

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

FORM 3

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER GORDON CREEK ST SE-32-14-8								
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT UNDESIGNATED								
4. TYPE OF WELL Gas Well <input checked="" type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>						5. UNIT or COMMUNITIZATION AGREEMENT NAME								
6. NAME OF OPERATOR GORDON CREEK, LLC						7. OPERATOR PHONE 403 453-1608								
8. ADDRESS OF OPERATOR 1179 E Main #345, Price, UT, 84501						9. OPERATOR E-MAIL rironside@thunderbirdenergy.com								
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML-46539			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>								
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')								
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')								
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>								
20. LOCATION OF WELL		FOOTAGES		QTR-QTR		SECTION		TOWNSHIP		RANGE		MERIDIAN		
LOCATION AT SURFACE		1569 FSL 1600 FEL		NWSE		32		14.0 S		8.0 E		S		
Top of Uppermost Producing Zone		1569 FSL 1600 FEL		NWSE		32		14.0 S		8.0 E		S		
At Total Depth		1569 FSL 1600 FEL		NWSE		32		14.0 S		8.0 E		S		
21. COUNTY CARBON			22. DISTANCE TO NEAREST LEASE LINE (Feet) 1599			23. NUMBER OF ACRES IN DRILLING UNIT 160								
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 2790			26. PROPOSED DEPTH MD: 4487 TVD: 4487								
27. ELEVATION - GROUND LEVEL 7655			28. BOND NUMBER RLB0010790			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 91-5193								
Hole, Casing, and Cement Information														
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight				
SURF	11	8.625	0 - 450	24.0	J-55 Casing/Tubing	8.7	Class G	212	1.142	15.84				
PROD	7.875	5.5	0 - 4487	17.0	N-80 LT&C	10.0	Class G	390	2.69	10.7				
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"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)						<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER								
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)						<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP								
NAME Barry Brumwell				TITLE Vice President-Operations				PHONE 403 453-1608						
SIGNATURE				DATE 09/27/2011				EMAIL bbrumwell@thunderbirdenergy.com						
API NUMBER ASSIGNED 43007502530000				APPROVAL  Permit Manager										

DRILLING PLAN and PROGRAM

Attached to UDOGM Form 3

GORDON CREEK, LLC.**SE-32-14-8**

SURFACE LOCATION: 1,569.30' FSL & 1,599.75' FEL

NW/4 of SE/4 of Section 32-14S-8E

Carbon County, Utah

1. SURFACE GEOLOGIC FORMATION

Emery Sandstone Member of the Mancos Shale

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Mancos Blue Gate Shale top: 2,112' KB

Lower Blue Gate Bentonite Marker: 3,882' KB

Ferron SS: 4,017' KB

3. PROJECTED GAS & H₂O ZONES

While no groundwater is expected to be encountered, groundwater *may* be encountered within the Emery Sandstone Member of the Mancos Shale. Any water encountered will be reported on a Form 7 "Report of Water Encountered During Drilling". All indications of usable water will be reported.

Casing & cementing will be done to protect potentially productive hydrocarbons, lost circulation zones, abnormal pressure zones and prospectively valuable mineral deposits.

Surface casing will be tested to 500 psi and the Production casing will be tested to 1,500 psi, with a minimum of 1 psi/ft of the last casing string setting depth.

4. PROPOSED CASING AND CEMENTING PROGRAMS

Refer to EXHIBIT "A" for casing design information

A. CASING PROGRAM

HOLE SIZE (in)	CASING SIZE (in)	WEIGHT (#/ft)	GRADE	JOINT	DEPTH SET (ft)
17	12 ³ / ₄	40.5	H-40	ST&C	0 – 40
11	8 ⁵ / ₈	24.00	J-55	ST&C	0 – 450
7 ⁷ / ₈	5 ¹ / ₂	17.00	N-80	LT&C	0 – 4,487

B. CEMENTING PROGRAM

The 8 ⁵/₈" surface casing will be set and cemented full length with approximately 212 sacks of 0-1-0 Class "G" cement + 2% CaCl₂ + 0.25 #/sk of cellophane flakes mixed at 15.84 ppg (yield = 1.142 ft³/sk); volume based on nominal hole size + 100% excess. The cement will be circulated back to surface. In the event that the cement is not circulated back to surface, a 1" top out job will be performed with 0-1-0 Class "G" cement + 2% CaCl₂ + 0.25 #/sk of cellophane flakes mixed at 15.84 ppg (yield = 1.142 ft³/sk).

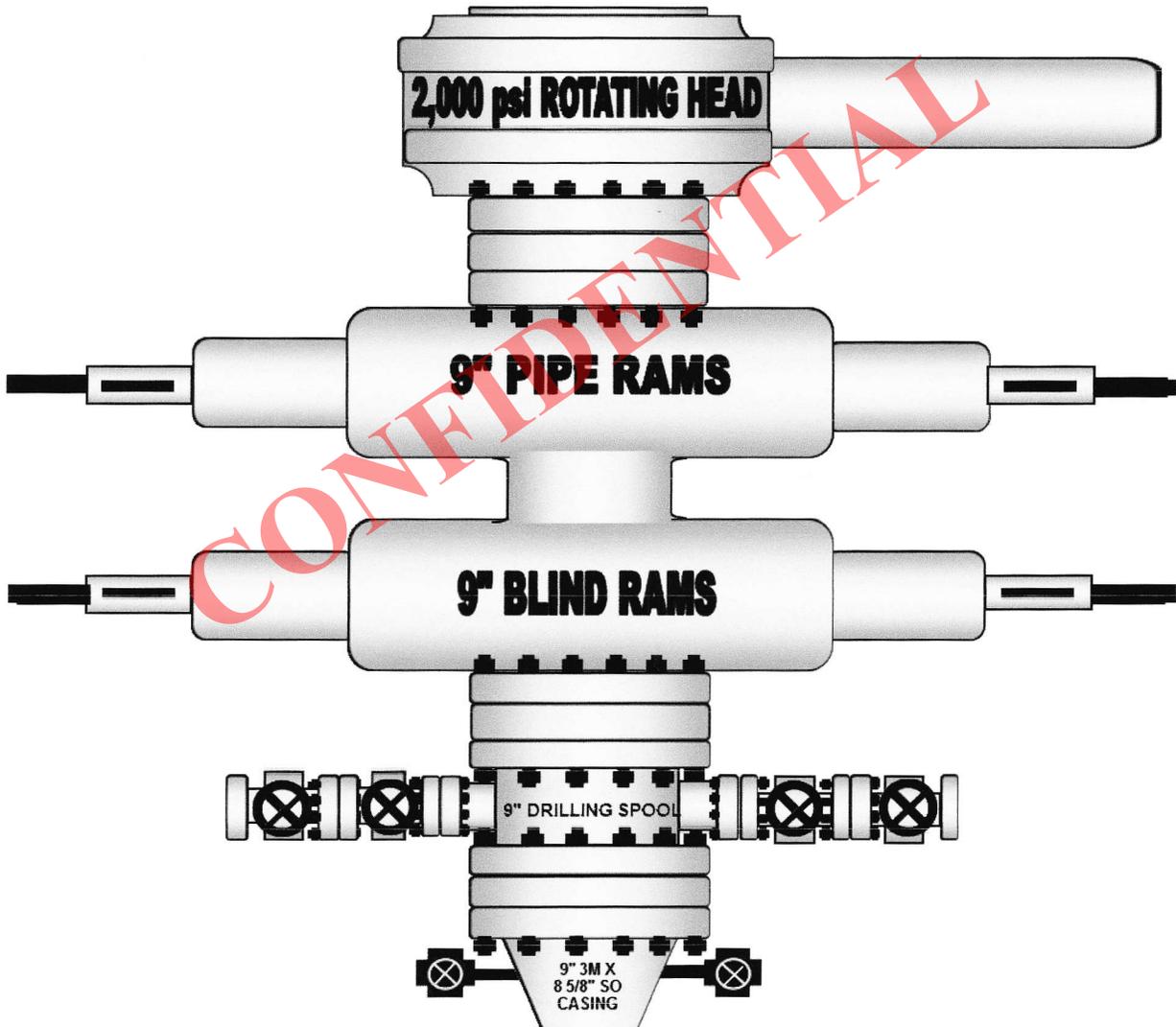
The 5 ¹/₂" production casing will be set and cemented full length using 390 sx of 0-1-0 "G" Light Weight cement incorporating 42% "SuperBall" centrospheres to lighten the cement density + 3% NaCl, 0.3% Air-out, 1.5% SFI-300, 0.2% SCR-2. The cement will be mixed at 10.7 ppg (yield = 2.69 ft³/sk); volume based on nominal hole size + 35% excess. The cement will be circulated back to surface.

THE FOLLOWING SHALL BE ENTERED INTO THE DRILLER'S LOG:

- I. Blowout preventer pressure tests, including test pressures and results;
- II. Blowout preventer tests for proper functioning;
- III. Blowout prevention drills conducted;
- IV. Casing run, including size, grade, weight, and depth set;
- V. How the pipe was cemented, including amount of cement, type, whether cement was circulated back to surface, location of the cementing tools, etc.;
- VI. Waiting on cement time for each casing string;
- VII. Casing pressure tests after cementing, including test pressures and results.

5. THE OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

Below is a schematic diagram of the blowout preventer equipment requirements for this drilling operation. A 9' X 3,000 psi double gate BOP will be used with a 2,000 psi Rotating Head utilized for air drilling operations. ALL BOPE will be pressure tested to the required operating pressures of each component. All tests will be recorded in the Driller's Report Book. The physical operation of each component of the BOP's will be checked on each trip.



6. THE TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATING FLUIDS / MUDDS

0' – 450'	11" Surface Hole	Drill with air, will mud-up if necessary.
450' – TMD	7 7/8" Main Hole	Drill with air, 500 psi @ 1500-2300 ft ³ /min

Will "mud up" at Total Depth to run logs and casing. Will mud up sooner if hole conditions dictate. It is anticipated that drilling fluid densities of 8.3 – 8.7 #/gal will be utilized when "mudded up".

7. THE TESTING, LOGGING AND CORING PROGRAMS

Open hole logs consisting of a CNL-LDT-GR-CAL will be run from above the Blue Gate Shale to TMD. A DIL-GR-SP log will be run from TMD to surface casing.

8. ANY ANTICIPATED ABNORMAL PRESSURES or TEMPURATURES

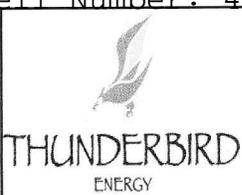
No abnormal pressures or temperatures have been noted or reported in wells drilled in the area nor at the depths anticipated in this well. Bottom hole pressure expected is approximately 1250 psi maximum. No hydrogen sulfide or other hazardous gases or fluids have been found, reported or are known to exist at these depths in the area.

9. ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS

The well will be drilled between late September and the end of November, 2011. Verbal and/or written notifications listed below shall be submitted in accordance with instructions from the Division of Oil, Gas & Mining:

- a) prior to beginning construction;
- b) prior to spudding;
- c) prior to running any casing or BOP tests;
- d) prior to plugging the well, for verbal plugging instructions.

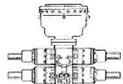
Spills, blowouts, fires, leaks, accidents or other unusual occurrences shall IMMEDIATELY be reported to the Division of Oil, Gas & Mining.



GORDON CREEK ST SE-32-14S-8E
 NW/4 OF SE/4, 1,569.30' FSL + 1,599.75' FEL

SURFACE LEASE #: STATE (SITLA)
MINERAL LEASE #: STATE (SITLA)
AFE: 11DRL024
WORKING INTEREST: 100%
RIG:
DRILL DAYS BELOW SURFACE CASING SHOE: 5

DRILLED WITH AIR



Survey Grd. Ele: 7,655.0'
 Est. KB Elev: 7,667'
VERTICAL WELL 12.0' KB
 8.625" Casing Set @ ~450'

TOPS ft TVD
 Emery Fm. Sfc.

SURFACE CASING 450

BASE OF GROUNDWATER TBD

MUD UP ONLY IF WATER INFLUX OCCURS OR TIGHT HOLE CONDITIONS OCCUR

Begin taking samples on Geologists orders

Blue Gate Shale Mbr ** 2,113'

Lower Bluegate Bentonite Marker 3,882'

FERRON SS/COAL * 4,017'
 (750 psi)
 AIR DRILL THROUGH ZONE IF POSSIBLE

Tununk Shale 4,429'

* PRIMARY ZONE OF INT.
 ** SECONDARY ZONE

TD 4,487'

BOP'S 9", 3000 # CASING BOWL

11" Surface Hole

7.875" Main Hole

5.500" CASING SET AT 4,487'

EMERGENCY PLANNING ZONE SUMMARY
 SWEET WELL: THUNDERBIRD'S CORPORATE EMERGENCY RESPONSE PLAN APPLIES

CASING DESIGN								
	Interval (ft)	O.D. (inches)	#ft	Grade	Thread	Burst (psi)	Collapse (psi)	Opt. Torque (ft lbs)
Surface:	0 - 450	8 5/8	24	J-55	ST&C	2,950	1,370	2,440
Main:	0 - 4,487'	5 1/2	17	N-80	LT&C	7,740	6,280	3,480

*ENSURE THAT MARKER JOINTS ARE PLACED IN THE CASING STRING OPPOSITE ANY PAY ZONE
 TARGET: FERRON SANDSTONE/COAL; CASING TO BE CUT 16" ABOVE CASING BOWL

CEMENTING PROGRAM - Primary - Single Stage								
	Bit Size (inches)	Cement	Additives	Yield (ft³/sk)	Volume (sx)	% Excess	Cmt Top (ft)	Density (#/gal)
Surface:	11	0-1-0 "G"	2% CaCl₂ + Cellophane flakes	1.142	212.0	100	SFC	15.84
Main:	7 7/8	Superball 10.7	3% NaCl, 0.3% Air-out, 42% Superball, 1.5% SFI-300, 0.2% SCR-2	2.69	390.0	35	SFC	10.70

DRILLING FLUIDS			
	Interval	Type	
Surface:	0 - 450	Water Gel Chemical	Drill with water, mud up with gel chem if water influx occurs. Condition mud thoroughly prior to POOH to run/cement casing
Main:	450 - 3,900 3,900-4,487	AIR Gel Chemical	MUD UP ONLY if water influx occurs or if TIGHT HOLE conditions become prevalent. MUD UP at ~3,700' to TD.

11" SURFACE HOLE
 - Spud with an approved water well/surface casing rig and drill to surface TD of about 450 ft. Survey every 100'. Ensure that the surface hole deviation does not exceed 3 degrees. Set surface casing at least 50' below any water influx zone.

- NOTE: MUD UP with Gel Chemical mud system immediately if water influx becomes problematic. Refer to the Mud Program and the Cementing Program for further information. Move rig off of location once surface casing is set.

7 7/8" MAIN HOLE: VERTICAL HOLE
 - Move on conventional drilling rig and drill out with and AIR DRILL as far as possible with air. Survey every 300'. Ensure that deviation does not exceed 3 degrees. Notify Calgary operations immediately if a 3 degree deviation is exceeded.
 - TIGHT HOLE is possible on connections. REAM HOLE at first indication of tight hole and attempt to continue to air drill.
 - COAL/SHALE SEAMS can occur in the wellbore which may be faulted and unconsolidated resulting in sloughing hole conditions.
 - H₂S WILL NOT be encountered.
 - MUD UP ONLY if water influx occurs OR if tight hole conditions become prevalent.
 - OVER PRESSURE: Generally, all zones in the wellbore should be underpressured (below normal water gradient) or have normal pressure gradients.
 - LOST CIRCULATION should only have the potential to occur when drilling with fluids.
ENSURE AND ADEQUATE AMOUNT OF LCM IS ON LOCATION AT ALL TIMES.
 - FERRON SS/COAL PENETRATION - ATTEMPT TO AIR DRILL THROUGH THE FERRON ZONE. WATER may be encountered upon penetration. Ensure good hole conditions are prevalent to penetrating the FERRON.
 - MUD UP - switch to a Gel Chem drilling fluid system at ~3,900' OR if water/tight hole problems occur.
 - Mud Check - prior to POOH for logging, condition the mud and check mud properties with mudman. DO NOT POOH until the wellbore is circulating free of cuttings and the mud properties are optimal for logging.
NOTE: Ensure the well is cemented to surface on both casing strings. Contact the Operations Supervisor if any casing string cement job does not obtain returns to surface.

SAMPLE REQUIREMENTS/ EVALUATION	
T-BIRD	Begin taking 2 sets of samples every 10 feet at 3,310' to TD
GOVT:	As per regulations
Detection:	Gas detection/ PASON Mud Log as per Geologist's request.
Cores:	No coring
DST:	No DST's

LOGGING PROGRAM - NUMBER OF COPIES OF EACH LOG:		# of copies
DIL-GR-SP T.D. to surface casing		4
CNL-LDT-GR-CAL T.D. to 3,310'		4

Run a multi-arm caliper log to ensure correct calculation for cement volumes on casing or plugs.

EXHIBIT "A"

**CASING DESIGN
GORDON CREEK ST SE-32-14-8
PROJECTED TD: 4,487' KB**

SURFACE CASING (0' – 450')

Diameter	8 ⁵ / ₈ "
Interval	450' to Surface
Weight	24 #/ft
Grade	J-55
Coupling	ST&C

Burst Design

The recommended practice is to base the burst rating of the casing string in psi to be at least numerically equal to 0.225 psi/ft times the setting depth in feet of the next casing string. The rating chosen was also intended to match the BOPE pressure rating and exceed the highest possible surface pressure of approximately 936 psig.

Burst required =	0.225 x 4,487	1,010 psig
Burst rating of casing string:	2,950 psi	
Safety factor =	2,950 psi / 1,010 psi =	2.92

Collapse Design

Collapse pressure is negligible on this surface string.

Tension Design

String weight in air	10,800 #
Tensile strength of joint	244,000 lbf
Safety factor of joint	22.6

PRODUCTION CASING (0' – 4,487')

Diameter	5 ½"
Interval	4,161' to surface
Weight	17 #/ft
Grade	N-80
Coupling	LT&C

Burst Design

An internal pressure gradient of 0.4863 psi/ft has been used as a basis for these calculations. This gradient is equivalent to the force exerted by 10 ppg drilling fluid, which is a much higher density of fluid than we anticipate being required to drill this well.

Burst rating of casing string:	7,740 psi	
Burst rating required:	4,487' X 0.4863 =	2,182 psig
Safety factor =	7,740 psi / 2,182 psi =	<u>3.55</u>

Tension Design

1.6 Safety factor of top joint, neglecting buoyancy and without over pull.

Tensile rating of casing joint:	348,000 lbf	
String Weight:	4,487' X 17 #/ft =	76,279 lbf
Safety factor =	348,000 lbf / 76,279 lbf =	<u>4.56</u>

Collapse Design

Maximum anticipated mud weight is 10.0 ppg based on a mud gradient of 0.53 psi/ft.

Collapse rating of csg string:	6,280 psi	
Collapse rating required:	4,487' X 0.53 psi/ft =	2,378 psi
Safety factor =	6,280 psi / 2,378 psi =	<u>2.64</u>

Production Casing Design

Interval (ft)	Weight (#/ft)	Grade	S.F. Burst	S.F. Collapse	S.F. Tension
4,487' – 0'	17	N-80	3.55	4.56	2.64

MULTI-POINT SURFACE USE PLAN

Attached to UDOGM Form 3

GORDON CREEK, LLC.

SE-32-14-8

SURFACE LOCATION: 1,569.30' FSL & 1,599.75' FEL

NW/4 of SE/4 of Section 32-14S-8E

Carbon County, Utah

1. EXISTING ROADS

- a. We do not plan to change, alter or improve upon ANY existing State or County roads.
- b. Existing roads will be maintained in the same or better condition.

2. PLANNED ACCESS

- a. Access into location begins in Section 28 off of the Benches County road. The State of Utah School and Institutional Trust Lands Administration has granted Thunderbird Energy / Gordon Creek, LLC. A 60-day temporary access permit to utilize this access and roadway through the SE corner of Section 28. Access continues through Section 29 on land owned by Lanny Burnside with whom we have a surface use agreement verbally agreed to and which will be signed off by both parties imminently. Once through the Burnside's land in Section 29, the remainder of the access is in Section 32, on land owned by SITLA and which is covered by Mineral Lease Number 46539. The entire planned route will follow an existing and upgraded "2-track" trail that will be re-conditioned to ensure adequate access.
- b. If the well is productive, the road will be maintained as necessary to prevent soil erosion and maintain year-round traffic. However, we may allow the access road to be gated and closed off during winter production operations and access the site with a snowmobile or other winter ATV.
- c. Maximum Width: 24' travel surface with 27' base.
- d. Maximum grade: 25%
- e. Road culverts may be required. Surface water will be diverted around the well pad as necessary.
- f. Any power lines and / or pipelines to/from the well will follow the proposed access route.

3. LOCATION OF EXISTING WELLS

- a. As shown on the Civil Location Survey Plat for the well.

4. LOCATION OF EXISTING and/or PROPOSED FACILITIES

- a. If the well is a producer, installation of required production facilities will follow the drilling and completion phase of well operations. Buried flow lines, water lines and electrical cable will follow the proposed access road and other existing access ROWs to the intersection with Thunderbird's main 12' pipeline corridor.

- b. Rehabilitation of all pad areas not used for production facilities will be made in accordance with landowner stipulations.

5. LOCATION AND TYPE OF WATER SUPPLY

- a. All water to be used for drilling operations will be obtained from area water wells drilled and owned by Gordon Creek, LLC.
- b. Water will be transported to location by truck over approved access roads.

6. SOURCE OF CONSTRUCTION MATERIALS

- a. Any necessary construction materials needed will be obtained locally from a private source and hauled to the location on existing roads.
- b. No construction or surfacing materials will be taken from Federal / Indian lands.

7. METHODS FOR HANDLING WASTE DISPOSAL

- a. Rather than utilizing a "mud pit" on each drilling location, we will be utilizing one large "remote sump" pit per approximately 4-6 wells drilled to hold the drilled solids and drilling fluids required during the drilling of those 4 wells. This remote sump will be centrally located on one of the drilling locations. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. As the majority of each well is expected to be air drilled, a small reserve "blooie" pit will be constructed with a minimum of one-half the total depth below the original ground surface on the lowest point within the pit. The pit will not be lined unless conditions encountered during construction warrant it or if deemed necessary by the DOGM Representative during pre-site inspection. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. Following drilling, the liquid waste will be evaporated from any pit and the pit backfilled and returned to natural grade. No liquid hydrocarbons will be discharged to the reserve pit or location.
- c. In the event that wellbore fluids are produced, any oil will be retained in tanks until sold and any water produced will be retained until its quality can be determined. The quality and quantity of the water will determine the method of disposal.
- d. Trash will be contained in a portable metal container and will be hauled from location periodically and disposed of at an approved disposal site. Chemical toilets will be placed on location and sewage will be disposed of at an appropriate disposal site.

8. ANCILLARY FACILITIES

- a. We anticipate no need for ancillary facilities with the exception of a trailer to be located on the drill site.

10. WELLSITE LAYOUT

- a. Gordon Creek, LLC. has reduced to surface lease size (area stripped and levelled) for this location to the smallest lease size possible to accommodate the required drilling rig and support equipment.
- b. Any available topsoil will be removed from the location and stockpiled. The location of the rig, mud tanks, reserve and berm pits and all other drilling support equipment will be located as per common oilfield rig layouts.
- b. A blooie pit will be located 100' from the drill hole. A line will be placed on the surface from the center hole to the blooie pit. The blooie pit will not be lined, but will be fenced on four sides to protect livestock/wildlife.
- c. Access to the well pad will be as shown on the Civil Location Survey Plat for the well.
- d. Natural runoff will be diverted around the well pad.

10. PLANS FOR RESTORATION OF SURFACE

- a. All surface areas not required for producing operations will be graded to as near original condition as possible and contoured to minimize possible erosion.
- b. Available topsoil will be stockpiled and will be evenly distributed over the disturbed areas and the area will be reseeded as prescribed by the landowner.
- c. Pits and any other area that would present a hazard to wildlife or livestock will be fenced off when the rig is released and removed.
- d. Rehabilitation will commence following completion of the well. Rat and mouse holes will be filled in immediately upon release of the drilling rig from the location. If the well site is to be abandoned, all disturbed areas will be re-contoured to the natural terrain found prior to location construction.

11. SURFACE OWNERSHIP

- a. The well site and access road that is in Section 32-14S-8E are on and across lands owned by the State of Utah School and Institutional Trust Lands Administration ("SITLA" - 675 East 500 South, Suite 500, Salt Lake City, UT 84102-2818) and covered by Mineral Lease Number ML-46539. The well site access has been thoroughly described and discussed in Section 2A above. The operator shall contact the landowner and the Division of Oil, Gas and Mining 48 hours prior to beginning construction activities.

12. OTHER INFORMATION

- a. The primary surface use is wildlife habitat and/or cattle grazing. The nearest dwelling is approximately 13.5 miles east (Price, Utah).
- b. If there is snow on the ground when construction begins, it will be removed before the soil is disturbed and piled downhill from the topsoil stockpile location.
- c. The back-slope and fore-slope will be constructed no steeper than 4:1.
- d. All equipment and vehicles will be confined to the access road and well pad.
- e. A complete copy of the approved Application for Permit to Drill (APD,) including all conditions and stipulations shall be on the well-site during construction and drilling operations.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the Division of Oil, Gas & Mining.

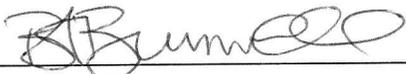
13. COMPANY REPRESENTATIVE

Barry Brumwell, C.E.T.
Vice President, Operations
Gordon Creek LLC., a wholly owned subsidiary of
Thunderbird Energy Corp.
#550, 1010 – 1st Street S.W.
Calgary, Alberta, Canada
(403) 453-1608 (office)
(403) 818-0696 (mobile)
bbrumwell@thunderbirdenergy.com

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Gordon Creek, LLC. and its subcontractors in conformity with this plan and the terms and conditions under which it is approved.

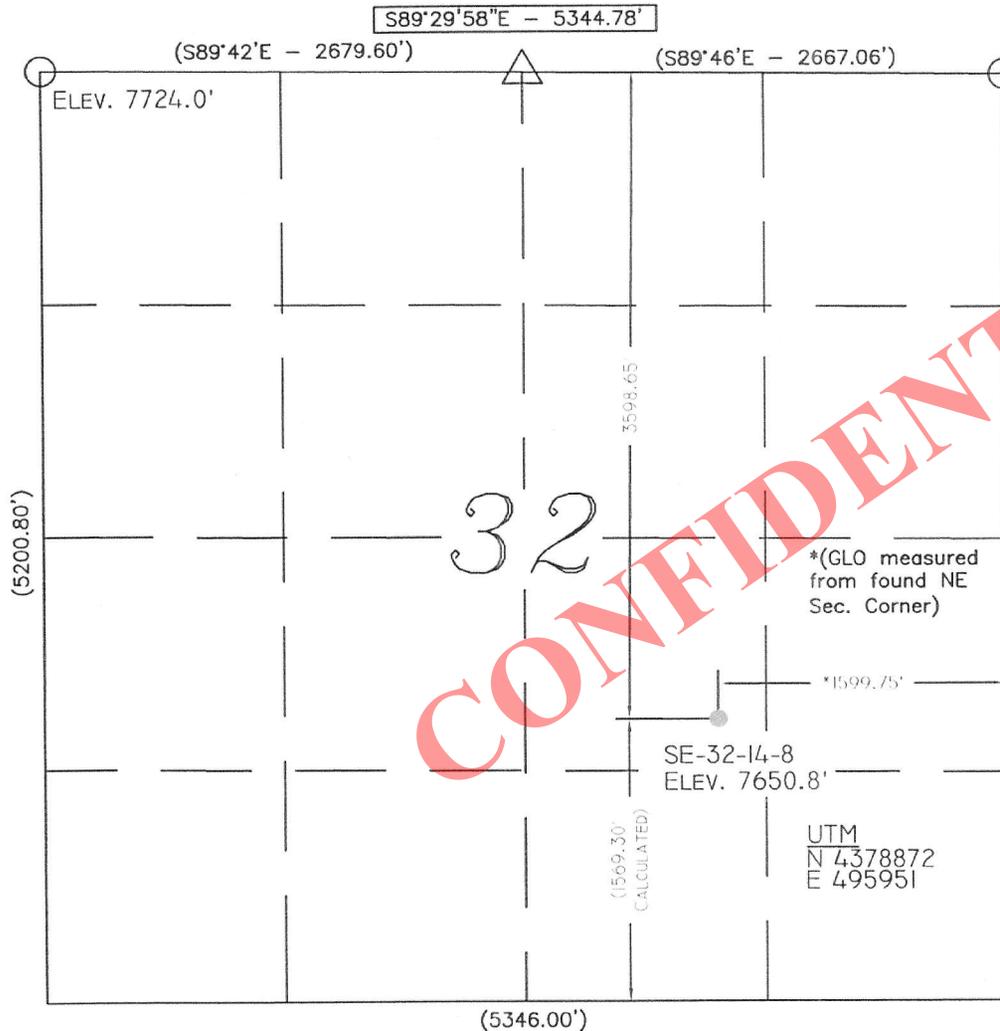
10/29/2011
DATE



Barry Brumwell, C.E.T.
Vice President, Operations
Gordon Creek LLC. / Thunderbird Energy Inc.

Range 8 East

Township 14 South



Location:
The well location was determined using a Trimble 5700 GPS survey grade unit.

Basis of Bearing:
The Basis of Bearing is GPS Measured.

GLO Bearing:
The Bearings indicated are per the recorded plat obtained from the U.S. Land Office.

Basis of Elevation:
Basis of Elevation of 7724.00' being at the Northwest Section Corner of Section 32, Township 14 South, Range 8 East, Salt Lake Base and Meridian, as shown on the Wattis Quadrangle 7.5 minute series map.

Description of Location:
Proposed Drill Hole located in the NW/4 SE/4 of Section 32, T14S, R8E, S.L.B.&M., being South 3598.65' from North Line and West 1599.75' from East Line of Section 32, T14S, R8E, Salt Lake Base and Meridian.

Surveyor's Certificate:
I, John S. Huefner, a Professional Land Surveyor, holding Certificate No. 144842 State of Utah, do hereby certify that the information on this drawing is a true and accurate survey based on data of record and was conducted under my personal direction and supervision as shown hereon.

CONFIDENTIAL





TALON RESOURCES, INC.
615 North 400 East P.O. Box 1230
Huntington, Utah 84528
Phone (435)687-5310 Fax (435)687-5311
E-Mail talon@ctv.net



THUNDERBIRD ENERGY

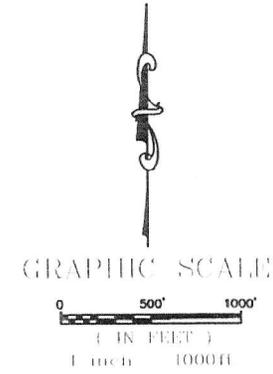
SE-32-14-8
Section 32, T14S, R8E, S.L.B.&M.
Carbon County, Utah

Drawn By: N. BUTKOVICH	Checked By: A.P.C./J.S.H.
Drawing No. A-1	Date: 10/18/11
Scale: 1" = 1000'	
Sheet 1 of 4	Job No. 4942

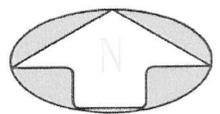
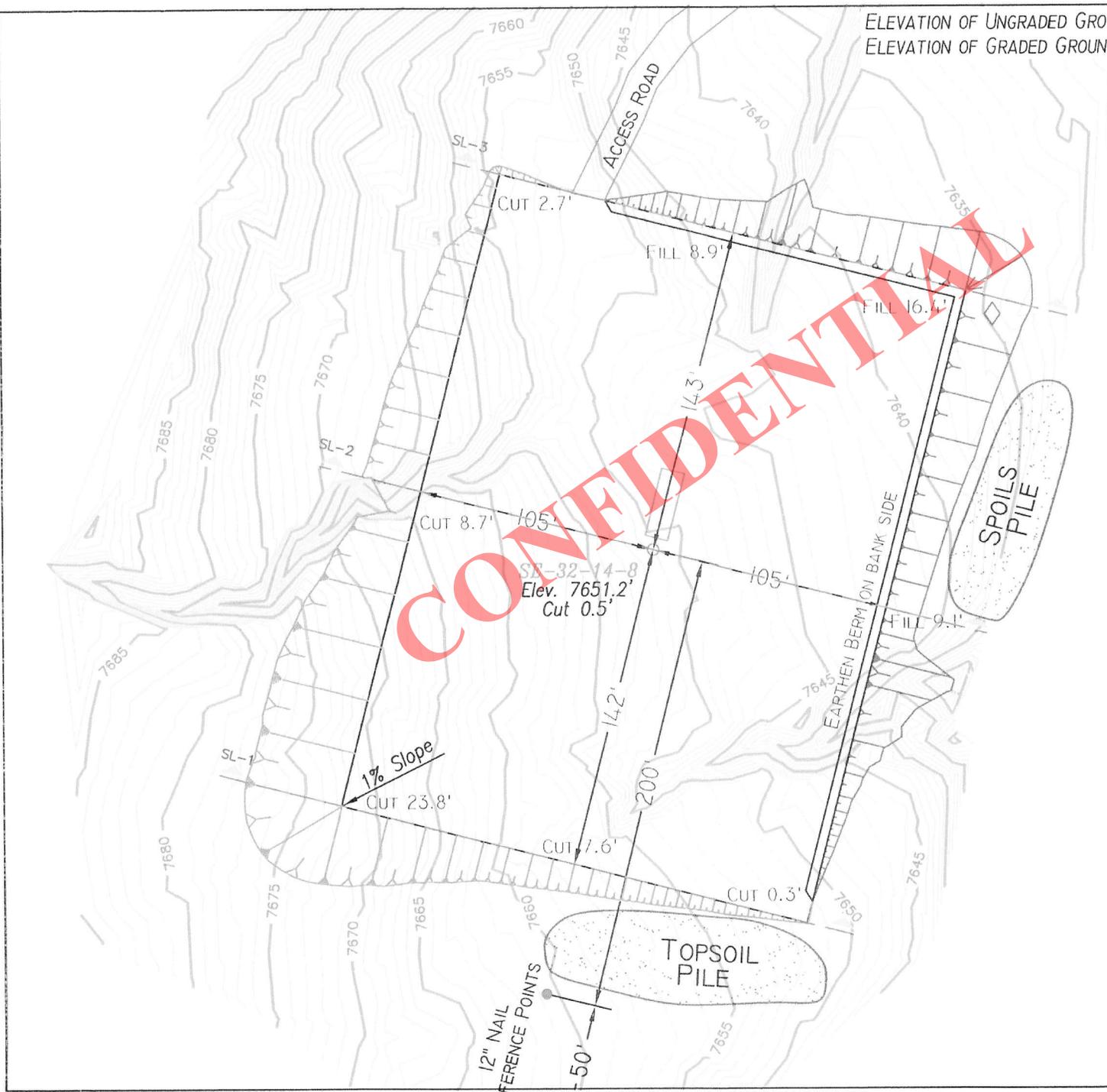
- Legend**
- Drill Hole Location
 - ⊙ Brass Cap (Found)
 - Stone (Found)
 - △ Searched for but Not Found
 - () GLO
 - GPS Measured

- NOTES:**
1. Dimensions are GPS measured unless noted otherwise.
 2. UTM and Latitude / Longitude Coordinates are derived using a GPS Pathfinder and are shown in NAD 27 Datum.

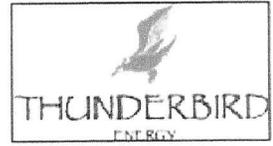
LAT / LONG
39°33'41.083" N
111°02'49.679" W



ELEVATION OF UNGRADED GROUND AT LOCATION STAKE = 7650.8'
 ELEVATION OF GRADED GROUND AT LOCATION STAKE = 7650.3'



TALON RESOURCES, INC.
 615 North 400 East P.O. Box 1230
 Huntington, Utah 84528
 Phone (435)687-5310 Fax (435)687-5311
 E-Mail talon@ctv.net

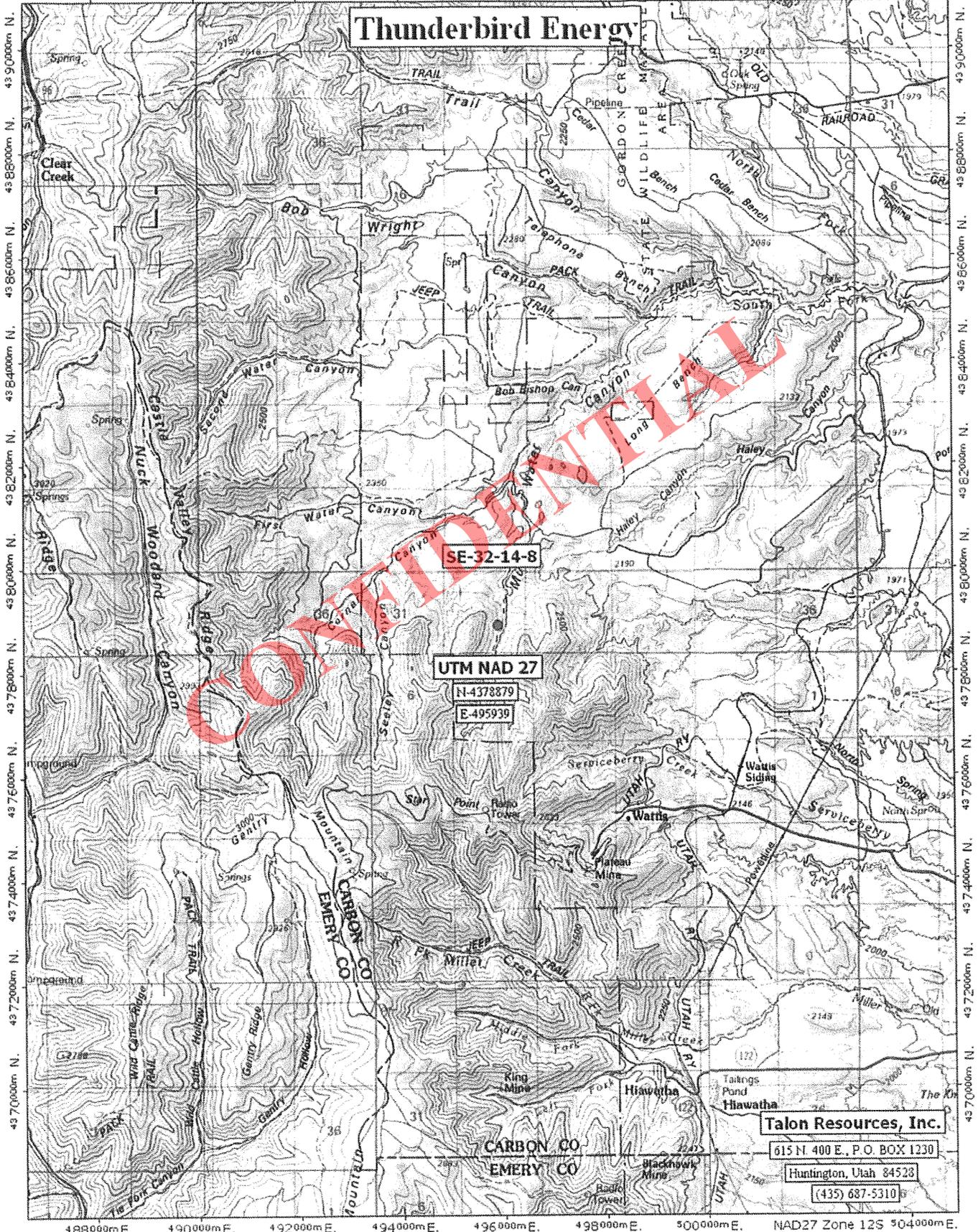


LOCATION LAYOUT
 Section 32, T14S, R8E, S.L.B.&M.
 SE-32-14-8

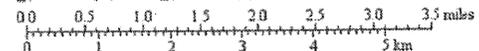
Drawn By: N. BUTKOVICH	Checked By: A.P.C.
Drawing No. A-2	Date: 10/18/11
	Scale: 1" = 60'
Sheet 2 of 4	Job No. 4942

TOPOI map printed on 08/25/10 from "Thunderbird-NE-32-14-B.tpo"

488000m E. 490000m E. 492000m E. 494000m E. 496000m E. 498000m E. 500000m E. NAD27 Zone 12S 504000m N.



TH*MB
12 1/2"



BOPE REVIEW GORDON CREEK, LLC ORDON CREEK ST SE-32-14-8 43007502530000

Well Name	GORDON CREEK, LLC GORDON CREEK ST SE-32-14-8 430			
String	Surf	Prod		
Casing Size(")	8.625	5.500		
Setting Depth (TVD)	450	4487		
Previous Shoe Setting Depth (TVD)	0	450		
Max Mud Weight (ppg)	8.7	10.0		
BOPE Proposed (psi)	500	3000		
Casing Internal Yield (psi)	2950	7740		
Operators Max Anticipated Pressure (psi)	1700	7.3		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	204	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	150	YES <input type="checkbox"/> air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	105	YES <input type="checkbox"/> OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	105	NO <input type="checkbox"/> OK
Required Casing/BOPE Test Pressure=		450	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	5.500	"
Max BHP (psi)	.052*Setting Depth*MW=	2333	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	1795	YES <input type="checkbox"/> air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	1346	YES <input type="checkbox"/> OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	1445	NO <input type="checkbox"/> Reasonable
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		450	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi

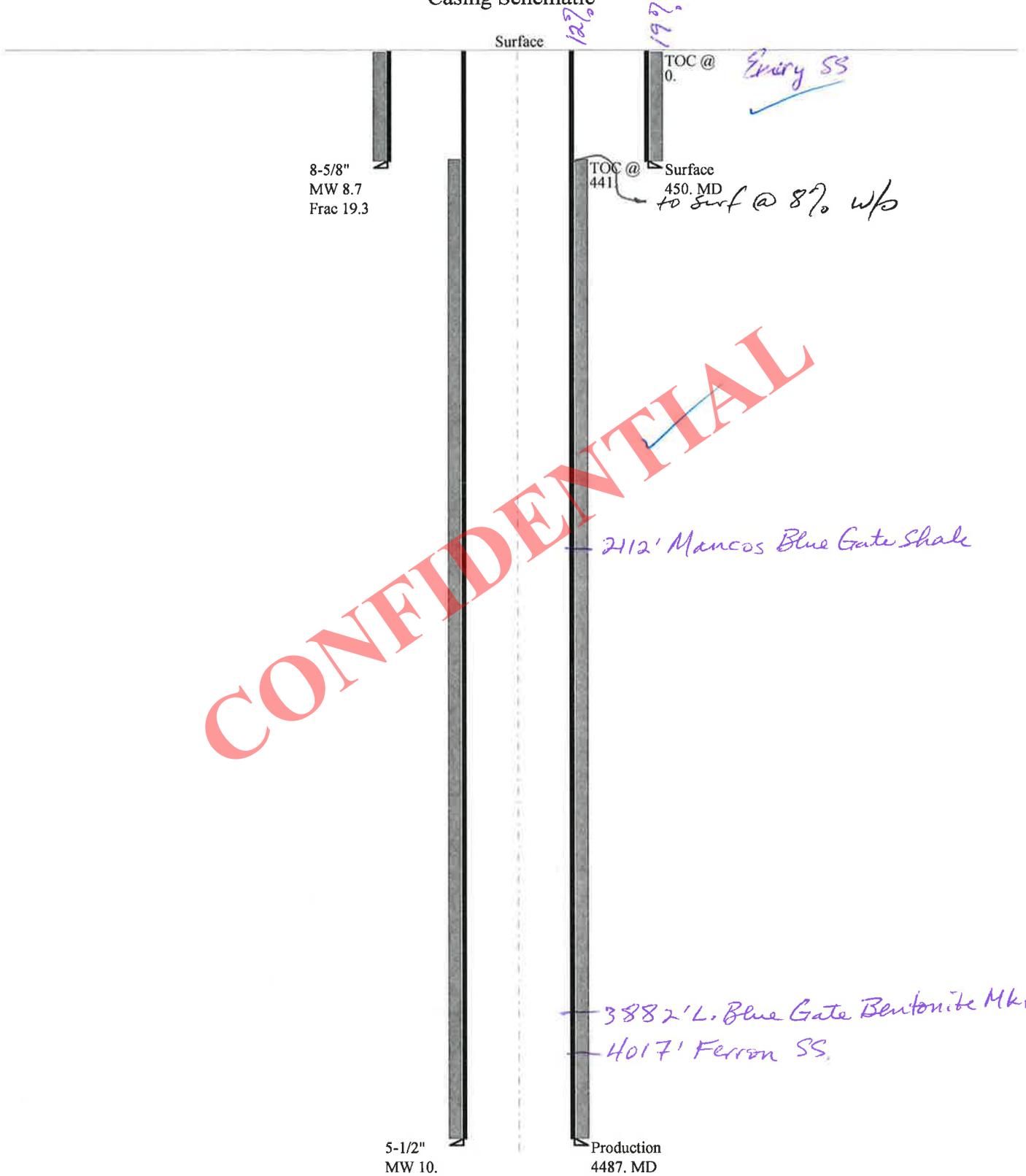
*Max Pressure Allowed @ Previous Casing Shoe=

psi *Assumes 1psi/ft frac gradient

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43007502530000 GORDON CREEK ST SE-32-14-8

Casing Schematic



Well name:	43007502530000 GORDON CREEK ST SE-32-14-8	
Operator:	GORDON CREEK, LLC	
String type:	Surface	Project ID: 43-007-50253
Location:	CARBON COUNTY	

Design parameters:

Collapse

Mud weight: 8.700 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 80 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: Surface

Burst

Max anticipated surface pressure: 396 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 450 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 391 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 4,487 ft
Next mud weight: 10.000 ppg
Next setting BHP: 2,331 psi
Fracture mud wt: 19,250 ppg
Fracture depth: 450 ft
Injection pressure: 450 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)	Est. Cost (\$)
1	450	8.625	24.00	J-55	ST&C	450	450	7.972	2317
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	203	1370	6.736	450	2950	6.56	10.8	244	22.59 J

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

Phone: 801 538-5357
FAX: 801-359-3940

Date: October 5, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 450 ft, a mud weight of 8.7 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	43007502530000 GORDON CREEK ST SE-32-14-8	
Operator:	GORDON CREEK, LLC	
String type:	Production	Project ID: 43-007-50253
Location:	CARBON COUNTY	

Design parameters:

Collapse

Mud weight: 10.000 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 137 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Burst:

Design factor 1.00

Cement top: 441 ft

Burst

Max anticipated surface pressure: 1,344 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 2,331 psi

No backup mud specified.

Tension:

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

Non-directional string.

Tension is based on air weight.
Neutral point: 3,807 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	4487	5.5	17.00	N-80	LT&C	4487	4487	4.767	25291
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	2331	6290	2.699	2331	7740	3.32	76.3	348	4.56 J

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

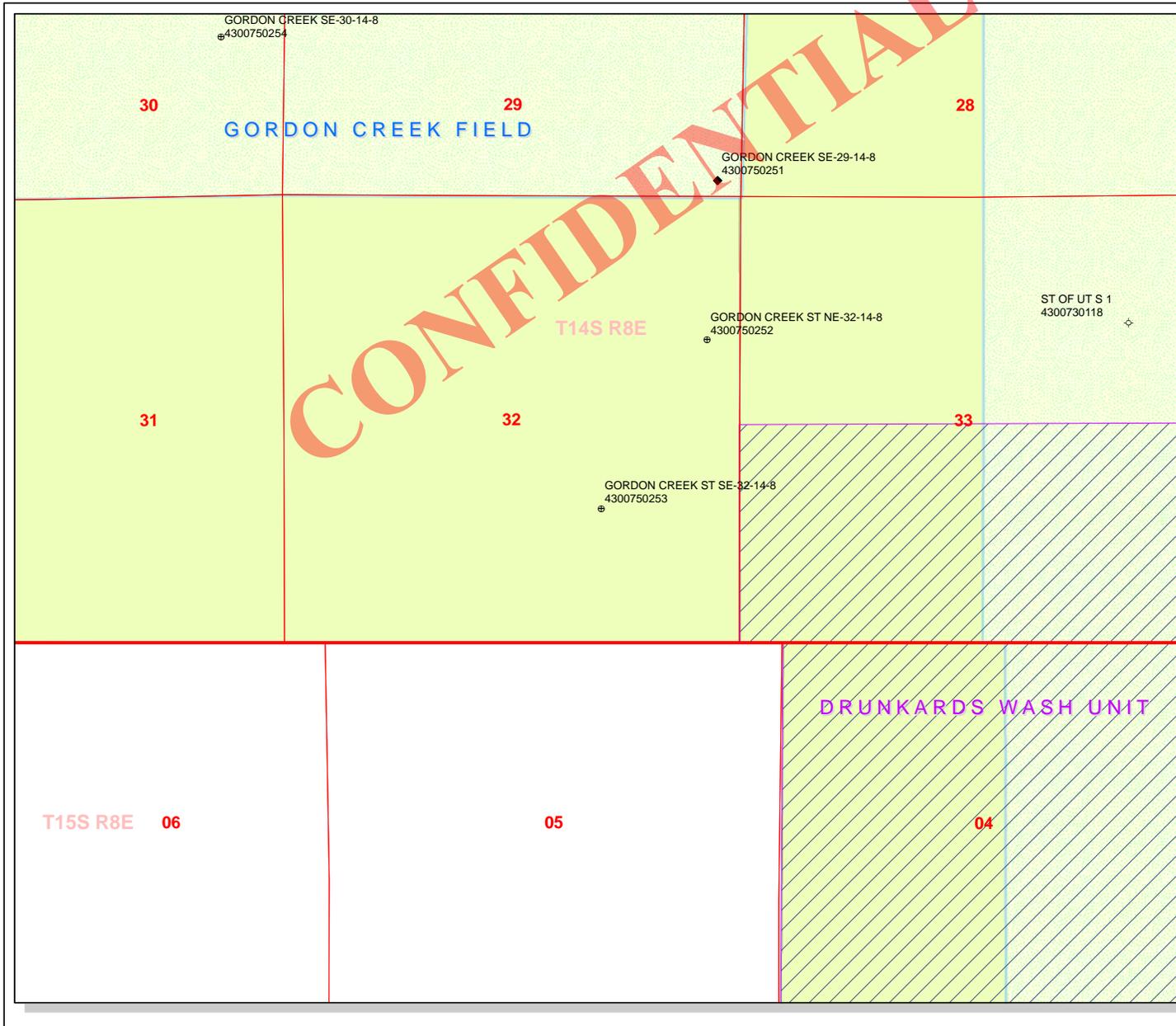
Phone: 801 538-5357
FAX: 801-359-3940

Date: October 5, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 4487 ft, a mud weight of 10 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

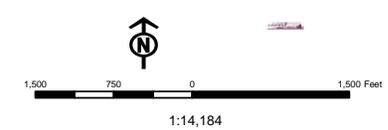
Burst strength is not adjusted for tension.



API Number: 4300750253
Well Name: GORDON CREEK ST SE-32-14-8
 Township T1.4 . Range R0.8 . Section 32
Meridian: SLBM
 Operator: GORDON CREEK, LLC

Map Prepared:
 Map Produced by Diana Mason

Units Status	Wells Query Status
ACTIVE	APD - Approved Permit
EXPLORATORY	DRL - Spudded (Drilling Commenced)
GAS STORAGE	GIW - Gas Injection
NF PP OIL	GS - Gas Storage
NF SECONDARY	LA - Location Abandoned
PI OIL	LOC - New Location
PP GAS	OPS - Operation Suspended
PP GEOTHERM	PA - Plugged Abandoned
PP OIL	PGW - Producing Gas Well
SECONDARY	POW - Producing Oil Well
TERMINATED	RET - Returned APD
Unknown	SGW - Shut-in Gas Well
ABANDONED	SOW - Shut-in Oil Well
ACTIVE	TA - Temp. Abandoned
COMBINED	TW - Test Well
INACTIVE	WDW - Water Disposal
STORAGE	WW - Water Injection Well
TERMINATED	WSW - Water Supply Well





Search bar with input field and search button

Mail

Navigation area with several empty boxes and a 'More' button. Text: '3 of about 94'

- COMPOSE**
- Inbox (49)
- Starred
- Important
- Sent Mail
- Drafts (1)
- BLM (87)
- Cabinet
- Electronic Sign
- Eng. Tech
- Follow up
- Misc
- Priority
- Tariq
- More

ESPN.com - Waltrip's 500 car carries Sandy Hook scheme - 1 hour ago

Web Clip

Gordon Creek / Thunderbird Approvals (2) Inbox x

People (8)

 **Jim Davis** 10:47 AM (1 hour ago) ★

to Ed, LaVonne, Brad, Jeff, me, Dustin, Dan, bbrumwell

The following APDs have been approved by SITLA including arch and paleo clearance.

GORDON CREEK ST NE-32-14-8 (4300750252)
 GORDON CREEK ST SE-32-14-8 (4300750253)

Thanks.

Jim Davis
 TRUST LANDS RESOURCE SP...
[Show details](#)

 Click here to [Reply](#), [Reply to all](#), or [Forward](#)

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ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator GORDON CREEK, LLC
Well Name GORDON CREEK ST SE-32-14-8
API Number 43007502530000 **APD No** 4706 **Field/Unit** UNDESIGNATED
Location: **Sec** 32 **Tw** 14.0S **Rng** 8.0E 1569 FSL 1600 FEL
 1/4, 1/4
GPS Coord **Surface Owner**
 (UTM)

Participants

M. Jones (UDOGM), Barry Brumwell, Steve Lessar (Tbird), A. Childs, M. Childs, E. Bonner (SITLA), N. Nielson (DWR).

Regional/Local Setting & Topography

Staked location sits in the upper Gordon Creek area of Carbon County, Utah. Major drainages dominate the area. The location is in Mud Water Canyon. Access will begin at the county road in section 28, proceed across SITLA lands via a temporary ROW permit through SITLA while a permanent ROW is developed. Access will continue further onto and through Burnside property then back onto SITLA, past a separate proposed location, and proceeding southward into the Mud Water drainage where the location will be. Deep cut drainages are abundant and will need attention and consideration during all phases of this field's development and operations. Consideration to drainage diversion and control where possible is mandatory. Archeology and paleontology surveys were completed and submitted to SITLA for review by the operator. A pit was discussed however Thunderbird representatives believe they would like to not have a traditional reserve pit at this location. The drilling operations will be drilled in a similar fashion to a closed loop system. Metal flat tanks will be utilized during construction for cuttings and any fluid generated which will be removed via truck and transported to a centralized pit to handle multiple wells. SITLA discussed removing vegetation from topsoil right up front during construction activities. They also discussed the reclamation bond. DWR recommends Big Game winter closure stipulations along with raptor nesting restriction pending raptor surveys. Those season dates and other pertinent information can be obtained from DWR. A diversion on the west side of the location was of concern during the pre-site and DOGM suggested that the entire location and well bore be moved east ~ 60 feet to provide more room and options to deal with this drainage and the necessary diversion that was going to be required. It was discussed during the pre-site to keep run-off from the hill spilling onto the well pad by diverting the drainage on the west side back to the south around the southwest corner of the pad and drop it into Mud Canyon at that point. This will be a rather major diversion and will take ample dirt work and potentially some rip-rap to accomplish the job. A diversion was discussed to capture smaller drainages on the west side of the pad proceeding northward.

Surface Use Plan

Current Surface Use

Grazing
 Wildlife Habitat
 Deer Winter Range

New Road Miles	Well Pad	Src Const Material	Surface Formation
---------------------------	-----------------	---------------------------	--------------------------

2

Width 310 Length 285

Onsite

Ancillary Facilities**Waste Management Plan Adequate?****Environmental Parameters****Affected Floodplains and/or Wetlands Y**

flash flooding potential from major storm events if drainages are unable to handle the flow.

Flora / Fauna

Sagebrush grasses and other shrubs.

Soil Type and Characteristics

rocky clay loam

Erosion Issues Y

big storm events have the potential to drop large amounts of water in a short amount of time in this area and the soil characteristics are prone to erosion. Armoring at key points will help provide some stability and security to the wellpad.

Sedimentation Issues Y

large events will carry away large amounts of sediment in this area.

Site Stability Issues Y

Location could be at risk of washing or eroding at key points during large storm events that adjacent drainages aren't able to handle. The soils in the area are erosive and much more prone to erosion once disturbed as they will be for construction.

Drainage Diversion Required? Y

Divert drainages around and away from location and access road.

Berm Required? Y

Berm location to prevent spills from entering adjacent drainages.

Erosion Sedimentation Control Required? Y

rip-rap key points, berm location, and drainage diversion and control will be required.

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

Reserve Pit**Site-Specific Factors****Site Ranking**

Distance to Groundwater (feet)	>200	0
Distance to Surface Water (feet)		20
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)	>1320	0
Native Soil Type	Mod permeability	10
Fluid Type	Fresh Water	5

Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)	10 to 20	5	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
Final Score		40	1 Sensitivity Level

Characteristics / Requirements

No earthen pit requested. Closed loop system designed. A centrally located cuttings pit will be permitted and constructed on another well location to handle cutting from this well bore.

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

Other Observations / Comments

Mark Jones
Evaluator

10/17/2011
Date / Time

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**Application for Permit to Drill
Statement of Basis
Utah Division of Oil, Gas and Mining**

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
4706	43007502530000	LOCKED	GW	S	No
Operator	GORDON CREEK, LLC		Surface Owner-APD		
Well Name	GORDON CREEK ST SE-32-14-8		Unit		
Field	UNDESIGNATED		Type of Work	DRILL	
Location	NWSE 32 14S 8E S 1569 FSL (UTM) 495881E 4379080N		1600 FEL GPS Coord		

Geologic Statement of Basis

Tunderbird Energy proposes to drill the well to a total depth of 4,487' and plans to set surface casing from 0'-450'. The surface string will be drilled using air unless hole conditions require the need to "mud-up" with water and gel chem. Within a 10,000 foot radius of the center of section 32, there are 72 filed water rights, however, only two are subsurface groundwater rights. Gordon Creek, LLC, has applied to drill a water-well to produce 4 acre-feet of water for oil & gas field operations. Klabzuba Oil & Gas, Inc. has a water supply well for oil & gas field operations, however, no other well information is available; it is assumed that the water is being drawn from the Emery Sandstone. This location is within a small north-south trending graben valley. The poorly permeable silty soil has been formed from the erosion of the Upper Blue Gate Member of the Mancos Shale. Several units of the Emery Sandstone Member of the Mancos Shale are present at the near surface or within the subsurface, these strata should be included within the interval to be protected by the surface casing string. The operator should be informed of the likelihood of these units being water saturated and to respond to protecting these zones by extending the surface casing as necessary. Proposed surface casing and cement should adequately isolate any shallow zones containing water.

Ammon McDonald
APD Evaluator

10/13/2011
Date / Time

Surface Statement of Basis

Staked location sits in the upper Gordon Creek area of Carbon County, Utah. Major drainages dominate the area. The location is in Mud Water Canyon. Access will begin at the county road in section 28, proceed across SITLA lands via a temporary ROW permit through SITLA while a permanent ROW is developed. Access will continue further onto and through Burnside property then back onto SITLA, past a separate proposed location, and proceeding southward into the Mud Water drainage where the location will be. Deep cut drainages are abundant and will need attention and consideration during all phases of this field's development and operations. Consideration to drainage diversion and control where possible is mandatory. Archeology and paleontology surveys were completed and submitted to SITLA for review by the operator. A pit was discussed however Thunderbird representatives believe they would like to not have a traditional reserve pit at this location. The drilling operations will be drilled in a similar fashion to a closed loop system. Metal flat tanks will be utilized during construction for cuttings and any fluid generated which will be removed via truck and transported to a centralized pit to handle multiple wells. SITLA discussed removing vegetation from topsoil right up front during construction activities. They also discussed the reclamation bond. DWR recommends Big Game winter closure

stipulations along with raptor nesting restriction pending raptor surveys. Those season dates and other pertinent information can be obtained from DWR. A diversion on the west side of the location was of concern during the pre-site and DOGM suggested that the entire location and well bore be moved east ~ 60 feet to provide more room and options to deal with this drainage and the necessary diversion that was going to be required. It was discussed during the pre-site to keep run-off from the hill spilling onto the well pad by diverting the drainage on the west side back to the south around the southwest corner of the pad and drop it into Mud Canyon at that point. This will be a rather major diversion and will take ample dirt work and potentially some rip-rap to accomplish the job. A diversion was discussed to capture smaller drainages on the west side of the pad proceeding northward.

Mark Jones
Onsite Evaluator

10/17/2011
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Surface	The well site shall be bermed to prevent fluids from leaving the pad.
Surface	GENERALLY: Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	SPECIFICALLY: Divert major drainage on the west side of the location back to the south around the southwest corner of the location and dump it back into a finger of Mud Canyon at that point. Also create a smaller diversion ditch along the west side of the pad proceeding back to the north around the northwest corner of the pad. Both drainages should utilize ample rip-rap where necessary.
Surface	This well pad and wellbore were moved ~ 60 feet east during the presite. New surveys were shot that day and were looked at by the entire pre-site party. These drawings were submitted to the Division to be added to the APD package and to be considered for approval as the site chosen for the well pad and well bore. The operator should take measures to ensure that this "moved" pad and wellbore are constructed.

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WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 9/27/2011

API NO. ASSIGNED: 43007502530000

WELL NAME: GORDON CREEK ST SE-32-14-8

OPERATOR: GORDON CREEK, LLC (N3245)

PHONE NUMBER: 403 453-1608

CONTACT: Barry Brumwell

PROPOSED LOCATION: NWSE 32 140S 080E

Permit Tech Review:

SURFACE: 1569 FSL 1600 FEL

Engineering Review:

BOTTOM: 1569 FSL 1600 FEL

Geology Review:

COUNTY: CARBON

LATITUDE: 39.56140

LONGITUDE: -111.04795

UTM SURF EASTINGS: 495881.00

NORTHINGS: 4379080.00

FIELD NAME: UNDESIGNATED

LEASE TYPE: 3 - State

LEASE NUMBER: ML-46539

PROPOSED PRODUCING FORMATION(S): FERRON SANDSTONE

SURFACE OWNER: 3 - State

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: STATE - RLB0010790
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: 91-5193
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingle Approved

LOCATION AND SITING:

- R649-2-3.
- Unit:
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: Cause 248-01
- Effective Date: 5/16/2002
- Siting: 460' Fr Outer Bdry & 920' Fr Other Wells
- R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 5 - Statement of Basis - bhill
27 - Other - bhill



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

Permit To Drill

Well Name: GORDON CREEK ST SE-32-14-8
API Well Number: 43007502530000
Lease Number: ML-46539
Surface Owner: STATE
Approval Date: 2/19/2013

Issued to:

GORDON CREEK, LLC, 1179 E Main #345, Price, UT 84501

Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 248-01. The expected producing formation or pool is the FERRON SANDSTONE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

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

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.

Conditions of Approval:

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be extended to a sufficient depth in order to contain water flows as seen in the Gordon Creek ST SE-7-14-8 well.

Additional Approvals:

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

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet
- Plug and abandonment of the well - contact Dustin Doucet

Notification Requirements:

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

- Within 24 hours following the spudding of the well - contact Carol Daniels
OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program
 - contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

Contact Information:

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

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
801-231-8956 - after office hours

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:



For John Rogers
Associate Director, Oil & Gas