

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

FORM 3

AMENDED REPORT

<b>APPLICATION FOR PERMIT TO DRILL</b>						<b>1. WELL NAME and NUMBER</b> Horn Frog 14-8D-13-18				
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						<b>3. FIELD OR WILDCAT</b> WILDCAT				
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO						<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b>				
<b>6. NAME OF OPERATOR</b> BILL BARRETT CORP						<b>7. OPERATOR PHONE</b> 303 312-8164				
<b>8. ADDRESS OF OPERATOR</b> 1099 18th Street Ste 2300, Denver, CO, 80202						<b>9. OPERATOR E-MAIL</b> dspencer@billbarrettcorp.com				
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UIT-EDA-001-000			<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>			<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>				
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>				
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>						<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>				
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Ute			<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
<b>20. LOCATION OF WELL</b>		<b>FOOTAGES</b>		<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>		
LOCATION AT SURFACE		655 FNL 1971 FEL		NWNE	17	13.0 S	18.0 E	S		
Top of Uppermost Producing Zone		490 FSL 2116 FWL		SESW	8	13.0 S	18.0 E	S		
At Total Depth		618 FSL 1983 FWL		SESW	8	13.0 S	18.0 E	S		
<b>21. COUNTY</b> UINTAH			<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 618			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640				
<b>27. ELEVATION - GROUND LEVEL</b> 6694			<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 5280			<b>26. PROPOSED DEPTH</b> MD: 8025 TVD: 7500				
<b>28. BOND NUMBER</b> LPM 4138148			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Water Permit # 43-10991							
<b>Hole, Casing, and Cement Information</b>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Cond	24	14	0 - 40	65.0	Unknown	8.6	Unknown	0	0.0	0.0
Surf	12.25	9.625	0 - 1500	36.0	J-55 ST&C	8.6	35/65 Poz	430	1.96	12.4
							Premium Plus	200	1.15	15.8
Prod	7.875	4.5	0 - 8025	11.6	P-110 LT&C	9.5	Halliburton Premium , Type Unknown	310	1.96	12.5
							50/50 Poz	1350	1.45	13.4
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<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 checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
<b>NAME</b> Tracey Fallang			<b>TITLE</b> Regulatory Manager			<b>PHONE</b> 303 312-8134				
<b>SIGNATURE</b>			<b>DATE</b> 04/20/2011			<b>EMAIL</b> tfallang@billbarrettcorp.com				
<b>API NUMBER ASSIGNED</b> 43047515650000			<b>APPROVAL</b>   Permit Manager							

**DRILLING PROGRAM**

BILL BARRETT CORPORATION

**Horn Frog 14-8D-13-18**

655' FNL, 1971' FEL, Lot 1, NWNE, Sec 17, T13S-R18E (surface)

618' FSL, 1983' FWL, Lot 3, SESW, Sec. 8, T13S-R18E (bottom)

Uintah County, Utah

**1 – 2. Estimated Tops of Geological Markers and Formations Expected to Contain Water, Oil and Gas and Other Minerals**

<u>Formation</u>	<u>Depth – MD</u>	<u>Depth – TVD</u>
Green River	Surface	Surface
Wasatch	3230'*	3005'*
North Horn	5242'*	4720'*
Dark Canyon	6600'*	6075'*
Price River	6885'*	6260'*
TD	8025'*	7500'*

**PROSPECTIVE PAY:** \*Members of the Mesaverde formation and Wasatch formation (inclusive of the North Horn) are primary objectives for oil/gas. Any shallow water zones encountered will be adequately protected and reported. All potentially productive hydrocarbon zones will be cemented off.

**3. BOP and Pressure Containment Data**

<u>Depth Intervals</u>	<u>BOP Equipment</u>
0 – 1500'	No pressure control required
1500' – TD	11" 3000# Ram Type BOP 11" 3000# Annular BOP
- Drilling spool to accommodate choke and kill lines;	
- Ancillary equipment and choke manifold rated at 3,000#. All BOP and BOPE tests will be in accordance with the requirements of onshore Order No. 2;	
- The State of Utah Division of Oil, Gas and Mining will be notified 24 hours in advance of all BOP pressure tests.	
- BOP hand wheels may be underneath the sub-structure of the rig if the drilling rig used is set up to operate most efficiently in this manner.	

Bill Barrett Corporation  
 Drilling Program  
 Horn Frog 14-8D-13-18  
 Uintah County, Utah

4. **Casing Program**

<u>Hole Size</u>	<u>Setting Depth</u>		<u>Casing Size</u>	<u>Casing Weight</u>	<u>Casing Grade</u>	<u>Thread</u>	<u>Condition</u>
	<u>From</u>	<u>To</u>					
24"	Surface	40'	14"	65#			
12 1/4"	Surface	1500'	9 5/8"	36#	Jor K 55	ST&C	New
8 3/4" and 7 7/8"	Surface	TD'	5 1/2" 4 1/2"	17.0# 11.6#	P-110 P-110	LT&C LT&C	New New

Note: BBC will use one of the options of production casing size noted above. In addition, the 7 7/8" hole size will begin at the point the bit is changed.

5. **Cementing Program**

16" Conductor Casing 9 5/8" Surface Casing	Grout cement  <i>Lead</i> with approximately 290 sks 35/65/6 cement with additives mixed at 12.4 ppg (yield = 1.96ft <sup>3</sup> /sx).  <i>Tail</i> with approximately 190 sks premium cement with additives mixed at 15.8 ppg (yield = 1.15 ft <sup>3</sup> /sx) circulated to surface with 100% excess.
5 1/2" Production Casing  <b>OR</b>  4 1/2" Production Casing	<i>Lead</i> with approximately 310 sx (4 1/2" csg) or 260 sx (5 1/2" csg) of Halliburton Light Premium cement with additives mixed at 12.5 ppg (yield = 1.96 ft <sup>3</sup> /sx).  <i>Tail</i> with approximately 1350 sx (4 1/2" csg) or 1110 sx (5 1/2" csg) of 50/50 Poz cement with additives mixed at 13.4 ppg (yield = 1.45 ft <sup>3</sup> /sk), circulated to ~800' with 15% excess.

Note: Actual volumes to be calculated from caliper log.

6. **Mud Program**

<u>Interval</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss (API filtrate)</u>	<u>Remarks</u>
0 - 40'	8.3 - 8.6	27 - 40	--	Native Spud Mud
40' - 1500'	8.3 - 8.6	27 - 40	15 cc or less	Native/Gel/Lime
1500' - TD	8.6 - 9.5	38 - 46	15 cc or less	LSND/DAP

Note: Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kicks" will be available at wellsite. BBC may require minor amounts of diesel to be added to its fluid system in order to reduce torque and drag.

7. **Testing, Logging and Core Programs**

Cores	None anticipated;
Testing	None anticipated;
Sampling	30' to 50' samples; surface casing to TD. Preserve samples all show intervals;
Surveys	Run every 1000' and on trips, slope only;
Logging	DIL-GR-SP, FDC-CNL-GR-CAL-Pe-Microlog, Sonic-GR, all TD to surface.

Bill Barrett Corporation  
Drilling Program  
Horn Frog 14-8D-13-18  
Uintah County, Utah

**8. Anticipated Abnormal Pressures or Temperatures**

No abnormal pressures or temperatures or other hazards are anticipated.

Maximum anticipated bottom hole pressure equals approximately 3705 psi\* and maximum anticipated surface pressure equals approximately 2055 psi\*\* (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

\*Max Mud Wt x 0.052 x TD<sub>TVD</sub> = A (bottom hole pressure)

\*\*Maximum surface pressure = A - (0.22 x TD<sub>TVD</sub>)

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**9. Auxiliary Equipment**

- a) Upper kelly cock; lower Kelly cock will be installed while drilling
- b) Inside BOP or stab-in valve (available on rig floor)
- c) Safety valve(s) and subs to fit all string connections in use
- d) Mud monitoring will be visually observed

**10. Drilling Schedule**

Location Construction: June 9, 2011  
Spud: June 17, 2011  
Duration: 13 days drilling time  
30 days completion time

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**Other -Onshore Variances Requested**

Use of EFM and Flow Conditioner (Onshore Order No. 5)

Use of an electronic flow meter (EFM) for gas measurement purposes is requested with this application.

Use of a flow conditioner is also being requested (versus straightening vanes). Flow conditioners have been proven to be as or more effective than straightening vanes in conditioning gas for measurement. In addition to their superior conditioning properties, they take up less space (shorter meter runs/smaller footprint), and are less prone to corrosion and dislodging (greater reliability). In the past BBC has experienced straightening vanes becoming dislodged in normal service and compromising their conditioning effectiveness.

Make/Model: CPA 50E

Dimensions: 2" or 3" Flanged conditioners - 16" minimum up to 3 1/2' long x 2" (ID 2.067) OR 24" minimum up to 3 1/2' long x 3" (ID 3.068)

Air Drilling (Onshore Order No. 2)

Air drilling operations will be conducted with the purpose of drilling and setting surface casing with a truck mounted air rig, for all Federal wells located at this pad. Surface casing is approximately 1000'. Bill Barrett Corporation will comply with the following surface air drilling operation requirements:

1. Properly lubricated and maintained diverter system in place of a rotating head. The diverter system forces air and cutting returns to the cuttings pit and is used solely to drill the surface hole. In addition, BBC will use a properly lubricated and maintained rotating head in compliance with OOG No. 2.
2. The Blooie line will discharge at least 100 feet from the wellbore and will be securely anchored.
3. An automatic igniter or continuous pilot light will be installed at the end of the blooie line.
4. Compressors that supply energy to drill the air filled surface hole will be located 100' away from the wellbore and on the opposite side of the blooie line. The compressors will be equipped with 1) emergency kill switch, 2) pressure relief valves 3) spark arresters on the motors.

**T13S, R18E, S.L.B.&M.**

**BILL BARRETT CORPORATION**

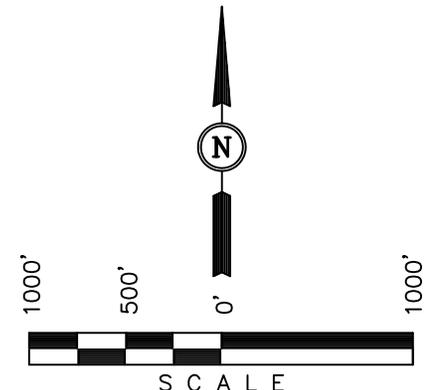
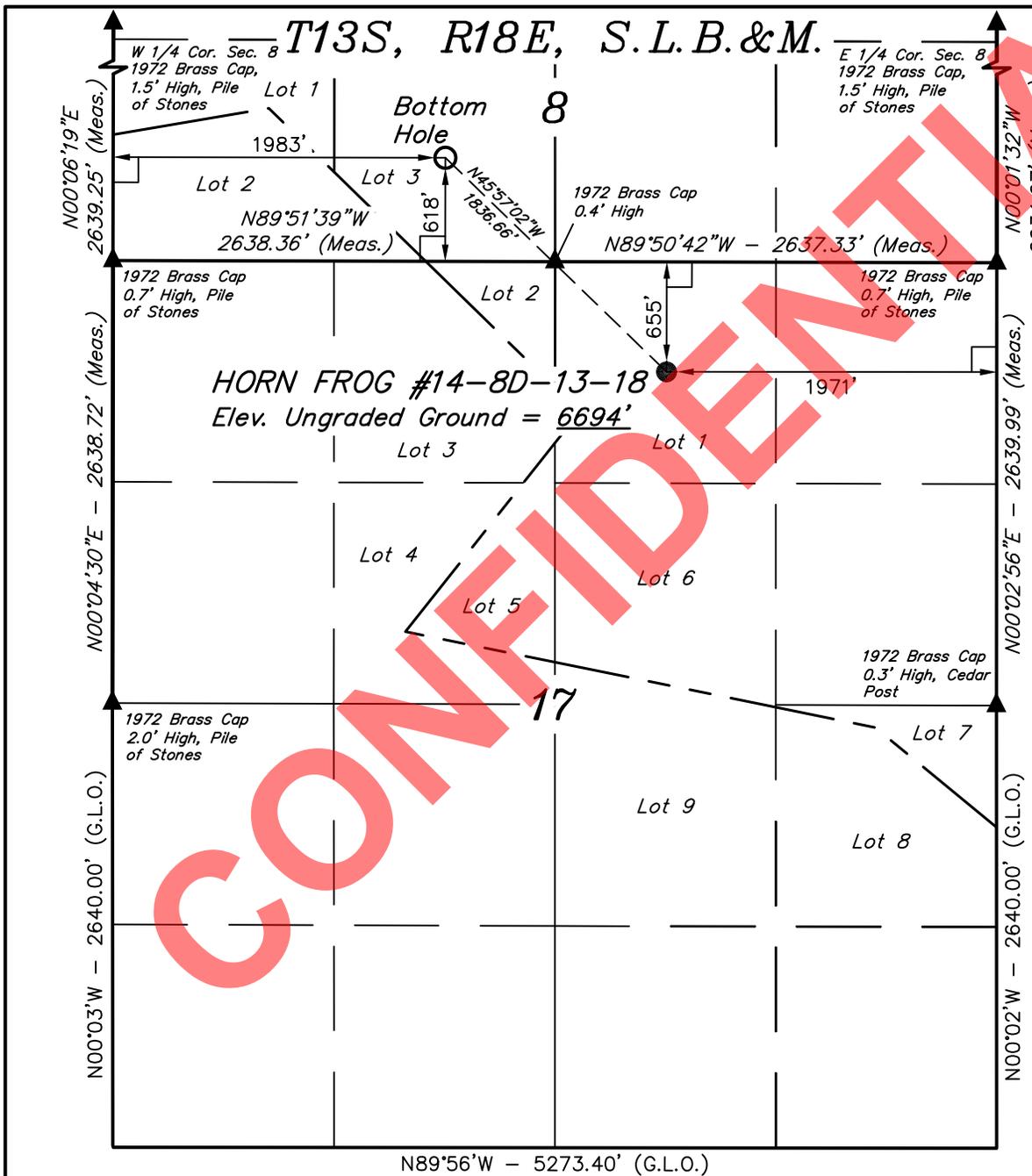
Well location, HORN FROG #14-8D-13-18, located as shown in Lot 1 of Section 17, T13S, R18E, S.L.B.&M., Uintah County, Utah.

**BASIS OF ELEVATION**

BENCH MARK (47 WF) LOCATED IN THE NW 1/4 OF SECTION 22, T12S, R19E, S.L.B.&M., TAKEN FROM THE DOG KNOLL 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 ON CAP AS BEING 6473 FEET.

**BASIS OF BEARINGS**

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



**CERTIFICATE**

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

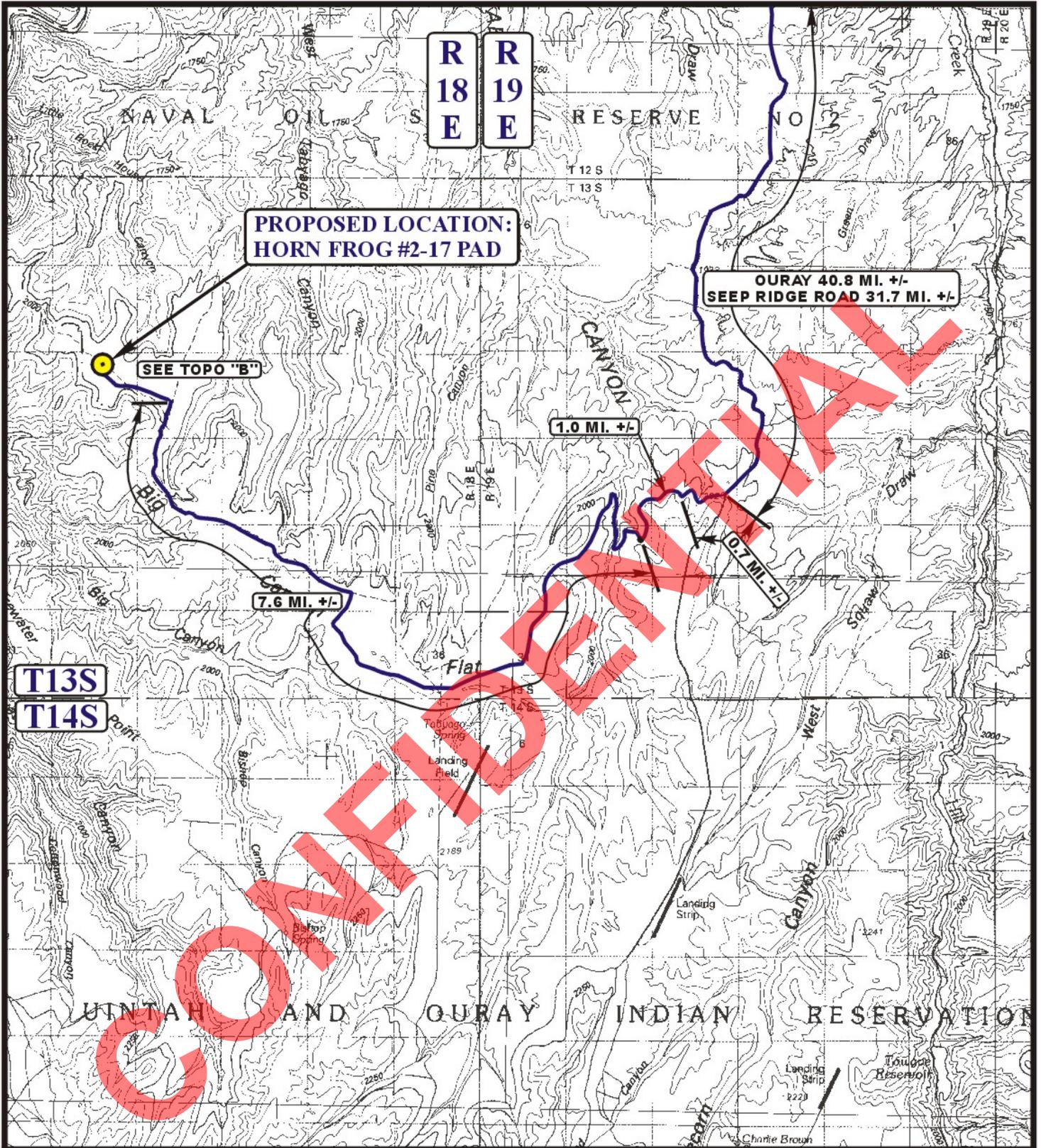
*Robert L. Kay*  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 161319  
 STATE OF UTAH

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

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

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°41'44.25" (39.695625)	LATITUDE = 39°41'31.66" (39.692128)
LONGITUDE = 109°55'43.25" (109.928681)	LONGITUDE = 109°55'26.35" (109.923986)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 39°41'44.38" (39.695661)	LATITUDE = 39°41'31.78" (39.692161)
LONGITUDE = 109°55'40.73" (109.927981)	LONGITUDE = 109°55'23.82" (109.923283)
STATE PLANE NAD 27	STATE PLANE NAD 27
N: 500081.86 E: 2442316.01	N: 498830.96 E: 2443659.88

SCALE 1" = 1000'	DATE SURVEYED: 09-28-10	DATE DRAWN: 10-06-10
PARTY A.F. J.C. C.C.	REFERENCES G.L.O. PLAT	FILE BILL BARRETT CORPORATION
WEATHER COOL		



**PROPOSED LOCATION:  
HORN FROG #2-17 PAD**

**OURAY 40.8 MI. +/-  
SEEP RIDGE ROAD 31.7 MI. +/-**

**SEE TOPO "B"**

**1.0 MI. +/-**

**10.7 MI. +/-**

**7.6 MI. +/-**

**T13S  
T14S**

**R 18 E  
R 19 E**

**DRAFT**

**LEGEND:**

**● PROPOSED LOCATION**

**BILL BARRETT CORPORATION**

**HORN FROG #2-17 PAD  
SECTION 17, T13S, R18E, S.L.B.&M.  
NW 1/4 NE 1/4**



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



**TOPOGRAPHIC  
MAP**

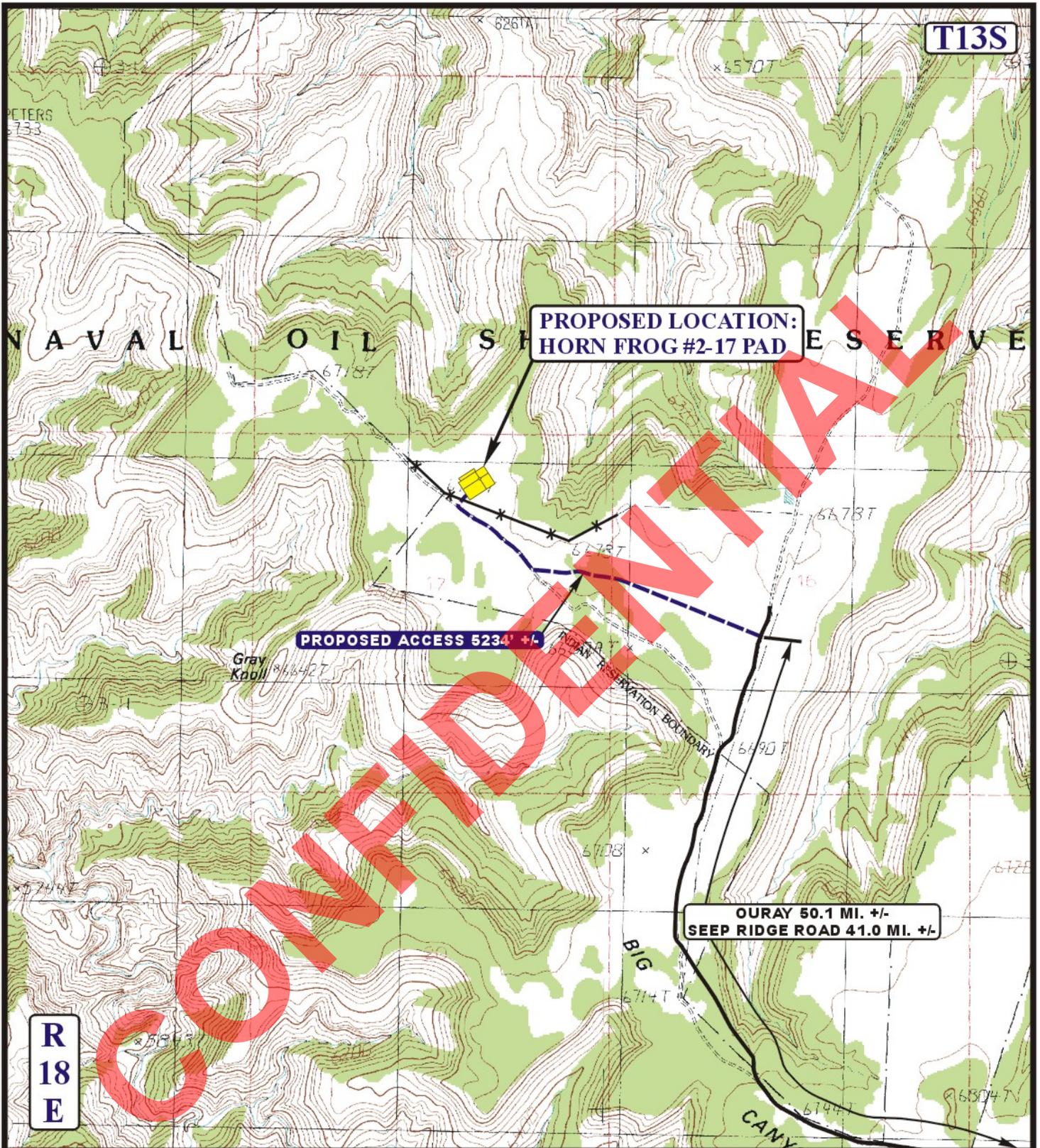
**03 17 10  
MONTH DAY YEAR**

**SCALE: 1:100,000**

**DRAWN BY: J.H.**

**REV: 10-07-10 Z.L.**





T13S

PROPOSED LOCATION:  
HORN FROG #2-17 PAD

PROPOSED ACCESS 5234 +/-

OURAY 50.1 MI. +/-  
SEEP RIDGE ROAD 41.0 MI. +/-

R  
18  
E

LEGEND:

- EXISTING ROAD
- - - - - PROPOSED ACCESS ROAD
- \* \* \* \* \* EXISTING FENCE

BILL BARRETT CORPORATION

HORN FROG #2-17 PAD  
SECTION 17, T13S, R18E, S.L.B.&M.  
NW 1/4 NE 1/4



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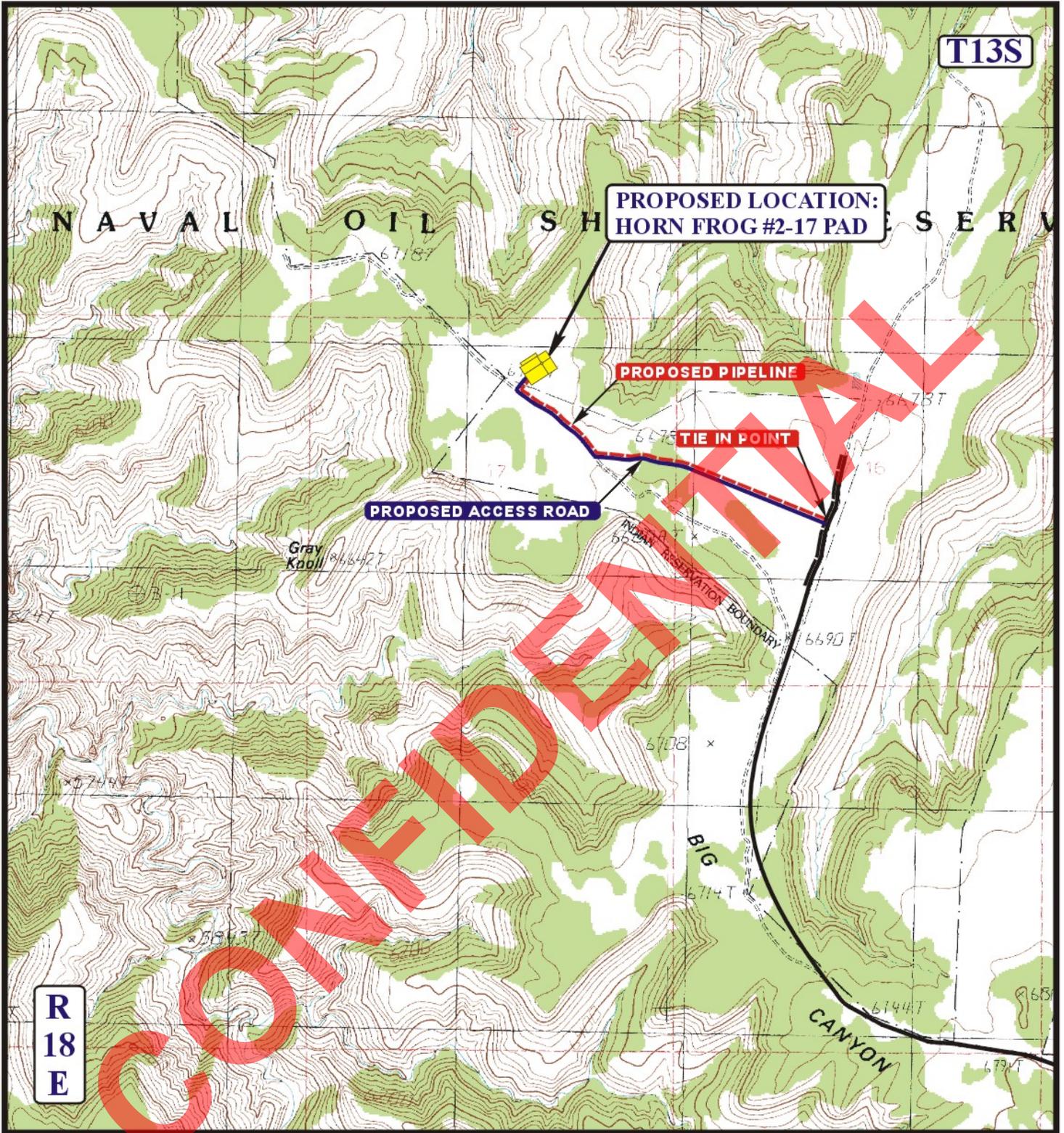
TOPOGRAPHIC  
MAP

03 17 10  
MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: J.H. REV: 10-28-10 Z.L.

B  
TOPO





**APPROXIMATE TOTAL PIPELINE DISTANCE = 5,143' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- PROPOSED PIPELINE

**BILL BARRETT CORPORATION**

**HORN FROG #2-17 PAD**  
**SECTION 17, T13S, R18E, S.L.B.&M.**  
**NW 1/4 NE 1/4**



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**TOPOGRAPHIC**  
**MAP**

<b>04</b>	<b>08</b>	<b>10</b>
MONTH	DAY	YEAR

SCALE: 1" = 2000'    DRAWN BY: J.H.    REV: 10-07-10 Z.L.

**D**  
**TOPO**



## **Bill Barrett Corp.**

Uintah County, Utah [NAD27]

Pad 3

Horn Frog 14-8D-13-18

Wellbore #1

Plan: plan1 04apr11 smw

## **Standard Planning Report**

05 April, 2011

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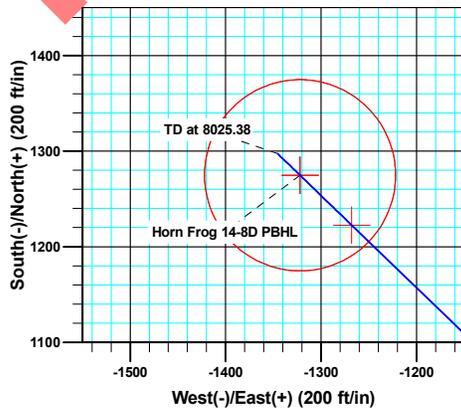
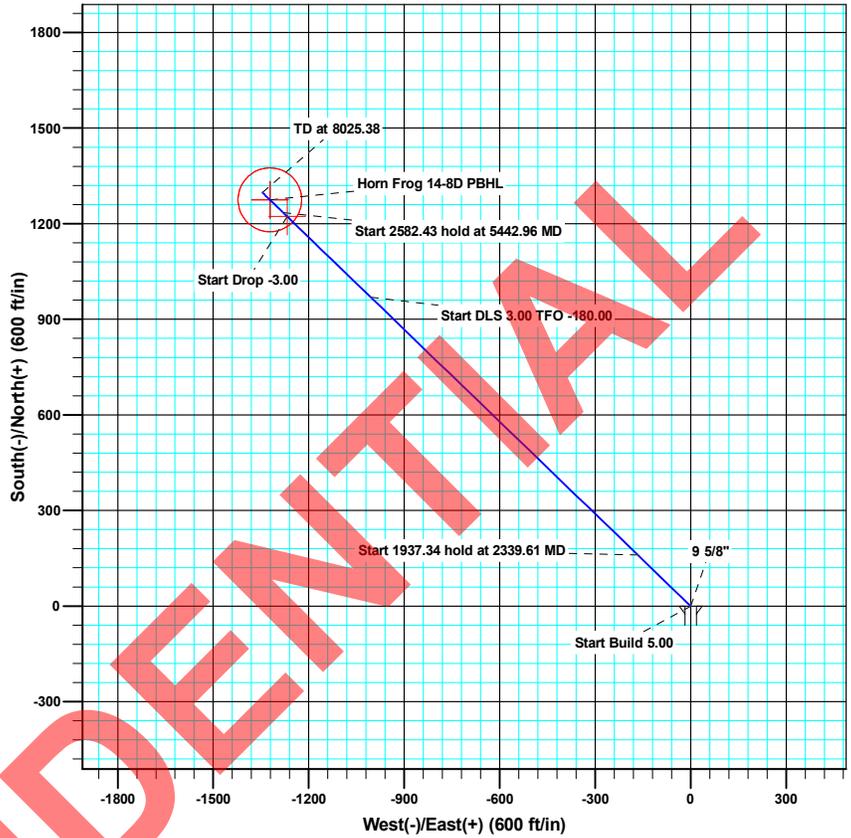
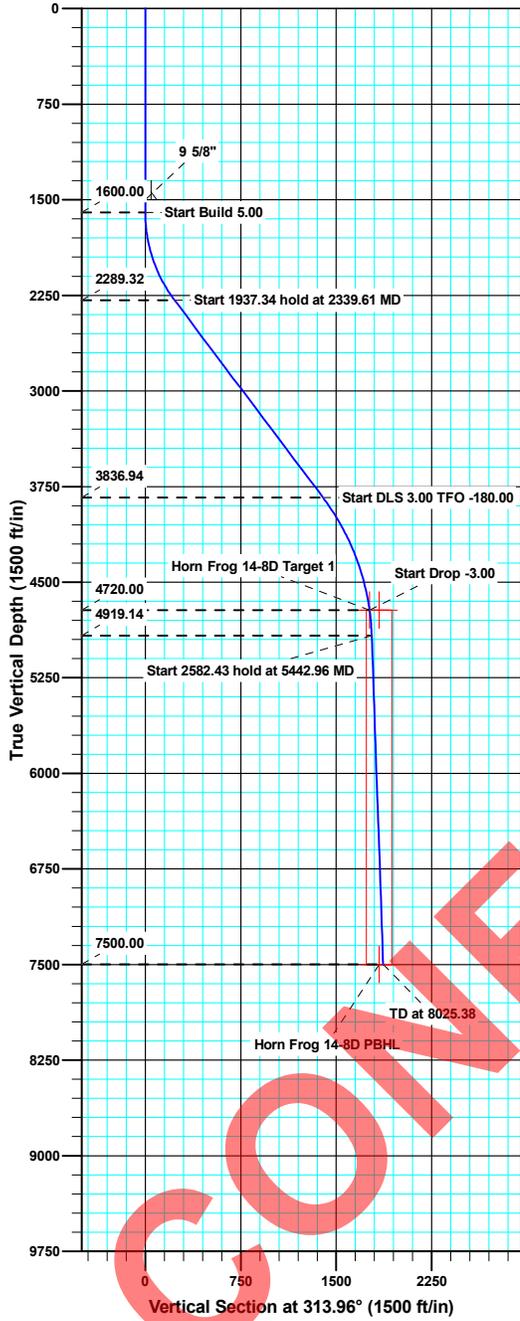


WELL DETAILS: Horn Frog 14-8D-13-18

US State Plane 1927 (Exact solution) , Utah Central 4302 , NAD 1927 (NADCON CONUS)  
Ground Level: 6693.00



+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	498830.51	2443660.09	39° 41' 31.78 N	109° 55' 23.82 W



Azimuths to True North  
Magnetic North: 11.21°

Magnetic Field  
Strength: 52144.5nT  
Dip Angle: 65.55°  
Date: 04/04/2011  
Model: IGRF200510

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1600.00	0.000	0.00	1600.00	0.00	0.00	0.00	0.00	0.00	
2339.61	36.981	313.96	2289.32	160.01	-165.93	5.00	313.96	230.51	
4276.94	36.981	313.96	3836.94	968.98	-1004.80	0.00	0.00	1395.90	
5242.96	8.000	313.96	4720.00	1222.76	-1267.97	3.00	-180.00	1761.51	Horn Frog 14-8D Target 1
5442.96	2.000	313.96	4919.15	1234.86	-1280.51	3.00	180.00	1778.93	
8025.39	2.000	313.96	7500.00	1297.42	-1345.39	0.00	0.00	1869.05	Horn Frog 14-8D PBHL





<b>Database:</b>	Compass VM	<b>Local Co-ordinate Reference:</b>	Well Horn Frog 14-8D-13-18
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL @ 6693.00ft
<b>Project:</b>	Uintah County, Utah [NAD27]	<b>MD Reference:</b>	GL @ 6693.00ft
<b>Site:</b>	Pad 3	<b>North Reference:</b>	True
<b>Well:</b>	Horn Frog 14-8D-13-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	plan1 04apr11 smw		

<b>Project</b>	Uintah County, Utah [NAD27]		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Utah Central 4302		

<b>Site</b>	Pad 3				
<b>Site Position:</b>		<b>Northing:</b>	498,830.53 usft	<b>Latitude:</b>	39° 41' 31.78 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,443,660.09 usft	<b>Longitude:</b>	109° 55' 23.82 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	1.10 ft	<b>Grid Convergence:</b>	1.01 °

<b>Well</b>	Horn Frog 14-8D-13-18					
<b>Well Position</b>	<b>+N/-S</b>	-0.02 ft	<b>Northing:</b>	498,830.51 usft	<b>Latitude:</b>	39° 41' 31.78 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,443,660.09 usft	<b>Longitude:</b>	109° 55' 23.82 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	6,693.00 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	04/04/11	11.21	65.55	52,144

<b>Design</b>	plan1 04apr11 smw				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	313.96	

Plan Sections										
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
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.000	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,339.61	36.981	313.96	2,289.32	160.01	-165.93	5.00	5.00	0.00	313.96	
4,276.94	36.981	313.96	3,836.94	968.98	-1,004.80	0.00	0.00	0.00	0.00	
5,242.96	8.000	313.96	4,720.00	1,222.76	-1,267.97	3.00	-3.00	0.00	-180.00	Horn Frog 14-8D Tarç
5,442.96	2.000	313.96	4,919.15	1,234.86	-1,280.51	3.00	-3.00	0.00	180.00	
8,025.39	2.000	313.96	7,500.00	1,297.42	-1,345.39	0.00	0.00	0.00	0.00	Horn Frog 14-8D PBH



<b>Database:</b>	Compass VM	<b>Local Co-ordinate Reference:</b>	Well Horn Frog 14-8D-13-18
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL @ 6693.00ft
<b>Project:</b>	Uintah County, Utah [NAD27]	<b>MD Reference:</b>	GL @ 6693.00ft
<b>Site:</b>	Pad 3	<b>North Reference:</b>	True
<b>Well:</b>	Horn Frog 14-8D-13-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	plan1 04apr11 smw		

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)
1,600.00	0.000	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 5.00</b>									
1,700.00	5.000	313.96	1,699.87	3.03	-3.14	4.36	5.00	5.00	0.00
1,800.00	10.000	313.96	1,798.99	12.08	-12.53	17.41	5.00	5.00	0.00
1,900.00	15.000	313.96	1,896.58	27.10	-28.11	39.05	5.00	5.00	0.00
2,000.00	20.000	313.96	1,991.93	47.97	-49.74	69.11	5.00	5.00	0.00
2,100.00	25.000	313.96	2,084.28	74.53	-77.28	107.36	5.00	5.00	0.00
2,200.00	30.000	313.96	2,172.96	106.57	-110.51	153.52	5.00	5.00	0.00
2,300.00	35.000	313.96	2,257.27	143.86	-149.17	207.24	5.00	5.00	0.00
2,339.61	36.980	313.96	2,289.32	160.01	-165.93	230.51	5.00	5.00	0.00
<b>Start 1937.34 hold at 2339.61 MD</b>									
2,400.00	36.981	313.96	2,337.56	185.23	-192.08	266.84	0.00	0.00	0.00
2,500.00	36.981	313.96	2,417.44	226.99	-235.38	326.99	0.00	0.00	0.00
2,600.00	36.981	313.96	2,497.33	268.74	-278.68	387.15	0.00	0.00	0.00
2,700.00	36.981	313.96	2,577.21	310.50	-321.98	447.30	0.00	0.00	0.00
2,800.00	36.981	313.96	2,657.10	352.26	-365.28	507.46	0.00	0.00	0.00
2,900.00	36.981	313.96	2,736.98	394.01	-408.58	567.61	0.00	0.00	0.00
3,000.00	36.981	313.96	2,816.86	435.77	-451.88	627.77	0.00	0.00	0.00
3,100.00	36.981	313.96	2,896.75	477.53	-495.18	687.92	0.00	0.00	0.00
3,200.00	36.981	313.96	2,976.63	519.28	-538.48	748.07	0.00	0.00	0.00
3,300.00	36.981	313.96	3,056.52	561.04	-581.78	808.23	0.00	0.00	0.00
3,400.00	36.981	313.96	3,136.40	602.80	-625.08	868.38	0.00	0.00	0.00
3,500.00	36.981	313.96	3,216.28	644.55	-668.38	928.54	0.00	0.00	0.00
3,600.00	36.981	313.96	3,296.17	686.31	-711.68	988.69	0.00	0.00	0.00
3,700.00	36.981	313.96	3,376.05	728.07	-754.98	1,048.85	0.00	0.00	0.00
3,800.00	36.981	313.96	3,455.93	769.82	-798.28	1,109.00	0.00	0.00	0.00
3,900.00	36.981	313.96	3,535.82	811.58	-841.58	1,169.16	0.00	0.00	0.00
4,000.00	36.981	313.96	3,615.70	853.34	-884.88	1,229.31	0.00	0.00	0.00
4,100.00	36.981	313.96	3,695.59	895.09	-928.19	1,289.46	0.00	0.00	0.00
4,200.00	36.981	313.96	3,775.47	936.85	-971.49	1,349.62	0.00	0.00	0.00
4,276.94	36.981	313.96	3,836.94	968.98	-1,004.80	1,395.91	0.00	0.00	0.00
<b>Start DLS 3.00 TFO -180.00</b>									
4,300.00	36.289	313.96	3,855.44	978.53	-1,014.71	1,409.66	3.00	-3.00	0.00
4,400.00	33.289	313.96	3,937.55	1,018.13	-1,055.77	1,466.71	3.00	-3.00	0.00
4,500.00	30.289	313.96	4,022.54	1,054.69	-1,093.69	1,519.38	3.00	-3.00	0.00
4,600.00	27.289	313.96	4,110.17	1,088.12	-1,128.35	1,567.54	3.00	-3.00	0.00
4,700.00	24.289	313.96	4,200.20	1,118.32	-1,159.66	1,611.04	3.00	-3.00	0.00
4,800.00	21.289	313.96	4,292.39	1,145.20	-1,187.54	1,649.77	3.00	-3.00	0.00
4,900.00	18.289	313.96	4,386.47	1,168.70	-1,211.91	1,683.62	3.00	-3.00	0.00
5,000.00	15.289	313.96	4,482.20	1,188.75	-1,232.70	1,712.50	3.00	-3.00	0.00
5,100.00	12.289	313.96	4,579.30	1,205.29	-1,249.85	1,736.33	3.00	-3.00	0.00
5,200.00	9.289	313.96	4,677.53	1,218.28	-1,263.32	1,755.05	3.00	-3.00	0.00
5,242.96	8.000	313.96	4,720.00	1,222.76	-1,267.97	1,761.51	3.00	-3.00	0.00
<b>Start Drop -3.00 - Horn Frog 14-8D Target 1</b>									
5,252.29	7.720	313.96	4,729.24	1,223.65	-1,268.89	1,762.78	3.00	-3.00	0.00
<b>Horn Frog 14-8D Target</b>									
5,300.00	6.289	313.96	4,776.59	1,227.69	-1,273.08	1,768.60	3.00	-3.00	0.00
5,400.00	3.289	313.96	4,876.23	1,233.48	-1,279.09	1,776.95	3.00	-3.00	0.00
5,442.96	2.000	313.96	4,919.14	1,234.86	-1,280.51	1,778.93	3.00	-3.00	0.00
<b>Start 2582.43 hold at 5442.96 MD</b>									
5,500.00	2.000	313.96	4,976.15	1,236.24	-1,281.95	1,780.92	0.00	0.00	0.00
5,600.00	2.000	313.96	5,076.09	1,238.66	-1,284.46	1,784.41	0.00	0.00	0.00
5,700.00	2.000	313.96	5,176.03	1,241.09	-1,286.97	1,787.90	0.00	0.00	0.00



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<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL @ 6693.00ft
<b>Project:</b>	Uintah County, Utah [NAD27]	<b>MD Reference:</b>	GL @ 6693.00ft
<b>Site:</b>	Pad 3	<b>North Reference:</b>	True
<b>Well:</b>	Horn Frog 14-8D-13-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	plan1 04apr11 smw		

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)
5,800.00	2.000	313.96	5,275.97	1,243.51	-1,289.48	1,791.39	0.00	0.00	0.00
5,900.00	2.000	313.96	5,375.91	1,245.93	-1,291.99	1,794.88	0.00	0.00	0.00
6,000.00	2.000	313.96	5,475.85	1,248.35	-1,294.51	1,798.37	0.00	0.00	0.00
6,100.00	2.000	313.96	5,575.78	1,250.78	-1,297.02	1,801.86	0.00	0.00	0.00
6,200.00	2.000	313.96	5,675.72	1,253.20	-1,299.53	1,805.35	0.00	0.00	0.00
6,300.00	2.000	313.96	5,775.66	1,255.62	-1,302.04	1,808.84	0.00	0.00	0.00
6,400.00	2.000	313.96	5,875.60	1,258.04	-1,304.55	1,812.33	0.00	0.00	0.00
6,500.00	2.000	313.96	5,975.54	1,260.47	-1,307.07	1,815.82	0.00	0.00	0.00
6,600.00	2.000	313.96	6,075.48	1,262.89	-1,309.58	1,819.31	0.00	0.00	0.00
6,700.00	2.000	313.96	6,175.42	1,265.31	-1,312.09	1,822.80	0.00	0.00	0.00
6,800.00	2.000	313.96	6,275.36	1,267.73	-1,314.60	1,826.29	0.00	0.00	0.00
6,900.00	2.000	313.96	6,375.30	1,270.16	-1,317.12	1,829.78	0.00	0.00	0.00
7,000.00	2.000	313.96	6,475.24	1,272.58	-1,319.63	1,833.27	0.00	0.00	0.00
7,100.00	2.000	313.96	6,575.18	1,275.00	-1,322.14	1,836.76	0.00	0.00	0.00
7,200.00	2.000	313.96	6,675.11	1,277.42	-1,324.65	1,840.25	0.00	0.00	0.00
7,300.00	2.000	313.96	6,775.05	1,279.85	-1,327.16	1,843.74	0.00	0.00	0.00
7,400.00	2.000	313.96	6,874.99	1,282.27	-1,329.68	1,847.23	0.00	0.00	0.00
7,500.00	2.000	313.96	6,974.93	1,284.69	-1,332.19	1,850.72	0.00	0.00	0.00
7,600.00	2.000	313.96	7,074.87	1,287.12	-1,334.70	1,854.21	0.00	0.00	0.00
7,700.00	2.000	313.96	7,174.81	1,289.54	-1,337.21	1,857.70	0.00	0.00	0.00
7,800.00	2.000	313.96	7,274.75	1,291.96	-1,339.73	1,861.19	0.00	0.00	0.00
7,900.00	2.000	313.96	7,374.69	1,294.38	-1,342.24	1,864.68	0.00	0.00	0.00
8,000.00	2.000	313.96	7,474.63	1,296.81	-1,344.75	1,868.17	0.00	0.00	0.00
8,024.25	2.000	313.96	7,498.86	1,297.39	-1,345.36	1,869.02	0.00	0.00	0.00
<b>Horn Frog 14-8D PBHL</b>									
8,025.38	2.000	313.96	7,500.00	1,297.42	-1,345.39	1,869.05	0.00	0.00	0.00
<b>TD at 8025.38</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Horn Frog 14-8D Target - hit/miss target - Shape - Circle (radius 100.00)	0.000	0.00	4,720.00	1,274.84	-1,321.94	500,081.85	2,442,315.89	39° 41' 44.38 N	109° 55' 40.73 W
- plan misses target center by 74.30ft at 5252.29ft MD (4729.24 TVD, 1223.65 N, -1268.89 E)									
Horn Frog 14-8D Target - plan hits target center - Point	0.000	0.00	4,720.00	1,222.76	-1,267.97	500,030.73	2,442,370.77	39° 41' 43.86 N	109° 55' 40.04 W
Horn Frog 14-8D PBHL - plan misses target center by 32.53ft at 8024.25ft MD (7498.86 TVD, 1297.39 N, -1345.36 E) - Point	0.000	0.00	7,500.00	1,274.84	-1,321.94	500,081.85	2,442,315.89	39° 41' 44.38 N	109° 55' 40.73 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (ft)	Hole Diameter (ft)	
1,500.00	1,500.00	9 5/8"	0.80	1.02	



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<b>Project:</b>	Uintah County, Utah [NAD27]	<b>MD Reference:</b>	GL @ 6693.00ft
<b>Site:</b>	Pad 3	<b>North Reference:</b>	True
<b>Well:</b>	Horn Frog 14-8D-13-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	plan1 04apr11 smw		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,600.00	1,600.00	0.00	0.00	Start Build 5.00
2,339.61	2,289.32	160.01	-165.93	Start 1937.34 hold at 2339.61 MD
4,276.94	3,836.94	968.98	-1,004.80	Start DLS 3.00 TFO -180.00
5,242.96	4,720.00	1,222.76	-1,267.97	Start Drop -3.00
5,442.96	4,919.14	1,234.86	-1,280.51	Start 2582.43 hold at 5442.96 MD
8,025.38	7,500.00	1,297.42	-1,345.39	TD at 8025.38

CONFIDENTIAL

SURFACE USE PLAN

BILL BARRETT CORPORATION

Horn Frog #14-8D-13-18 (Horn Frog 2-17 Pad)

Lot 1 (NWNE), 655' FNL, 1971' FEL, Sec. 17, T13S-R18E (surface)  
 Lot 3 (SESW), 618' FSL, 1983' FWL, Sec. 8, T13S-R18E (bottom)  
 Uintah County, UT

This is a new pad with a total of nine directional wells proposed. One well would be drilled initially and the other eight wells are proposed in the future.

The Ute Tribal onsite for this pad occurred October 27, 2010.

The proposed pad is located in the Naval Oil Shale Reserve No. 2 area of Uintah County with 5,234.19 feet of access from the existing Horn Frog 8-9-13-18 access road. A pipeline corridor, which may contain multiple pipes within the corridor, is proposed with this application and would traverse 5,142.77 feet to the existing pipeline servicing the Horn Frog 8-9-13-18. If the well proves to be incapable of producing natural gas in commercial quantities, it would be plugged and abandoned and the location reclaimed according to Ute Tribe, and other applicable agency, standards.

The excavation contractor would be provided with an approved copy of the surface use plan of operations before initiating construction.

1. Existing Roads:

- a. The proposed pad is located approximately 40.8 miles southwest of Ouray, Utah. Maps reflecting directions to the proposed pad are included (see Topographic maps A and B).
- b. The existing access to the Horn Frog 8-9-13-18 would be utilized to a point where new access begins.
- c. The use of roads under State and County Road Department maintenance is necessary to access the Horn Frog area. However, an encroachment permit is not anticipated as there are no upgrades to the State or County road systems proposed at this time.
- d. No topsoil stripping would occur as there are no improvements proposed to existing State, County or main Ute Tribe access roads.
- e. Project roads would require routine year-round maintenance to provide year-round access. Maintenance would include inspections, reduction of ruts and holes, maintenance to keep water off the road, replacement of surfacing materials, and clearing of sediment blocking ditches and culverts. Should snow removal become necessary, roads would be cleared with a scraper and snow would be stored along the down gradient side to prohibit runoff onto the road. Aggregate would be used as necessary to maintain a solid running surface and minimize dust generation.
- f. Vehicle operators would obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions. Travel would be limited to the existing access roads and proposed access road.
- g. All existing roads would be upgraded from their existing condition where needed, maintained, and kept in good repair during all phases of operation.

2. Planned Access Road:

- a. From the existing Horn Frog 8-9 Pad access road, BBC would construct a new access that would traverse northwest for approximately 5,234 ft (see Topographic Map B). A road design plan is not anticipated at this time.
- b. BBC anticipates constructing the road to minimum standards required to support drilling and completions activity. Once the well has been tested and proven to produce paying quantities of

Bill Barrett Corporation  
Surface Use Plan  
Horn Frog 2-17 Pad  
Uintah County, Utah

hydrocarbons BBC would upgrade the road to the appropriate standards suitable for production & maintenance operations.

- c. A tribal right of way (ROW) is applied for and pending approval for the well site and access road (total ROW acreage for both = 8.198 ac). The road would be constructed to a 30-foot ROW width with an 18-foot travel surface.
- d. The proposed road would be constructed to facilitate drainage, control erosion and minimize visual impacts by following natural contours where practical. No unnecessary side-casting of material would occur on steep slopes.
- e. Intervisible turnouts would be constructed, where necessary and as topographic conditions allow, in order to improve traffic safety. A maximum grade of 10 percent would be maintained with minimum cuts and fills, as necessary, to access the well pad.
- f. New road construction and improvements of existing roads would typically require the use of motor graders, crawler tractors, 10-yard end dump trucks, and water trucks. The standard methodology for building new roads involves the use of a crawler tractor or track hoe to windrow the vegetation to one side of the road corridor, remove topsoil to the opposing side of the corridor, and rough-in the roadway. This is followed by a grader or bulldozer to establish barrow ditches and crown the road surface. Where culverts are required, a track hoe or backhoe would trench the road and install the culverts. Some hand labor would be required when installing and armoring culverts. Road base or gravel in some instances would be necessary and would be hauled in and a grader used to smooth the running surface.
- g. Excess rock from construction of the pad may be crushed on site and used for surfacing of the access road if necessary. Any additional aggregate necessary would be obtained from private or State of Utah lands in conformance with applicable regulations. Aggregate would be of sufficient size, type, and amount to allow all weather access and alleviate dust.
- h. Where topsoil removal is necessary, it would be windrowed (i.e. stockpiled/accumulated along the edge of the ROW and in a low row/pile parallel with the ROW) and re-spread over the disturbed area after construction and backfilling are completed. Vegetation removed from the disturbed area would also be re-spread to provide protection, nutrient recycling, and a seed source for reclamation.
- i. One 18 inch culvert where the proposed access road begins is anticipated. Adequate drainage structures, where necessary, would be incorporated into the remainder of the road to prevent soil erosion and accommodate all-weather traffic.
- j. No gates or cattle guards are anticipated at this time.
- k. Surface disturbance and vehicular travel would be limited to the approved location access road. Adequate signs would be posted, as necessary, to warn the public of project related traffic. All BBC employees, contractors, subcontractors and project related personnel would obtain and carry the appropriate access permits necessary to conduct business on Ute Tribal lands at the time of operation.
- l. All access roads and surface disturbing activities would conform to the appropriate standard, no higher than necessary, to accommodate their intended function adequately as outlined in the Bureau of Land Management and Forest Service publication: Surface Operating Standards for Oil and Gas Exploration and Development, Fourth Edition – Revised 2007. BBC would be responsible for all maintenance of the access road.

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 Horn Frog 2-17 Pad  
 Uintah County, Utah

3. Location of Existing Wells (see Topo C, One-Mile Radius Map):

a. Following is a list of wells with surface hole locations within a one-mile radius of the proposed pad:

i.	water wells	none
ii.	injection wells	none
iii.	disposal wells	none
iv.	drilling wells	none
v.	temp shut-in wells	none
vi.	producing wells	none
vii.	abandoned wells	none

4. Location of Production Facilities:

- a. Surface facilities for the pad would consist of multiple well heads, separators, gas meters, line heaters, 500 gal methanol tanks, 500 bbl oil tanks, 500 bbl water tanks, 500 bbl test tanks, pumping units or gas lifts with natural gas fired motor, solar panels, solar chemical pump, methanol pumps and two trace pumps.
- b. Proposed wellheads and christmas trees may be contained below location grade in pre-cast concrete trenches to accommodate potential future drilling. All wellheads associated with the drilling operations for this pad would be contained in the same trench measuring approximately 12 ft wide, 10 ft deep, and 72 ft long (# wells x 8 ft + 16 ft for two end pieces). Drawings of below ground cellars can be provided by BBC upon request.
- c. The tank battery would be surrounded by a secondary containment berm of sufficient capacity to contain the 1.1 times the entire capacity of the largest single tank and sufficient freeboard to contain precipitation. All loading lines and valves would be placed inside the berm surrounding the CTB or would utilize catchment basins to contain spills. All liquid hydrocarbon production and measurement shall conform to the provisions of 43 CFR 3162.7-2 and Onshore Oil and Gas Order No. 4 for the measurement of oil. Any variances from this would be submitted via a sundry notice. BBC requests permission to install the necessary production/operation facilities with this application.
- d. Most wells would be fitted with a plunger lift system or potentially a pump jack or Roto-flex unit or gas lift to assist liquid production if liquid volumes and/or low formation pressures require it. Plunger lift systems do not require any outside source of energy. Plunger lift systems do not require any outside source of energy. The prime mover for pump jacks or Roto-flex units would be small (75 horsepower or less), natural gas-fired internal combustion engines. If a gas lift is installed, it would be set on a 10 ft x 15 ft pad and the prime mover would be a natural gas-fired internal combustion engine rated at 200 horsepower or less.
- e. Gas meter run(s) would be constructed and located on lease within 500 feet of the wellheads. Meter runs would be housed and/or fenced. As practicably feasible, meters would be equipped with remote telemetry monitoring systems. 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 and any variances would be included with this submittal or submitted via sundry notice.
- f. A combustor may be installed at this location for control of associated condensate tank emissions. A combustor ranges from 24 inches to 48 inches wide and is approximately 27 ft tall. Combustor placement would be on existing disturbance.
- g. A gas gathering pipeline (up to 12 inch diameter) approximately 5,143 ft in length and two liquids lines (up to 6 inch diameter) are associated with this application and are being applied for at this time (see Topographic Map D). All lines would leave the southwest side of the pad and traverse in a southeasterly direction to the existing Horn Frog 8-9 Pad pipeline.

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Surface Use Plan  
Horn Frog 2-17 Pad  
Uintah County, Utah

- h. The new segment of gas pipeline would be surface laid line within a 30 foot wide pipeline ROW (3.542 acres). The pipeline has been applied for and is pending approval at this time.
  - i. The proposed new gas pipeline would be constructed of steel or Flex Steel™ while the liquids lines would be constructed of steel, polyethylene, or Flex Steel™.
  - j. BBC intends on stringing the pipeline on the surface, welding many joints into long lengths, dragging the long lengths into position and then completing a final welding pass to join the long lengths together. BBC intends on connecting the pipeline together following manufacturers specifications.
  - k. The pipeline would be constructed to allow pigging of the line with a pig receiver installed within the approved right-of-way width near the tie-in point of the pipeline.
  - l. Pipeline construction methods and practices would be planned and conducted by BBC with the objective of enhancing reclamation and fostering the re-establishment of the native plant community.
  - m. All **permanent** above-ground structures would be painted a flat, non-reflective Olive Black, or other approved color as described in the onsite process, to match the standard environmental colors. These structures would be painted the designated color at the time of installation or within 6 months of being located on site. Facilities that are required to comply with the Occupational Safety and Health Act (OSHA) may be excluded.
  - n. Site security guidelines identified in 43 CFR 3162.7-5 and Onshore Oil and Gas Order No. 3 would be adhered to. Any changes to facilities proposed within this surface use plan would be depicted on the site security diagram submitted.
  - o. The site would require periodic maintenance to ensure that drainages are kept open and free of debris, and that surfaces are properly treated to reduce erosion, fugitive dust, and impacts to adjacent areas.
5. Location and Type of Water Supply:
- a. Water would be hauled from one of the following sources:
    - Water Permit # 43-10991, Section 9, T8S, R20E;
    - Water Permit #43-2189, Section 33, T8S, R20E;
    - Water Permit #49-2158, Section 33, T8S, R20E;
    - Water Permit #49-2262, Section 33, T8S, R20E;
    - Water Permit #49-1645, Section 5, T9S, R22E;
    - Water Permit #43-9077, Section 32, T6S, R20E;
    - Tribal Resolution 06-183, Section 22, T10S, R20E;
  - b. No new water well is proposed with this application.
  - c. Should additional water sources be pursued they would be properly permitted through the State of Utah – Division of Water Rights. Additionally, the Ute Tribe would be notified of any changes in water supply.
  - d. Water use would vary in accordance with the formations to be drilled but would average approximately 1 acre-foot (7,758 barrels) during drilling operations and 1 acre-foot (7,758 barrels) during completion operations.

Bill Barrett Corporation  
Surface Use Plan  
Horn Frog 2-17 Pad  
Uintah County, Utah

6. Source of Construction Material:
  - a. Gravel, if required, would be obtained from a local supplier having a permitted source of materials within the general area.
  
7. Methods of Handling Waste Disposal:
  - a. All wastes associated with this application would be contained and disposed of utilizing approved facilities.
  - b. A conventional or semi-closed loop, mud system is planned to be used where a small amount of fluid is retained in the cuttings and the cuttings are placed in the reserve pit.
  - c. The reserve pit would be constructed so as not to leak, break or allow any discharge with dimensions of 265 ft by 50 ft and located outboard of the location along the northwest side of the pad.
  - d. The reserve would be lined with 12 mil (minimum) thickness polyethylene nylon reinforced liner material. The liner(s) would overlay straw, dirt and/or bentonite if rock is encountered during excavation. The liner would overlap the pit walls and be covered with dirt and/or rocks to hold them in place. No trash, scrap pipe, or other materials that could puncture the liner would be discarded in the pit. A minimum of two feet of free board would be maintained between the maximum fluid level and the top of the reserve pit at all times.
  - e. To deter livestock from entering the pit, the three sides exterior to the location would be fenced before drilling starts. Following the conclusion of drilling and completion activities, the fourth side would also be fenced.
  - f. The reserve pit would also store water to make up losses and store any excess drilling fluids.
  - g. Three sides of the reserve pit would be fenced before drilling starts and the fourth side would be fenced at the time drilling is completed on the last well on the pad and shall remain until the pit is dry.
  - h. Any hydrocarbons floating on the surface of the reserve pit would be removed as soon as possible after drilling and completion operations are finished. In some cases, the reserve pit may be flagged overhead or covered with wire or plastic mesh to protect migrating birds.
  - i. Produced fluids from the wells other than water would be decanted into steel test tanks until such time as construction of production facilities is completed. Produced water may be used in further drilling and completion activities, evaporated in the pit or would be hauled to a state approved disposal facility.
  - j. After initial clean-up and based on volumes, BBC would install a tank, or several tanks if water production volumes merit, (maximum size 400 barrel capacity) to contain produced waste water. After first production, produced wastewater would be confined to tanks within the CTB for a period not to exceed ninety (90) days. Thereafter, produced water would be used in further drilling and completion activities or hauled to a State approved disposal facility.
  - k. Any salts and/or chemicals, which are an integral part of the drilling system, would be disposed of in the same manner as the drilling fluid.
  - l. Any spills of oil, condensate, produced or frac water, drilling fluids, or other potentially deleterious substances would be recovered and either returned to its origin or disposed of at an approved disposal site in Duchesne or Uintah Counties, Utah.
  - m. Chemicals on the EPA's Consolidated List of Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) may be used or stored in

Bill Barrett Corporation  
 Surface Use Plan  
 Horn Frog 2-17 Pad  
 Uintah County, Utah

quantities over reportable quantities. In the course of drilling, BBC could potentially store and use diesel fuel, sand (silica), hydrochloric acid, and CO<sub>2</sub> gas, all described as hazardous substances in 40 CFR Part 302, Section 302.4, in quantities exceeding 10,000 pounds. In addition, natural gas condensate and crude oil and methanol may be stored or used in reportable quantities. Small quantities of retail products (paint/spray paints, solvents {e.g., WD-40}, and lubrication oil) containing non-reportable volumes of hazardous substances may be stored and used on site at any time. No extremely hazardous substances, as defined in 40 CFR 355, would be used, produced, stored, transported or disposed of in association with the drilling, testing or completion of the wells.

- n. Portable toilets and trash containers would be located onsite during drilling and completion operations. A commercial supplier would install and maintain portable toilets and equipment and would be responsible for removing sanitary waste. Sanitary waste facilities (i.e. toilet holding tanks) would be regularly pumped and their contents disposed of at approved sewage disposal facilities, in accordance with applicable rules and regulations regarding sewage treatment and disposal. Accumulated trash and nonflammable waste materials would be hauled to an approved landfill once a week or as often as necessary. All debris and waste materials not contained in the trash containers would be cleaned up, removed from the construction ROW, well pad, or worker housing location, and disposed of at an approved landfill. Trash would be cleaned up everyday.
- o. Sanitary waste equipment and trash bins would be removed from the Project Area upon completion of access road or pipeline construction; following drilling and completion operations at an individual well pad; when worker housing is no longer needed; or as required.
- p. A flare pit may be constructed a minimum of 110' from the wellhead(s) and may be used during completion work. In the event a flare pit proves to be unworkable, a temporary flare stack or open top tank would be installed. BBC would flow back as much fluid and gas as possible into pressurized vessels, separating the fluids from the gas. In some instances, due to the completion fluids utilized within the Project area, it is not feasible to direct the flow stream from the wellbore through pressurized vessels. In such instances BBC proposes to direct the flow to the open top tanks until flow through the pressurized vessels is possible. At which point the fluid would either be returned to the reserve pit or placed into a tank(s). The gas would be directed to the flare pit, flare stack (each with a constant source of ignition), or may be directed into the sales pipeline.
- q. Flare lines would be directed so as to avoid damage to surrounding vegetation, adjacent rock faces, or other resources, and as required by regulations. Flare lines would be in place on all well locations. In the event it becomes necessary to flare a well, a deflector and/or directional orifice would also be used to safeguard both personnel and adjacent natural rock faces.

8. Ancillary Facilities:

- a. Garbage containers and portable toilets would be located on the well pad.
- b. On well pads where active drilling and completion is occurring, temporary housing would be provided on location for the well pad supervisor, geologist, tool pusher, and others that are required to be on location at all times. Active drilling locations could include up to five single wide mobile homes or fifth wheel campers/trailers.

9. Well Site Layout:

- a. Each well would be properly identified in accordance with 43 CFR 3162.6
- b. The pad has been staked at its maximum size of 380 ft x 305 ft with a 265 ft x 50 ft (4.593 acres) reserve pit/completion pit outboard of the pad. The location layout and cross section diagrams are enclosed.

Bill Barrett Corporation  
Surface Use Plan  
Horn Frog 2-17 Pad  
Uintah County, Utah

- c. Within the approved well pad location, a crawler tractor would strip whatever topsoil is present and stockpile it along the edge of the well pad for use during reclamation. Vegetation would be distributed along the sides of the well pad.
  - d. Fill from pit excavation would be stockpiled along the edge of the pit and the adjacent edge of the well pad.
  - e. Use of erosion control measures, including proper grading to minimize slopes, diversion terraces and ditches, mulching, terracing, riprap, fiber matting, temporary sediment traps, and broad-based drainage dips or low water crossings would be employed by BBC as necessary and appropriate to minimize erosion and surface runoff during well pad construction and operation. Cut and fill slopes would be constructed such that stability would be maintained for the life of the activity.
  - f. Construction of the well pad would take from 1 to 3 weeks depending on the features at the particular site.
  - g. Dust suppression may be implemented if necessary to minimize the amount of fugitive dust.
10. Plan for Restoration of the Surface:
- a. Site reclamation would be accomplished for portions of the well pad not required for the continued operation of the well on this pad within six months of completion, weather permitting.
  - b. The operator would control noxious weeds along access road use authorizations and well site by spraying or mechanical removal. A list of noxious weeds may be obtained from the Ute Tribe or the appropriate county extension office. On Ute Tribe 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.
  - c. Rat and mouse holes would be filled and compacted from bottom to top immediately upon release of the drilling rig from location. Upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1. The reserve pit would be allowed to dry prior to the commencement of backfilling work. No attempts would be made to backfill the reserve pit until it is free of standing water. Once dry, the liner would be torn and perforated before backfilling.
  - d. The reserve pit and that portion of the location not needed for production facilities/operations would be recontoured to the approximate natural contours. Areas not used for production purposes would be backfilled and blended into the surrounding terrain, reseeded and erosion control measures installed. Mulching, erosion control measures and fertilization may be required to achieve acceptable stabilization. Back slopes and fore slopes would be reduced as practical and scarified with the contour. The reserved topsoil would be evenly distributed over the slopes and scarified along the contour. Slopes would be seeded with the Ute Tribe specified seed mix.
  - e. Topsoil salvaged from the drill site and stored for more than one year would be placed at the location indicated on the well site layout drawing and graded to a depth optimum to maintain topsoil viability, seeded with the Ute Tribe prescribed seed mixture and covered with mulch for protection from wind and water erosion and to discourage the invasion of weeds.
11. Surface and Mineral Ownership:
- a. Surface & Mineral ownership – Ute Indian Tribe - 988 South 7500 East (Annex Building); Ft. Duchesne, Utah 84026; 435-725-4950.
  - b. Surface use is pending at this time.

Bill Barrett Corporation  
Surface Use Plan  
Horn Frog 2-17 Pad  
Uintah County, Utah

12. Other Information:

- a. Montgomery Archaeological Consultants conducted cultural resource inventories for this pad, access and pipelines under MOAC 04-51.
- b. Project personnel and contractors would be educated on and subject to the following requirements:
  - All project related personnel are to obtain, and have on their possession, the appropriate permits required at the time of operation to travel and operate on Ute Tribal lands.
  - Access is restricted solely to those access roads and pads applied for approval within this application.
  - No dogs or firearms within the Project Area;
  - No littering within the Project Area;
  - Smoking within the Project Area would only be allowed in off-operator active locations or in specifically designated smoking areas. All cigarette butts would be placed in appropriate containers and not thrown on the ground or out windows of vehicles; personnel and contractors would abide by all fire restriction orders;
  - Campfires or uncontained fires of any kind would be prohibited.
  - Portable generators used in the Project Area would have spark arrestors

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OPERATOR CERTIFICATION

## Certification:

I hereby certify that I, or someone under my direction supervision, have inspected the drill site and access route proposed herein; 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 would 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. These statements are subject to the provisions of 18 U.S.C. 1001 for the filings of false statements.

Executed this 15<sup>th</sup> day of April 2011

Name: Tracey Fallang

Position Title: Regulatory Manager

Address: 1099 18<sup>th</sup> Street, Suite 2300, Denver, CO 80202

Telephone: 303-312-8134

Field Representative Brandon Murdock

Address: 1820 W. Hwy 40, Roosevelt, UT 84066

Telephone: 435-724-5252

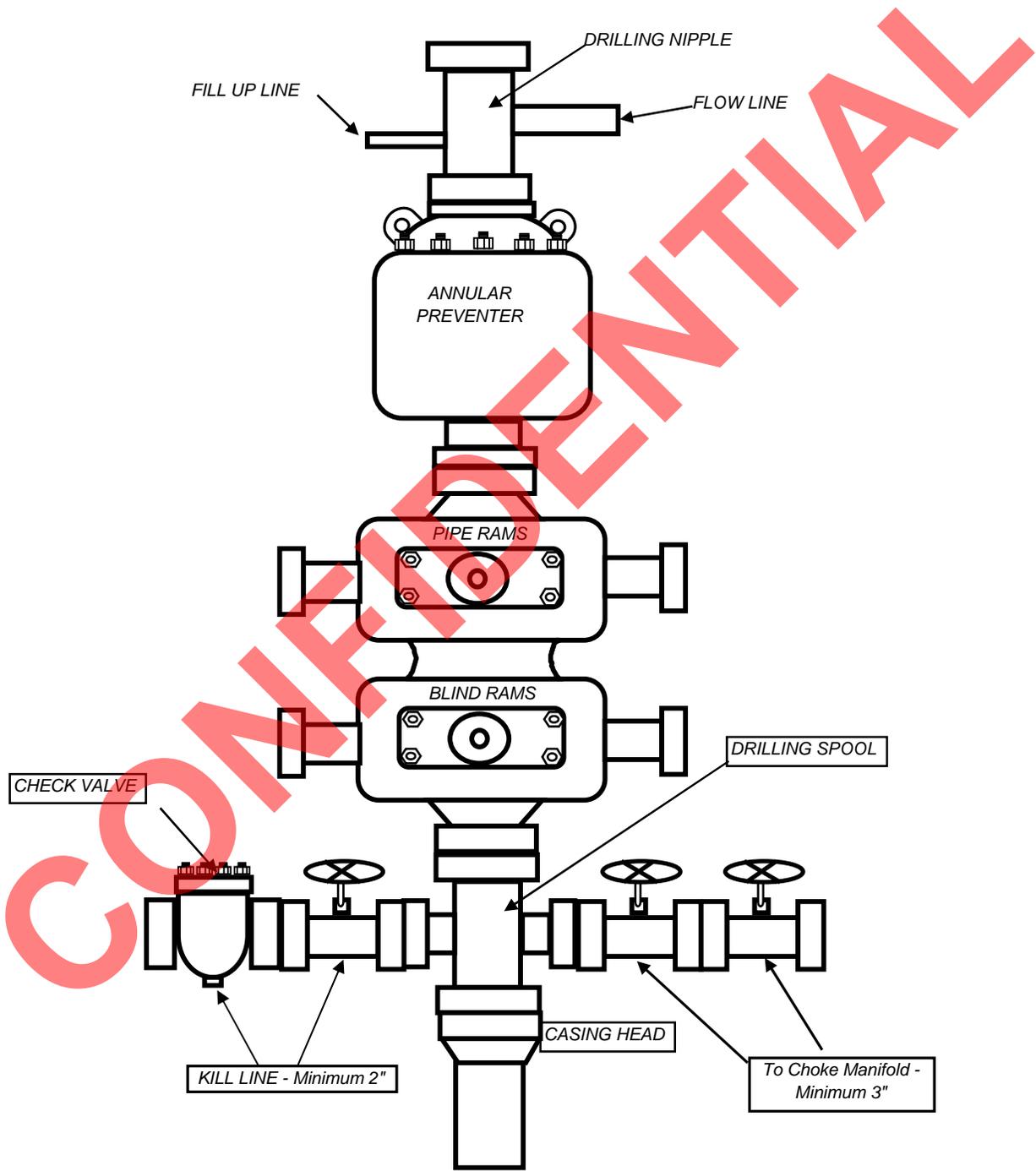
E-mail: bmurdock@billbarrettcorp.com

Tracey Fallang, Reg. Mgr  
Tracey Fallang, Regulatory Manager

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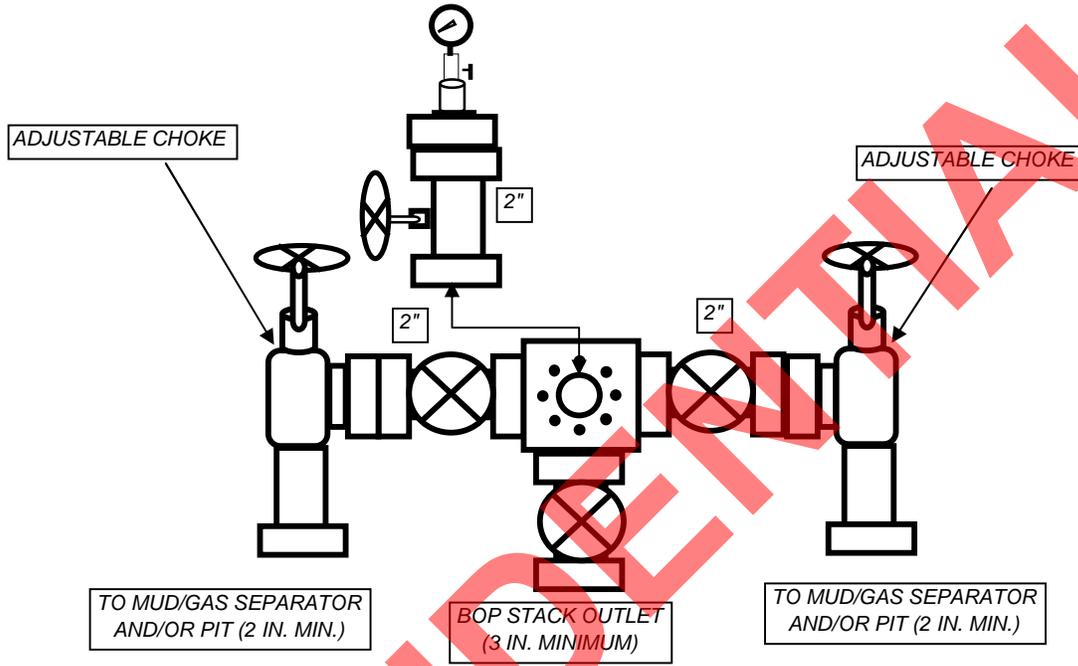
# BILL BARRETT CORPORATION

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



# BILL BARRETT CORPORATION

## TYPICAL 3,000 p.s.i. CHOKE MANIFOLD



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April 15, 2011

Ms. Diana Mason – Petroleum Technician  
State of Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P. O. Box 145801  
Salt Lake City, Utah 84114-5801

Re: Directional Drilling R649-3-11  
**Hornfrog Area #14-8D-13-18 Well**  
Surface: 655' FNL & 1,971' FEL, NWNE, 17-T13S-R18E, SLM  
Bottom Hole: 618' FSL & 1,983' FWL, SESW, 8-T13S-R18E, SLM  
Uintah County, Utah

Dear Ms. Mason:

With respect to Bill Barrett Corporation (BBC)'s Application for Permit to Drill the above referenced well, we hereby submit this letter in accordance with Oil & Gas Conservation Rules R649-2, R649-3, R649-10 and R649-11, pertaining to the Location and Siting of Wells.

- The proposed location is within our Hornfrog Area.
- BBC is permitting this well as a directional well in order to minimize surface disturbance. By locating the well at the surface location and directionally drilling from this location, BBC will be able to utilize the existing road and pipelines in the area.
- The well will be drilled under an Exploration and Development Agreement between the Ute Indian Tribe and FIML Natural Resources, LLC (FIML). FIML and Ute Energy LLC own rights to participate in this well.
- BBC certifies that it is the working interest owner of all lands within 460 feet of the proposed well location, and together with FIML and Ute Energy we own 100% of the working interest in these lands.

Based on the information provided herein, BBC requests that the permit be granted pursuant to R649-3-11. Should you have any questions or need further information, please contact me at 303-312-8166.

Sincerely,  
BILL BARRETT CORPORATION

*Brian Wert by TLF*  
Brian Wert  
Senior Landman

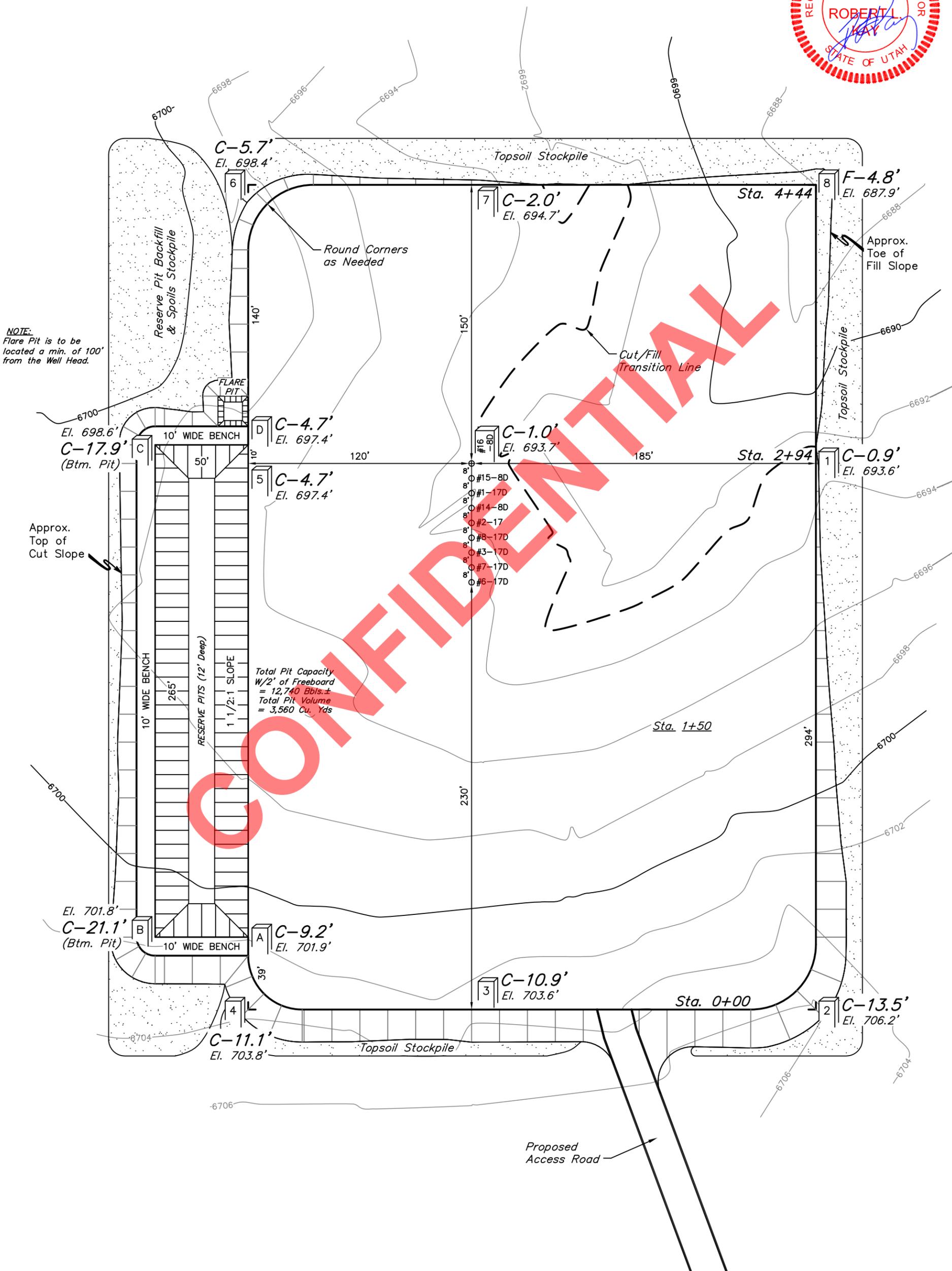
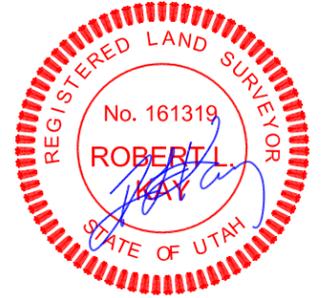
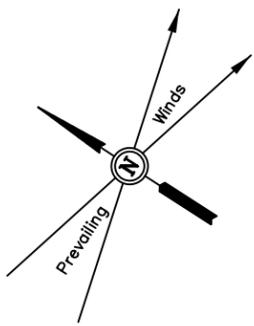
1099 18TH STREET  
SUITE 2300  
DENVER, CO 80202  
P 303.293.9100  
F 303.291.0420

RECEIVED: Jul. 07, 2011

**BILL BARRETT CORPORATION**  
LOCATION LAYOUT FOR  
**HORN FROG #2-17 PAD**  
HORN FROG #16-8D-13-18, #15-8D-13-18, #1-17D-13-18,  
#14-8D-13-18, #2-17-13-18, #8-17D-13-18, #3-17D-13-18,  
#7-17D-13-18 & #6-17D-13-18  
SECTION 16, T13S, R18E, S.L.B.&M.  
LOT 1

**FIGURE #1**

SCALE: 1" = 50'  
DATE: 03-15-10  
DRAWN BY: P.M.  
REV: 04-21-10  
REV: 07-27-10  
REV: 10-06-10 C.C.



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

Total Pit Capacity  
w/2' of Freeboard  
= 12,740 Bbls.±  
Total Pit Volume  
= 3,560 Cu. Yds

Elev. Ungraded Ground At #16-8D Loc. Stake = 6693.7'  
FINISHED GRADE ELEV. AT #16-8D LOC. STAKE = 6692.7'

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

RECEIVED: Jul. 07, 2011

**BILL BARRETT CORPORATION**

TYPICAL CROSS SECTIONS FOR

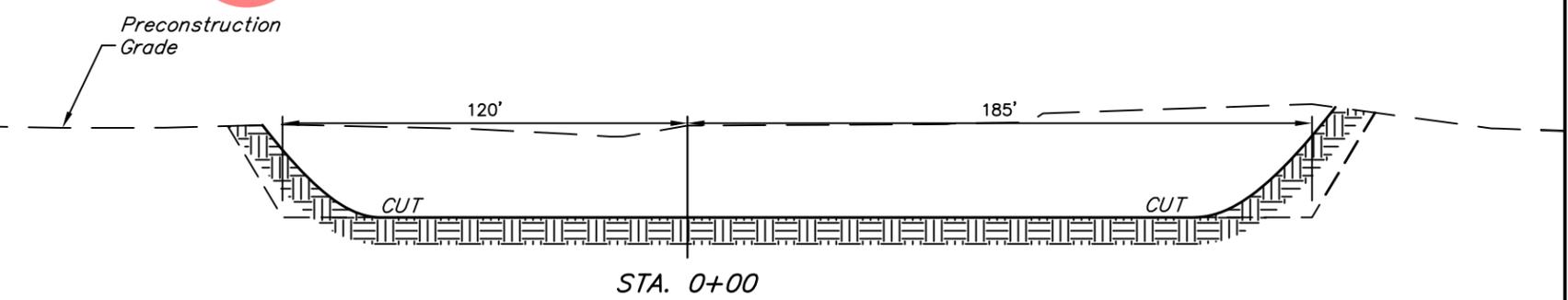
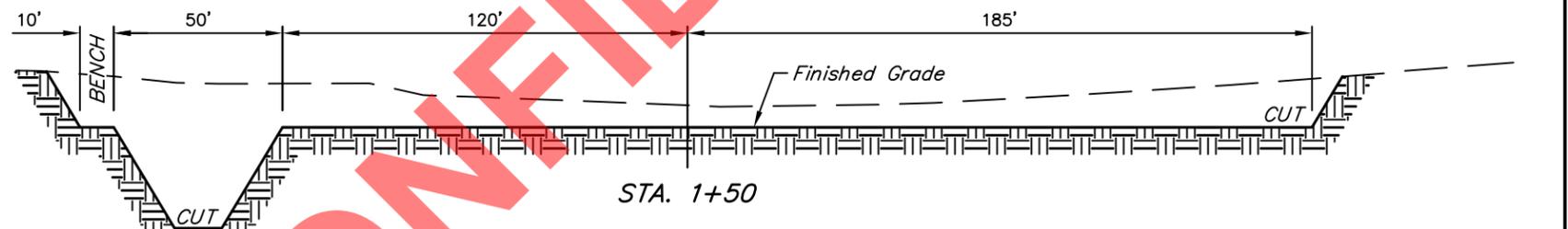
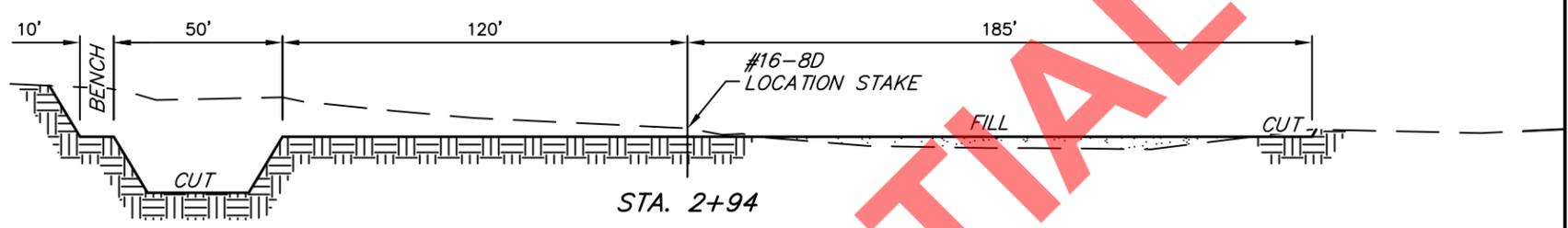
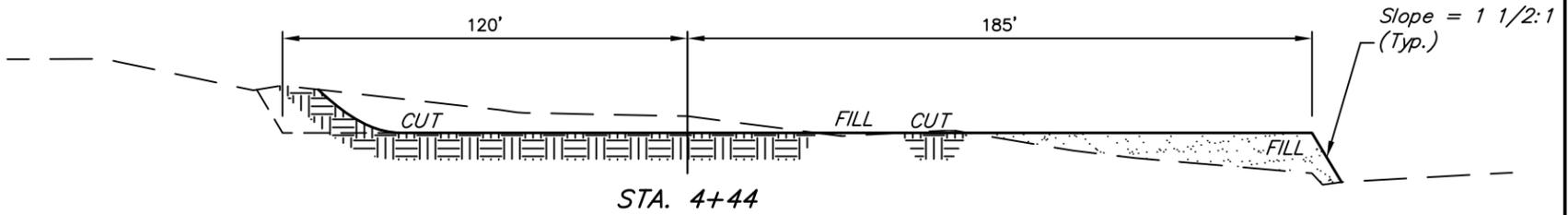
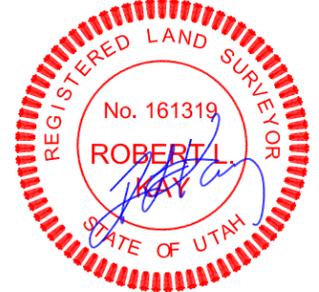
**HORN FROG #2-17 PAD**

HORN FROG #16-8D-13-18, #15-8D-13-18, #1-17D-13-18,  
 #14-8D-13-18, #2-17-13-18, #8-17D-13-18, #3-17D-13-18,  
 #7-17D-13-18 & #6-17D-13-18  
 SECTION 16, T13S, R18E, S.L.B.&M.  
 LOT 1

FIGURE #2

X-Section Scale  
 1" = 50'

DATE: 03-15-10  
 DRAWN BY: P.M.  
 REV: 04-06-10  
 REV: 04-21-10  
 REV: 07-27-10  
 REV: 10-06-10 C.C.



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NOTE:

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

\* NOTE:

FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE YARDAGES**

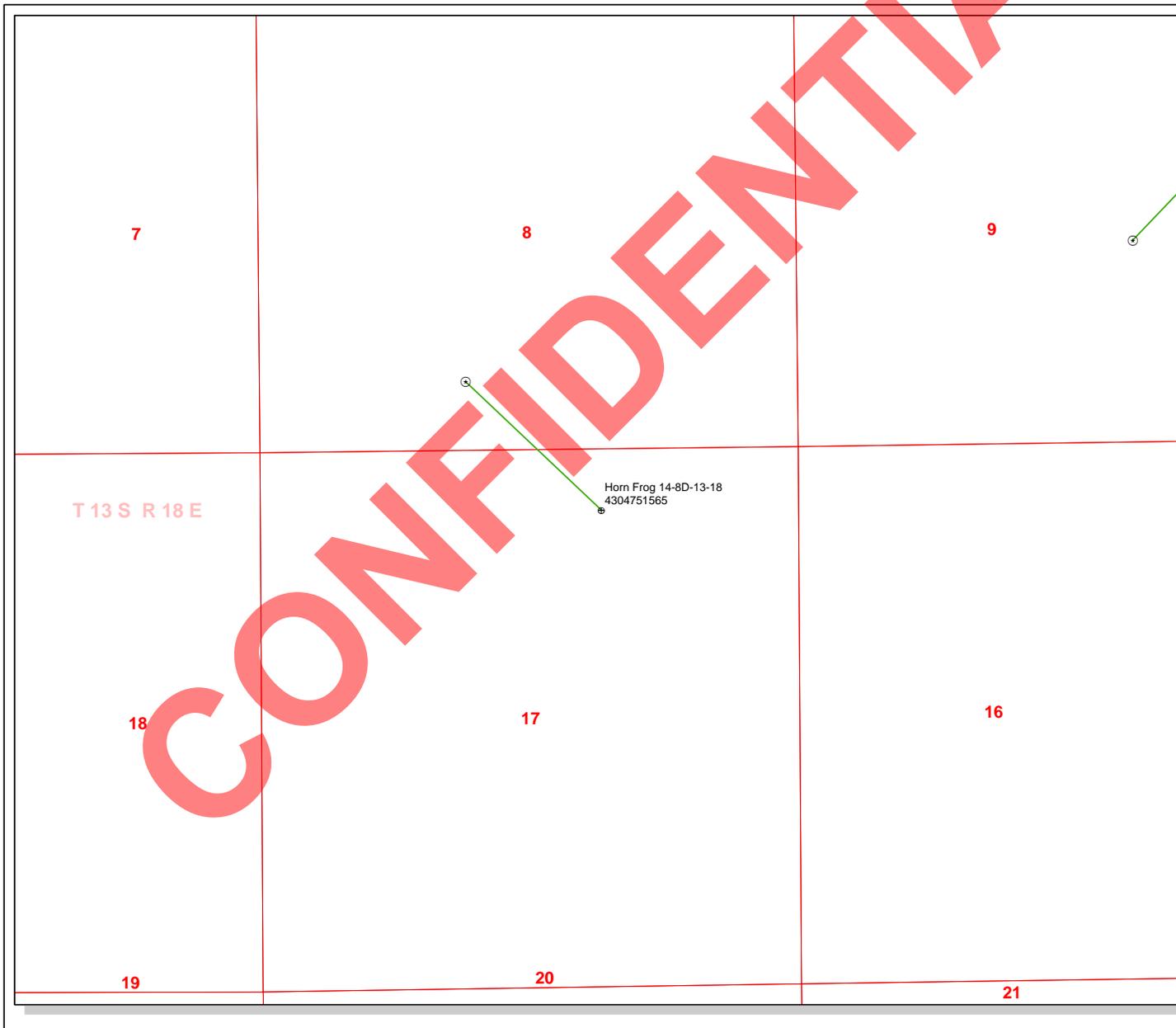
(12") Topsoil Stripping = 6,340 Cu. Yds.  
 Remaining Location = 21,890 Cu. Yds.  
**TOTAL CUT = 28,230 CU.YDS.**  
**FILL = 3,300 CU.YDS.**

EXCESS MATERIAL = 24,930 Cu. Yds.  
 Topsoil & Pit Backfill = 8,120 Cu. Yds.  
 (1/2 Pit Vol.)  
 EXCESS UNBALANCE = 16,810 Cu. Yds.  
 (After Interim Rehabilitation)

**APPROXIMATE ACREAGES**

WELL SITE DISTURBANCE = ± 4.593 ACRES  
 ACCESS ROAD DISTURBANCE = ± 3.605 ACRES  
 PIPELINE DISTURBANCE = ± 3.542 ACRES  
**TOTAL = ± 11.740 ACRES**

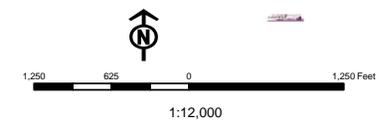
UINTAH ENGINEERING & LAND SURVEYING  
 85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017



**API Number: 4304751565**  
**Well Name: Horn Frog 14-8D-13-18**  
**Township T1.3 . Range R1.8 . Section 17**  
**Meridian: SLBM**  
**Operator: BILL BARRETT CORP**

Map Prepared:  
 Map Produced by Diana Mason

- | Units         | Wells Query                        |
|---------------|------------------------------------|
| <b>STATUS</b> | <b>Status</b>                      |
| 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 GEOTHERML  | PA - Plugged Abandoned             |
| PP OIL        | PGW - Producing Gas Well           |
| SECONDARY     | POW - Producing Oil Well           |
| TERMINATED    | RET - Returned APD                 |
| <b>Fields</b> | SGW - Shut-in Gas Well             |
| <b>STATUS</b> | SOW - Shut-in Oil Well             |
| Unknown       | TA - Temp. Abandoned               |
| ABANDONED     | TW - Test Well                     |
| ACTIVE        | WDW - Water Disposal               |
| COMBINED      | WIW - Water Injection Well         |
| INACTIVE      | WSW - Water Supply Well            |
| STORAGE       |                                    |
| TERMINATED    |                                    |
| Sections      |                                    |
| Township      |                                    |



BOPE REVIEW BILL BARRETT CORP Horn Frog 14-8D-13-18 43047515650000

Well Name	BILL BARRETT CORP Horn Frog 14-8D-13-18 4304751565000			
String	Cond	Surf	Prod	
Casing Size(")	14.000	9.625	5.500	
Setting Depth (TVD)	40	1500	7500	
Previous Shoe Setting Depth (TVD)	0	40	1500	
Max Mud Weight (ppg)	8.6	8.6	9.5	
BOPE Proposed (psi)	0	500	3000	
Casing Internal Yield (psi)	1000	3520	10640	
Operators Max Anticipated Pressure (psi)	3705		9.5	

Calculations	Cond String	14.000	"
Max BHP (psi)	.052*Setting Depth*MW=	18	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	13	NO air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	9	NO OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	9	NO
Required Casing/BOPE Test Pressure=		40	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

Calculations	Surf String	9.625	"
Max BHP (psi)	.052*Setting Depth*MW=	671	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	491	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	341	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	350	NO OK
Required Casing/BOPE Test Pressure=		1500	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

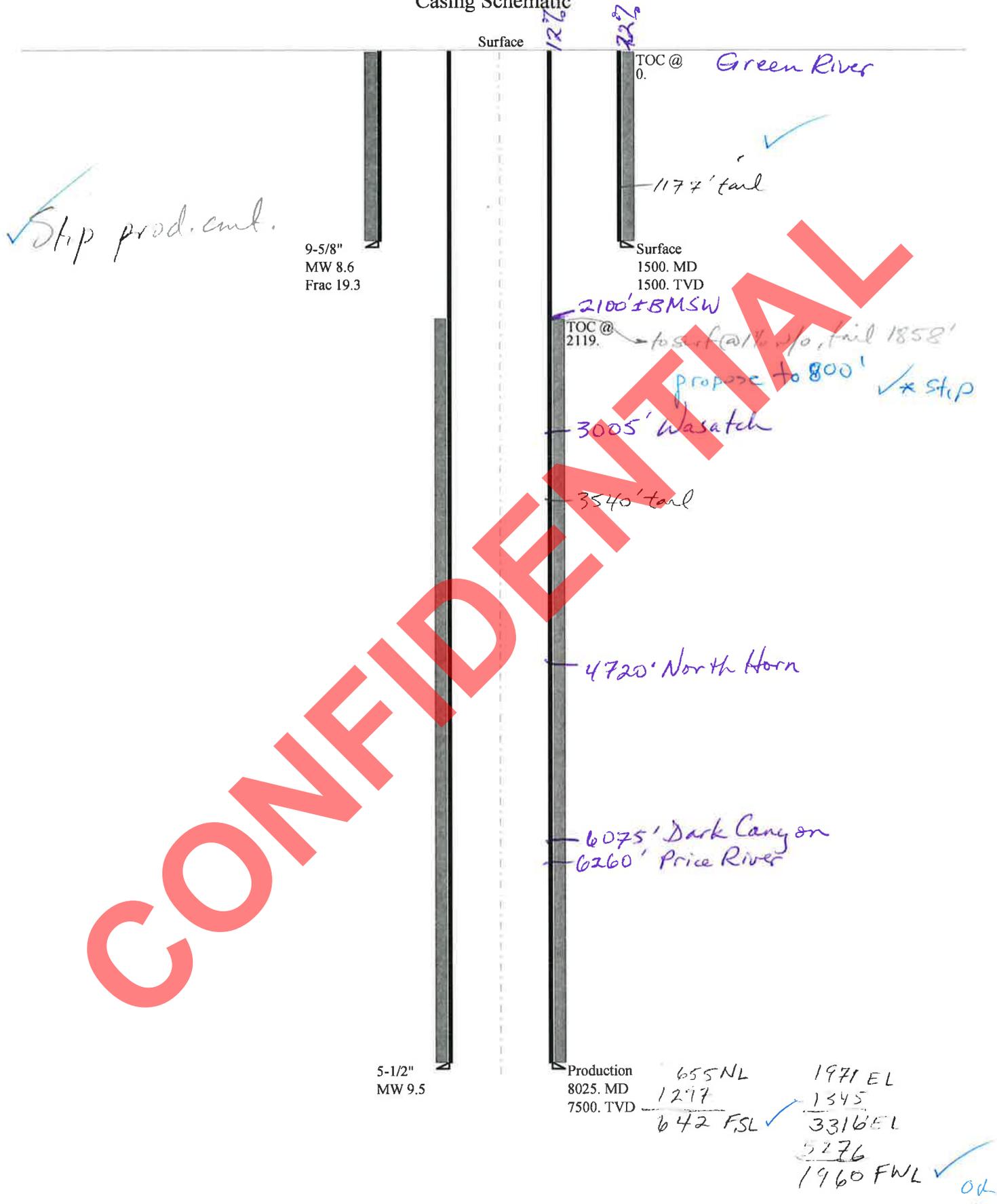
Calculations	Prod String	5.500	"
Max BHP (psi)	.052*Setting Depth*MW=	3705	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	2805	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	2055	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	2385	NO Reasonable
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		1500	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
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi

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# 43047515650000 Horn Frog 14-8D-13-18

## Casing Schematic



Well name:	<b>43047515650000 Horn Frog 14-8D-13-18</b>	
Operator:	<b>BILL BARRETT CORP</b>	Project ID:
String type:	Surface	43-047-51565
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.600 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: 95 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 1,320 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 1,500 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: 1,309 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 7,500 ft  
Next mud weight: 9.500 ppg  
Next setting BHP: 3,701 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 1,500 ft  
Injection pressure: 1,500 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	1500	9.625	36.00	J-55	ST&C	1500	1500	8.796	13037
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	670	2020	3.015	1500	3520	2.35	54	394	7.30 J

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

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

Date: June 29, 2011  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 1500 ft, a mud weight of 8.6 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.

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

Well name:	<b>43047515650000 Horn Frog 14-8D-13-18</b>	
Operator:	<b>BILL BARRETT CORP</b>	Project ID:
String type:	Production	43-047-51565
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

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

**Burst**

Max anticipated surface pressure: 2,051 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP: 3,701 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: 1.60 (B)

Tension is based on air weight.  
Neutral point: 6,944 ft

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 179 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 2,119 ft

**Directional well information:**

Kick-off point: 0 ft  
Departure at shoe: 1869 ft  
Maximum dogleg: 5 °/100ft  
Inclination at shoe: 2 °

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	8025	5.5	17.00	P-110	LT&C	7500	8025	4.767	52859
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	3701	7480	2.021	3701	10640	2.87	127.5	445	3.49 J

CONFIDENTIAL

Also Evaluated for 4 1/2" 11.6 # P-119 with greater strength properties. Agm ✓

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

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

Date: June 29, 2011  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 7500 ft, a mud weight of 9.5 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.

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.

# Application for Permit to Drill Statement of Basis

7/7/2011

## Utah Division of Oil, Gas and Mining

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
3638	43047515650000	LOCKED	GW	I	No
<b>Operator</b>	BILL BARRETT CORP		<b>Surface Owner-APD</b>		
<b>Well Name</b>	Horn Frog 14-8D-13-18		<b>Unit</b>		
<b>Field</b>	WILDCAT		<b>Type of Work</b>		DRILL
<b>Location</b>	NWNE 17 13S 18E S 655 FNL 1971 FEL		GPS Coord (UTM)		592329E 4393941N

### Geologic Statement of Basis

Bill Barrett proposes to set 1,500 feet of surface casing cemented to the surface. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The base of the moderately saline water is estimated at 2,100 feet. The surface formation at the proposed location is the Green River Formation. The Green River Formation is made up of interbedded sandstones, limestones and shales. This location is in a recharge area for the aquifers of the upper Green River Formation and fresh water can be expected to be found in the upper Green River. Production casing cement should be brought up above the base of the moderately saline ground water in order to isolate it from fresher waters uphole.

Brad Hill  
**APD Evaluator**

5/2/2011  
**Date / Time**

### Surface Statement of Basis

The Ute Indian Tribe is the surface owner at this location. The operator is responsible for obtaining any needed permits or rights of way before causing any surface disturbance or drilling.

Brad Hill  
**Onsite Evaluator**

5/2/2011  
**Date / Time**

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

<b>Category</b>	<b>Condition</b>
Pits	None

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 4/20/2011

API NO. ASSIGNED: 43047515650000

WELL NAME: Horn Frog 14-8D-13-18

OPERATOR: BILL BARRETT CORP (N2165)

PHONE NUMBER: 303 312-8134

CONTACT: Tracey Fallang

PROPOSED LOCATION: NWNE 17 130S 180E

Permit Tech Review: 

SURFACE: 0655 FNL 1971 FEL

Engineering Review: 

BOTTOM: 0618 FSL 1983 FWL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 39.69221

LONGITUDE: -109.92321

UTM SURF EASTINGS: 592329.00

NORTHINGS: 4393941.00

FIELD NAME: WILDCAT

LEASE TYPE: 4 - Fee

LEASE NUMBER: UIT-EDA-001-000

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

- PLAT
- Bond: STATE/FEE - LPM 4138148
- Potash
- Oil Shale 190-5
- Oil Shale 190-3
- Oil Shale 190-13
- Water Permit: Water Permit # 43-10991
- RDCC Review:
- Fee Surface Agreement
- Intent to Commingle

Commingling Approved

## LOCATION AND SITING:

- R649-2-3.
- Unit:
- R649-3-2. General
- R649-3-3. Exception
- Drilling Unit
- Board Cause No: R649-3-11
- Effective Date:
- Siting:
- R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 4 - Federal Approval - dmason  
5 - Statement of Basis - bhill  
9 - Cement casing to Surface - ddoucet  
15 - Directional - dmason  
23 - Spacing - dmason



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:** Horn Frog 14-8D-13-18  
**API Well Number:** 43047515650000  
**Lease Number:** UIT-EDA-001-000  
**Surface Owner:** INDIAN  
**Approval Date:** 7/7/2011

**Issued to:**

BILL BARRETT CORP, 1099 18th Street Ste 2300, Denver, CO 80202

**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 R649-3-11. The expected producing formation or pool is the WASATCH-MESA VERDE 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:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

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.

This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

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

The cement volumes for the production casing shall be determined from actual hole conditions and the setting depth of the casing in order to place cement from the pipe setting depth back to 800' MD as indicated in the submitted drilling plan.

**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:

**Approved by:**

A handwritten signature in black ink, appearing to read "J. Rogers", written in a cursive style.

For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	5. LEASE DESIGNATION AND SERIAL NUMBER: UIT-EDA-001-000
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.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
	7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: HORN FROG 14-8D-13-18
2. NAME OF OPERATOR: BILL BARRETT CORP	9. API NUMBER: 43047515650000
3. ADDRESS OF OPERATOR: 1099 18th Street Ste 2300 , Denver, CO, 80202	PHONE NUMBER: 303 312-8164 Ext
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0655 FNL 1971 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 17 Township: 13.0S Range: 18.0E Meridian: S	9. FIELD and POOL or WILDCAT: WILDCAT
	COUNTY: UINTAH
	STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 7/3/2012	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT 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"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

This sundry is being submitted to request an extension on the APD which expires on 7/7/2012.

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

Date: July 11, 2012

By:

NAME (PLEASE PRINT) Megan Finnegan	PHONE NUMBER 303 299-9949	TITLE Permit Analyst
SIGNATURE N/A	DATE 7/3/2012	



**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 43047515650000**

API: 43047515650000

Well Name: HORN FROG 14-8D-13-18

Location: 0655 FNL 1971 FEL QTR NWNE SEC 17 TWNP 130S RNG 180E MER S

Company Permit Issued to: BILL BARRETT CORP

Date Original Permit Issued: 7/7/2011

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

Signature: Megan Finnegan

Date: 7/3/2012

Title: Permit Analyst Representing: BILL BARRETT CORP

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9  <b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> UIT-EDA-001-000
<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> Ute
<b>1. TYPE OF WELL</b> Gas Well		<b>7.UNIT or CA AGREEMENT NAME:</b>
<b>2. NAME OF OPERATOR:</b> BILL BARRETT CORP		<b>8. WELL NAME and NUMBER:</b> HORN FROG 14-8D-13-18
<b>3. ADDRESS OF OPERATOR:</b> 1099 18th Street Ste 2300 , Denver, CO, 80202		<b>9. API NUMBER:</b> 43047515650000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0655 FNL 1971 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 17 Township: 13.0S Range: 18.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
		<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: 7/7/2013	<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
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	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width:100px;" type="text"/>

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

This sundry is being submitted to request an extension on the APD which expires on 7/7/2013.

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

**Date:** July 01, 2013

**By:**

<b>NAME (PLEASE PRINT)</b> Brady Riley	<b>PHONE NUMBER</b> 303 312-8115	<b>TITLE</b> Permit Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/27/2013	



**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 43047515650000**

API: 43047515650000

Well Name: HORN FROG 14-8D-13-18

Location: 0655 FNL 1971 FEL QTR NWNE SEC 17 TWP 130S RNG 180E MER S

Company Permit Issued to: BILL BARRETT CORP

Date Original Permit Issued: 7/7/2011

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

Signature: Brady Riley

Date: 6/27/2013

Title: Permit Analyst Representing: BILL BARRETT CORP



GARY R. HERBERT  
*Governor*

SPENCER J. COX  
*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*

August 20, 2014

Bill Barrett Corp.  
1099 18<sup>TH</sup> Street, Suite 2300  
Denver, CO 80202

Re: APD Rescinded – Horn Frog 14-8D-13-18, Sec. 17 T.13S, R.18E  
Uintah County, Utah API No. 43-047-51565

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 July 7, 2011. On July 11, 2012, and July 1, 2013, 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 August 20, 2014.

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  
Bureau of Land Management, Vernal

