 as prescribed by the SITLA.
- 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 21<sup>st</sup> day of December, 2007.

Don Hamilton

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

435-719-2018  
starpoint@etv.net

Dominion Exploration & Production, Inc.:  
Little Canyon Unit #6-2H / 4-2 H  
A Cultural Resource Inventory for a well pad  
its access and flowline,  
Uintah County, Utah.

By  
James A. Truesdale  
Principal Investigator

Prepared For  
Dominion Exploration & Production  
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-0152(b,s)

May 10, 2006

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## Introduction

An Independent Archaeologist (AIA), was contacted by a representative of Dominion Exploration & Production, to conduct a cultural resources survey investigation of the proposed Little Canyon Unit (LCU) #6-2H well location, its access and flowline. The location of the project area is the SE/NW 1/4 of Section 2, T11S, R20E, Uintah County, Utah (Figure 1).

The Little Canyon Unit (LCU) #6-2H well centerstake Alternate #1; footage is 1364' FNL and 1929' FWL. The Universal Transverse Mercator (UTM) coordinate for the Little Canyon Unit (LCU) #6-2H well centerstake is Zone 12, North American Datum (NAD) 83, 44/15/498.35 mE, 44/16/742.55 mN  $\pm$ 5m.

From an existing oil and gas field service road and pipeline, the proposed access and pipeline parallel each other and trend north northwest 1200 feet (365.9 m) to the LCU #6-2H well pad.

The surface of Section 2 T11S R20E is administered by the Utah School Institutional Trust Land Administration (SITLA) while the minerals are administered by the U.S., Department of Interior (DOI), Utah Bureau of Land Management (BLM), Vernal District Office, Book Cliffs Resource Area. A total of 15.5 acres (10 block, 5.5 linear) was surveyed. The field work was conducted on March 25, 2006 by AIA archaeologist 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 Utah Division of State History (UDSH), Antiquities Section, Records Division on February 20, 2006 and at the Vernal BLM office in March of 2006 by the author. In addition, a update of AIA's USGS 7.5'/1968 quadrangle maps Big Pack Mountain NW, Big Pack Mountain NE, and Moon Bottom maps from the UDSH's Big Pack Mountain NW, Big Pack Mountain NE, and Moon Bottom maps occurred on November 8, 2003 and again on February 3, 2004. The UDSH SHPO file search indicates that one project (U-04-AY-246b,s) was previously conducted in the general area (Section 2 of T11S R20E). This previous project was conducted by AIA in 2004. No cultural resources were recorded during this additional project. Review of AIA records indicate that no additional projects and/or cultural resources have been recorded in the area.

## Environment

Physiographically, the project is located in the Uinta Basin, eighteen miles south of Ouray, Utah in the Uinta Basin. A portion of the Little Canyon Unit is situated east of Willow Creek and 1 mile northeast of Jim Little Canyon. The Uinta Basin is

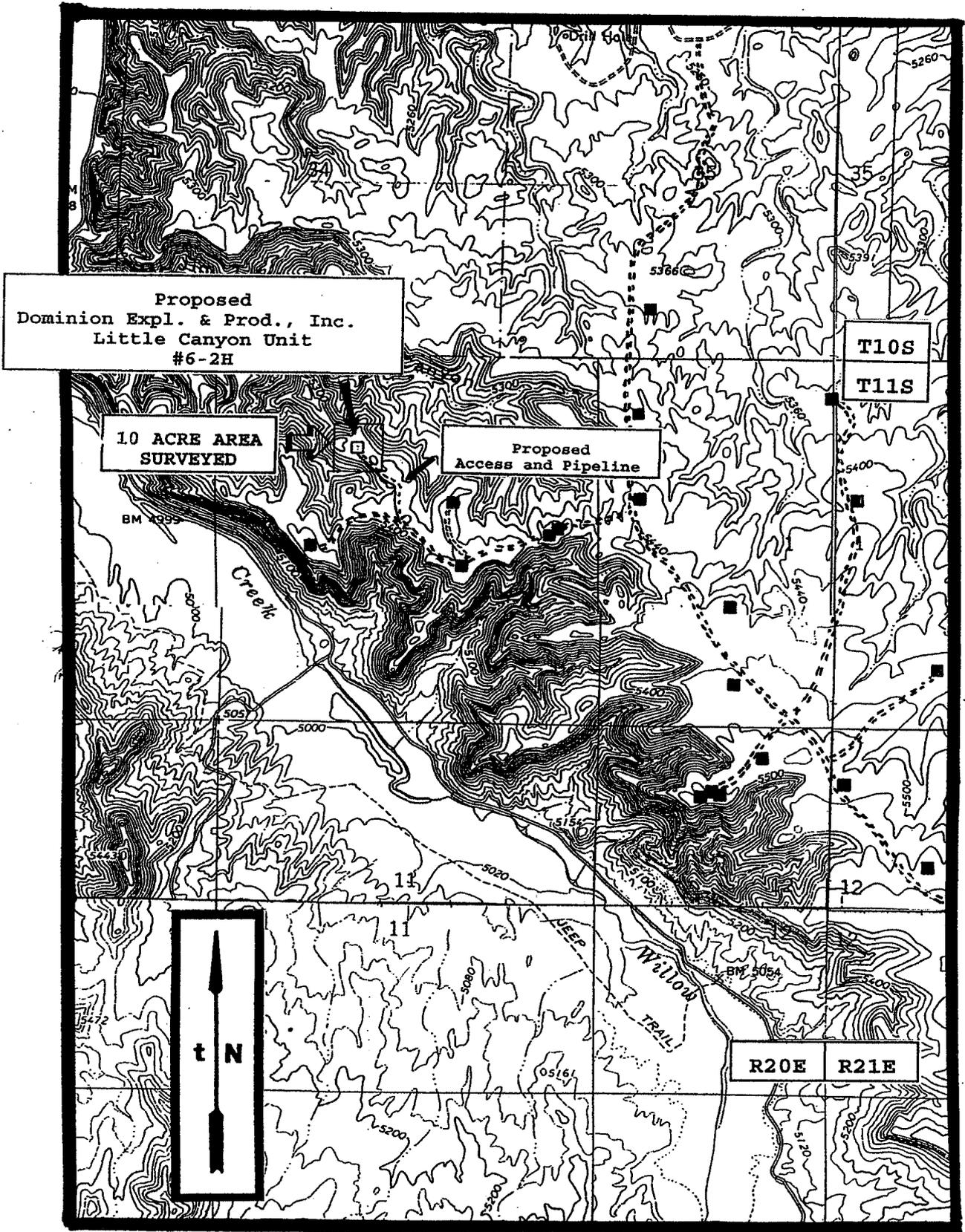


Figure 1. Location of the proposed Dominion Expl. & Prod., Inc. Little Canyon Unit (LCU) #6-2H well, its access and pipeline on 7.5'/1968 USGS quadrangle maps Big Pack Mountain NW, Big Pack Mountain NE, Big Pack Mountain and Big Pack Mountain SE, Uintah County, Utah.

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 (Stokes 1986:231). The topography is characteristic of sloping surfaces which incline northward and are mainly dip slopes on the harder layers of Green River and Uinta Formations. 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 a high upland bench 1 mile east of the Willow Creek Canyon. Sediments in the project area are dominated by shallow (<10 cm) sandy clay loam colluvium mixed with angular pieces of Uintah formation sandstone, and smaller pieces of clays and shales. Portions of the desert hardpan and bedrock in the Little Canyon Unit area are covered with aeolian sand which may reach a depth of over 50 to 100 centimeters in areas.

Vegetation in the Little Canyon Unit area is characteristic of a shadescale/greasewood community. Species observed in the project area include; shadescale (Atriplex confertifolia), saltbush (Atriplex nuttallii), rabbitbrush (Chrysothamnus viscidiflorus), big sagebrush (Artemisia tridentata), budsage (Artemisia spinescens), winterfat (Eurotia lanata), greasewood (Sarcobatus baileyi), wild buckwheat (Erigeron ovvalifolium), desert trumpet (Erigeron inflatum), desert globemallow (Bromus tectorum), yellow cryptantha (Cryptantha flava), crescent milkvetch (Astagalus amphioxys), western pink verain (verbena ambrosifloia), long leaved phlox (Phlox longifolia), peppergrass (Lepidium perfoliatum), Russian thistle (Salsola kali), and prickly pear cactus (Opuntia spp.). In addition, a riparian community may be found along Hill and Willow Creek 1 mile west.

#### Little Canyon Unit #6-2H

The immediate proposed Little Canyon Unit (LCU) #6-2H well is situated on the top of a small, flat, knoll located on a narrow southeast to northwest trending ridge (Figure 2). The ridge is adjacent immediately south and north of steep sided ephemeral canyons. These large steep sided, drainage wash canyons are adjacent immediately south and north of the well pad and trend northwest to west to the Willow Creek Canyon. The ridge is part of the much larger sequence of upland hills, ridges and benches east of Willow Creek Canyon.

Sediments on the proposed well pad are colluvial in nature. These sediments consist of shallow (<5 cm) poorly sorted, loosely compacted, light brown to reddish brown, sandy clay loam. The colluvium also contains tiny to small sized angular/tabular pieces

of sandstone (Figure 3). Some of the pieces of angular sandstone exhibit a dark brown to black desert varnish (patination). Sandstone bedrock is exposed and eroding and dominates the landscape. Vegetation is characteristic of a low sagebrush community, consists of low sagebrush, budsage, saltbush, bunchgrasses (wheatgrass, cheatgrass, indian rice-grass), and prickly pear cactus. The proposed well location is located at an elevation of 5408.72 feet (1649 m) AMSL.

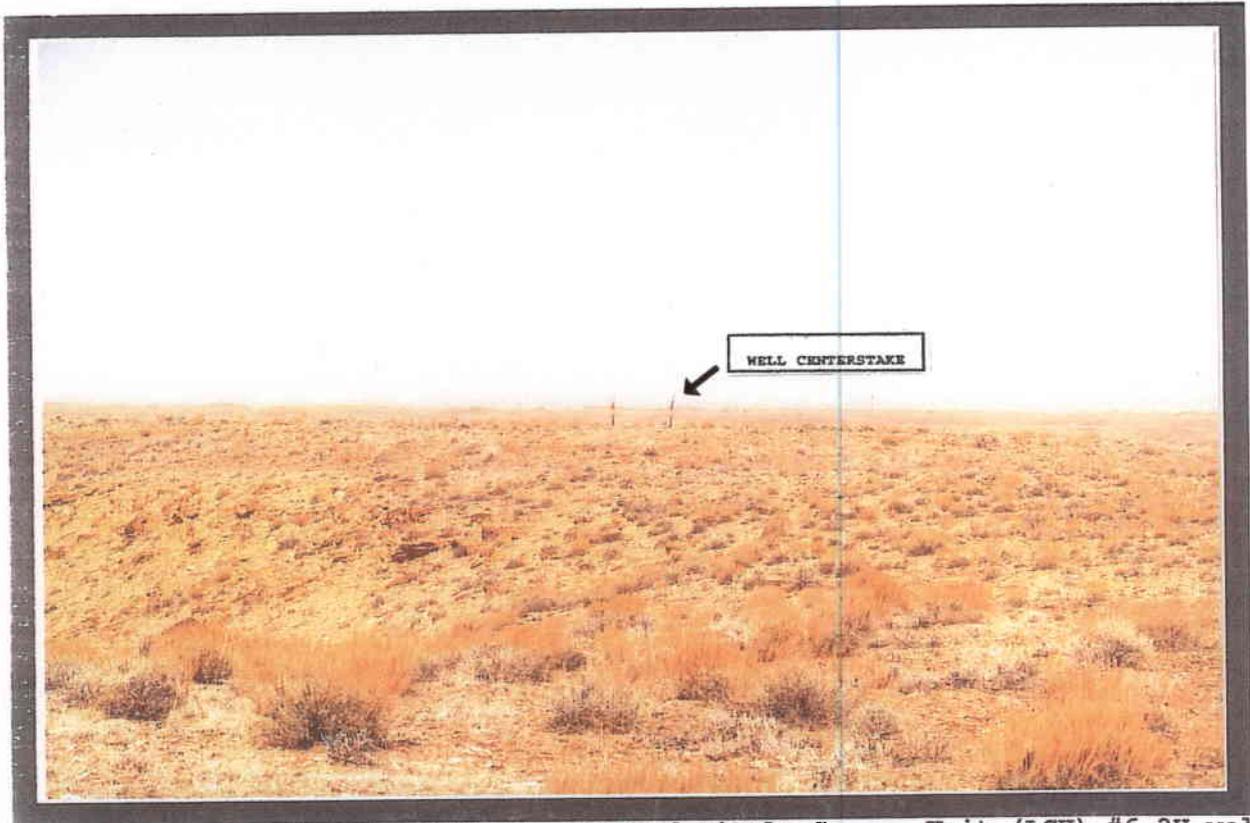


Figure 2. View to north at proposed Little Canyon Unit (LCU) #6-2H well pad and centerstake.

From an existing oil and gas field service road and pipeline, the proposed access and pipeline parallel each other and trend northwest 1200 feet (365.9 m) to the LCU #6-2H well pad. From the access and pipeline, the access and pipeline trend north across a large broad ridge flat then turns northwest and continues along the top (crest) and western edge of a narrow, southeast to northwest trending ridge. The access and pipeline then cross a small saddle to a knoll on the ridge and the proposed LCU #6-2H well pad. Sediments along the access and pipeline consist of shallow (<5 cm), poorly sorted, loosely compacted, sandy clay loam mixed with small to medium sized angular pieces of sandstone. Exposed and eroding sandstone bedrock can be found eroding from the eastern side of the south to north trending ridge.

Exposures of Uinta formation sandstone, clays and shales can dominate the surrounding landscape and can be found along the drainage washes and canyon talus slopes.

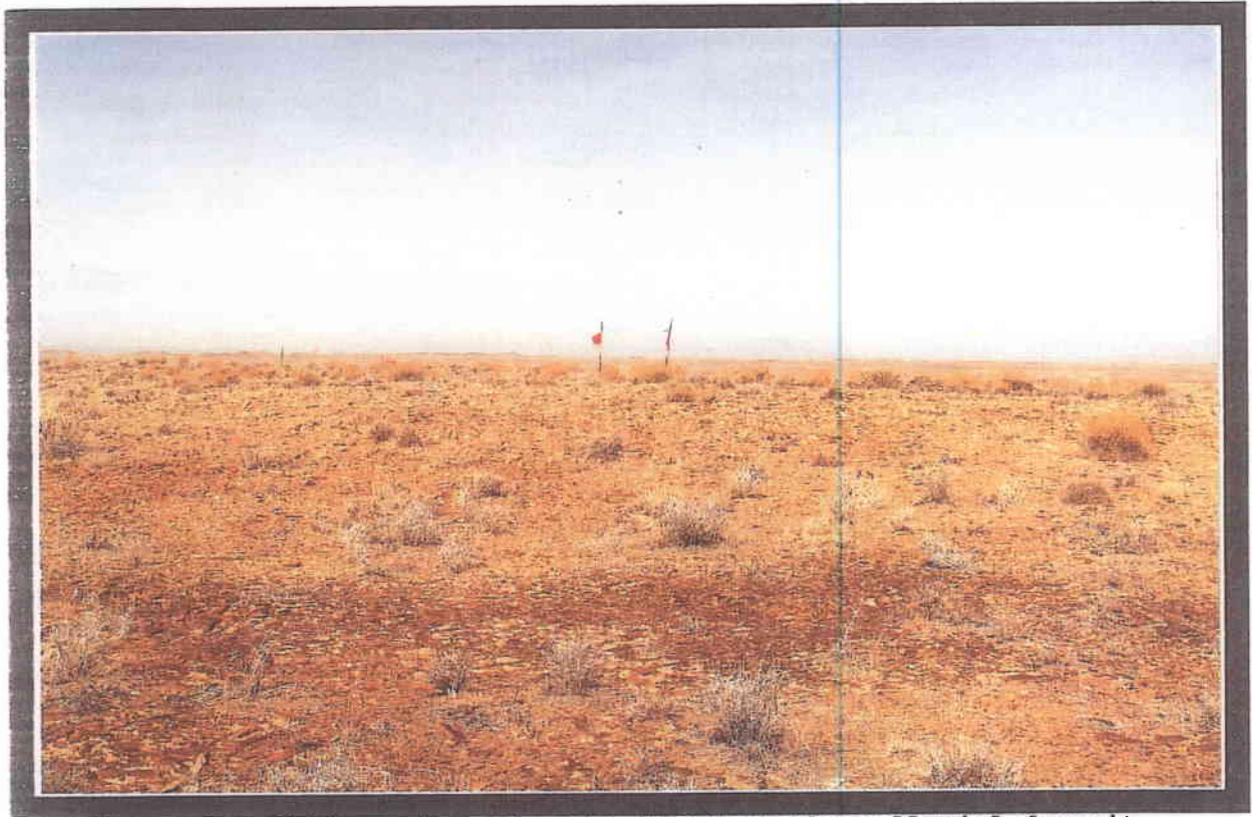


Figure 3. Oblique view of sandy clay loam the colluvial deposits on and surrounding the proposed Little Canyon Unit (LCU) #6-2H well pad.

#### Field Methods

A total of 10 acres was surveyed around the Little Canyon Unit (LCU) #6-2H well centerstake to allow for relocation of the pad if necessary. The survey was accomplished by walking transects spaced no more than 15 and 20 meters apart. The proposed access and pipeline linear corridors surveyed are each 1200 feet (365.9 m) long and 100 feet (30.4 m) wide, 2.75 acres. Thus, 5.5 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 located 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. The entire surface area of ridge tops were covered. All exposures of sandstone cliff faces, alcoves or rockshelter, 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 is 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 using UTM coordinates.

When sites are found an Intermountain Antiquities Computer System (IMACS) form is 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 are mapped onto a 1:10 cm K&E grid paper using a Brunton compass, UTM coordinates, and pacing off distances from a mapping station (datum). 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/or 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 GARMIN Global Positioning System (GPS III Plus or E-Trex Legend). Universal Transverse Mercator (UTM) grid data is recorded in an obvious way (ie. UTM Zone 12; NAD 83; centroid coordinate: 06/15/927 mE 44/17/443 mN), along with its Estimated Position Error (EPE) and Dilution of Precision (DOP). Site elevations are taken along with each UTM coordinate. Using the GPS data, the site location was then placed on a USGS 7.5' quadrangle map.

### Results

A total of 15.5 acres (10 block, 5.5 linear) were surveyed for cultural resources within and around the Dominion Exploration and Production, Inc. proposed Little Canyon Unit (LCU) #6-2H well and along its access and flowline. No cultural resources (sites, isolates) were located during the survey.

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) 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 gas field area.

### Recommendations

A total of 15.5 acres (10 block, 5.5 linear) were surveyed for cultural resources within and around the Dominion Exploration and Production, Inc. proposed Little Canyon Unit #6-2H well and along

its access and flowline. No cultural resources (sites, isolates) were recorded during the survey.

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) 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 gas field area.

No cultural resources (historic properties, isolates) were recorded during the survey for the proposed Little Canyon Unit #6-2H well, its access and pipeline. The possibility of buried and/or intact cultural materials on the proposed well pad or along its access and pipeline is low. Therefore, no additional archaeological work is necessary and clearance is recommended for the construction of the Little Canyon Unit #6-2H well pad, its access and flowline.

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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

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**PROJECT:** Dominion Well LCU #4-2H (same location as well LCU #3-2H & LCU #6-2H)

**LOCATION:** Thirteen miles south of Ouray, Utah. Section 2, SE ¼ NW ¼ T11S, R20E, Uintah County, Utah.

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

**DATE:** April 26, 2006 for LCU 3-2H & 6-2H. Revisited on March 8, 2007.

**GEOLOGY/TOPOGRAPHY:** Uinta Formation, lower part, Eocene Age. Location is on a narrow bench top with a surface of angular to sub-angular rock fragments (up to 12") and sand.

**PALEONTOLOGY SURVEY:** YES [ ] NO Survey [ ] PARTIAL Survey [ X ]

**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,  
Ute Tribe Access Permits – 09/30/06 & 03/31/07. Utah Professional Geologist License – 5223011-2250.*

**XTO ENERGY, INC.**

**LOCATION LAYOUT FOR**

LCU #3-2H, #4-2H & #6-2H

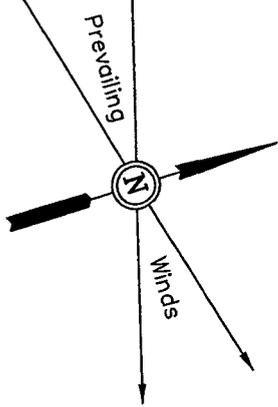
SECTION 2, T11S, R20E, S.L.B.&M.

SE 1/4 NW 1/4

Approx. Toe of Fill Slope

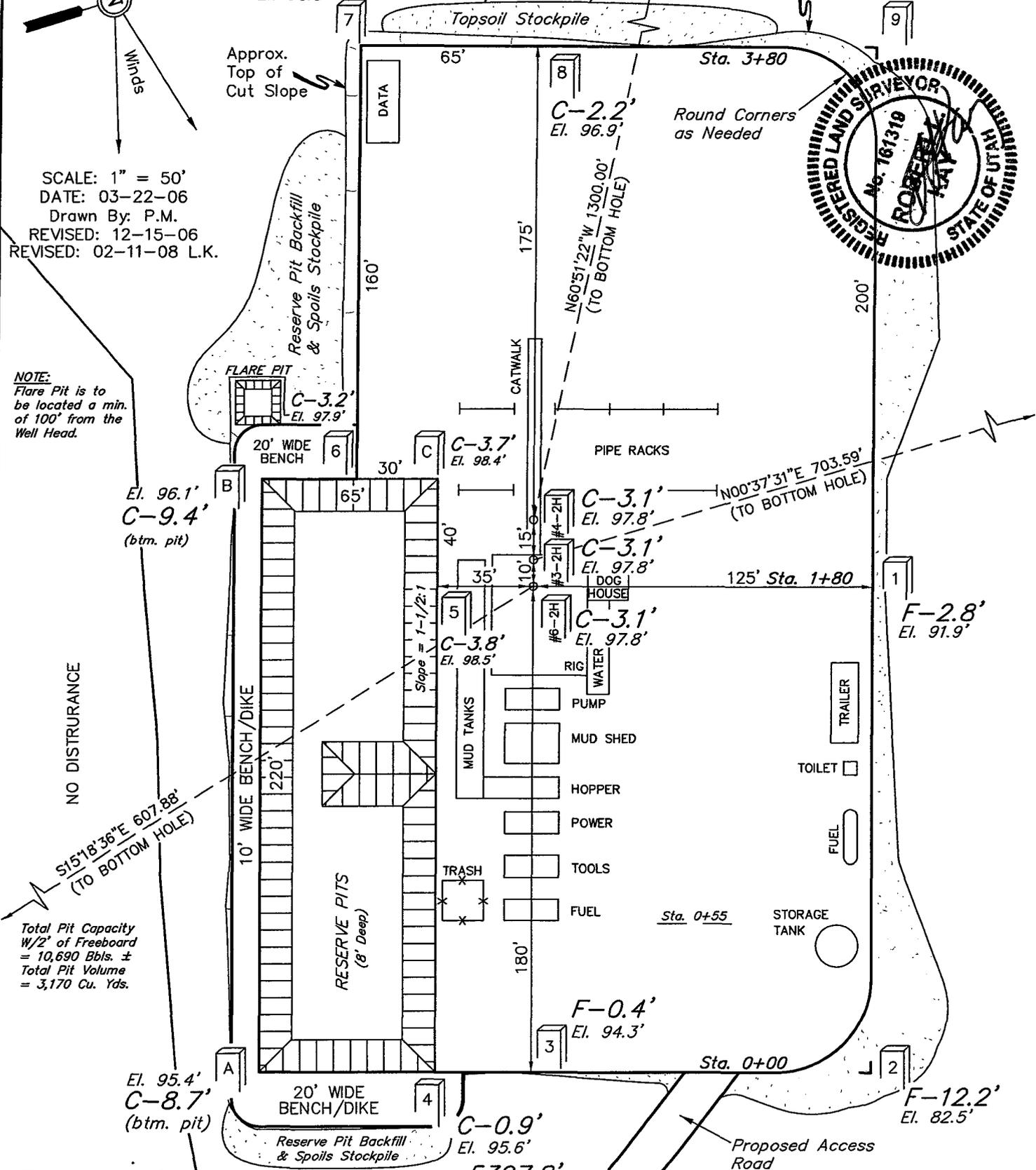
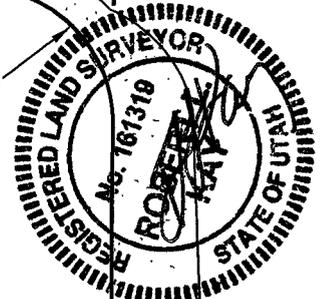
F-6.9' El. 87.8'

C-3.8' El. 98.5'



SCALE: 1" = 50'  
DATE: 03-22-06  
Drawn By: P.M.  
REVISED: 12-15-06  
REVISED: 02-11-08 L.K.

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



NO DISTURANCE

Total Pit Capacity  
W/2' of Freeboard  
= 10,690 Bbls. ±  
Total Pit Volume  
= 3,170 Cu. Yds.

El. 95.4'  
C-8.7' (btm. pit)

C-0.9' El. 95.6'

F-12.2' El. 82.5'

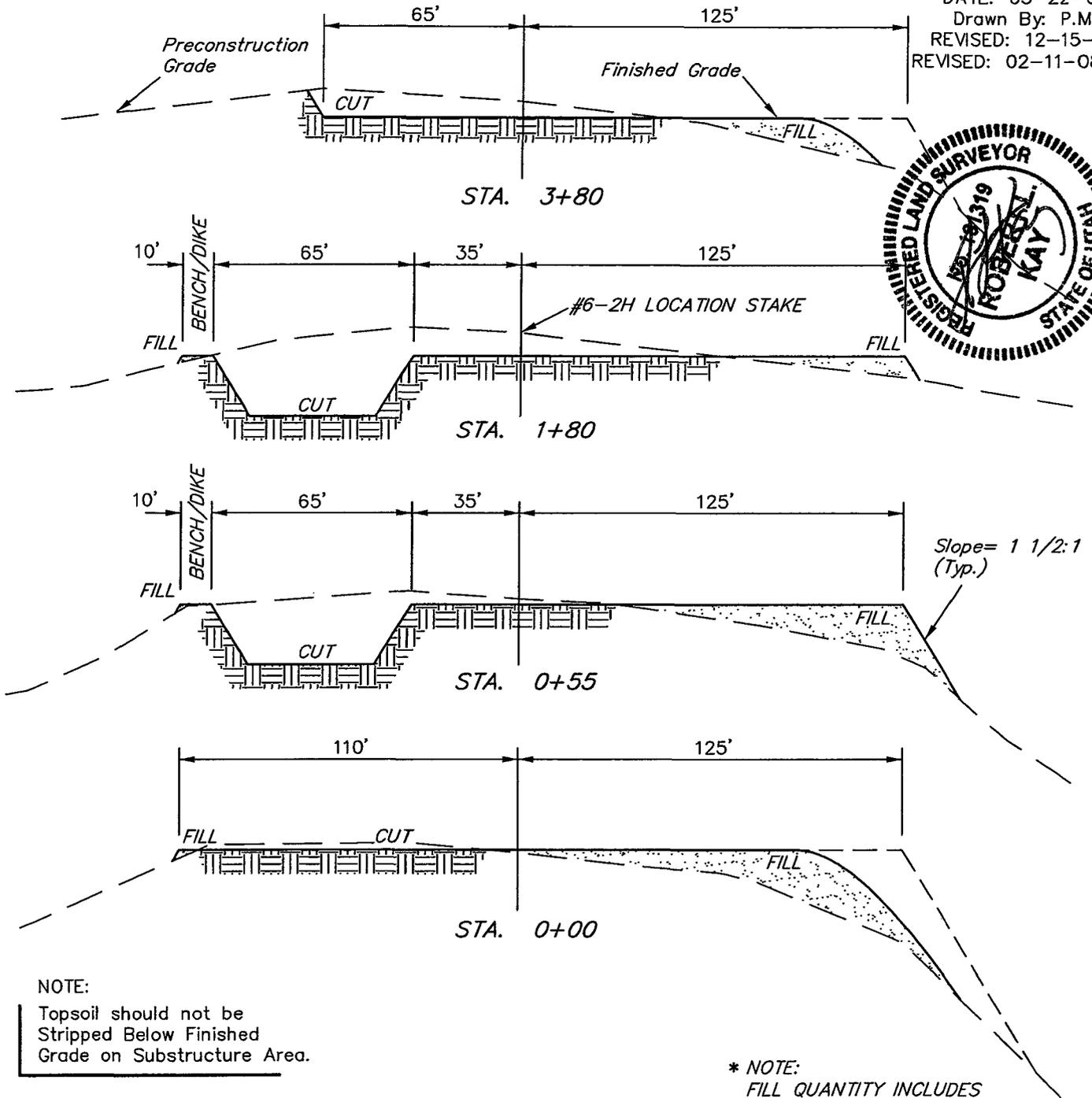
Elev. Ungraded Ground at #6-2H Location Stake = 5397.8'  
Elev. Graded Ground at #6-2H Location Stake = 5394.7'

**UINTAH ENGINEERING & LAND SURVEYING**  
85 So. 200 East \* Vernal, Utah 84078 \* (801) 789-1017

**XTO ENERGY, INC.**  
**TYPICAL CROSS SECTIONS FOR**  
 LCU #3-2H, #4-2H & #6-2H  
 SECTION 2, T11S, R20E, S.L.B.&M.  
 SE 1/4 NW 1/4

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

DATE: 03-22-06  
 Drawn By: P.M.  
 REVISED: 12-15-06  
 REVISED: 02-11-08 L.K.



**NOTE:**

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

**\* NOTE:**

FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE YARDAGES**

<b>CUT</b>	
(6") Topsoil Stripping	= 1,800 Cu. Yds.
Remaining Location	= 6,010 Cu. Yds.
<b>TOTAL CUT</b>	<b>= 7,810 CU.YDS.</b>
<b>FILL</b>	<b>= 4,420 CU.YDS.</b>

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

**UINTAH ENGINEERING & LAND SURVEYING**  
 85 So. 200 East \* Vernal, Utah 84078 \* (801) 789-1017

**XTO ENERGY, INC.**  
**LCU #3-2H, #4-2H & #6-2H**  
 LOCATED IN UINTAH COUNTY, UTAH  
 SECTION 2, T11S, R20E, S.L.B.&M.

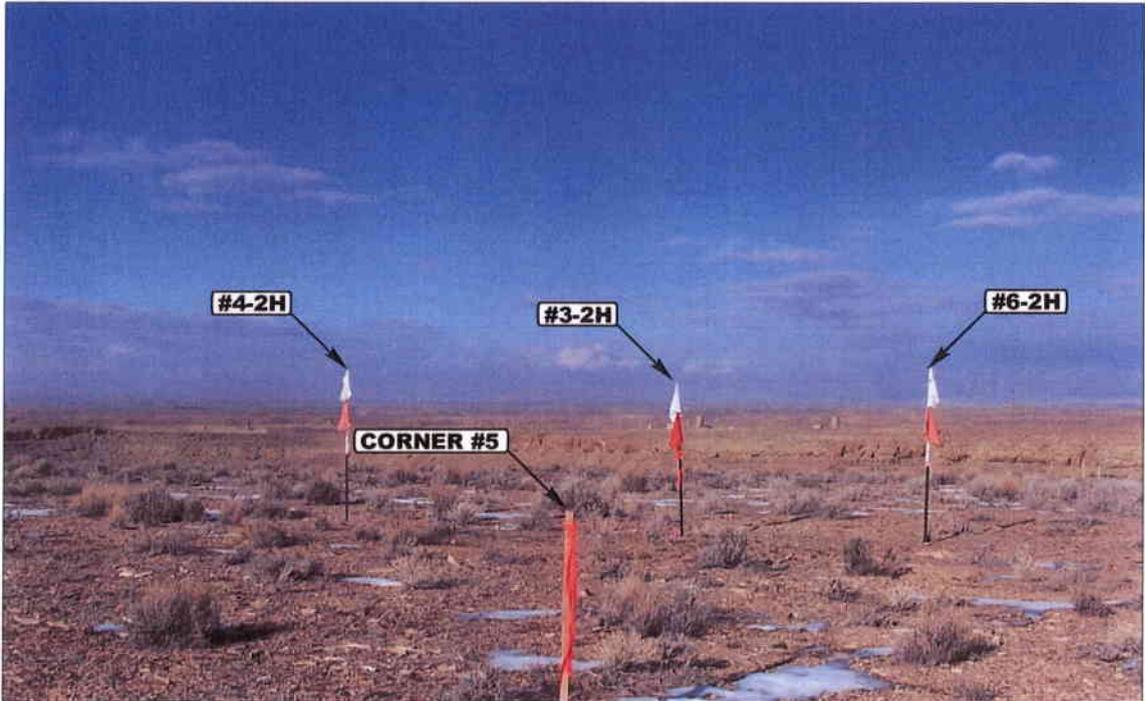


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKES

CAMERA ANGLE: NORTHEASTERLY

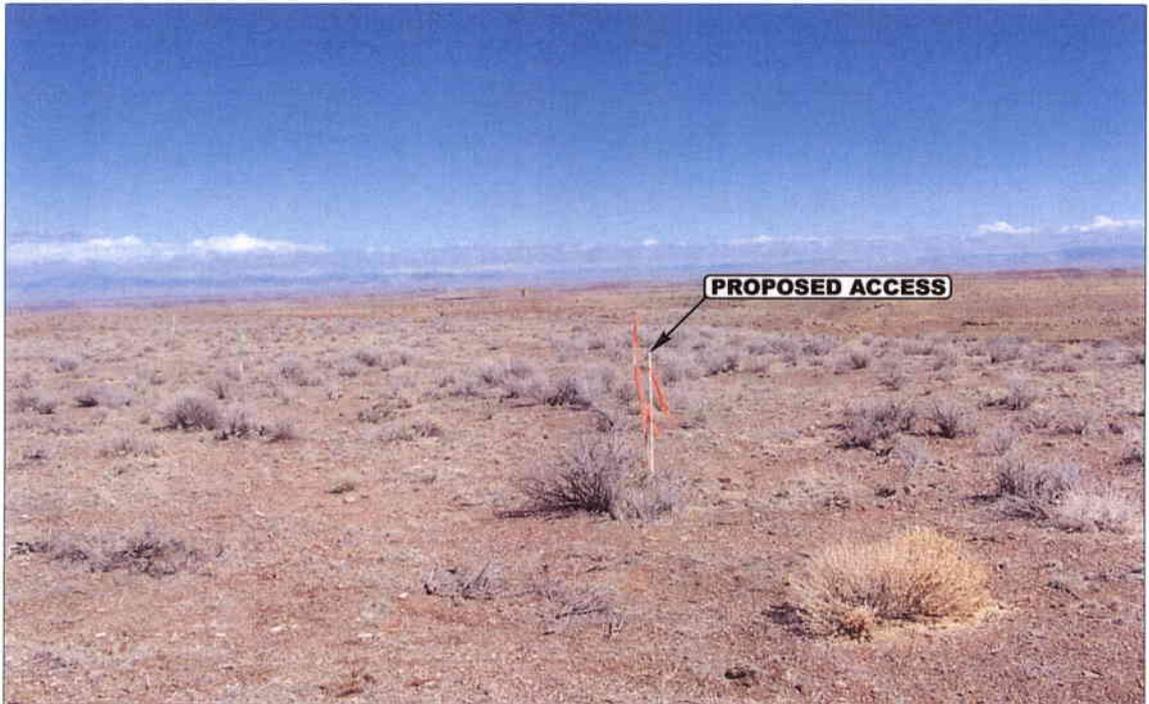


PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

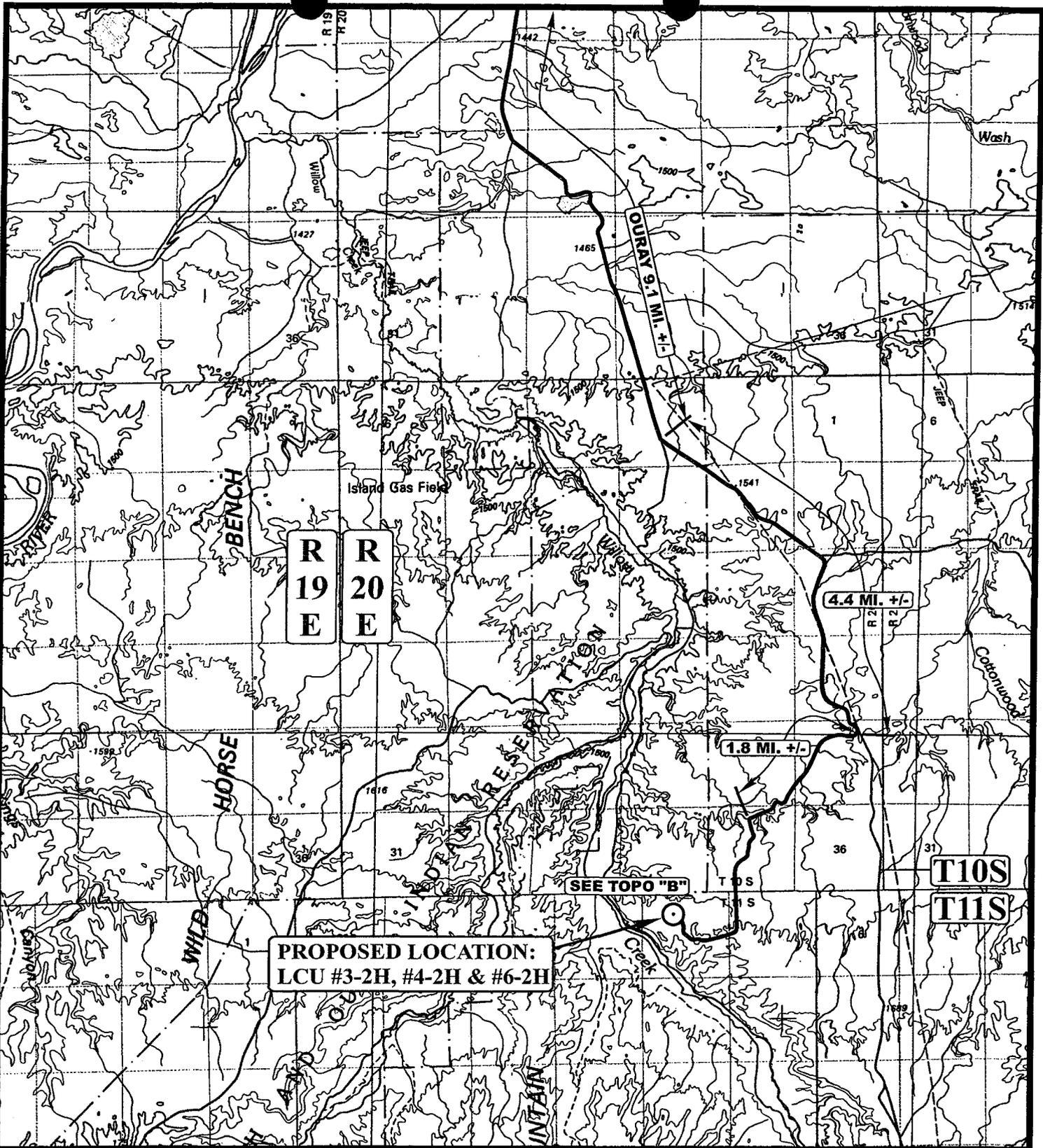
CAMERA ANGLE: NORTHERLY



- Since 1964 -

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

<b>LOCATION PHOTOS</b>	<b>03</b>	<b>27</b>	<b>06</b>	<b>PHOTO</b>
	MONTH	DAY	YEAR	
TAKEN BY: B.B.	DRAWN BY: B.C.	REV: 02-11-08 L.K.		



**LEGEND:**

⊙ PROPOSED LOCATION



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



**XTO ENERGY, INC.**

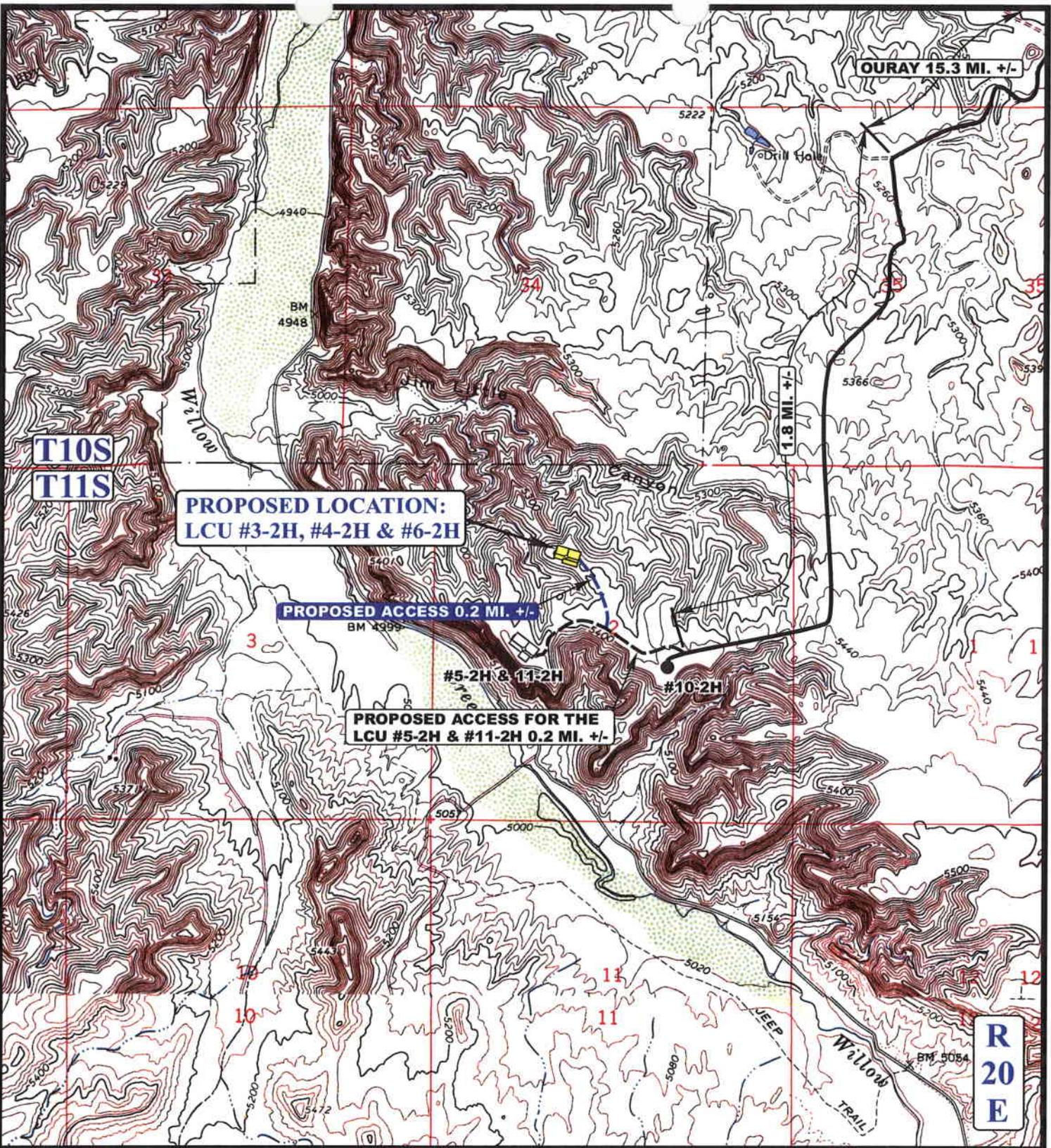
LCU #3-2H, #4-2H & #6-2H  
 SECTION 2, T11S, R20E, S.L.B.&M.  
 SE 1/4 NW 1/4

TOPOGRAPHIC  
 MAP

03	27	06
MONTH	DAY	YEAR

SCALE: 1:100,000 DRAWN BY: B.C. REV: 02-11-08 L.K.





**LEGEND:**

- EXISTING ROAD
- PROPOSED ACCESS ROAD



**XTO ENERGY, INC.**

LCU #3-2H, #4-2H & #6-2H  
 SECTION 2, T11S, R20E, S.L.B.&M.  
 SE 1/4 NW 1/4



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

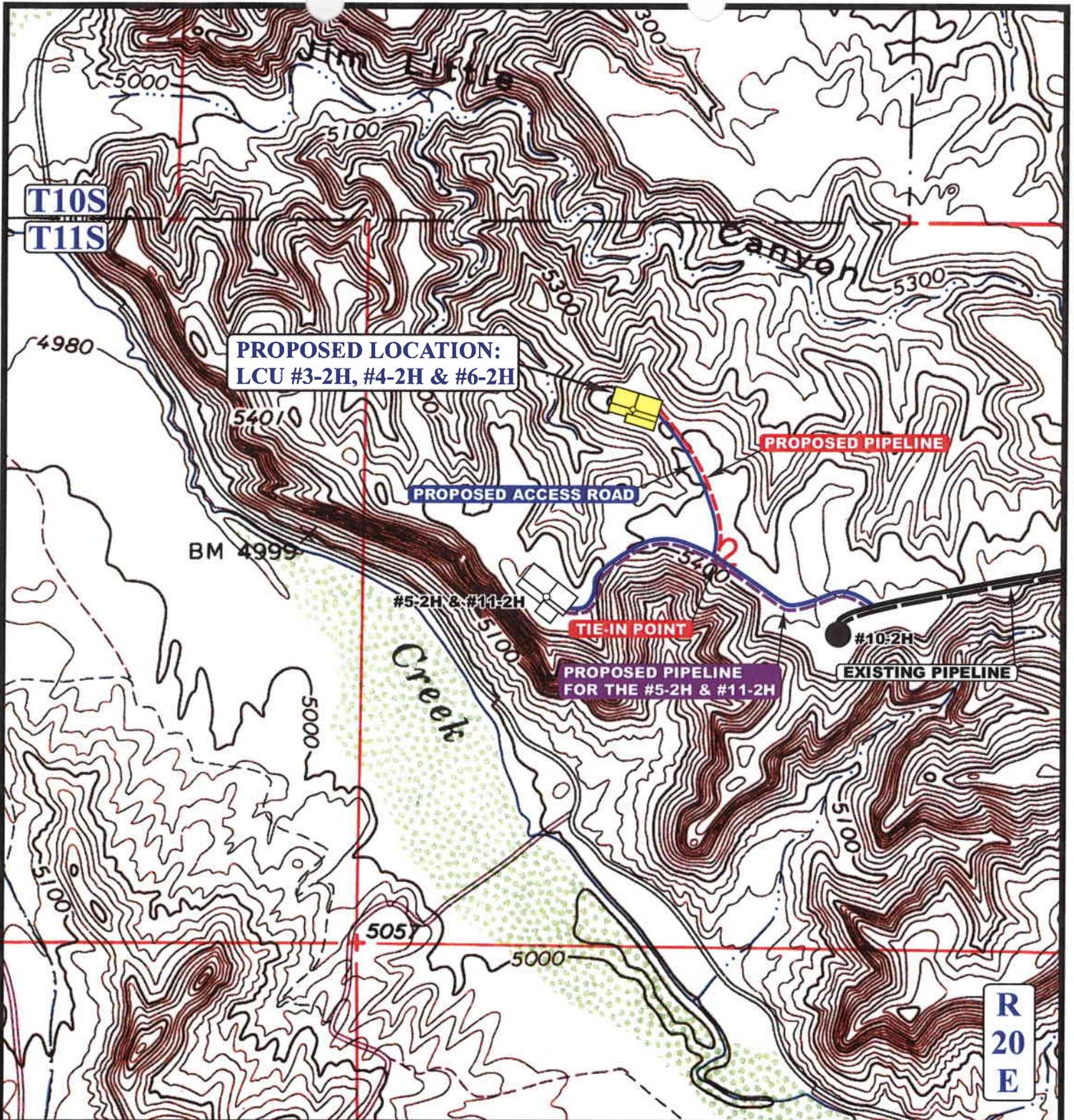
**TOPOGRAPHIC  
 MAP**

<b>03</b>	<b>27</b>	<b>06</b>
MONTH	DAY	YEAR



SCALE: 1" = 2000' DRAWN BY: B.C. REV: 02-11-08 L.K.





**APPROXIMATE TOTAL PIPELINE DISTANCE = 1,157' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- - - - - PROPOSED PIPELINE
- - - - - PROPOSED PIPELINE (SERVICING OTHER WELLS)



**XTO ENERGY, INC.**

**LCU #3-2H, #4-2H & #6-2H  
SECTION 2, T11S, R20E, S.L.B.&M.  
SE 1/4 NW 1/4**

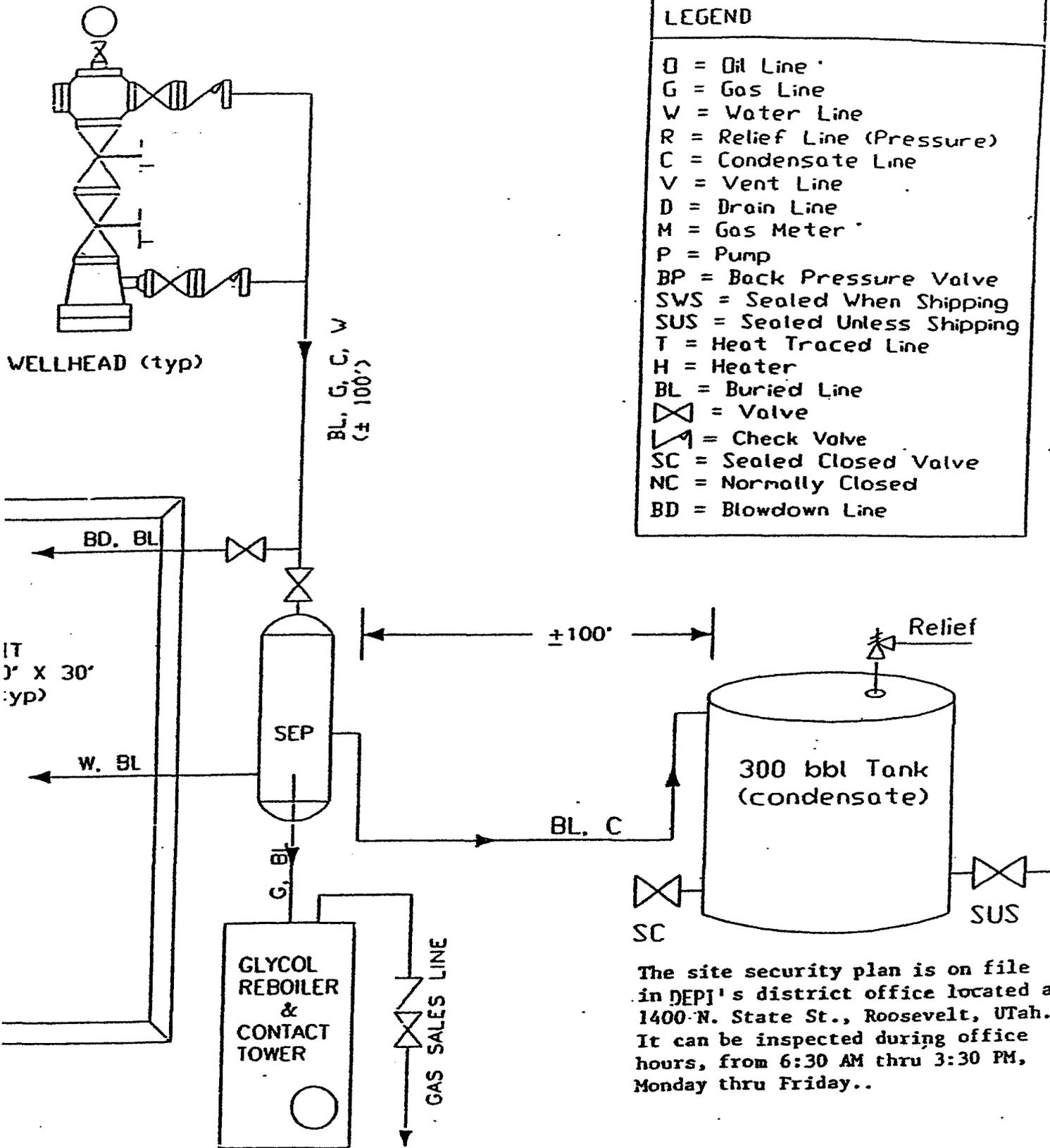


**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC MAP** 03 27 06  
MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: B.C. REV: 02-11-08 L.K.





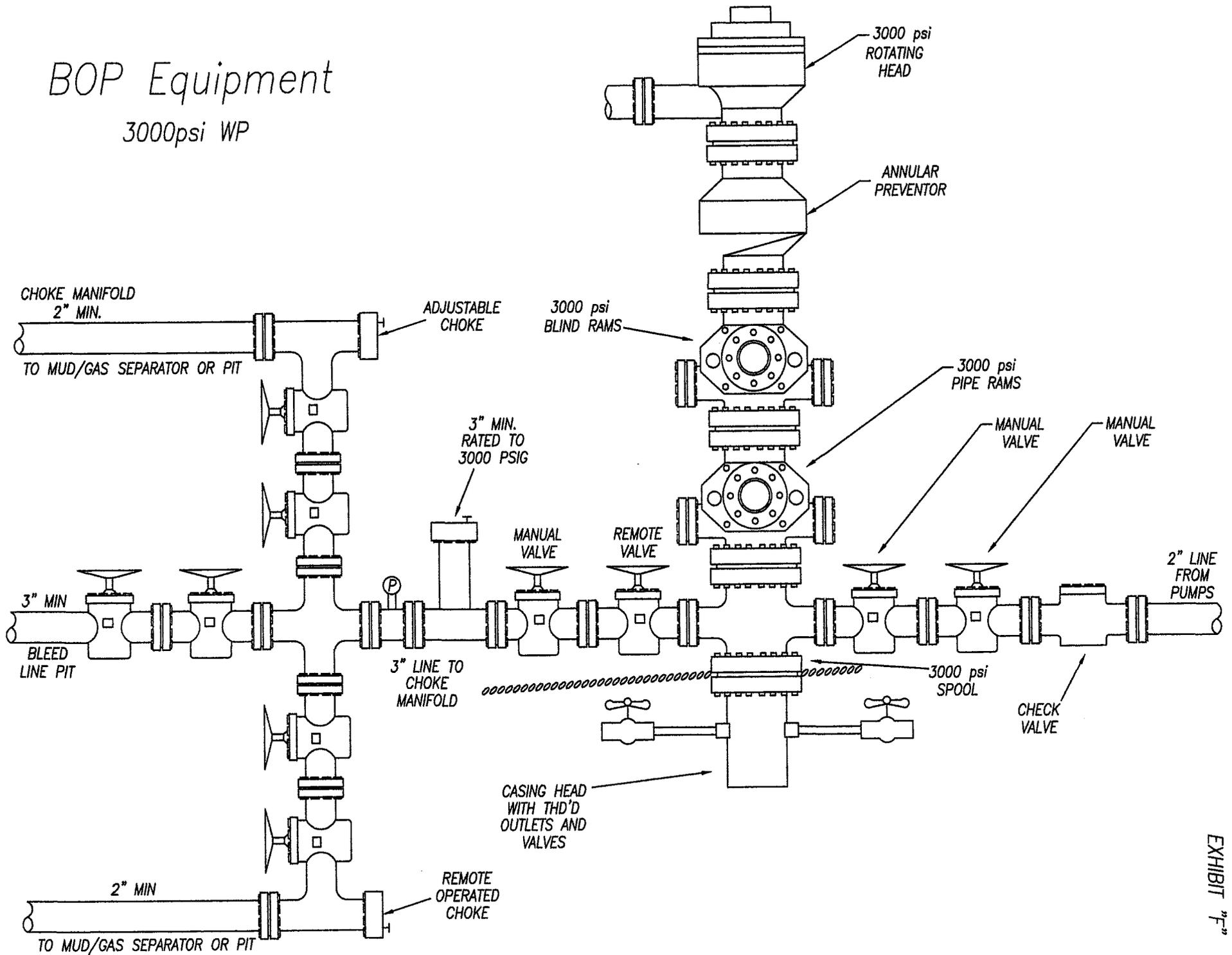
**LEGEND**

- 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 DEPJ'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..

# BOP Equipment

3000psi WP



**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 12/24/2007

API NO. ASSIGNED: 43-047-39888

WELL NAME: LCU 4-2H  
 OPERATOR: XTO ENERGY INC ( N2615 )  
 CONTACT: DON HAMILTON

PHONE NUMBER: 435-722-4521

PROPOSED LOCATION:  
 SENW 02 110S 200E  
 SURFACE: 1357 FNL 1905 FWL  
 BOTTOM: 0725 FNL 0759 FWL  
 COUNTY: UINTAH  
 LATITUDE: 39.89293 LONGITUDE: -109.6484  
 UTM SURF EASTINGS: 615561 NORTHINGS: 4416538  
 FIELD NAME: HILL CREEK ( 617 )

INSPECT LOCATN BY: / /		
<b>Tech Review</b>	<b>Initials</b>	<b>Date</b>
Engineering	DKD	6/4/08
Geology		
Surface		

LEASE TYPE: 3 - State  
 LEASE NUMBER: ML-48771  
 SURFACE OWNER: 3 - State

PROPOSED FORMATION: WSMVD  
 COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

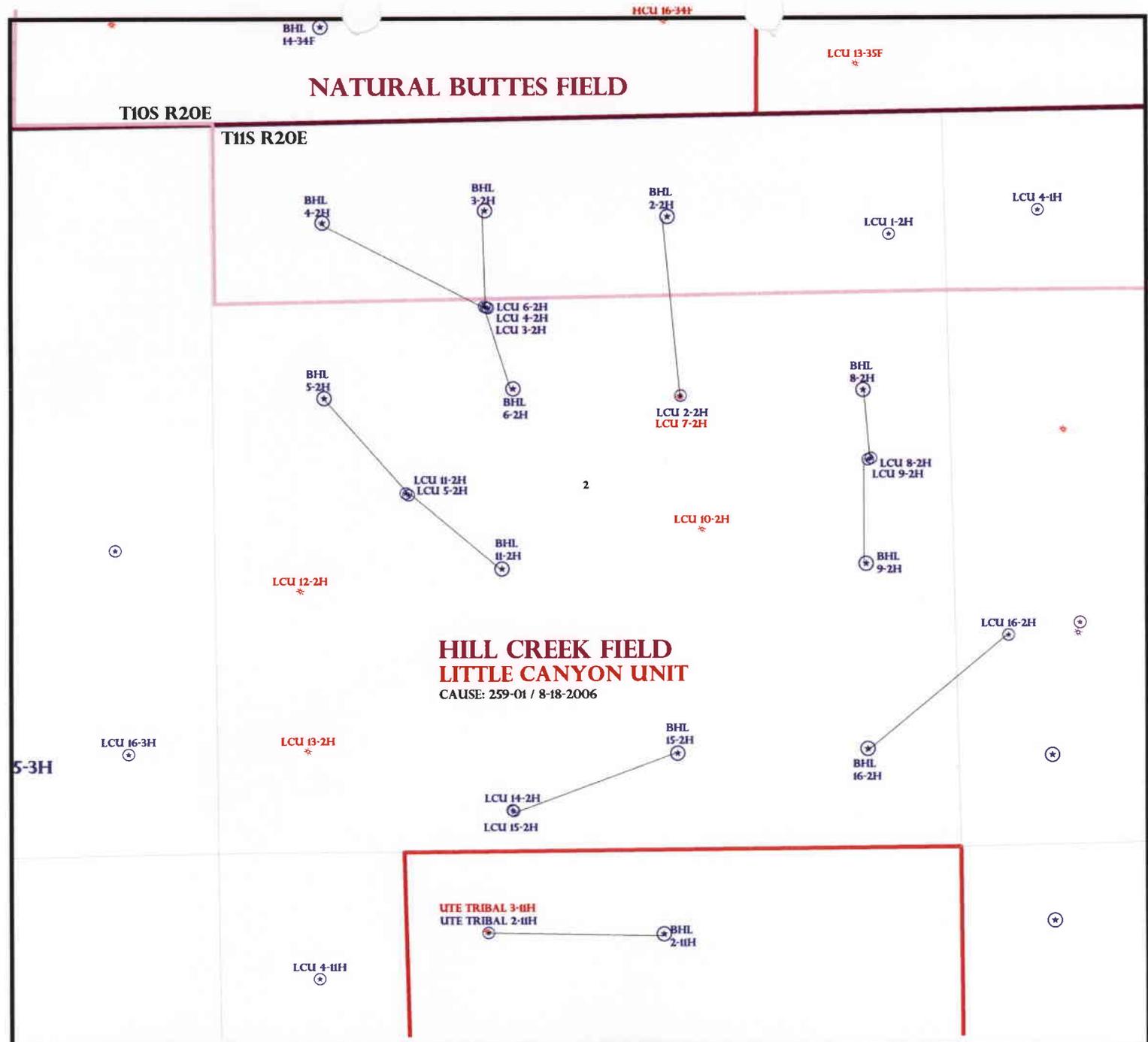
Plat  
 Bond: Fed[] Ind[] Sta[] Fee[]  
 (No. 104312762 )  
 Potash (Y/N)  
 Oil Shale 190-5 (B) or 190-3 or 190-13  
 Water Permit  
 (No. 43-10447 )  
 RDCC Review (Y/N)  
 (Date: \_\_\_\_\_ )  
 Fee Surf Agreement (Y/N)  
 Intent to Commingle (Y/N)

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: 400' fr ul. dr. & unconn. tract  
 R649-3-11. Directional Drill

COMMENTS: Needs Permit (Recd 4-5-08)

STIPULATIONS: 1- Cement St.p #3 (5 1/2" production, 1850' md)  
2- Statement of Basis



**HILL CREEK FIELD  
LITTLE CANYON UNIT**  
CAUSE: 259-01 / 8-18-2006

OPERATOR: XTO ENERGY INC (N2615)  
 SEC: 2 T.11S R. 20E  
 FIELD: HILL CREEK (617)  
 COUNTY: UINTAH  
 CAUSE: 259-01 / 8-18-2006

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

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

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



OIL, GAS & MINING



PREPARED BY: DIANA MASON  
 DATE: 03-JANUARY-2008

# Application for Permit to Drill

## Statement of Basis

4/10/2008

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Ownr	CBM
735	43-047-39888-00-00		GW	S	No
<b>Operator</b>	XTO ENERGY INC	<b>Surface Owner-APD</b>			
<b>Well Name</b>	LCU 4-2H	<b>Unit</b>	LITTLE CANYON		
<b>Field</b>	HILL CREEK	<b>Type of Work</b>			
<b>Location</b>	SENW 2 11S 20E S 1357 FNL 1905 FWL GPS Coord (UTM) 615561E 4416538N				

### Geologic Statement of Basis

XTO proposes to set 500 feet of surface casing cemented to the surface. An intermediate string is to be set at 4,460 feet. This will add additional isolation of the base of the moderately saline ground water. The base of the moderately saline water is estimated at 4,400 feet. A search of Division of Water Rights records shows 2 water wells within a 10,000 foot radius of the center of section 2. One well is 2,500 feet deep no depth is listed for the other well. Both wells are over a mile from the proposed location. The wells are owned by the BLM. Use is listed as stock/wildlife watering. The surface formation at this location is the Uinta Formation. The Uinta Formation is made up of discontinuous sands interbedded with shales and are not expected to produce prolific aquifers. The proposed surface casing should adequately protect any near surface aquifers.

Brad Hill  
APD Evaluator

4/9/2008  
Date / Time

### Surface Statement of Basis

The general area is approximately 14 miles southwest of Ouray, Utah and is known as Little Canyon area. Drainages are into Willow Creek approximately ½ miles to the west. Willow Creek drains northerly approximately 10 miles into the Green River. All sub-drainages in the immediate area are dry or ephemeral. The area consists of several large open flats with somewhat frequent, steep side-draws. No seeps, springs or streams are known to exist. An occasional pond constructed to furnish water for livestock exists. The Uintah and Ouray Indian Reservation is to the west.

The LCU 4-2H is a directional well planned on the same pad as the LCU 6-2H and 3-2H, which are also directional wells yet to be drilled. The location is planned near the west end of a ridge, which runs in an east-west direction toward Willow Creek. The ridge slopes abruptly to the north and south. A cut will occur on the south side of the location and be deposited as fill on the north side. Approximately 0.3 miles of road will be constructed leading from the road to the planned LCU 5 & 11-2H wells. The ridge has poor native desert shrub-grass vegetation. Surface run-off is light.

Present surface distance between the 3 proposed wells is 10 and 15 feet. The locations will be re-staked to reflect 20 feet between the well heads. This will provide more room for pump jacks and well heads. New survey plats will be submitted to reflect these changes.

Both the surface and minerals are owned by SITLA. Mr. Jim Davis represented SITLA at the pre-site. Mr. Davis had no concerns regarding the proposed location. The site appears to be a suitable location for constructing a pad, drilling and operating a well and the only site in the immediate area

The reserve pit will be 65' by 220' and eight feet deep. The pit is longer than normal to serve the three wells currently planned from the location. It is located within a cut on the south east side of the location. With the location situated above the canyon breaks which run into the Willow Creek drainage, a pit liner is required. A 16 mil liner with a felt sub-liner is proposed by the operator..

Ben Williams representing the UDWR stated the area is classified as yearlong critical habitat for antelope but

# Application for Permit to Drill

## Statement of Basis

4/10/2008

Utah Division of Oil, Gas and Mining

Page 2

water not forage is the factor limiting the growth of the herd. It is also classified as limited value yearlong habitat for deer and elk. He did not recommend any restrictions for any of these species. He furnished Jim Davis of SITLA and Ken Secrest of XTO copies of his evaluation and a recommended deed mix to be used when the site is re-vegetated.

Floyd Bartlett  
Onsite Evaluator

4/3/2008  
Date / Time

### 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.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** XTO ENERGY INC  
**Well Name** LCU 4-2H  
**API Number** 43-047-39888-0      **APD No** 735      **Field/Unit** HILL CREEK  
**Location:** 1/4,1/4 SENW      **Sec** 2      **Tw** 11S      **Rng** 20E      1357 FNL 1905 FWL  
**GPS Coord (UTM)** 615556      4416539      **Surface Owner**

### Participants

Floyd Bartlett (DOGM), Jim Davis (SITLA), Ken Secrist, and Zander McIntire (XTO Energy, INC.), Ben Williams (UDWR), Brandon Bowthorpe (U.E.L.S.), Billy McClure (LaRose Construction), Randy Jackson (Jackson Construction)

### Regional/Local Setting & Topography

The general area is approximately 14 miles southwest of Ouray, Utah and is known as Little Canyon area. Drainages are into Willow Creek approximately 1/2 miles to the west. Willow Creek drains northerly approximately 10 miles into the Green River. All sub-drainages in the immediate area are dry or ephemeral. The area consists of several large open flats with somewhat frequent, steep side-draws. No seeps, springs or streams are known to exist. An occasional pond constructed to furnish water for livestock exists. The Uintah and Ouray Indian Reservation is to the west.

The LCU 4-2H is a directional well planned on the same pad as the LCU 6-2H and 3-2H, which are also directional wells yet to be drilled. The location is planned near the west end of a ridge, which runs in an east-west direction toward Willow Creek. The ridge slopes abruptly to the north and south. Excavation will occur from the south side of the location and be deposited as fill on the north side. Approximately 0.3 miles of road will be constructed leading from the road to the planned LCU 5 & 11-2H wells. The ridge has poor native desert shrub-grass vegetation. Surface run-off is light.

Present surface distance between the 3 proposed wells is 10 and 15 feet. The locations will be re-staked to reflect 20 feet between the well heads. This will provide more room for pump jacks and well heads. New survey plats will be submitted to reflect these changes.

Both the surface and minerals are owned by SITLA. Mr. Jim Davis represented SITLA at the pre-site. Mr. Davis had no concerns regarding the proposed location. The site appears to be a suitable location for constructing a pad, drilling and operating a well and the only site in the immediate area

### Surface Use Plan

#### **Current Surface Use**

Grazing  
Recreational  
Wildlife Habitat

#### **New Road**

<b>Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0.3	<b>Width</b> 235 <b>Length</b> 355	Onsite	UNTA

**Ancillary Facilities** N

### Waste Management Plan Adequate?

### Environmental Parameters

**Affected Floodplains and/or Wetland** N

#### **Flora / Fauna**

Poorly vegetated with shadscale, globe mallow, halogeton, broom snake-weed, horsebrush, cheatgrass and curly

mesquite.

Pronghorn, coyotes, songbirds, raptors, rodents, rabbits, deer, elk, wild horses.

**Soil Type and Characteristics**

Moderately deep, light brown gravely loam.

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

**Reserve Pit**

<b>Site-Specific Factors</b>		<b>Site Ranking</b>
<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	20
<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
<b>Final Score</b>		35
		1 <b>Sensitivity Level</b>

**Characteristics / Requirements**

The reserve pit will be 65' by 220' and eight feet deep. The pit is longer than normal to serve the two wells currently planned from the location. It is located within a cut on the south east side of the location.

With the location situated above the canyon breaks which run into the Willow Creek drainage, a pit liner is required. A 16 mil liner with a felt sub-liner is proposed by the operator. Sensitivity level I.

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

**Other Observations / Comments**

ATV's were used to reach the location.

Floyd Bartlett  
**Evaluator**

4/3/2008  
**Date / Time**

**BOPE REVIEW**

**XTO LCU 4-2H API 43-047-39888**

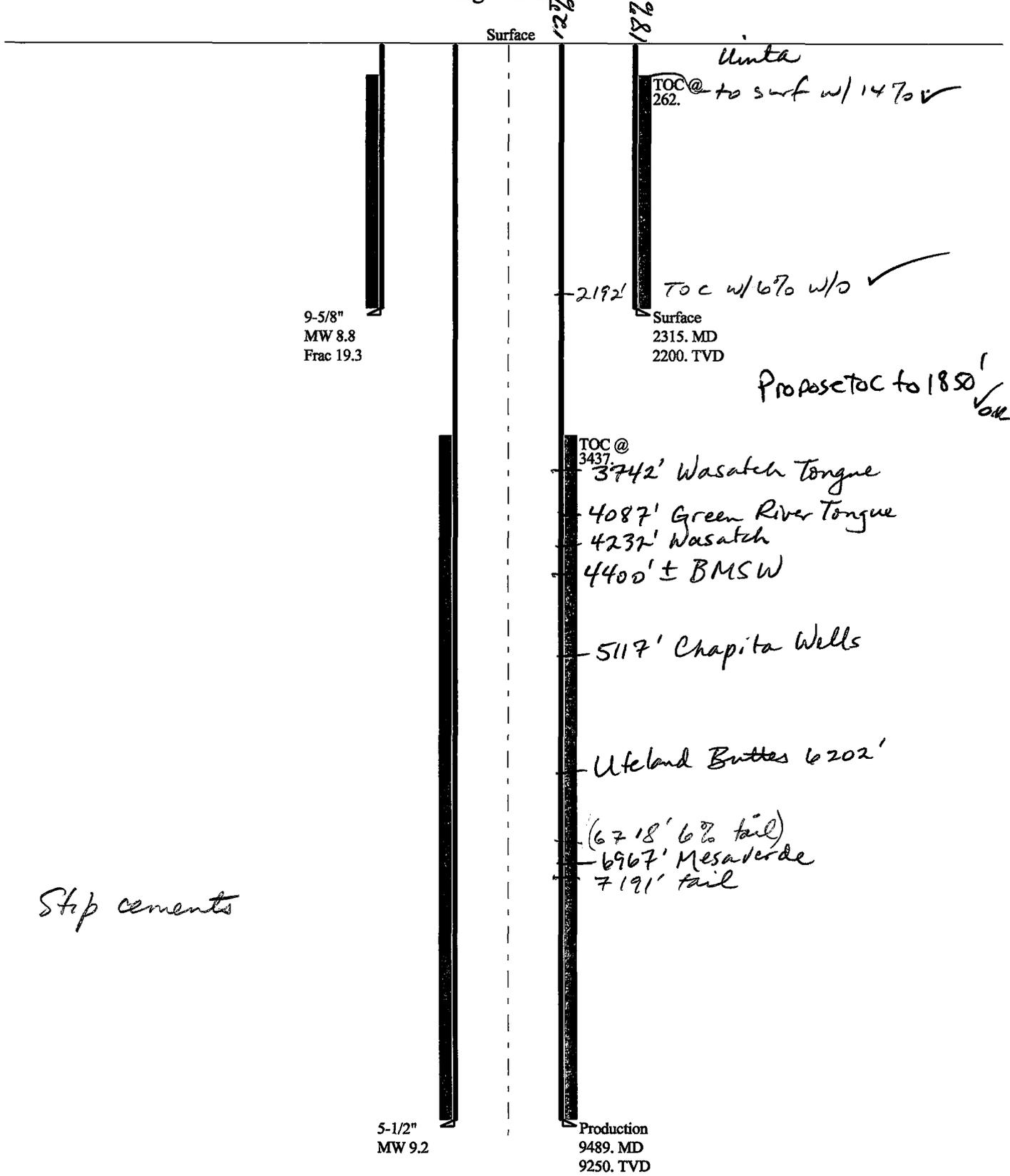
INPUT		XTO LCU 4-2H API 43-047-39888	
Well Name		String 1	String 2
Casing Size (")		9 5/8	5 1/2
Setting Depth (TVD)		2200	9250
Previous Shoe Setting Depth (TVD)		40	2200
Max Mud Weight (ppg)		8.8	9.2
BOPE Proposed (psi)		0	3000
Casing Internal Yield (psi)		3520	7740
Operators Max Anticipated Pressure (psi)		4600	9.6 ppg

Calculations	String 1	9 5/8 "	
Max BHP [psi]	$.052 * \text{Setting Depth} * \text{MW} =$	1007	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	743	NO
MASP (Gas/Mud) [psi]	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	523	NO - O.K.
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	532	← NO Common Depth in area - no expected issues.
Required Casing/BOPE Test Pressure		2200 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		40 psi	*Assumes 1psi/ft frac gradient

Calculations	String 2	5 1/2 "	
Max BHP [psi]	$.052 * \text{Setting Depth} * \text{MW} =$	4425	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	$\text{Max BHP} - (0.12 * \text{Setting Depth}) =$	3315	NO
MASP (Gas/Mud) [psi]	$\text{Max BHP} - (0.22 * \text{Setting Depth}) =$	2390	YES ✓
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	$\text{Max BHP} - .22 * (\text{Setting Depth} - \text{Previous Shoe Depth}) =$	2874	← NO
Required Casing/BOPE Test Pressure		3000 psi	
*Max Pressure Allowed @ Previous Casing Shoe =		2200 psi	*Assumes 1psi/ft frac gradient

2008-04 XTO LCU 4-2H

Casing Schematic



Surface

12 1/2"

18"

Uinta

TOC @ 262. to surf w/ 1470 ✓

9-5/8"  
MW 8.8  
Frac 19.3

2192'

TOC w/ 670 w/o ✓

Surface  
2315. MD  
2200. TVD

Propose TOC to 1850' ✓

TOC @  
3437'

3742' Wasatch Tongue

4087' Green River Tongue

4237' Wasatch

4400' ± BMSW

5117' Chapita Wells

Ufeland Buttes 6202'

(6718' 6% tail)

6967' Mesaverde

7191' tail

Strip cements

5-1/2"  
MW 9.2

Production  
9489. MD  
9250. TVD

Well name:

**2008-04 XTO LCU 4-2H**Operator: **XTO Energy, Inc.**String type: **Surface**

Project ID:

**43-047-39888**Location: **Uintah Co.****Design parameters:****Collapse**Mud weight: 8.800 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: 2,005 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: 262 ft

**Directional Info - Build & Drop**Kick-off point 300 ft  
Departure at shoe: 629 ft  
Maximum dogleg: 3 °/100ft  
Inclination at shoe: 22.49 °**Re subsequent strings:**Next setting depth: 9,250 ft  
Next mud weight: 9.200 ppg  
Next setting BHP: 4,421 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 (ft <sup>3</sup> )
1	2315	9.625	36.00	J-55	ST&C	2200	2315	8.796	1004.9
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	1006	2020	2.009	2200	3520	1.60	79	394	4.98 J

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

Phone: 810-538-5357

Date: June 2, 2008  
Salt Lake City, Utah**ENGINEERING STIPULATIONS: NONE**

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

Collapse is based on a vertical depth of 2200 ft, a mud weight of 8.8 ppg. The casing is considered to be evacuated for collapse purposes.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

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

Well name:

**2008-04 XTO LCU 4-2H**Operator: **XTO Energy, Inc.**

String type: Production

Project ID:

43-047-39888

Location: Uintah Co.

**Design parameters:****Collapse**Mud weight: 9.200 ppg  
Design is based on evacuated pipe.**Burst**Max anticipated surface  
pressure: 2,386 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 4,421 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: 8,199 ft

**Environment:**H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 195 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 368 ft

Cement top: 3,437 ft

**Directional Info - Build & Drop**Kick-off point 300 ft  
Departure at shoe: 1300 ft  
Maximum dogleg: 3 °/100ft  
Inclination at shoe: 0 °

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 (ft <sup>3</sup> )
1	9489	5.5	17.00	N-80	LT&C	9250	9489	4.767	1238.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4421	6290	1.423	4421	7740	1.75	157	348	2.21 J

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

Phone: 810-538-5357

Date: June 2, 2008  
Salt Lake City, Utah**ENGINEERING STIPULATIONS: NONE**

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

Collapse is based on a vertical depth of 9250 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.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*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)

January 8, 2008

**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)		
43-047-39887	LCU 15-2H Sec 2 T11S R20E 0244 FSL 2060 FWL	BHL Sec 2 T11S R20E 0647 FSL 2020 FEL
43-047-39888	LCU 04-2H Sec 2 T11S R20E 1357 FNL 1905 FWL	BHL Sec 2 T11S R20E 0725 FNL 0759 FWL
43-047-39889	LCU 02-2H Sec 2 T11S R20E 2022 FNL 1954 FEL	BHL Sec 2 T11S R20E 0724 FNL 2024 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

**From:** Ed Bonner  
**To:** Mason, Diana  
**Date:** 2/1/2008 3:01 PM  
**Subject:** Well Clearance

**CC:** Davis, Jim; Garrison, LaVonne; Hill, Brad; Jarvis, Dan

The following wells have been given cultural resources and paleontological resources clearance by the Trust Lands Administration:

EOG Resources, Inc

CWU 1032-32 (API 43 047 50024)  
CWU 952-32 (API 43 047 50025)

XTO Energy, Inc

LCU 15-2H (API 43 047 39887)  
LCU 4-2H (API 43 047 39888)  
LCU 2-2H (API 43 047 39889)  
KC 6-36D (API 43 047 39890)  
KC 7-36D (API 43 047 39891)  
KC 8-36D (API 43 047 39892)  
KC 10-32E (API 43 047 39893)

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



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

June 17, 2008

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

Re: LCU 4-2H Well, 1357' FNL, 1905' FWL, SE NW, Sec. 2, T. 11 South, R. 20 East,  
Bottom Location 725' FNL, 759' FWL, NW NW, Sec. 2, T. 11 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 43-047-39888.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

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



**Operator:** XTO Energy, Inc.  
**Well Name & Number** LCU 4-2H  
**API Number:** 43-047-39888  
**Lease:** ML-48771

**Location:** SE NW                      **Sec. 2**                      **T. 11 South**                      **R. 20 East**  
**Bottom Location:** NW NW                      **Sec. 2**                      **T. 11 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) 942-0871 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.

Page 2

43-047-39888

June 17, 2008

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 Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
7. Cement volume for the 5 1/2" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to 1850' MD as indicated in the submitted drilling plan.

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

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ML-48771**

**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 4-2H**

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

9. API NUMBER:  
**4304739888**

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:  
**Hill Creek**

4. LOCATION OF WELL

FOOTAGES AT SURFACE: **1,357' FNL & 1,905' FWL,**

COUNTY: **Uintah**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SENW 2 11S 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 checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> 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: <b>Relocation of Surface Location</b>
	<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. requests permission to relocate the surface location for the referenced well 14,87' prior to drilling of the previously approved APD. The new location results from an increase in spacing from 15' to 20' between the proposed well and the two additional proposed wells on the same location. Following is the updated location information for the LCU 4-2H:

**Surface Location: 1,352' FNL & 1,891' FWL, SE/4 NW/4, Section 2, T11S, R20E, SLB&M**

*615557x 39.892934  
4414538y -109.648398*

Attached please find an updated Form 3, Exhibit 'A' and Exhibit 'D' to replace those previously approved within the APD package.

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 any uncommitted tracts of the unit boundary.

Approved by the  
Utah Division of  
Oil, Gas and Mining

**ORIGINAL**

Date: 08-07-08

NAME (PLEASE PRINT) Don Hamilton

By: [Signature] TITLE Agent for XTO Energy, Inc.

SIGNATURE Don Hamilton

DATE 8/4/2008

(This space for State use only)

**COPY SENT TO OPERATOR**

Date: 8-11-2008

Initials: KS

**RECEIVED**

**AUG 05 2008**

**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: <b>ML-48771</b>	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 4-2H	
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: 1,352' FNL & 1,891' FWL, SE/4 NW/4,  AT PROPOSED PRODUCING ZONE: 725' FNL & 759' FWL, Lot 4 (NW/4 NW/4),			11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  2 11S 20E S	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE:  13.60 miles south of Ouray, Utah			12. COUNTY: Uintah	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET)  1,352'	16. NUMBER OF ACRES IN LEASE:  638.50	17. NUMBER OF ACRES ASSIGNED TO THIS WELL:  40		
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET)  20'	19. PROPOSED DEPTH:  9,478	20. BOND DESCRIPTION: SITLA 104312-762		
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.):  5,398' ungraded ground	22. APPROXIMATE DATE WORK WILL START:  9/1/2008	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
	14" Cond.	40	
12-1/4"	9-5/8" J-55 ST 36#	2,313	see Drilling Plan
7-7/8"	5-1/2" N-80 LT 17#	9,478	see Drilling Plan
			(9245' TVD)

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

ORIGINAL

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

SIGNATURE Don Hamilton DATE 8/4/2008

(This space for State use only)

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

RECEIVED  
AUG 05 2008  
DIV. OF OIL, GAS & MINING

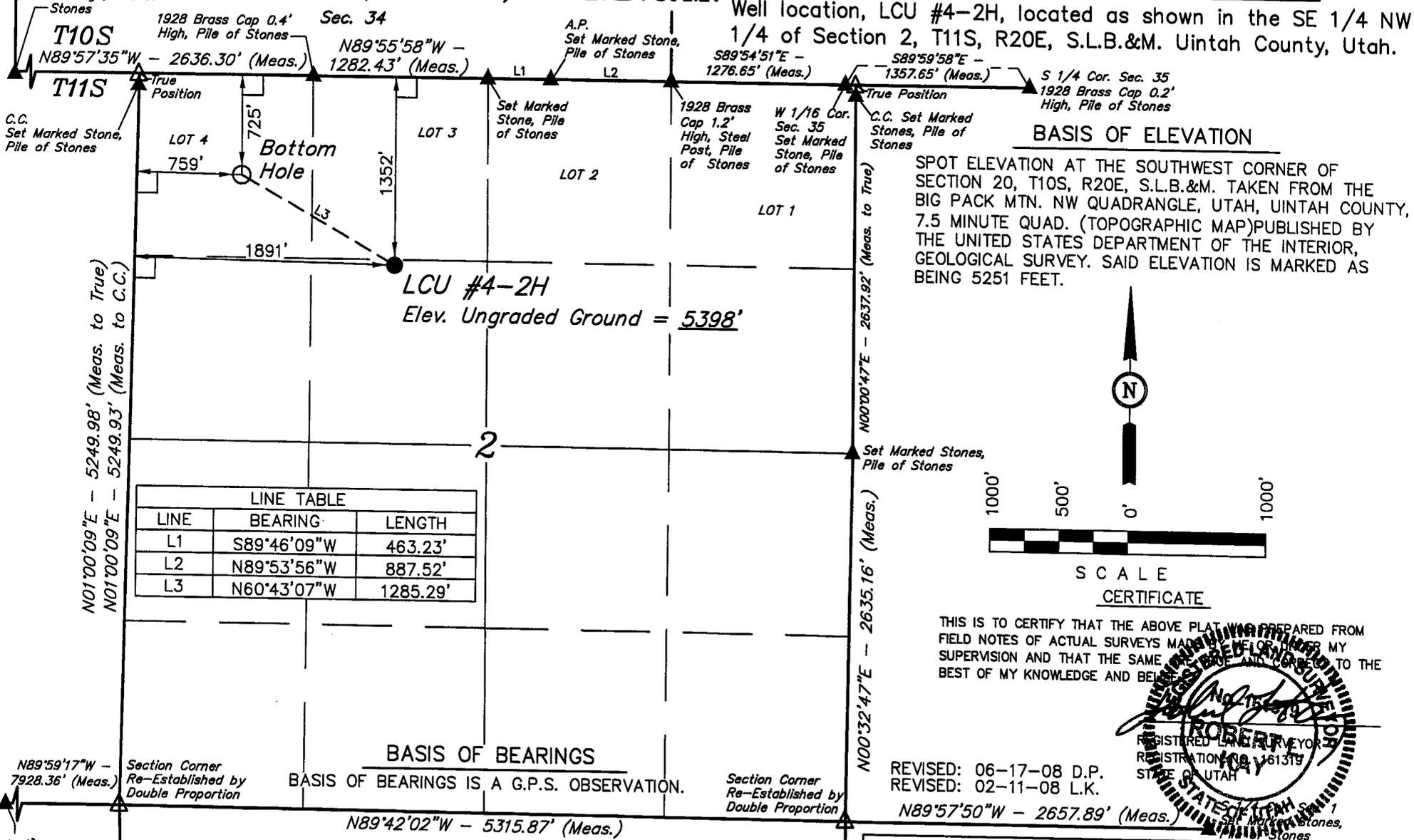
(11/2001) (See Instructions on Reverse Side)

SW Cor. Sec. 34  
1928 Brass Cap  
1.3' High, Pile of  
Stones

# T11S, R20E, S.L.B.&M.

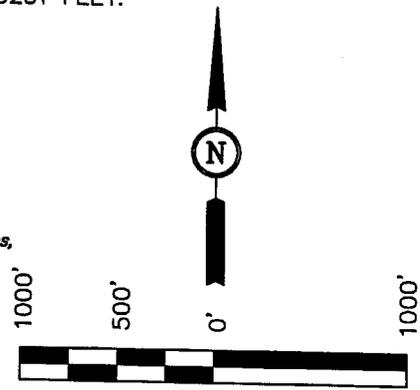
XTO ENERGY, INC.

Well location, LCU #4-2H, located as shown in the SE 1/4 NW 1/4 of Section 2, T11S, R20E, S.L.B.&M. Uintah County, Utah.



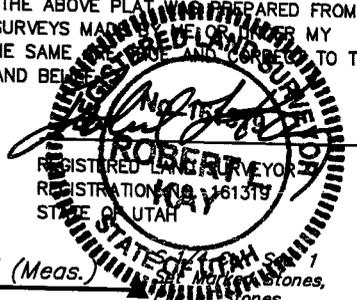
LINE TABLE		
LINE	BEARING	LENGTH
L1	S89°46'09"W	463.23'
L2	N89°53'56"W	887.52'
L3	N60°43'07"W	1285.29'

**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.



SCALE  
CERTIFICATE

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



REVISED: 06-17-08 D.P.  
REVISED: 02-11-08 L.K.

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

**LEGEND:**

- └─┘ = 90° SYMBOL
  - = PROPOSED WELL HEAD.
  - ▲ = SECTION CORNERS LOCATED.
  - △ = SECTION CORNERS RE-ESTABLISHED.
- BY DOUBLE PROPORTION METHOD. (NOT SET)

(NAD 83)  
LATITUDE = 39°53'34.49" (39.892914)  
LONGITUDE = 109°38'57.05" (109.649181)  
(NAD 27)  
LATITUDE = 39°53'34.62" (39.892950)  
LONGITUDE = 109°38'54.56" (109.648489)

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

SCALE 1" = 1000'	DATE SURVEYED: 03-20-06	DATE DRAWN: 3-22-06
PARTY B.B. B.C. P.M.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE XTO ENERGY, INC	

S 1/4 Cor. Sec. 3  
Set Marked Stones,  
Pile of Stones

E 1/4 Cor. Sec. 10  
Set Stone

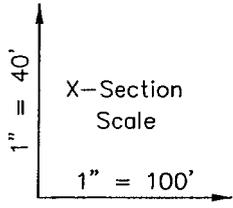
E 1/4 Cor. Sec. 14  
Set Marked Stone,  
Scattered Stones



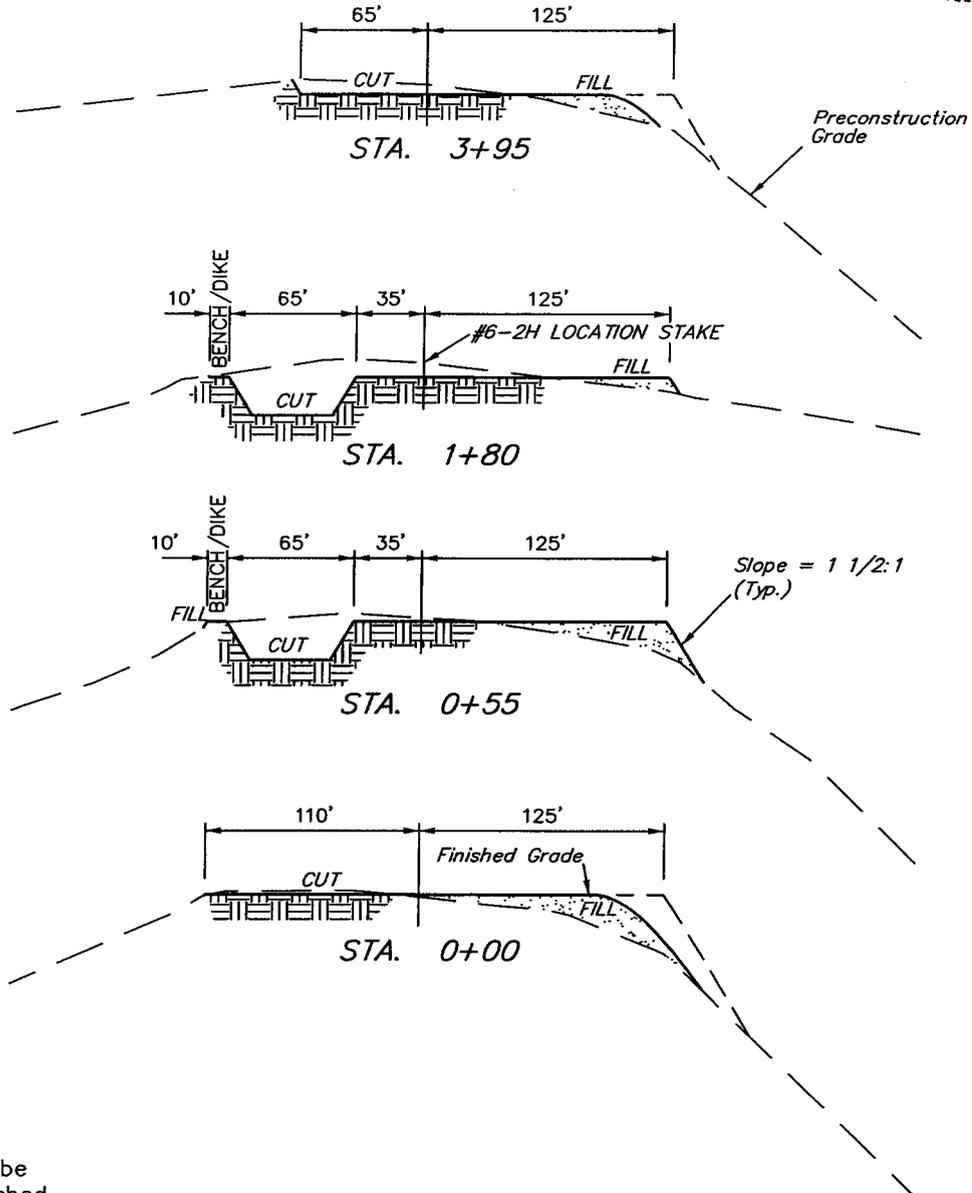
# XTO ENERGY, INC.

## TYPICAL CROSS SECTIONS FOR

LCU #3-2H, #4-2H & #6-2H  
SECTION 2, T11S, R20E, S.L.B.&M.  
SE 1/4 NW 1/4



DATE: 03-22-06  
Drawn By: P.M.  
REVISED: 12-15-06  
REVISED: 02-11-08 L.K.  
REVISED: 06-17-08 D.P.



**NOTE:**

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

**\* NOTE:**

FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE YARDAGES**

<b>CUT</b>		
(6") Topsoil Stripping	=	1,870 Cu. Yds.
Remaining Location	=	6,470 Cu. Yds.
<b>TOTAL CUT</b>	=	<b>8,340 CU.YDS.</b>
<b>FILL</b>	=	<b>4,760 CU.YDS.</b>

EXCESS MATERIAL	=	3,580 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	3,580 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	=	0 Cu. Yds.

**UINTAH ENGINEERING & LAND SURVEYING**  
85 So. 200 East \* Vernal, Utah 84078 \* (801) 789-1017

# XTO ENERGY INC.

LCU 4-2H

APD Data

August 3, 2008

Location: 1352' FNL & 1891' FWL, Sec. 2, T11S, R20E County: Uintah

State: Utah

Bottomhole Location: 725' FNL & 759' FWL, Sec. 2, T11S, R20E

GREATEST PROJECTED TD: 9478' MD/ 9245' TVD  
APPROX GR ELEV: 5398'

OBJECTIVE: Wasatch/Mesaverde  
Est KB ELEV: 5412' (14' AGL)

## 1. MUD PROGRAM:

INTERVAL	0' to 2313'	2313' to 9478'
HOLE SIZE	12.25"	7.875"
MUD TYPE	FW/Spud Mud	KCl Based LSND / Gel Chemical
WEIGHT	8.80 ppg	8.6-9.2 ppg
VISCOSITY	NC	30-60 sec-qt <sup>-1</sup>
WATER LOSS	NC	8-15 cc/30 min

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 ±2313'MD/2200'TVD in a 12.25" hole filled with 8.8 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'-2313'	2313'	36#	J-55	ST&C	2020	3520	394	8.921	8.765	2.57	4.47	4.73

Production Casing: 5.5" casing set at ±9478'MD/9245'TVD in a 7.875" hole filled with 9.20 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'-9478'	9478'	17#	N-80	LT&C	6280	7740	348	4.892	4.767	1.80	2.21	2.16

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 9-5/8" 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 (or equiv.), ST&C casing to be set at ±2313' in 12.25" hole.

### LEAD:

±231 sx of Premium Plus V Blend. (Type V/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 11.0 ppg, 3.82 ft<sup>3</sup>/sk, 22.95 gal wtr/sx.

### TAIL:

350 sx Class G or equivalent cement with bonding additive, LCM, dispersant, & fluid loss mixed at 15.6 ppg, 1.2 cuft/sx

*Total estimated slurry volume for the 9.625" surface casing is 1301.9 ft<sup>3</sup>. Slurry includes 75% excess of calculated open hole annular volume to 2313'.*

B. Production: 5.5", 17#, N-80 (or equiv.), LT&C casing to be set at ±9478' in 7.875" hole.

LEAD:

±314 sx of Premium Plus V Blend. (Type V/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 11.6 ppg, 3.10 ft<sup>3</sup>/sk, 17.71 gal wtr/sx.

TAIL:

400 sx Class G or equivalent cement with poz, bonding additive, LCM, dispersant, & fluid loss mixed at 13.0 ppg, 1.49 cuft/sx, 9.09 gal/sx.

*Total estimated slurry volume for the 5.5" production casing is 1567.9 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 casing string. The production casing is designed for 1813' top of cement..*

**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 (9478') to the bottom of the surface csg. Run Neutron/Lithodensity/Pe/GR/Cal from TD (9478') to 2313'. Run Gamma Ray to surface.

**6. FORMATION TOPS:**

Please see attached directional plan.

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

- A. No change.

**8. BOP EQUIPMENT:**

Surface will utilize a 500 psi or greater diverter.

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 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
Jeff Jackson	Project Geologist	817-885-2800	



# Well Name: LCU 4-2H

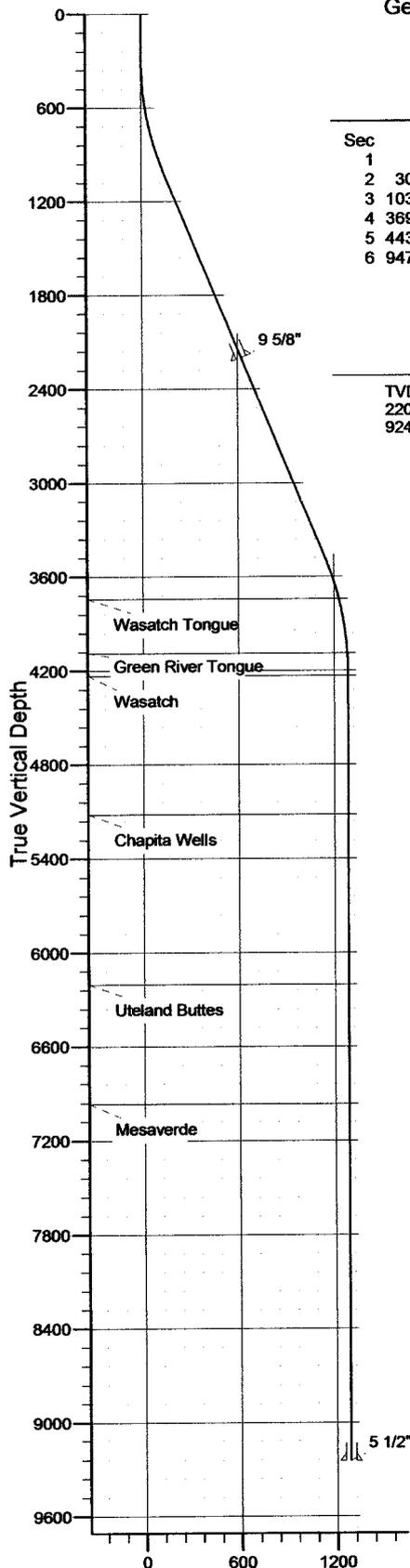
San Juan Division  
Drilling Department

Calculation Method: Minimum Curvature  
Geodetic Datum: North American Datum 1983  
Lat: 39° 53' 34.440 N  
Long: 109° 38' 56.796 W



Azimuths to True North  
Magnetic North: 11.47°

Magnetic Field  
Strength: 52556.1nT  
Dip Angle: 65.83°  
Date: 8/3/2008  
Model: IGRF200510



Vertical Section at 299.28°

### SECTION DETAILS

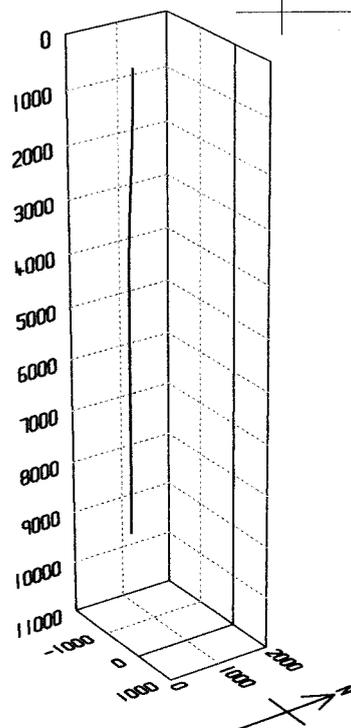
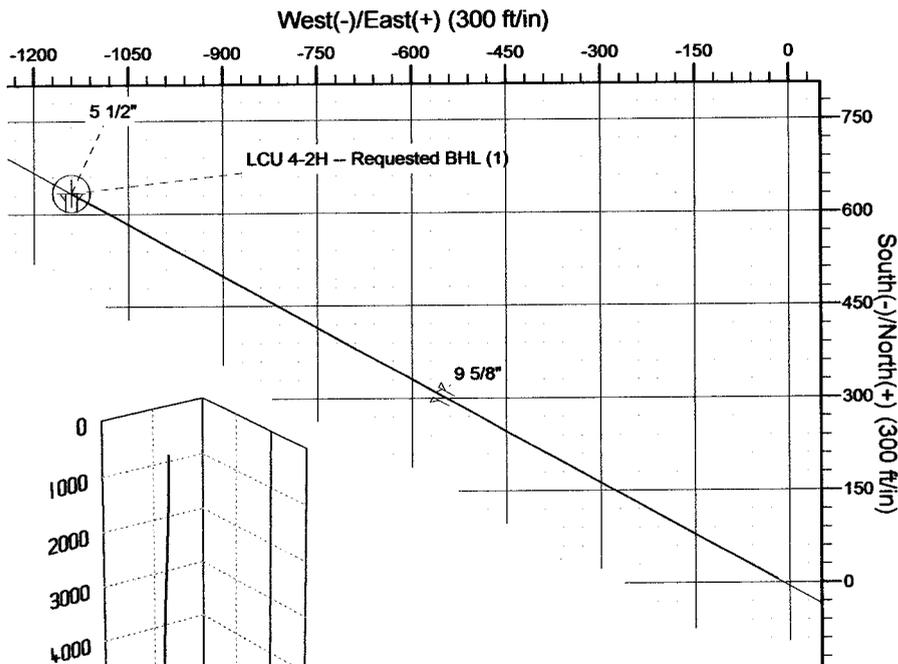
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	5.1	-19.9	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	5.1	-19.9	0.00	0.00	0.0	
3	1039.7	22.19	299.28	1021.3	74.3	-143.3	3.00	299.28	141.5	
4	3693.6	22.19	299.28	3478.7	564.5	-1017.6	0.00	0.00	1143.8	
5	4433.3	0.00	0.00	4200.0	633.7	-1141.0	3.00	180.00	1285.3	LCU 4-2H - Requested BHL (1)
6	9478.3	0.00	0.00	9245.0	633.7	-1141.0	0.00	0.00	1285.3	

### CASING DETAILS

TVD	MD	Name	Size
2200.0	2312.6	9 5/8"	9-5/8
9245.0	9478.3	5 1/2"	5-1/2

### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3742.0	3970.8	Wasatch Tongue
4087.0	4320.2	Green River Tongue
4232.0	4465.3	Wasatch
5117.0	5350.3	Chapita Wells
6202.0	6435.3	Uteland Buttes
6967.0	7200.3	Mesaverde



# **XTO Energy**

**Natural Buttes Wells(NAD83)**

**LCU 3-2H**

**LCU 4-2H**

**LCU 4-2H**

**Plan: Sundry'd Wellbore**

## **Standard Planning Report**

**03 August, 2008**

**XTO Energy, Inc.**  
Planning Report

**Database:** EDM 2003.14 Single User Db  
**Company:** XTO Energy  
**Project:** Natural Buttes Wells(NAD83)  
**Site:** LCU 3-2H  
**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
**Design:** Sundry'd Wellbore

**Local Co-ordinate Reference:** Site LCU 3-2H  
**TVD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Natural Buttes Wells(NAD83), Vernal, UT		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Utah Northern Zone		

<b>Site</b>	LCU 3-2H, T11S, R20E				
<b>Site Position:</b>		<b>Northing:</b>	3,125,893.90 ft	<b>Latitude:</b>	39° 53' 34.440 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,159,859.43 ft	<b>Longitude:</b>	109° 38' 56.796 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	1.22 °

<b>Well</b>	LCU 4-2H, S-Well to Wasatch/Mesaverde					
<b>Well Position</b>	<b>+N/-S</b>	5.1 ft	<b>Northing:</b>	3,125,898.57 ft	<b>Latitude:</b>	39° 53' 34.490 N
	<b>+E/-W</b>	-19.9 ft	<b>Easting:</b>	2,159,839.40 ft	<b>Longitude:</b>	109° 38' 57.052 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	5,398.0 ft	<b>Ground Level:</b>	5,398.0 ft

<b>Wellbore</b>	LCU 4-2H				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF200510	8/3/2008	(°)	(°)	(nT)
			11.47	65.83	52,556

<b>Design</b>	Sundry'd Wellbore				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	5.1	-19.9	299.28	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	5.1	-19.9	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	5.1	-19.9	0.00	0.00	0.00	0.00	
1,039.7	22.19	299.28	1,021.3	74.3	-143.3	3.00	3.00	0.00	299.28	
3,693.6	22.19	299.28	3,478.7	564.5	-1,017.6	0.00	0.00	0.00	0.00	
4,433.3	0.00	0.00	4,200.0	633.7	-1,141.0	3.00	-3.00	0.00	180.00	LCU 4-2H – Request
9,478.3	0.00	0.00	9,245.0	633.7	-1,141.0	0.00	0.00	0.00	0.00	

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**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	5.1	-19.9	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	5.1	-19.9	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	5.1	-19.9	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	5.1	-19.9	0.0	0.00	0.00	0.00
400.0	3.00	299.28	400.0	6.4	-22.2	2.6	3.00	3.00	0.00
500.0	6.00	299.28	499.6	10.2	-29.1	10.5	3.00	3.00	0.00
600.0	9.00	299.28	598.8	16.6	-40.4	23.5	3.00	3.00	0.00
700.0	12.00	299.28	697.1	25.5	-56.3	41.7	3.00	3.00	0.00
800.0	15.00	299.28	794.3	36.9	-76.7	65.1	3.00	3.00	0.00
900.0	18.00	299.28	890.2	50.8	-101.5	93.5	3.00	3.00	0.00
1,000.0	21.00	299.28	984.4	67.1	-130.6	126.9	3.00	3.00	0.00
1,039.7	22.19	299.28	1,021.3	74.3	-143.3	141.5	3.00	3.00	0.00
1,100.0	22.19	299.28	1,077.2	85.4	-163.2	164.2	0.00	0.00	0.00
1,200.0	22.19	299.28	1,169.8	103.9	-196.1	202.0	0.00	0.00	0.00
1,300.0	22.19	299.28	1,262.4	122.4	-229.1	239.8	0.00	0.00	0.00
1,400.0	22.19	299.28	1,355.0	140.8	-262.0	277.5	0.00	0.00	0.00
1,500.0	22.19	299.28	1,447.6	159.3	-295.0	315.3	0.00	0.00	0.00
1,600.0	22.19	299.28	1,540.1	177.8	-327.9	353.1	0.00	0.00	0.00
1,700.0	22.19	299.28	1,632.7	196.3	-360.8	390.9	0.00	0.00	0.00
1,800.0	22.19	299.28	1,725.3	214.7	-393.8	428.6	0.00	0.00	0.00
1,900.0	22.19	299.28	1,817.9	233.2	-426.7	466.4	0.00	0.00	0.00
2,000.0	22.19	299.28	1,910.5	251.7	-459.7	504.2	0.00	0.00	0.00
2,100.0	22.19	299.28	2,003.1	270.2	-492.6	541.9	0.00	0.00	0.00
2,200.0	22.19	299.28	2,095.7	288.6	-525.6	579.7	0.00	0.00	0.00
2,300.0	22.19	299.28	2,188.3	307.1	-558.5	617.5	0.00	0.00	0.00
2,312.6	22.19	299.28	2,200.0	309.4	-562.7	622.2	0.00	0.00	0.00
<b>9 5/8"</b>									
2,400.0	22.19	299.28	2,280.9	325.6	-591.5	655.2	0.00	0.00	0.00
2,500.0	22.19	299.28	2,373.5	344.0	-624.4	693.0	0.00	0.00	0.00
2,600.0	22.19	299.28	2,466.1	362.5	-657.3	730.8	0.00	0.00	0.00
2,700.0	22.19	299.28	2,558.7	381.0	-690.3	768.6	0.00	0.00	0.00
2,800.0	22.19	299.28	2,651.3	399.5	-723.2	806.3	0.00	0.00	0.00
2,900.0	22.19	299.28	2,743.9	417.9	-756.2	844.1	0.00	0.00	0.00
3,000.0	22.19	299.28	2,836.4	436.4	-789.1	881.9	0.00	0.00	0.00
3,100.0	22.19	299.28	2,929.0	454.9	-822.1	919.6	0.00	0.00	0.00
3,200.0	22.19	299.28	3,021.6	473.4	-855.0	957.4	0.00	0.00	0.00
3,300.0	22.19	299.28	3,114.2	491.8	-887.9	995.2	0.00	0.00	0.00
3,400.0	22.19	299.28	3,206.8	510.3	-920.9	1,032.9	0.00	0.00	0.00
3,500.0	22.19	299.28	3,299.4	528.8	-953.8	1,070.7	0.00	0.00	0.00
3,600.0	22.19	299.28	3,392.0	547.3	-986.8	1,108.5	0.00	0.00	0.00
3,693.6	22.19	299.28	3,478.7	564.5	-1,017.6	1,143.8	0.00	0.00	0.00
3,700.0	22.00	299.28	3,484.6	565.7	-1,019.7	1,146.2	3.00	-3.00	0.00
3,800.0	19.00	299.28	3,578.3	582.8	-1,050.3	1,181.3	3.00	-3.00	0.00
3,900.0	16.00	299.28	3,673.6	597.5	-1,076.5	1,211.3	3.00	-3.00	0.00
3,970.8	13.88	299.28	3,742.0	606.5	-1,092.4	1,229.6	3.00	-3.00	0.00
<b>Wasatch Tongue</b>									
4,000.0	13.00	299.28	3,770.4	609.8	-1,098.3	1,236.4	3.00	-3.00	0.00
4,100.0	10.00	299.28	3,868.4	619.5	-1,115.7	1,256.3	3.00	-3.00	0.00
4,200.0	7.00	299.28	3,967.3	626.8	-1,128.6	1,271.1	3.00	-3.00	0.00
4,300.0	4.00	299.28	4,066.8	631.5	-1,136.9	1,280.6	3.00	-3.00	0.00
4,320.2	3.39	299.28	4,087.0	632.1	-1,138.1	1,281.9	3.00	-3.00	0.00
<b>Green River Tongue</b>									
4,400.0	1.00	299.28	4,166.7	633.6	-1,140.7	1,285.0	3.00	-3.00	0.00

**XTO Energy, Inc.**  
Planning Report

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**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
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**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,433.3	0.00	0.00	4,200.0	633.7	-1,141.0	1,285.3	3.00	-3.00	0.00
<b>LCU 4-2H -- Requested BHL (1)</b>									
4,465.3	0.00	0.00	4,232.0	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
<b>Wasatch</b>									
4,500.0	0.00	0.00	4,266.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
4,600.0	0.00	0.00	4,366.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
4,700.0	0.00	0.00	4,466.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
4,800.0	0.00	0.00	4,566.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
4,900.0	0.00	0.00	4,666.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,766.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,100.0	0.00	0.00	4,866.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,200.0	0.00	0.00	4,966.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,300.0	0.00	0.00	5,066.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,350.3	0.00	0.00	5,117.0	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
<b>Chapita Wells</b>									
5,400.0	0.00	0.00	5,166.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,266.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,366.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,466.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,566.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,666.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,766.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,100.0	0.00	0.00	5,866.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,200.0	0.00	0.00	5,966.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,300.0	0.00	0.00	6,066.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,166.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,435.3	0.00	0.00	6,202.0	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
<b>Uteland Buttes</b>									
6,500.0	0.00	0.00	6,266.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,366.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,700.0	0.00	0.00	6,466.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,800.0	0.00	0.00	6,566.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
6,900.0	0.00	0.00	6,666.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,000.0	0.00	0.00	6,766.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,100.0	0.00	0.00	6,866.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,200.0	0.00	0.00	6,966.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,200.3	0.00	0.00	6,967.0	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
<b>Mesaverde</b>									
7,300.0	0.00	0.00	7,066.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,400.0	0.00	0.00	7,166.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,500.0	0.00	0.00	7,266.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,600.0	0.00	0.00	7,366.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,700.0	0.00	0.00	7,466.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,800.0	0.00	0.00	7,566.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
7,900.0	0.00	0.00	7,666.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,000.0	0.00	0.00	7,766.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,100.0	0.00	0.00	7,866.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,200.0	0.00	0.00	7,966.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,300.0	0.00	0.00	8,066.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,400.0	0.00	0.00	8,166.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,500.0	0.00	0.00	8,266.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,600.0	0.00	0.00	8,366.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,700.0	0.00	0.00	8,466.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00

**XTO Energy, Inc.**  
Planning Report

**Database:** EDM 2003.14 Single User Db  
**Company:** XTO Energy  
**Project:** Natural Buttes Wells(NAD83)  
**Site:** LCU 3-2H  
**Well:** LCU 4-2H  
**Wellbore:** LCU 4-2H  
**Design:** Sundry'd Wellbore

**Local Co-ordinate Reference:** Site LCU 3-2H  
**TVD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**MD Reference:** Rig KB @ 5412.0ft (Frontier #6)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.0	0.00	0.00	8,566.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
8,900.0	0.00	0.00	8,666.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
9,000.0	0.00	0.00	8,766.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
9,100.0	0.00	0.00	8,866.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
9,200.0	0.00	0.00	8,966.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
9,300.0	0.00	0.00	9,066.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
9,400.0	0.00	0.00	9,166.7	633.7	-1,141.0	1,285.3	0.00	0.00	0.00
9,478.3	0.00	0.00	9,245.0	633.7	-1,141.0	1,285.3	0.00	0.00	0.00

5 1/2"

**Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N-S (ft)	+E-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LCU 4-2H -- Requested - plan hits target - Circle (radius 30.0)	0.00	0.00	4,200.0	633.7	-1,141.0	3,126,503.18	2,158,705.19	39° 53' 40.701 N	109° 39' 11.432 W

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,312.6	2,200.0	9 5/8"	9-5/8	12-1/4
9,478.3	9,245.0	5 1/2"	5-1/2	7-7/8

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,970.8	3,742.0	Wasatch Tongue		0.00	
4,320.2	4,087.0	Green River Tongue		0.00	
4,465.3	4,232.0	Wasatch		0.00	
5,350.3	5,117.0	Chapita Wells		0.00	
6,435.3	6,202.0	Uteland Buttes		0.00	
7,200.3	6,967.0	Mesaverde		0.00	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-48771
<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>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 4-2H
<b>2. NAME OF OPERATOR:</b> XTO ENERGY INC	<b>9. API NUMBER:</b> 43047398880000
<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 FOOTAGES AT SURFACE:</b> 1352 FNL 1891 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 02 Township: 11.0S Range: 20.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> HILL CREEK  <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: 6/16/2010	<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"/> <b>APD EXTENSION</b>
	<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:** July 23, 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> 7/20/2009



**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 43047398880000**

**API:** 43047398880000

**Well Name:** LCU 4-2H

**Location:** 1352 FNL 1891 FWL QTR SENW SEC 02 TWNP 110S RNG 200E MER S

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

**Date Original Permit Issued:** 6/17/2008

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:** 7/20/2009

**Title:** Permitting Clerk **Representing:** XTO ENERGY INC

**Date:** July 23, 2009

**By:** 

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-48771
<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>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 4-2H
<b>2. NAME OF OPERATOR:</b> XTO ENERGY INC	<b>9. API NUMBER:</b> 43047398880000
<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 FOOTAGES AT SURFACE:</b> 1352 FNL 1891 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 02 Township: 11.0S Range: 20.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> HILL CREEK  <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: 6/16/2011	<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
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<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"/> <b>APD EXTENSION</b>
	<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:** June 23, 2010

**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> 6/17/2010



**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 43047398880000**

**API:** 43047398880000

**Well Name:** LCU 4-2H

**Location:** 1352 FNL 1891 FWL QTR SENW SEC 02 TWNP 110S RNG 200E MER S

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

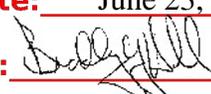
**Date Original Permit Issued:** 6/17/2008

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- 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:** 6/17/2010  
**Title:** Permitting Clerk **Representing:** XTO ENERGY INC

**Date:** June 23, 2010  
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**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** June 23, 2010

**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> 6/17/2010



**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 43047398880000**

**API:** 43047398880000

**Well Name:** LCU 4-2H

**Location:** 1352 FNL 1891 FWL QTR SENW SEC 02 TWNP 110S RNG 200E MER S

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

**Date Original Permit Issued:** 6/17/2008

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

**Signature:** Eden Fine                      **Date:** 6/17/2010  
**Title:** Permitting Clerk **Representing:** XTO ENERGY INC

**Date:** June 23, 2010  
**By:** 



GARY R. HERBERT  
Governor

GREGORY S. 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*

June 29, 2011

XTO Energy Inc.  
382 Road 3100  
Aztec, NM 87410

Re: APD Rescinded – LCU 4-2J, Sec. 2 T. 11S, R. 20E  
Uintah County, Utah API No. 43-047-39888

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 June 17, 2008. On July 23, 2009 and June 23, 2010, 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 June 29, 2011.

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  
SITLA, Ed Bonner