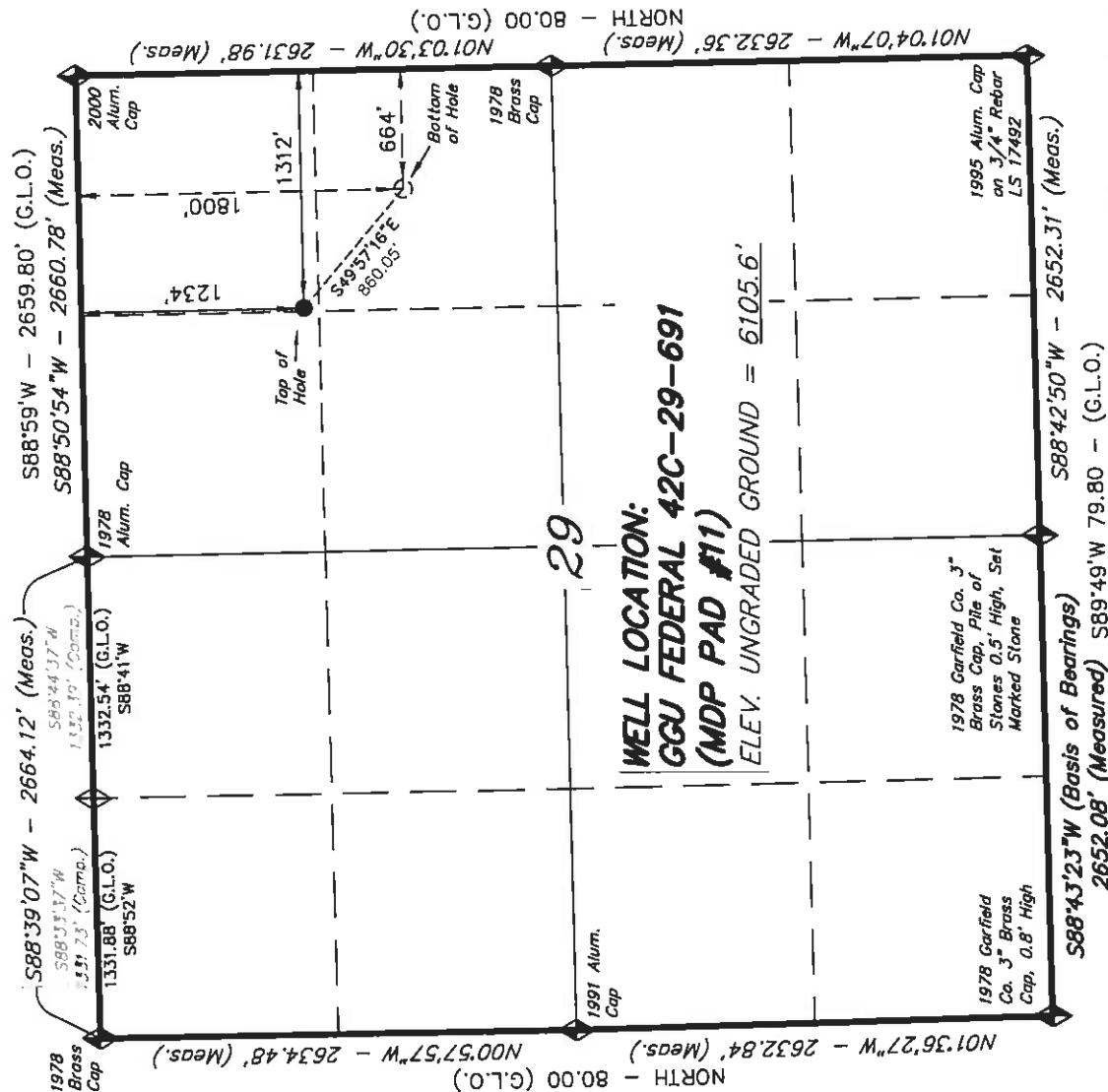


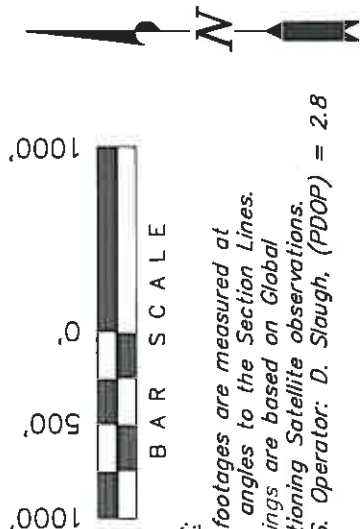
# T6S, R91W, 6th P.M.

BILL BARRETT CORP.



◆ = SECTION CORNERS LOCATED

Basis of elevation is the Rifle 2 Triangulation Station, 39°31'53.80" N Lat. & 107°47'07.78" W Long (NAD 83). Elevation = 5323.1' (NAVD88).



## NOTES:

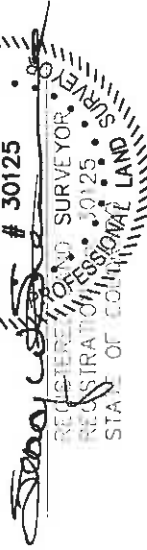
1. Well footages are measured at right angles to the Section Lines.
2. Bearings are based on Global Positioning Satellite observations.
3. G.P.S. Operator: D. Slaugh, (PDOP) = 2.8

## IMPROVEMENT NOTE:

See addendum to legal plat (sheet 2a) for existing improvements within 400' of the proposed well head

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES AND SURVEYS MADE BY ME OR UNDER MY SUPERVISION. THE LOCATION HAS BEEN STAKED ON THE GROUND AND REFLECTED ON THE PLAT, AND THAT THE SURVEY WAS CONDUCTED ACCORDING TO THE BEST OF MY KNOWLEDGE AND BELIEF.

# 30125



**TRI STATE LAND SURVEYING & CONSULTING**  
 180 NORTH VERNAL AVE. - VERNAL, UTAH 84078  
 (435) 781-2501

DATE SURVEYED: 01-05-10	SURVEYED BY: C.D.S.	SHEET
DATE DRAWN: 01-17-10	DRAWN BY: F.T.M.	2j
REVISED:	SCALE: 1" = 1000'	OF 12

## **DRILLING PROGRAM**

## BILL BARRETT CORPORATION

## GGU Federal 42C-29-691

NENE, 1234' FNL, 1312' FEL, Sec. 29, T6S-R91W (surface hole)

SENE, 1800' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)

Garfield County, Colorado

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

<b><u>Formation</u></b>	<b><u>Depth – MD</u></b>	<b><u>Depth – TVD</u></b>
Mesaverde*	3563'	3492'
Price Coal	4394'	4297'
Top of Gas	4908'	4807'
Rollins*	7218'	7117'
TD	7518'	7417'

## PROSPECTIVE PAY

\*Members of the Williams Fork & Iles formations are primary objectives for oil/gas.

### 3. BOP and Pressure Containment Data

<b><u>Depth Intervals</u></b>	<b><u>BOP Equipment</u></b>
0 –742'	No pressure control required
742' – TD	11" 3000# Ram Type BOP 11" 3000# Annular BOP
<ul style="list-style-type: none"> <li>- Drilling spool to accommodate choke and kill lines;</li> <li>- 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;</li> <li>- The BLM and the Colorado Oil and Gas Conservation Commission will be notified 24 hours in advance of all BOP pressure tests.</li> <li>- 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.</li> </ul>	

#### 4. Casing Program

<u>Hole Size</u>	<u>SETTING DEPTH</u> <u>(FROM) (TO)</u>		<u>Casing Size</u>	<u>Casing Weight</u>	<u>Casing Grade</u>	<u>Thread</u>	<u>Condition</u>
12 ¼"	surface	742'	9 5/8"	36#	J or K 55	ST&C	New
7 7/8" & 8 3/4"	surface	7518'	4 ½"	11.6# 11.6#	P-110 or N-80	LT&C LT&C	New New

Note: BBC will use one of two options of production casing noted above. 7 7/8" hole size will begin at the point the bit is changed (approximately 5250').

**5. Cementing Program**

9 5/8" Surface Casing	Lead with approximately 120 sx Versacem Cement System with additives mixed at 12.3 ppg (yield = 2.35 ft <sup>3</sup> /sx) and tail with approximately 120 sx Swiftcem Cement System with additives mixed at 14.2 ppg (yield = 1.39 ft <sup>3</sup> /sx), circulated to surface with 75% excess
4 1/2" Production Casing	Cement with approximately 905 sx Halcem Cement System with additives mixed at 13.1 ppg (yield = 1.51 ft <sup>3</sup> /sx), circulated to surface 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</u> (API filtrate)	<u>Remarks</u>
0 – 40'	8.4 – 9.3	29 – 48	--	Native Spud Mud
40' – 742'	8.4 – 9.3	29 – 48	12 ml or less	Freshwater drilling fluid system
742' – TD	9.2 – 9.9	36 – 56	8 ml or less	LSND/DAP
Note: Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kicks" will be available at wellsite.				

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

Cores	None anticipated;
Testing	None anticipated;
Surveys	Run every 1000' and on trips, full directional surveys
Logging	DIL-GR-SP, FDC-CNL-GR-CAL-Pe-Microlog, all TD to surface.

**8. Anticipated Abnormal Pressures or Temperatures**

No abnormal pressures or temperatures or other hazards are anticipated.

Maximum anticipated bottom hole pressure equals approximately 3818 psi\* and maximum anticipated surface pressure equals approximately 2187 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 = A (bottom hole pressure)

\*\*Maximum surface pressure = A – (0.22 x TD)

**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

Bill Barrett Corporation  
Drilling Program  
GGU Federal 42C-29-691  
Garfield County, Colorado

**10.     Drilling Schedule**

Location Construction:	November 1, 2010
Spud:	November 15, 2010
Duration:	7 to 12 days drilling time
	7 to 10 days completion time (each well)
	(note: completion activities would not necessarily begin immediately upon the completion of drilling operations)

## ***Job Information***

## ***Surface Casing***

---

Well Name: GGU Federal

Well #: 42C-29-691

12 1/4" Surface Open Hole

Inner Diameter

Job Excess

0 - 742 ft (MD)

12.250 in

75 %

9 5/8" Surface Casing

Outer Diameter

Inner Diameter

Linear Weight

0 - 742 ft (MD)

9.625 in

8.921 in

36 lbm/ft

**Calculations****Surface Casing**

Spacer:

$$\begin{aligned}\text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl}\end{aligned}$$

Cement : (437.00 ft fill)

$$\begin{aligned}437.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 75 \% &= 239.51 \text{ ft}^3 \\ \text{Total Lead Cement} &= 239.51 \text{ ft}^3 \\ &= 42.66 \text{ bbl} \\ \text{Sacks of Cement} &= 120 \text{ sks}\end{aligned}$$

Cement : (305.00 ft fill)

$$\begin{aligned}305.00 \text{ ft} * 0.3132 \text{ ft}^3/\text{ft} * 75 \% &= 167.16 \text{ ft}^3 \\ \text{Tail Cement} &= 167.16 \text{ ft}^3 \\ &= 29.77 \text{ bbl}\end{aligned}$$

Shoe Joint Volume: (0.00 ft fill)

$$\begin{aligned}0.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 0.00 \text{ ft}^3 \\ &= 0.00 \text{ bbl} \\ \text{Tail plus shoe joint} &= 167.16 \text{ ft}^3 \\ &= 29.77 \text{ bbl} \\ \text{Total Tail} &= 120 \text{ sks}\end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned}742.00 \text{ ft} * 0.4341 \text{ ft}^3/\text{ft} &= 322.08 \text{ ft}^3 \\ &= 57.36 \text{ bbl}\end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned}\text{Capacity of Pipe - Shoe Joint} &= 57.36 \text{ bbl} - 0.00 \text{ bbl} \\ &= 57.36 \text{ bbl}\end{aligned}$$

## ***Job Recommendation***

## ***Surface Casing***

---

### Fluid Instructions

Fluid 1: Water Spacer

Water Spacer

Fluid Density: 8.34 lbm/gal

Fluid Volume: 20 bbl

### Fluid 2: Lead Cement

VERSACEM (TM) SYSTEM

0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 12.30 lbm/gal

Slurry Yield: 2.35 ft<sup>3</sup>/sk

Total Mixing Fluid: 13.42 Gal/sk

Top of Fluid: 0 ft

Calculated Fill: 437 ft

Volume: 50.14 bbl

Calculated Sacks: 120 sks

Proposed Sacks: 120 sks

### Fluid 3: Tail Cement

SWIFTCEM (TM) SYSTEM

0.25 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 14.20 lbm/gal

Slurry Yield: 1.39 ft<sup>3</sup>/sk

Total Mixing Fluid: 6.64 Gal/sk

Top of Fluid: 437 ft

Calculated Fill: 305 ft

Volume: 29.79 bbl

Calculated Sacks: 120 sks

Proposed Sacks: 120 sks

**Calculations****Production Casing**

Spacer:

$$\begin{aligned} 318.00 \text{ ft} * 0.3071 \text{ ft}^3/\text{ft} * 15 \% &= 112.32 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 318.00 \text{ ft} * 0.3071 \text{ ft}^3/\text{ft} * 15 \% &= 112.32 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Cement : (4454.00 ft fill)

$$\begin{aligned} 2186.00 \text{ ft} * 0.3071 \text{ ft}^3/\text{ft} * 15 \% &= 772.11 \text{ ft}^3 \\ 2268.00 \text{ ft} * 0.2278 \text{ ft}^3/\text{ft} * 15 \% &= 594.14 \text{ ft}^3 \\ \text{Tail Cement} &= 1366.25 \text{ ft}^3 \\ &= 243.34 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (0.00 ft fill)

$$\begin{aligned} 0.00 \text{ ft} * 0.0873 \text{ ft}^3/\text{ft} &= 0.00 \text{ ft}^3 \\ &= 0.00 \text{ bbl} \\ \text{Tail plus shoe joint} &= 1366.25 \text{ ft}^3 \\ &= 243.34 \text{ bbl} \\ \text{Total Tail} &= 902 \text{ sks} \end{aligned}$$

Total Pipe Capacity:

$$\begin{aligned} 7518.00 \text{ ft} * 0.0873 \text{ ft}^3/\text{ft} &= 656.07 \text{ ft}^3 \\ &= 116.85 \text{ bbl} \end{aligned}$$

Displacement Volume to Shoe Joint:

$$\begin{aligned} \text{Capacity of Pipe - Shoe Joint} &= 116.85 \text{ bbl} - 0.00 \text{ bbl} \\ &= 116.85 \text{ bbl} \end{aligned}$$



## ***Job Recommendation***

## ***Production Casing***

---

### Fluid Instructions

Fluid 1: Water Based Spacer  
SUPER FLUSH 101

Fluid Density: 10 lbm/gal  
Fluid Volume: 20 bbl

Fluid 2: Water Spacer  
Fresh Water

Fluid Density: 8.33 lbm/gal  
Fluid Volume: 20 bbl

### Fluid 3: Tail Cement

HALCEM (TM) SYSTEM  
0.25 lbm/sk Poly-E-Flake (Lost Circulation Additive)  
0.3 % HR-5 (Retarder)

Fluid Weight 13.10 lbm/gal  
Slurry Yield: 1.51 ft<sup>3</sup>/sk  
Total Mixing Fluid: 6.93 Gal/sk  
Top of Fluid: 3064 ft  
Calculated Fill: 4454 ft  
Volume: 243.34 bbl  
Calculated Sacks: 902.41 sks  
Proposed Sacks: 905 sks

### Fluid 4: Water Based Spacer

ClayFix III Displacement  
1.5 gal/Mgal CLAYFIX 3 (Clay Control)

Fluid Density: 8.40 lbm/gal  
Fluid Volume: 116.85 bbl

Detailed Pumping Schedule

Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Estimated Avg Rate bbl/min	Downhole Volume
1	Spacer	SUPER FLUSH 101	10.0		20 bbl
2	Spacer	Fresh Water	8.3	4.0	20 bbl
3	Cement	HalCem	13.1	5.0	905 sks
4	Spacer	ClayFix III Displacement	8.4	5.0	116.85 bbl

**BILL BARRETT CORP**  
**GARFIELD COUNTY, COLORADO NAD 1983**  
**MDP #11**  
**GGU Federal #42C-29-691**

**GGU Federal #42C-29-691**

**Plan: Design #1**

## **Standard Planning Report**

**28 April, 2010**

# BBC

## Planning Report

<b>Database:</b>	Compass	<b>Local Co-ordinate Reference:</b>	Well GGU Federal #42C-29-691
<b>Company:</b>	BILL BARRETT CORP	<b>TVD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Project:</b>	GARFIELD COUNTY, COLORADO NAD 1983	<b>MD Reference:</b>	WELL @ 0.00ft (Original Well Elev)
<b>Site:</b>	MDP #11	<b>North Reference:</b>	Grid
<b>Well:</b>	GGU Federal #42C-29-691	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	GGU Federal #42C-29-691		
<b>Design:</b>	Design #1		

<b>Project</b>	GARFIELD COUNTY, COLORADO NAD 1983		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		

<b>Site</b>	MDP #11		
<b>Site Position:</b>		<b>Northing:</b>	1,614,678.473 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,415,085.675 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	39° 30' 9.890 N
		<b>Longitude:</b>	107° 34' 23.0500 W
		<b>Grid Convergence:</b>	-1.31 °

<b>Well</b>	GGU Federal #42C-29-691		
<b>Well Position</b>	<b>+N/-S</b>	2.78 ft	<b>Northing:</b>
	<b>+E/-W</b>	-33.65 ft	<b>Easting:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
			<b>Ground Level:</b>
			0.00 ft

<b>Wellbore</b>	GGU Federal #42C-29-691				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	10.33	65.87	52,532

<b>Design</b>	Design #1			
<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	131.47

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Bulld Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
841.70	0.00	0.00	841.70	0.00	0.00	0.00	0.00	0.00	0.00	
1,410.20	14.21	131.47	1,404.39	-46.46	52.56	2.50	2.50	0.00	131.47	
4,339.79	14.21	131.47	4,244.31	-522.82	591.47	0.00	0.00	0.00	0.00	
4,908.29	0.00	0.00	4,807.00	-569.28	644.03	2.50	-2.50	0.00	180.00	
7,518.29	0.00	0.00	7,417.00	-569.28	644.03	0.00	0.00	0.00	0.00	0.00 PBHL_GGU Federal

# BBC

## Planning Report

**Database:** Compass  
**Company:** BILL BARRETT CORP  
**Project:** GARFIELD COUNTY, COLORADO NAD 1983  
**Site:** MDP #11  
**Well:** GGU Federal #42C-29-691  
**Wellbore:** GGU Federal #42C-29-691  
**Design:** Design #1

**Local Co-ordinate Reference:** Well GGU Federal #42C-29-691  
**TVD Reference:** WELL @ 0.00ft (Original Well Elev)  
**MD Reference:** WELL @ 0.00ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
741.70	0.00	0.00	741.70	0.00	0.00	0.00	0.00	0.00	0.00
<b>Surface Casing</b>									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
841.70	0.00	0.00	841.70	0.00	0.00	0.00	0.00	0.00	0.00
900.00	1.46	131.47	899.99	-0.49	0.56	0.74	2.50	2.50	0.00
1,000.00	3.96	131.47	999.87	-3.62	4.09	5.46	2.50	2.50	0.00
1,100.00	6.46	131.47	1,099.45	-9.63	10.89	14.54	2.50	2.50	0.00
1,200.00	8.96	131.47	1,198.54	-18.51	20.94	27.95	2.50	2.50	0.00
1,300.00	11.46	131.47	1,296.95	-30.25	34.22	45.67	2.50	2.50	0.00
1,400.00	13.96	131.47	1,394.49	-44.81	50.70	67.67	2.50	2.50	0.00
1,410.20	14.21	131.47	1,404.39	-46.46	52.56	70.15	2.50	2.50	0.00
1,500.00	14.21	131.47	1,491.44	-61.06	69.08	92.20	0.00	0.00	0.00
1,600.00	14.21	131.47	1,588.38	-77.32	87.47	116.75	0.00	0.00	0.00
1,700.00	14.21	131.47	1,685.32	-93.58	105.87	141.30	0.00	0.00	0.00
1,800.00	14.21	131.47	1,782.26	-109.84	124.26	165.85	0.00	0.00	0.00
1,900.00	14.21	131.47	1,879.20	-126.10	142.66	190.40	0.00	0.00	0.00
2,000.00	14.21	131.47	1,976.14	-142.36	161.06	214.96	0.00	0.00	0.00
2,100.00	14.21	131.47	2,073.07	-158.62	179.45	239.51	0.00	0.00	0.00
2,200.00	14.21	131.47	2,170.01	-174.88	197.85	264.06	0.00	0.00	0.00
2,300.00	14.21	131.47	2,266.95	-191.14	216.24	288.61	0.00	0.00	0.00
2,400.00	14.21	131.47	2,363.89	-207.40	234.64	313.16	0.00	0.00	0.00
2,500.00	14.21	131.47	2,460.83	-223.66	253.03	337.71	0.00	0.00	0.00
2,600.00	14.21	131.47	2,557.77	-239.92	271.43	362.27	0.00	0.00	0.00
2,700.00	14.21	131.47	2,654.71	-256.18	289.82	386.82	0.00	0.00	0.00
2,800.00	14.21	131.47	2,751.65	-272.44	308.22	411.37	0.00	0.00	0.00
2,900.00	14.21	131.47	2,848.59	-288.70	326.61	435.92	0.00	0.00	0.00
3,000.00	14.21	131.47	2,945.53	-304.97	345.01	460.47	0.00	0.00	0.00
3,100.00	14.21	131.47	3,042.47	-321.23	363.41	485.03	0.00	0.00	0.00
3,200.00	14.21	131.47	3,139.41	-337.49	381.80	509.58	0.00	0.00	0.00
3,300.00	14.21	131.47	3,236.34	-353.75	400.20	534.13	0.00	0.00	0.00
3,400.00	14.21	131.47	3,333.28	-370.01	418.59	558.68	0.00	0.00	0.00
3,500.00	14.21	131.47	3,430.22	-386.27	436.99	583.23	0.00	0.00	0.00
3,563.73	14.21	131.47	3,492.00	-396.63	448.71	598.88	0.00	0.00	0.00
<b>Mesaverde</b>									
3,600.00	14.21	131.47	3,527.16	-402.53	455.38	607.78	0.00	0.00	0.00
3,700.00	14.21	131.47	3,624.10	-418.79	473.78	632.34	0.00	0.00	0.00
3,800.00	14.21	131.47	3,721.04	-435.05	492.17	656.89	0.00	0.00	0.00
3,900.00	14.21	131.47	3,817.98	-451.31	510.57	681.44	0.00	0.00	0.00
4,000.00	14.21	131.47	3,914.92	-467.57	528.96	705.99	0.00	0.00	0.00
4,100.00	14.21	131.47	4,011.86	-483.83	547.36	730.54	0.00	0.00	0.00
4,200.00	14.21	131.47	4,108.80	-500.09	565.76	755.09	0.00	0.00	0.00
4,300.00	14.21	131.47	4,205.74	-516.35	584.15	779.65	0.00	0.00	0.00
4,339.79	14.21	131.47	4,244.31	-522.82	591.47	789.42	0.00	0.00	0.00
4,393.99	12.86	131.47	4,297.00	-531.22	600.97	802.10	2.50	-2.50	0.00
<b>Price Coal</b>									

# BBC

## Planning Report

**Database:** Compass  
**Company:** BILL BARRETT CORP  
**Project:** GARFIELD COUNTY, COLORADO NAD 1983  
**Site:** MDP #11  
**Well:** GGU Federal #42C-29-691  
**Wellbore:** GGU Federal #42C-29-691  
**Design:** Design #1

**Local Co-ordinate Reference:** Well GGU Federal #42C-29-691  
**TVD Reference:** WELL @ 0.00ft (Original Well Elev)  
**MD Reference:** WELL @ 0.00ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,400.00	12.71	131.47	4,302.86	-532.10	601.97	803.43	2.50	-2.50	0.00
4,500.00	10.21	131.47	4,400.86	-545.26	616.85	823.29	2.50	-2.50	0.00
4,600.00	7.71	131.47	4,499.64	-555.57	628.52	838.86	2.50	-2.50	0.00
4,700.00	5.21	131.47	4,598.99	-563.01	636.94	850.11	2.50	-2.50	0.00
4,800.00	2.71	131.47	4,698.75	-567.58	642.11	857.01	2.50	-2.50	0.00
4,900.00	0.21	131.47	4,798.71	-569.27	644.02	859.55	2.50	-2.50	0.00
4,908.29	0.00	0.00	4,807.00	-569.28	644.03	859.57	2.50	-2.50	0.00
<b>Top of Gas</b>									
5,000.00	0.00	0.00	4,898.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,100.00	0.00	0.00	4,998.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,200.00	0.00	0.00	5,098.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,300.00	0.00	0.00	5,198.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,400.00	0.00	0.00	5,298.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,500.00	0.00	0.00	5,398.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,600.00	0.00	0.00	5,498.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,700.00	0.00	0.00	5,598.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,800.00	0.00	0.00	5,698.71	-569.28	644.03	859.57	0.00	0.00	0.00
5,900.00	0.00	0.00	5,798.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,000.00	0.00	0.00	5,898.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,100.00	0.00	0.00	5,998.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,200.00	0.00	0.00	6,098.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,300.00	0.00	0.00	6,198.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,400.00	0.00	0.00	6,298.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,500.00	0.00	0.00	6,398.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,600.00	0.00	0.00	6,498.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,700.00	0.00	0.00	6,598.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,800.00	0.00	0.00	6,698.71	-569.28	644.03	859.57	0.00	0.00	0.00
6,900.00	0.00	0.00	6,798.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,000.00	0.00	0.00	6,898.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,100.00	0.00	0.00	6,998.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,200.00	0.00	0.00	7,098.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,218.29	0.00	0.00	7,117.00	-569.28	644.03	859.57	0.00	0.00	0.00
<b>Rollins</b>									
7,300.00	0.00	0.00	7,198.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,400.00	0.00	0.00	7,298.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,500.00	0.00	0.00	7,398.71	-569.28	644.03	859.57	0.00	0.00	0.00
7,518.29	0.00	0.00	7,417.00	-569.28	644.03	859.57	0.00	0.00	0.00

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
741.70	741.70	Surface Casing	9-5/8	12-1/4

**BBC**  
Planning Report

**Database:** Compass  
**Company:** BILL BARRETT CORP  
**Project:** GARFIELD COUNTY, COLORADO NAD 1983  
**Site:** MDP #11  
**Well:** GGU Federal #42C-29-691  
**Wellbore:** GGU Federal #42C-29-691  
**Design:** Design #1

**Local Co-ordinate Reference:** Well GGU Federal #42C-29-691  
**TVD Reference:** WELL @ 0.00ft (Original Well Elev)  
**MD Reference:** WELL @ 0.00ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,563.73	3,492.00	Mesaverde		0.00	
4,393.99	4,297.00	Price Coal		0.00	
4,908.29	4,807.00	Top of Gas		0.00	
7,218.29	7,117.00	Rollins		0.00	

## WELL DETAILS: GGU Federal #42C-29-691

Ground Level: 0.00  
 +N/-S+E/-W Northing Easting Latitude Longitude Slot  
 0.00 0.00 1614681.251 2415052.028 30° 30' 9.907" N 104° 23.4800 W



Azimuths to Grid North  
 True North: 1.31°  
 Magnetic North: 11.64°

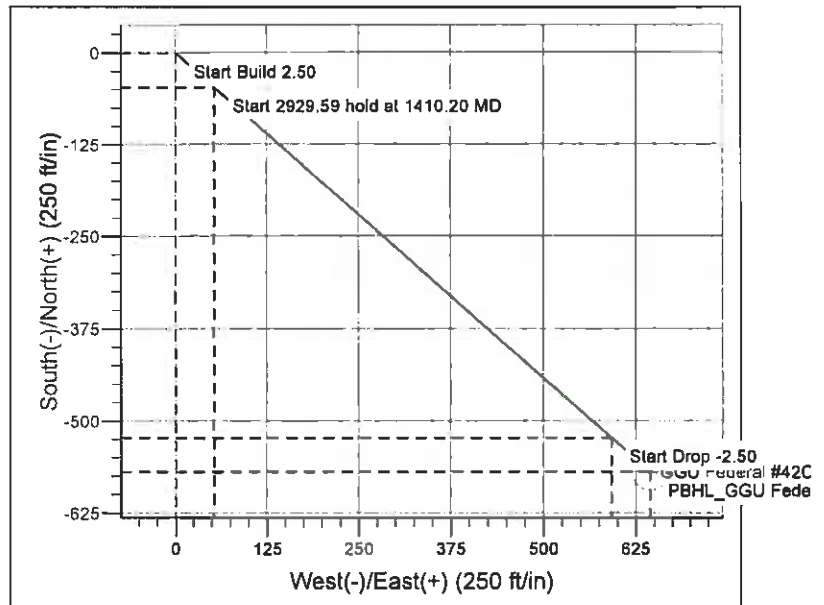
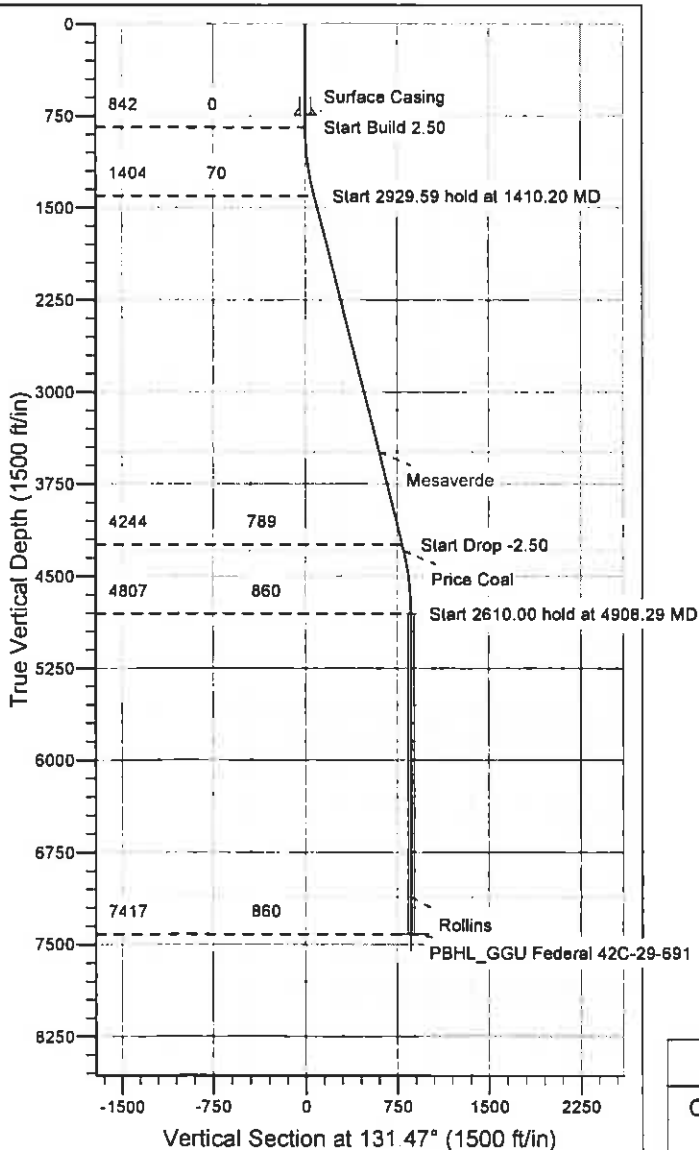
Magnetic Field  
 Strength: 52532.0snT  
 Dip Angle: 65.87°  
 Date: 12/31/2009  
 Model: IGRF200510

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	41.70	0.00	0.00	841.70	0.00	0.00	0.00	0.00	0.00	
3	10.20	14.21	131.47	1404.39	-46.46	52.56	2.50	131.47	70.15	
4	39.79	14.21	131.47	2444.31	-522.82	591.47	0.00	0.00	789.42	
5	08.29	0.00	0.00	4807.00	-569.28	644.03	2.50	180.00	859.57	
6	18.29	0.00	0.00	7417.00	-569.28	644.03	0.00	0.00	859.57	PBHL_GGU Federal 42C-29-691

## WELLBORE TARGET DETAILS

Name TVD +N/-S +E/-W Shape  
 PBHL\_GGU Federal 42C-29-691 4569.28 1644.03 Circle (Radius: 25.00)



## CASING DETAILS

TVD MD Name Size  
 741.70 741.70 Surface Casing 9-5/8

## FORMATION TOP DETAILS

TVD Path MD Path Formation  
 3492.00 563.73 Mesaverde  
 4297.00 393.99 Price Coal  
 4807.00 908.29 Top of Gas  
 7117.00 218.29 Rollins

## REFERENCE INFORMATION

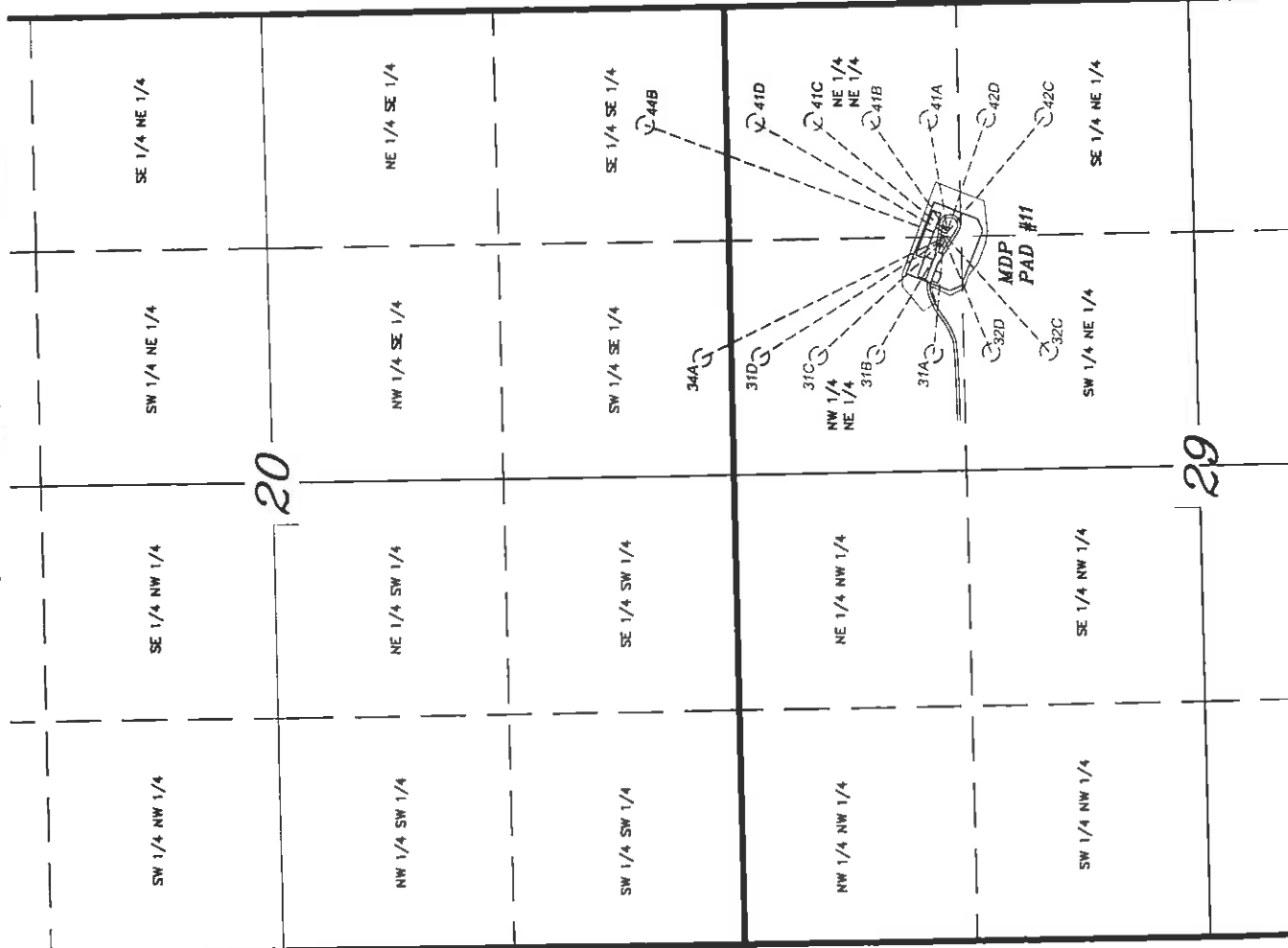
Co-ordinate (N/E) Reference: Well GGU Federal #42C-29-691, Grid North  
 Vertical (TVD) Reference: WELL @ 0.00ft (Original Well Elev)  
 Section (VS) Reference: Slot - (0.00N, 0.00E)  
 Measured Depth Reference: WELL @ 0.00ft (Original Well Elev)  
 Calculation Method: Minimum Curvature



T6S, R91W, 6th P.M.

BILL BARRETT CORP.

GENERAL MUTLI WELL PLAN  
SECTION DRILLING MAP  
WELL PAD (MDP PAD #11)



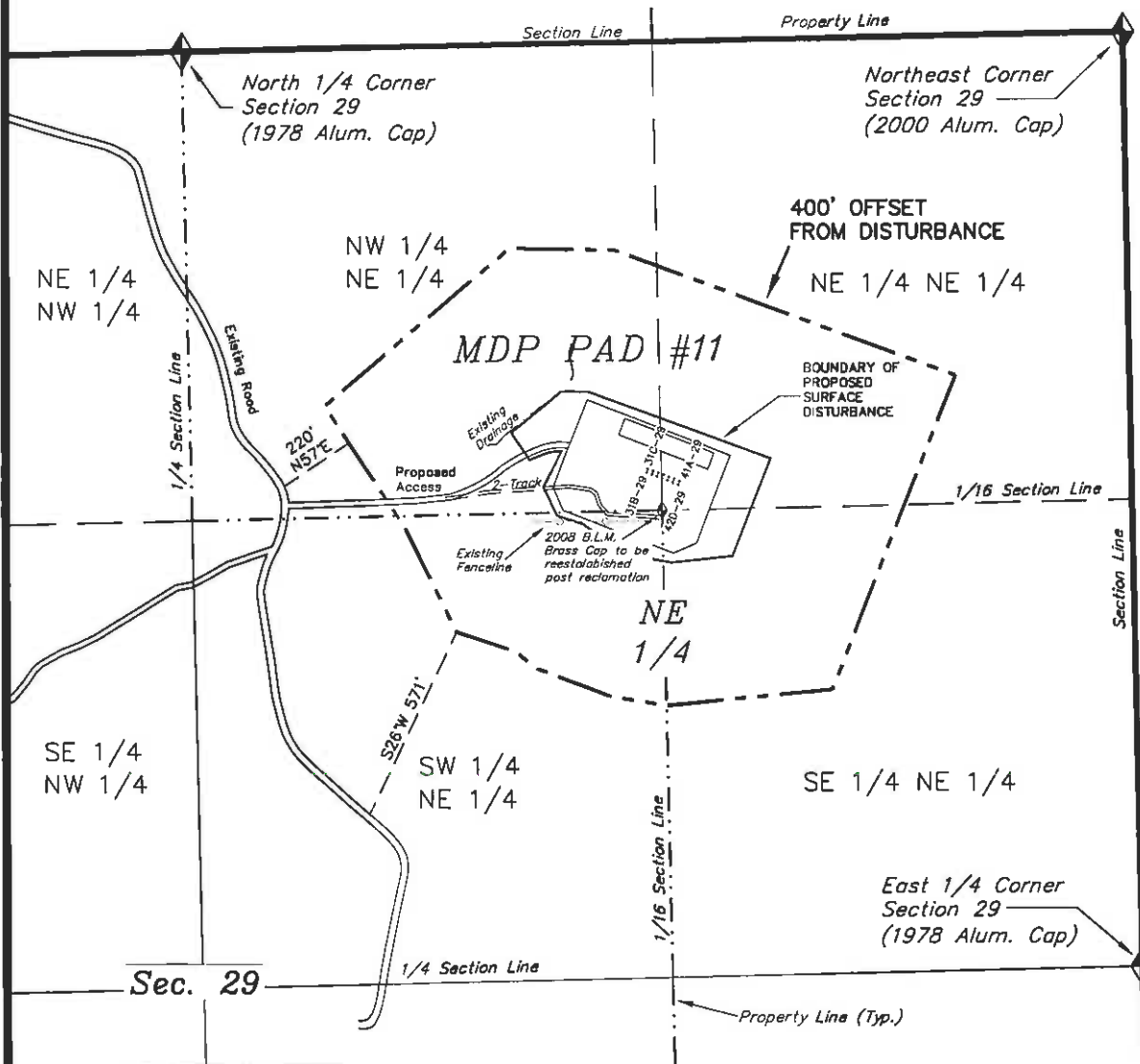
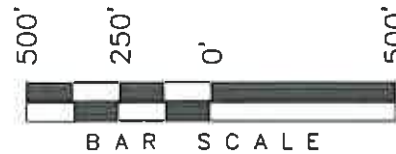
LATITUDE & LONGITUDE Surface position of Wells (NAD 83)		
WELL	LATITUDE	LONGITUDE
41A-29	39° 30' 09.89"	107° 34' 23.05"
41C-29	39° 30' 09.85"	107° 34' 23.24"
41D-29	39° 30' 10.00"	107° 34' 23.43"
44B-20	39° 30' 10.08"	107° 34' 23.82"
34A-20	39° 30' 10.12"	107° 34' 23.81"
31D-29	39° 30' 10.18"	107° 34' 24.00"
31C-29	39° 30' 10.23"	107° 34' 24.19"
42D-29	39° 30' 09.80"	107° 34' 23.10"
41B-29	39° 30' 09.85"	107° 34' 23.29"
42C-29	39° 30' 09.91"	107° 34' 23.48"
32C-29	39° 30' 09.97"	107° 34' 23.67"
32D-29	39° 30' 10.03"	107° 34' 23.66"
31A-29	39° 30' 10.08"	107° 34' 24.05"
31B-29	39° 30' 10.14"	107° 34' 24.24"

LATITUDE & LONGITUDE Bottom hole position of Wells (NAD 83)		
WELL	LATITUDE	LONGITUDE
41A-29	39° 30' 10.88"	107° 34' 15.23"
41C-29	39° 30' 17.35"	107° 34' 15.37"
41D-29	39° 30' 20.58"	107° 34' 15.43"
44B-20	39° 30' 26.78"	107° 34' 15.58"
34A-20	39° 30' 23.61"	107° 34' 32.41"
31D-29	39° 30' 20.35"	107° 34' 32.34"
31C-29	39° 30' 17.12"	107° 34' 32.28"
42D-29	39° 30' 07.66"	107° 34' 15.16"
41B-29	39° 30' 14.12"	107° 34' 15.30"
42C-29	39° 30' 04.43"	107° 34' 15.10"
32C-29	39° 30' 04.20"	107° 34' 32.01"
32D-29	39° 30' 07.43"	107° 34' 32.07"
31A-29	39° 30' 10.88"	107° 34' 32.14"
31B-29	39° 30' 13.89"	107° 34' 32.21"

**TRI STATE LAND SURVEYING & CONSULTING**  
180 NORTH VERNAL AVE. - VERNAL, UTAH 84078  
(435) 781-2501

DATE SURVEYED: 01-05-10	SURVEYED BY: C.D.S	SHEET 1
DATE DRAWN: 01-19-10	DRAWN BY: F.T.M	OF 12
REVISED	SCALE: 1" = 1000'	

**BILL BARRETT CORP.**  
**ADDENDUM TO LEGAL PLATS**  
 WELL PAD: (MDP PAD #11)  
 Section 29, T6S, R91W, 6th P.M.



PLANT COMMUNITY (non-crop land)	
<input type="checkbox"/> DISTURBED	<input type="checkbox"/> EVERGREEN FORREST LAND
<input type="checkbox"/> GRASSLAND	<input type="checkbox"/> RANGELAND
<input checked="" type="checkbox"/> SHRUB & BRUSH LAND	<input type="checkbox"/> TIMBER
<input type="checkbox"/> PLAINS DECIDUOUS RIPARIAN	<input type="checkbox"/> RECREATIONAL
<input type="checkbox"/> MOUNTAIN CONIFER RIPARIAN	<input type="checkbox"/> OTHER: (Describe)

SURFACE USE OF THE PROPOSED WELL SITE		
<input type="checkbox"/> CROP LAND	<input checked="" type="checkbox"/> NON-CROP LAND	<input type="checkbox"/> SUBDIVIDED
<input type="checkbox"/> IRRIGATED	<input checked="" type="checkbox"/> RANGELAND	<input type="checkbox"/> INDUSTRIAL
<input type="checkbox"/> DRY LAND	<input type="checkbox"/> TIMBER	<input type="checkbox"/> COMMERCIAL
<input type="checkbox"/> IMPROVED PASTURE	<input type="checkbox"/> RECREATIONAL	<input type="checkbox"/> RESIDENTIAL
<input type="checkbox"/> HAY MEADOW	<input type="checkbox"/> OTHER: (Describe)	
<input type="checkbox"/> CRP		

Distances from Well Heads					
WELL	BUILDING	ABOVE GROUND UTILITY	PUBLIC ROAD	RAILROAD	PROPERTY LINE
41A-29	S16°W 1,080'	S16°W 1,080'	S86°W 1108'	N14°W 18,730'	S31°W 95.50'
41C-29	S16°W 1,080'	S16°W 1,080'	S86°W 1093'	N14°W 18,730'	S21°W 94.20'
41D-29	S16°W 1,080'	S16°W 1,080'	S85°W 1079'	N14°W 18,730'	S11°W 95.50'
44B-20	S16°W 1,080'	S16°W 1,080'	S85°W 1064'	N14°W 18,730'	S02°W 98.50'
34A-20	S16°W 1,080'	S16°W 1,080'	S85°W 1050'	N14°W 18,730'	S01°E 105.40'
31D-29	S16°W 1,080'	S16°W 1,080'	S84°W 1036'	N14°W 18,730'	S01°E 111.50'
31C-29	S16°W 1,080'	S16°W 1,080'	S84°W 1022'	N14°W 18,730'	S01°E 117.80'
42D-29	S16°W 1,080'	S16°W 1,080'	S87°W 1104'	N14°W 18,730'	S32°W 85.70'
41B-29	S16°W 1,080'	S16°W 1,080'	S86°W 1089'	N14°W 18,730'	S21°W 84.20'
42C-29	S16°W 1,080'	S16°W 1,080'	S86°W 1075'	N14°W 18,730'	S10°W 85.70'
32C-29	S16°W 1,080'	S16°W 1,080'	S86°W 1060'	N14°W 18,730'	S00°W 90.10'
32D-29	S16°W 1,080'	S16°W 1,080'	S85°W 1046'	N14°W 18,730'	S01°E 88.10'
31A-29	S16°W 1,080'	S16°W 1,080'	S85°W 1031'	N14°W 18,730'	S01°E 102.30'
31B-29	S16°W 1,080'	S16°W 1,080'	S84°W 1017'	N14°W 18,730'	S01°E 108.40'

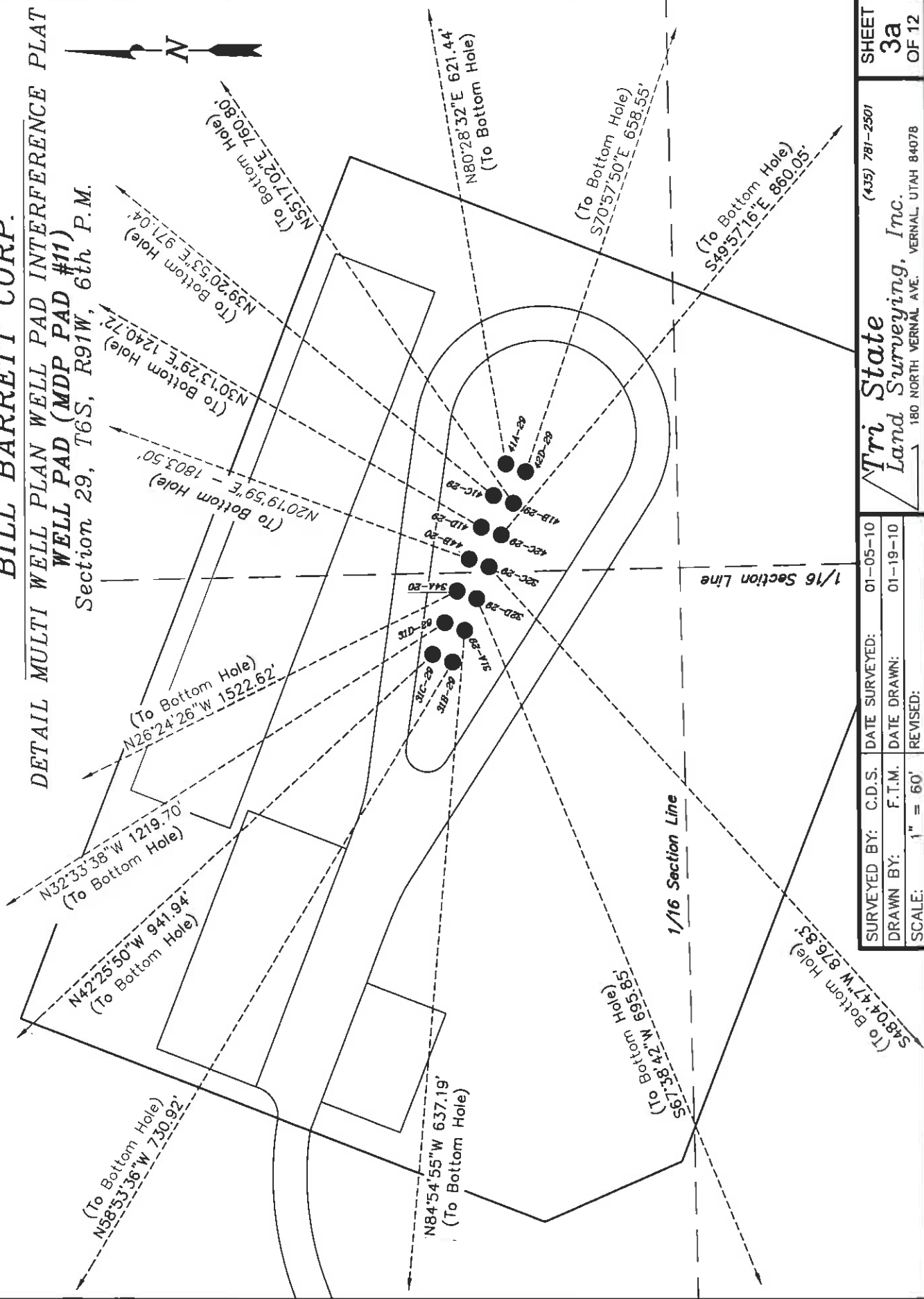
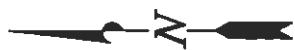
SURVEYED BY: C.D.S.      SURVEY DATE: 01-05-10  
 DRAWN BY: F.T.M.      DATE DRAWN: 01-19-10  
 SCALE: 1" = 500'      REVISED:

**Tri State**  
**Land Surveying, Inc.**  
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078

SHEET  
 20  
 OF 12

# BILL BARRETT CORP.

DETAIL MULTI WELL PLAN WELL PAD INTERFERENCE PLAT  
WELL PAD (MDP PAD #11)  
Section 29, T6S, R91W, 6th P.M.



SHEET  
3a  
OF 12

Tri State  
Land Surveying, Inc.  
180 NORTH VERNAL AVE.  
VERNAL, UTAH 84078  
(435) 781-2501

SURVEYED BY:	C.D.S.	DATE SURVEYED:	01-05-10
DRAWN BY:	F.T.M.	DATE DRAWN:	01-19-10
SCALE:	1" = 60'	REVISED:	

# BILL BARRETT CORP.

## DETAIL MULTI WELL PLAN WELL PAD INTERFERENCE PLAT WELL PAD (MDP PAD #11) Section 29, T6S, R91W, 6th P.M.

### TOP HOLE FOOTAGES

GGU FEDERAL 41A-29-691  
1236' FNL & 1279' FEL  
GGU FEDERAL 41C-29-691  
1230' FNL & 1293' FEL  
GGU FEDERAL 41D-29-691  
1224' FNL & 1308' FEL  
GGU JOLLEY 44B-20-691  
1218' FNL & 1323' FEL  
GGU FEDERAL 34A-20-691  
1212' FNL & 1338' FEL  
GGU FEDERAL 31D-29-691  
1206' FNL & 1353' FEL  
GGU FEDERAL 31C-29-691  
1200' FNL & 1367' FEL  
GGU FEDERAL 42D-29-691  
1246' FNL & 1282' FEL  
GGU FEDERAL 41B-29-691  
1240' FNL & 1367' FEL  
GGU FEDERAL 42C-29-691  
1234' FNL & 1312' FEL  
GGU SWANSON 32C-29-691  
1227' FNL & 1327' FEL  
GGU SWANSON 32D-29-691  
1221' FNL & 1342' FEL  
GGU FEDERAL 31A-29-691  
1215' FNL & 1356' FEL  
GGU FEDERAL 31B-29-691  
1209' FNL & 1371' FEL

### BOTTOM HOLE FOOTAGES

GGU FEDERAL 41A-29-691  
1146' FNL & 664' FEL  
GGU FEDERAL 41C-29-691  
492' FNL & 664' FEL  
GGU FEDERAL 41D-29-691  
165' FNL & 664' FEL  
GGU JOLLEY 44B-20-691  
460' FSL & 666' FEL  
GGU FEDERAL 34A-20-691  
165' FSL & 1990' FEL  
GGU FEDERAL 31D-29-691  
165' FNL & 1990' FEL  
GGU FEDERAL 31C-29-691  
492' FNL & 1990' FEL  
GGU FEDERAL 42D-29-691  
1473' FNL & 664' FEL  
GGU FEDERAL 41B-29-691  
819' FNL & 664' FEL  
GGU FEDERAL 42C-29-691  
1800' FNL & 664' FEL  
GGU SWANSON 32C-29-691  
1800' FNL & 1990' FEL  
GGU SWANSON 32D-29-691  
1473' FNL & 1990' FEL  
GGU FEDERAL 31A-29-691  
1146' FNL & 1990' FEL  
GGU FEDERAL 31B-29-691  
819' FNL & 1990' FEL

### RELATIVE COORDINATES (From top hole to bottom hole)

WELL	NORTH	EAST
41A-29	103'	613'
41C-29	751'	616'
41D-29	1072'	625'
44B-20	1691'	627'
34A-20	1364'	-677'
31D-29	1028'	-656'
31C-29	695'	-636'
42D-29	-215'	623'
41B-29	433'	625'
42C-29	-553'	658'
32C-29	-586'	-652'
32D-29	-265'	-644'
31A-29	56'	-635'
31B-29	378'	-626'

### LATITUDE & LONGITUDE Surface position of Wells (NAD 83)

WELL	LATITUDE	LONGITUDE
41A-29	39° 30' 09.89"	107° 34' 23.05"
41C-29	39° 30' 09.95"	107° 34' 23.24"
41D-29	39° 30' 10.00"	107° 34' 23.43"
44B-20	39° 30' 10.06"	107° 34' 23.62"
34A-20	39° 30' 10.12"	107° 34' 23.81"
31D-29	39° 30' 10.18"	107° 34' 24.00"
31C-29	39° 30' 10.23"	107° 34' 24.19"
42D-29	39° 30' 09.80"	107° 34' 23.10"
41B-29	39° 30' 09.85"	107° 34' 23.29"
42C-29	39° 30' 09.91"	107° 34' 23.48"
32C-29	39° 30' 09.97"	107° 34' 23.67"
32D-29	39° 30' 10.03"	107° 34' 23.86"
31A-29	39° 30' 10.08"	107° 34' 24.05"
31B-29	39° 30' 10.14"	107° 34' 24.24"

### LATITUDE & LONGITUDE Bottom hole position of Wells (NAD 83)

WELL	LATITUDE	LONGITUDE
41A-29	39° 30' 10.89"	107° 34' 15.23"
41C-29	39° 30' 17.35"	107° 34' 15.37"
41D-29	39° 30' 20.58"	107° 34' 15.43"
44B-20	39° 30' 26.76"	107° 34' 15.58"
34A-20	39° 30' 23.61"	107° 34' 32.41"
31D-29	39° 30' 20.35"	107° 34' 32.34"
31C-29	39° 30' 17.12"	107° 34' 32.28"
42D-29	39° 30' 07.66"	107° 34' 15.16"
41B-29	39° 30' 14.12"	107° 34' 15.30"
42C-29	39° 30' 04.43"	107° 34' 15.10"
32C-29	39° 30' 04.20"	107° 34' 32.01"
32D-29	39° 30' 07.43"	107° 34' 32.07"
31A-29	39° 30' 10.66"	107° 34' 32.14"
31B-29	39° 30' 13.89"	107° 34' 32.21"

SURVEYED BY: C.D.S. DATE SURVEYED: 01-05-10  
DRAWN BY: F.T.M. DATE DRAWN: 01-19-10  
SCALE: 1" = 60' REVISED: L.C.S. 06-08-10

Tri State  
Land Surveying, Inc.  
(435) 781-2501  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078

SHEET  
3b  
OF 12



# BILL BARRETT CORP.

## LOCATION LAYOUT

WELL PAD: (MDP PAD #11)  
Section 29, T6S, R91W, 6th P.M.

PROPOSED  
ACCESS ROAD  
(EXISTING 2-TRACK  
TO BE UPGRADED)

PREVAILING WIND

Swanson  
SW 1/4 NE 1/4

B.L.M.  
NW 1/4 NE 1/4

STA. 4+34

STA. 2+75

STA. 2+00

STA. 1+08

STA. 0+00

1/16 Section Line

B.L.M.  
SE 1/4 NE 1/4

NOTE:  
The Topsoil, Pit Stockpile & Waste  
Material areas are calculated as being  
mounds containing 7,800 cubic yards of  
dirt (a 10% fluff factor is included). The  
mound areas are calculated with push  
slopes of 2.5:1 & fall slopes of 2.5:1.

Swanson = 0.560 Acres  
B.L.M. = 4.526 Acres  
Total Disturbance = 5.086 Acres

SURVEYED BY: C.D.S.	DATE SURVEYED: 01-05-10
DRAWN BY: D.COX	DATE DRAWN: 05-20-08
SCALE: 1" = 100'	REVISED: F.T.M. 01-19-10

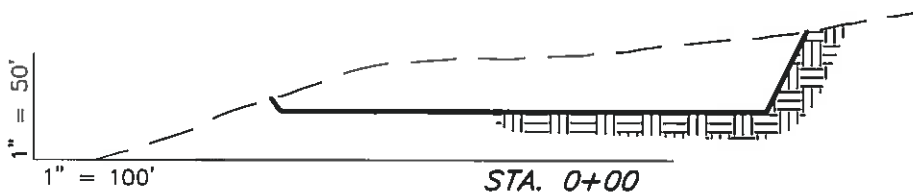
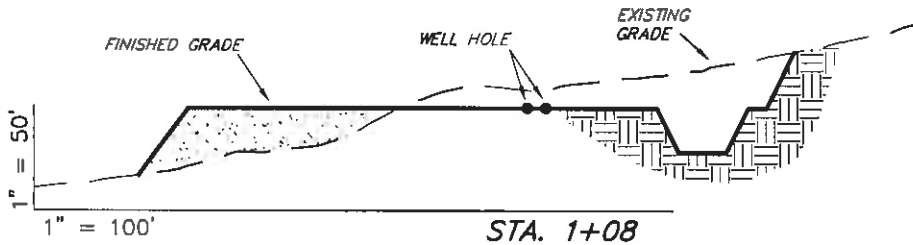
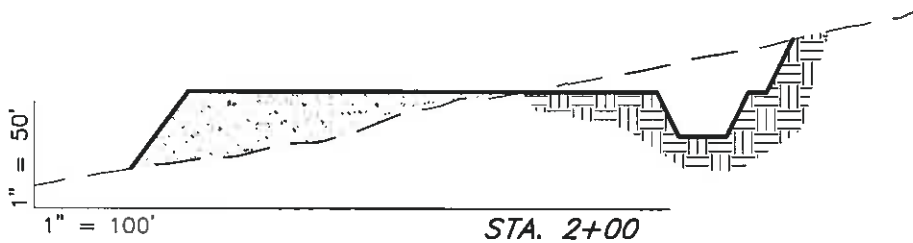
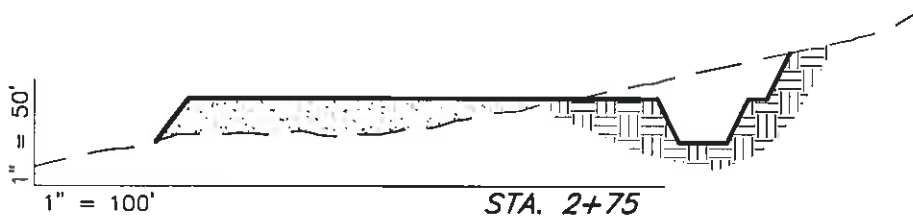
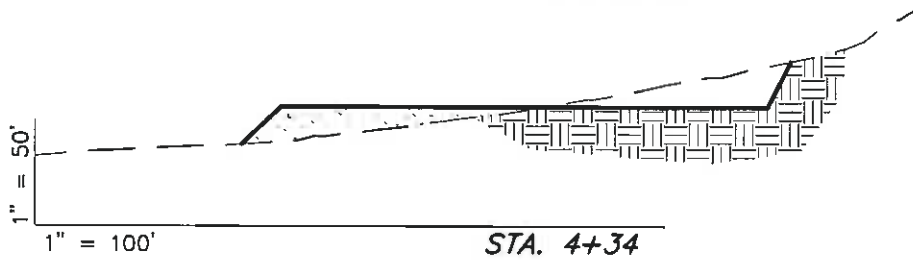
**Tri State**  
Land Surveying, Inc.  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
(435) 781-2501

SHEET  
4  
OF 12

# BILL BARRETT CORP.

## CROSS SECTIONS

WELL PAD: (MDP PAD #11)  
Section 29, T6S, R91W, 6th P.M.



NOTE:  
UNLESS OTHERWISE NOTED CUT SLOPES ARE AT 1:1 FILL SLOPES ARE AT 1.5:1

SURFACE DISTURBANCE AREA	SECTION 29, T6S, R91W, 6th P.M.
WELL SITE & PRODUCTION FACILITY	±5.086 ACRES
TOTAL DISTURBANCE	±5.086 ACRES
PROPOSED ACCESS ROAD DISTANCES	SECTION 29, T6S, R91W, 6th P.M.
PROPOSED PAD ACCESS ROAD (NEW CONST.)	±825'
TOTAL DISTANCE	±825'

ESTIMATED EARTHWORK QUANTITIES (No Shrink or swell adjustments have been used) (Expressed in Cubic Yards)				
ITEM	CUT	FILL	6" TOPSOIL	EXCESS
PITS	4,200	0	Topsoil is not included in Pad Cut	4,200
PAD	21,290	21,290	2,890	0
TOTALS	25,490	21,290	2,890	4,200

SURVEYED BY: C.D.S. DATE SURVEYED: 01-05-10  
DRAWN BY: D.COX DATE DRAWN: 05-20-08  
SCALE: 1" = 100' REVISED: F.T.M. 01-19-10

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(435) 781-2501

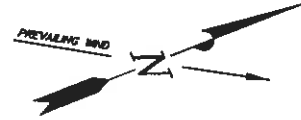
SHEET  
5  
OF 12

# BILL BARRETT CORP.

## TYPICAL RIG LAYOUT

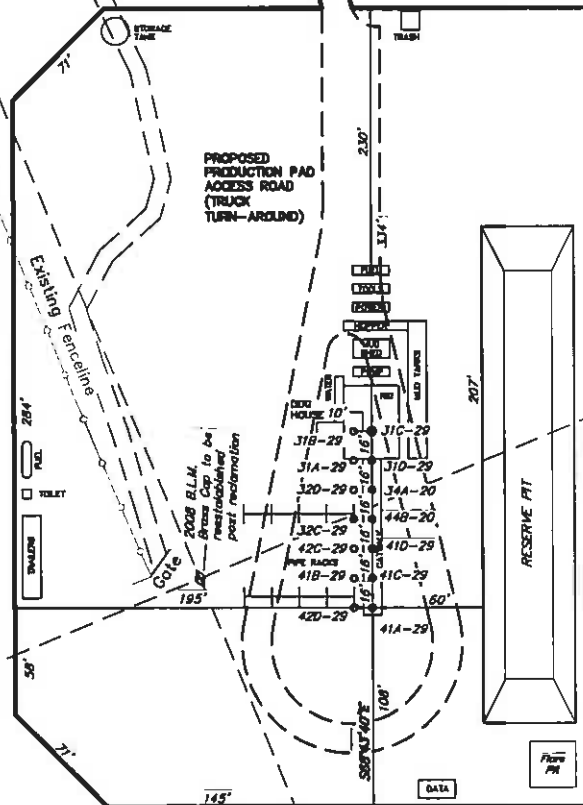
WELL PAD: (MDP PAD #11)  
Section 29, T6S, R91W, 6th P.M.

PROPOSED  
ACCESS ROAD  
(EXISTING 2-TRACK  
TO BE UPGRADED)



Swanson  
SW 1/4 NE 1/4

B.L.M.  
NW 1/4 NE 1/4



FLARE PIT NOTE:  
Maintain 100' Min.  
Distance from the  
Proposed Well Heads.

B.L.M.  
SE 1/4 NE 1/4

B.L.M.  
NE 1/4 NE 1/4

NOTE:  
The Topsoil, Pit Stockpile & Waste  
Material areas are calculated as being  
mounds containing 7,800 cubic yards of  
dirt (a 10% fluff factor is included). The  
mound areas are calculated with push  
slopes of 2.5:1 & fall slopes of 2.5:1.

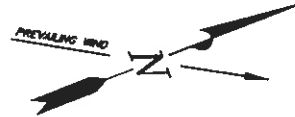
SURVEYED BY: C.D.S.	DATE SURVEYED: 01-05-10
DRAWN BY: D.COX	DATE DRAWN: 05-20-08
SCALE: 1" = 100'	REVISED: F.T.M. 01-19-10

Tri State  
Land Surveying, Inc.  
(435) 781-2501  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078

SHEET  
6  
OF 12

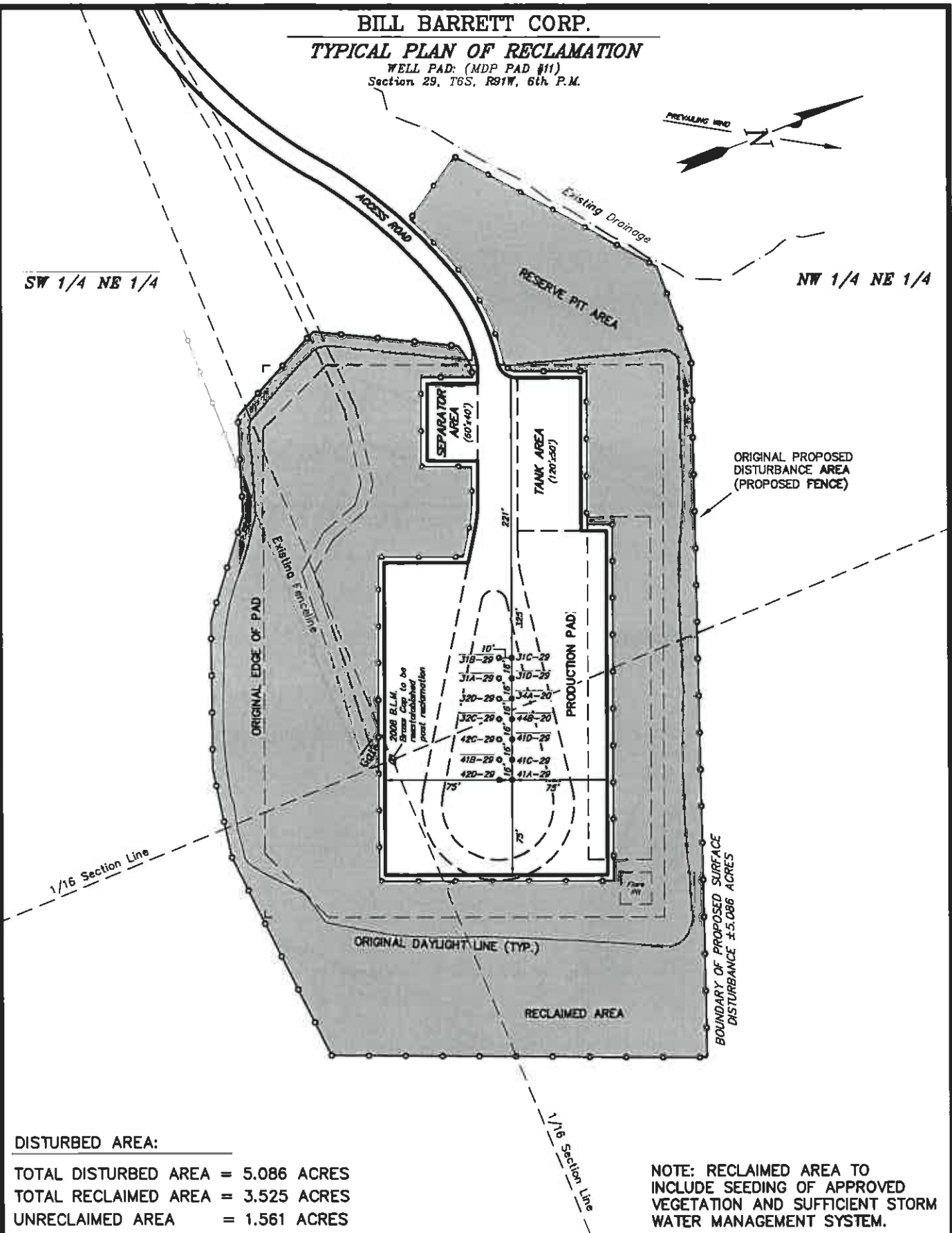
**BILL BARRETT CORP.**  
**TYPICAL PLAN OF RECLAMATION**

WELL PAD: (MDP PAD #11)  
 Section 29, T6S, R91W, 6th P.M.



SW 1/4 NE 1/4

NW 1/4 NE 1/4



**DISTURBED AREA:**

TOTAL DISTURBED AREA = 5.086 ACRES  
 TOTAL RECLAIMED AREA = 3.525 ACRES  
 UNRECLAIMED AREA = 1.561 ACRES

NOTE: RECLAIMED AREA TO INCLUDE SEEDING OF APPROVED VEGETATION AND SUFFICIENT STORM WATER MANAGEMENT SYSTEM.

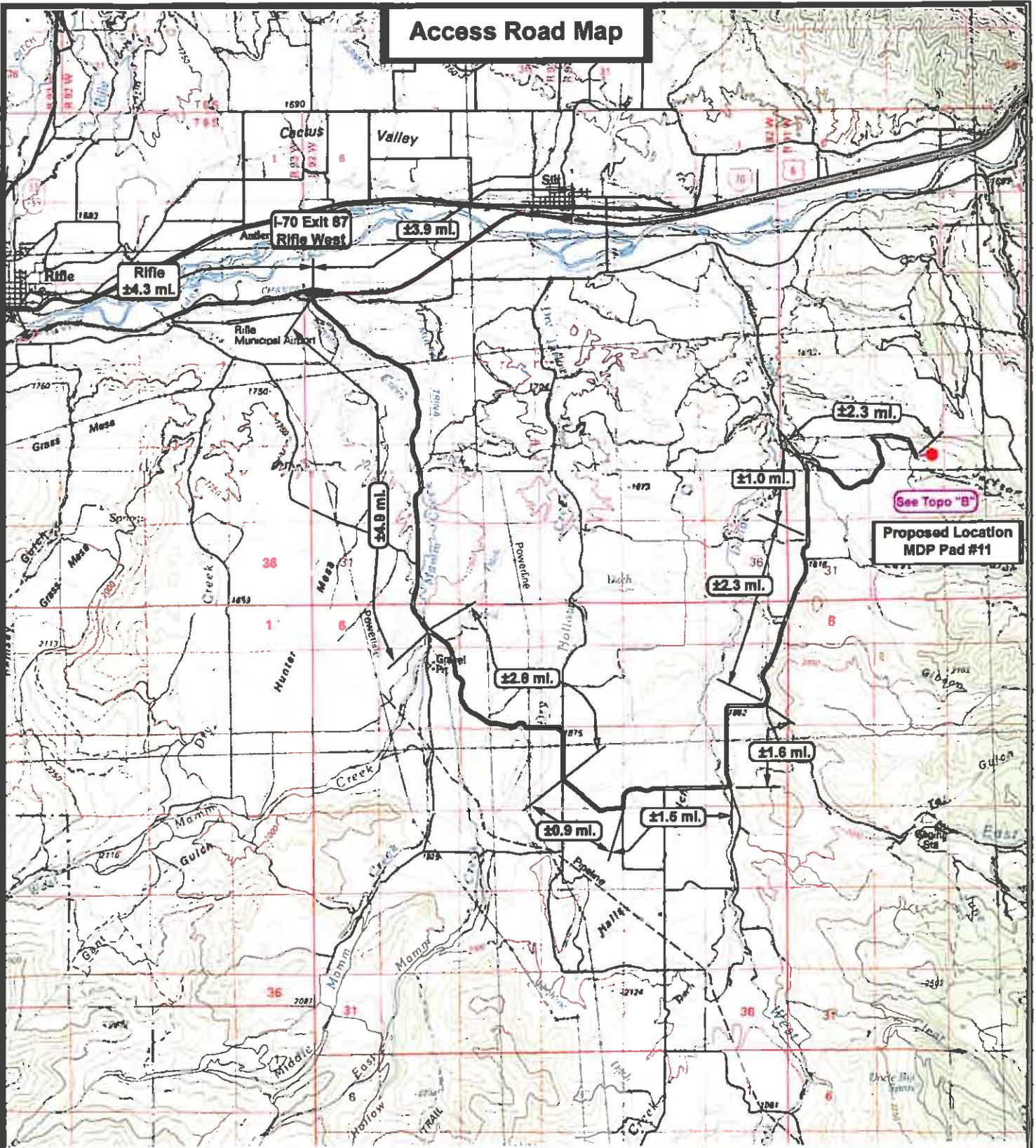
SURVEYED BY: C.D.S.	DATE SURVEYED: 01-05-10
DRAWN BY: D.COX	DATE DRAWN: 06-04-08
SCALE: 1" = 100'	REVISED: F.T.M. 01-19-10

**Tri State**  
 Land Surveying, Inc.  
 180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
 (435) 781-2501

SHEET  
 7  
 OF 12



# Access Road Map



**BARRETT  
CORP.**

**MDP Pad #11  
SEC. 29, T6S, R91W, 6th P.M.**

**Tri-State  
Land Surveying Inc.**  
(435) 781-2501  
160 North Vernal Ave. Vernal, Utah 84076

SCALE: 1" = 100,000'

DRAWN BY: JAS

DATE: 10-11-2009

## Legend

Existing Road

Proposed Access

**TOPOGRAPHIC MAP**

**"A"**

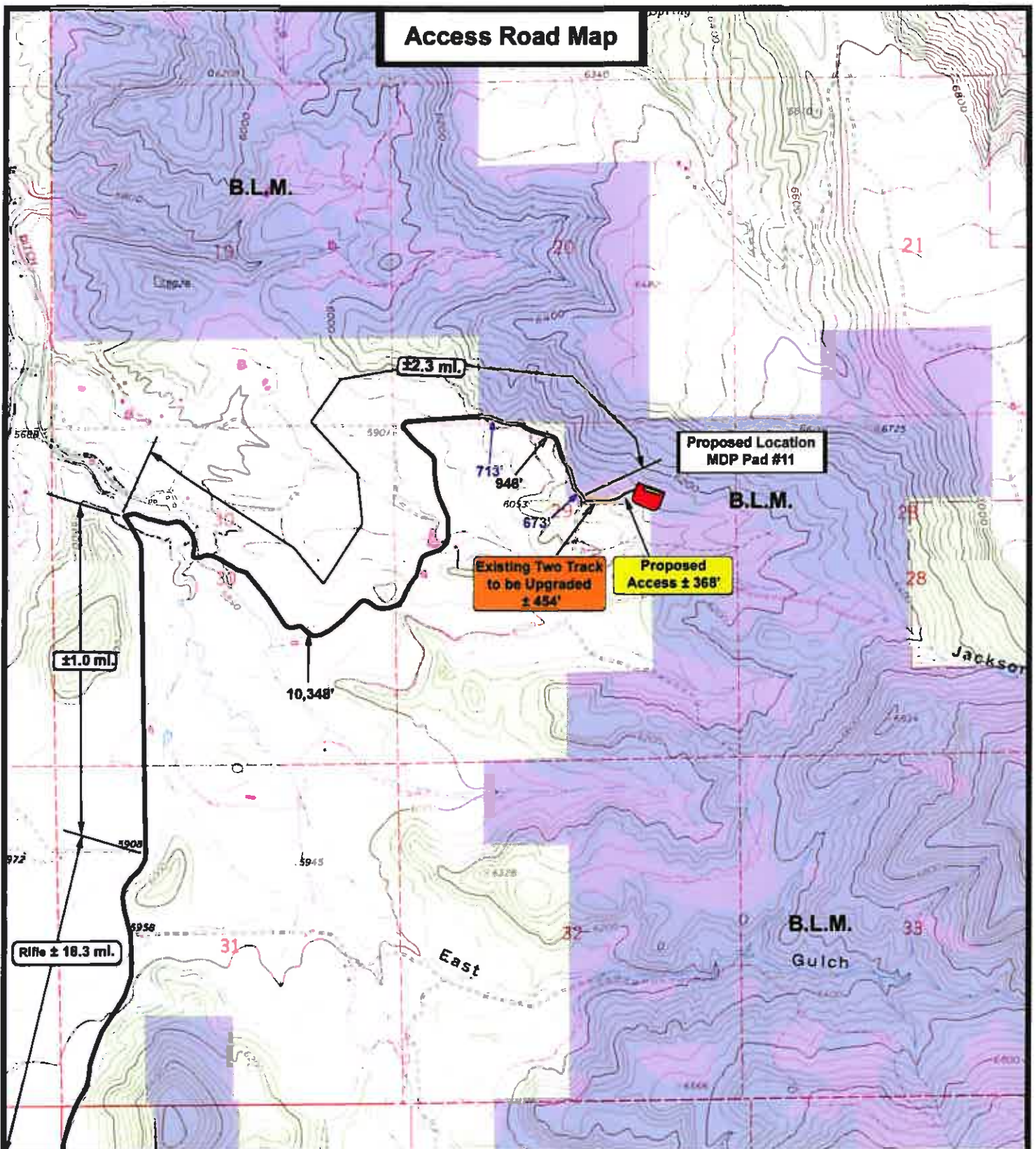
**SHEET**

**9**

**OF 12**



# Access Road Map



**MDP Pad #11**  
**SEC. 29, T6S, R91W, 6th P.M.**



**Tri-State**  
*Land Surveying Inc.*  
 (435) 781-2501  
 180 North Vernal Ave. Vernal, Utah 84078

**SCALE** 1" = 2,000'

**DRAWN BY** JAS

**DATE** 12-30-2009

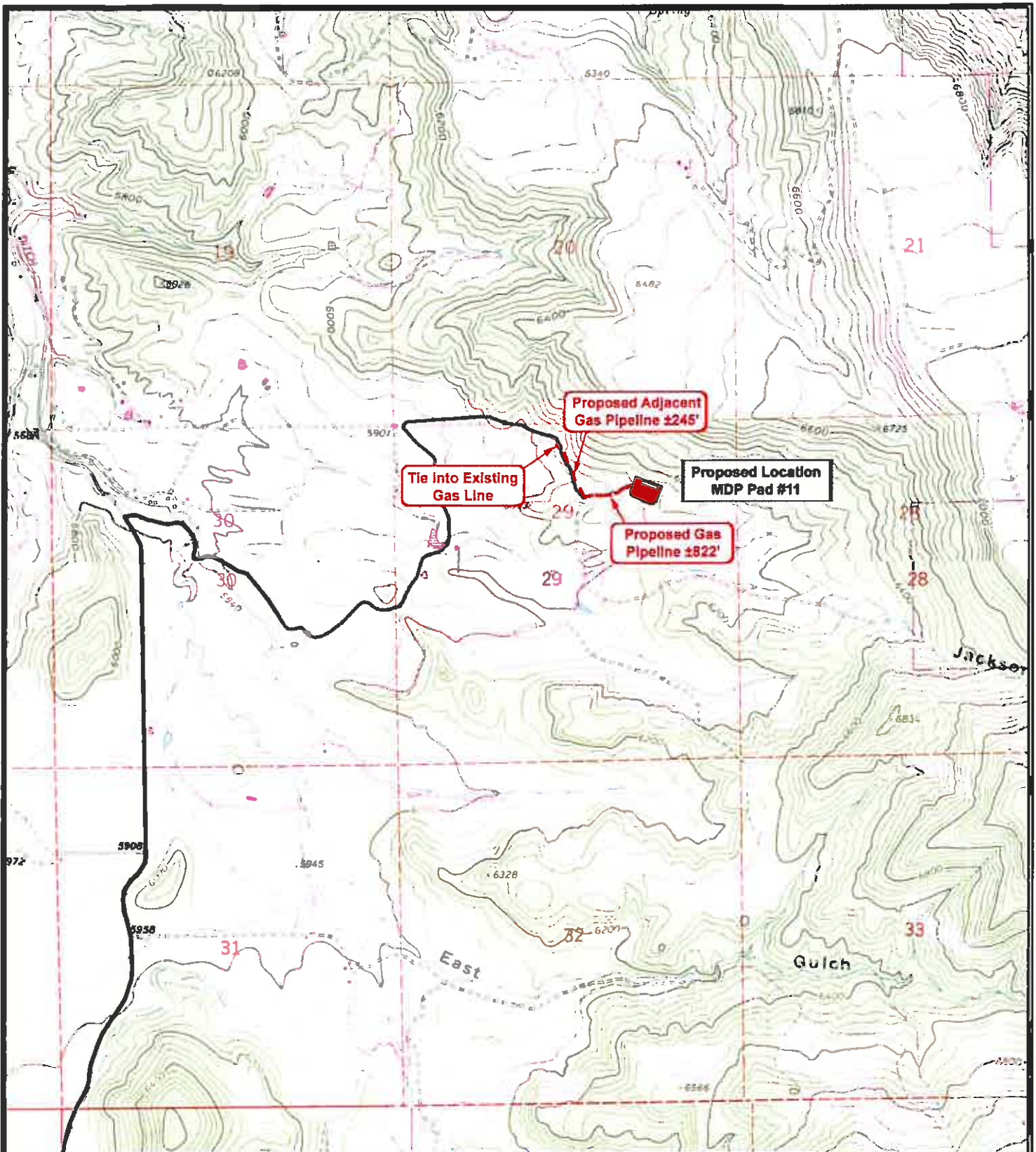
- Legend**
- Existing Road
  - Proposed Access
  - Existing Two-Track

**TOPOGRAPHIC MAP**

**"B"**

**SHEET**  
**10**  
**OF 12**





**MDP Pad #11  
SEC. 29, T6S, R91W, 6th P.M.**



**Tri-State  
Land Surveying Inc.**  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

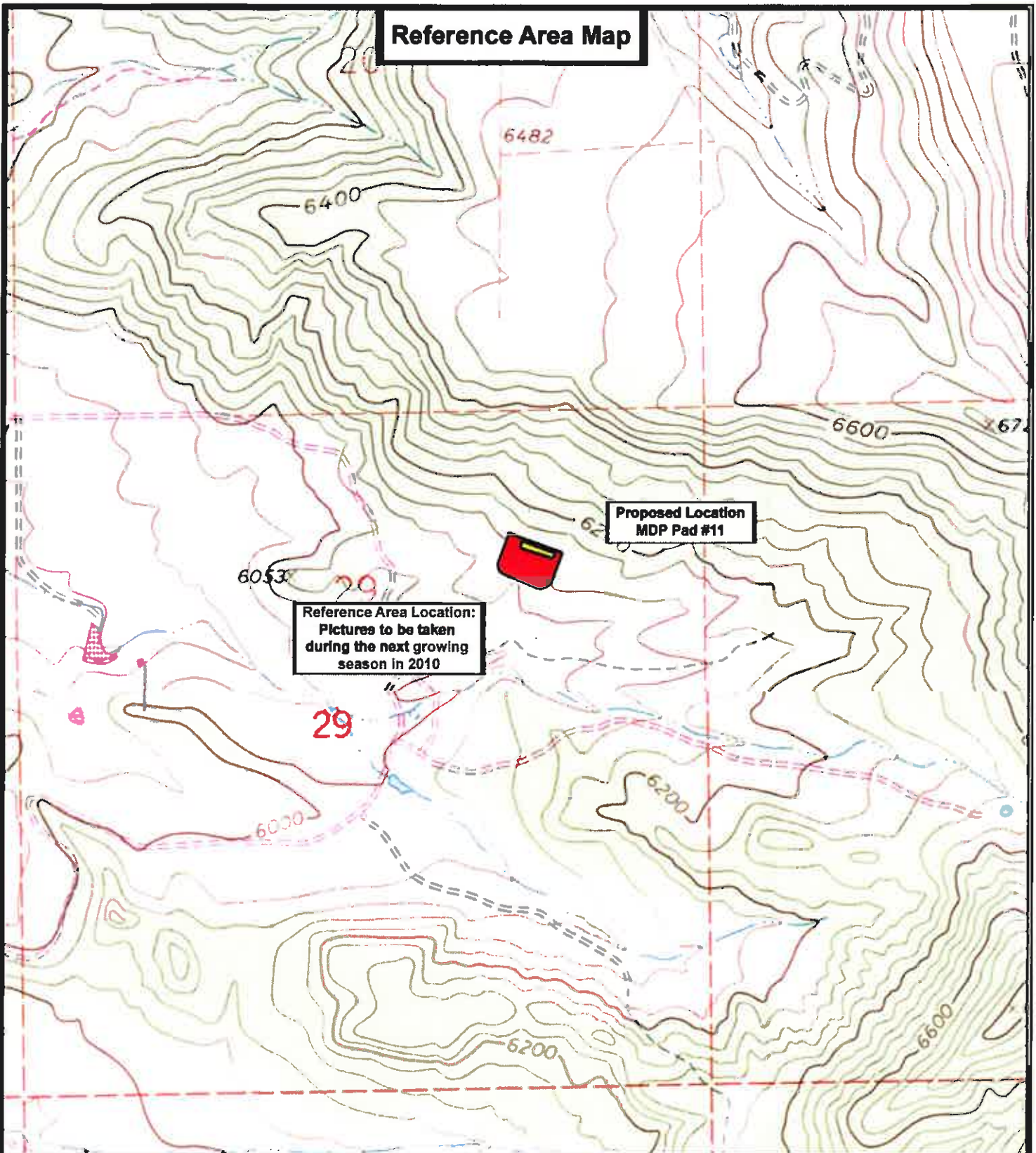
**SCALE: 1" = 2,000'**  
**DRAWN BY: JAS**  
**DATE: 06-09-2010**

**Legend**  
— Roads  
--- Proposed Gas Line

**TOPOGRAPHIC MAP**  
**"D"**  
**SHEET 11 OF 12**



**Reference Area Map**



**MDP Pad #11  
SEC. 29, T6S, R91W, 6th P.M.**



**Tri-State  
Land Surveying Inc.**  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

**SCALE: 1" = 2,000'**  
**DRAWN BY: JAS**  
**DATE: 10-11-2009**

**Legend**

**TOPOGRAPHIC MAP**

**SHEET  
12  
OF 12**

## Location Photos

## Center Stake

Date Photographed: 01/05/2010

Photographed By: D. Slauch

NAD 83 - Decimal Degrees

Latitude : 39.502827

Longitude : 107.573161



## Access

Date Photographed: 01/05/2010

Photographed By: D. Slauch

NAD 83 - Decimal Degrees

Latitude : 39.502669

Longitude : 107.577078



**MDP Pad #11  
SEC. 29, T6S, R91W, 6th P.M.**



DRAWN BY: JAS

DATE: 01/08/2010

Location

**Garfield County,  
Colorado**

COLOR  
PHOTOGRAPHS

SHEET  
**P1**  
OF 5



## Location Photos

### North

Date Photographed: 01/05/2010

Photographed By: D. Slauch

NAD 83 - Decimal Degrees

Latitude : 39.502762

Longitude : 107.573151



### East

Date Photographed: 01/05/2010

Photographed By: D. Slauch

NAD 83 - Decimal Degrees

Latitude : 39.502807

Longitude : 107.573274



**BARRETT  
CORP.**

**MDP Pad #11  
SEC. 29, T6S, R91W, 6th P.M.**

*Tri-State  
Land Surveying Inc.*  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

DRAWN BY: JAS

DATE: 01/08/2010

Location

**Garfield County,  
Colorado**

COLOR  
PHOTOGRAPHS

SHEET  
**P2**  
OF 5

## Location Photos

### South

Date Photographed: 01/05/2010

Photographed By: D. Slauch

NAD 83 - Decimal Degrees

Latitude: 39.502928

Longitude: 107.573138



### West

Date Photographed: 01/05/2010

Photographed By: D. Slauch

NAD 83 - Decimal Degrees

Latitude: 39.502820

Longitude: 107.573020



**BARRETT  
CORP.**

**MDP Pad #11  
SEC. 29, T6S, R91W, 6th P.M.**



**Tri-State  
Land Surveying Inc.**  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

DRAWN BY: JAS

DATE: 01/08/2010

**Location**

**Garfield County,  
Colorado**

**COLOR  
PHOTOGRAPHS**

**SHEET  
P3  
OF 5**

**Bill Barret Corp.**  
**Driving Directions to MDP Pad #11**  
**Section 29, T6S, R91W, 6<sup>th</sup> P.M.**

From the I-70 Exit #87 (Rifle West) Proceed southeasterly thence southerly along the frontage road approximately 4.9 miles to an intersection to the east. Turn left and proceed southeasterly; thence southerly approximately 2.8 miles to the intersection of this road and an existing road to the east. Turn left Proceed southeasterly approximately 0.9 miles to the intersection of this road and an existing road to the north. Turn left and proceed northerly; thence easterly approximately 1.5 miles to an existing road the north. Turn left and proceed northerly; thence easterly approximately 1.6 miles to the intersection of this road and an existing road to the north. Turn left and proceed northeasterly approximately 2.3 miles the junction of this road and an existing road to the north. Continue northerly approximately 1.0 miles to the intersection of this road and an existing road to the east. Turn right and proceed southeasterly; thence northeasterly; thence easterly approximately 2.0 miles or  $\pm 10,348'$  to B.L.M. property; thence continue easterly across B.L.M. property approximately 0.1 miles or  $\pm 713'$  to the end of B.L.M. property; thence leaving B.L.M. property continue easterly approximately 0.2 miles or  $\pm 946'$  to B.L.M. property; thence continue southeasterly across B.L.M. property approximately 0.1 miles or  $\pm 673'$  to the intersection of this road and an existing two track to be upgraded. Turn left and proceed easterly across B.L.M. property  $\pm 454'$  to the proposed access for the proposed well pad for the MDP Pad #11. Turn left and proceed northeasterly across B.L.M. property  $\pm 368'$  to the proposed well pad for the MDP Pad #11.



# MDP Pad 11

## Lease Boundary Map

CO 10276

T. 6 S., R. 91 W. 6th P.M.  
Sec. 29; N2SW, SWNE, NWSE  
160 Acres

CO 10328

T. 6 S., R. 91 W. 6th P.M.

Sec. 7: NESE  
Sec. 8: E2E2, W2SW, SESW,  
SWSE

Sec. 9: W2W2, SESW  
Sec. 16: N2NW, SWNW, N2SW,  
SESW

Sec. 20: N2NE, SENE, NENW, E2SE  
Sec. 21: W2SW, NENW, NWNE  
1,200 Acres

USA COC 48972

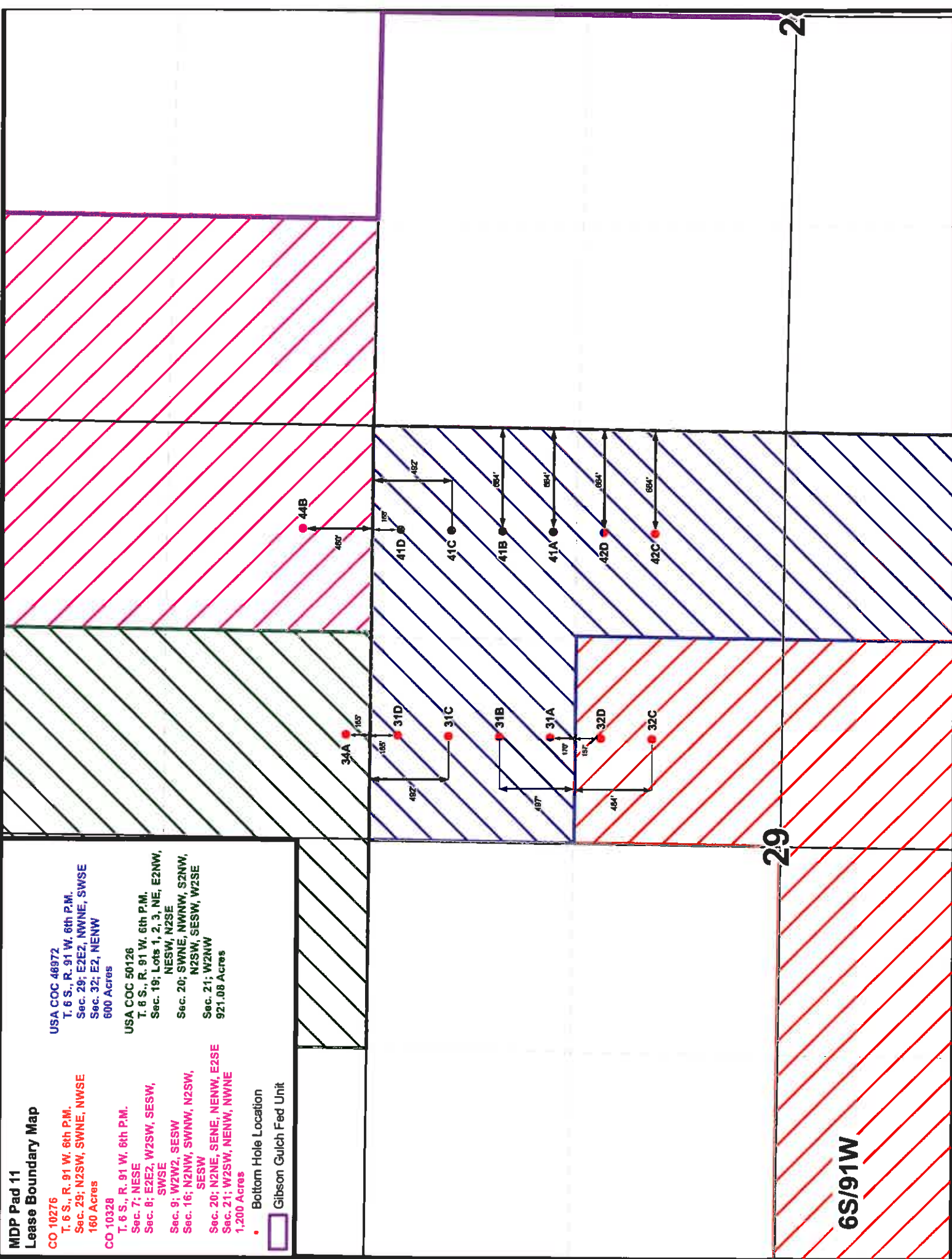
T. 6 S., R. 91 W. 6th P.M.  
Sec. 29; E2E2, NWNE, SWSE  
Sec. 32; E2, NENW  
600 Acres

USA COC 50126

T. 6 S., R. 91 W. 6th P.M.  
Sec. 19; Lots 1, 2, 3, NE, E2NW,  
NESW, N2SE  
Sec. 20; SWNE, NWNW, S2NW,  
N2SW, SESW, W2SE  
Sec. 21; W2NW  
921.08 Acres

• Bottom Hole Location

□ Gibson Gulch Fed Unit



6S/91W

29

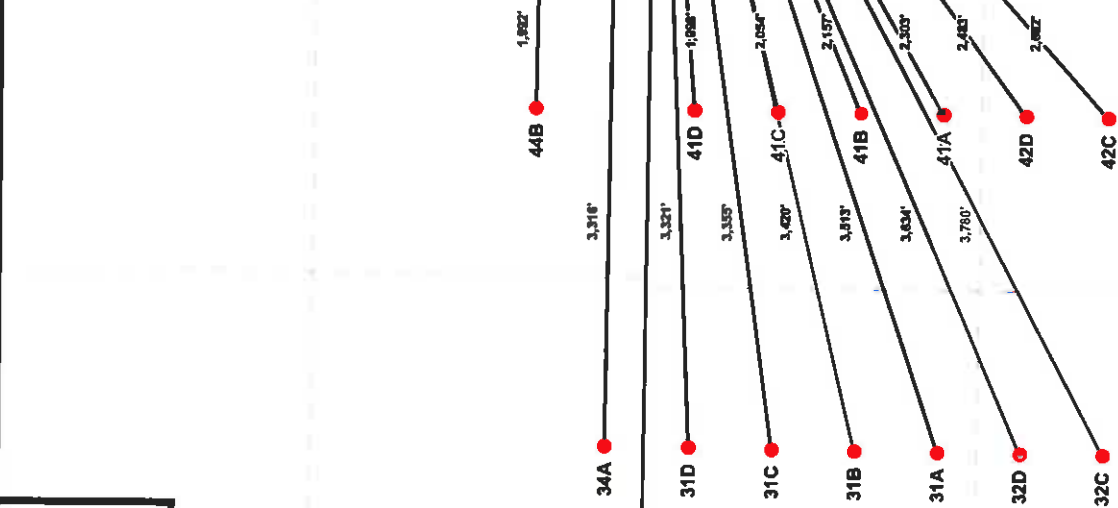
2

MDP Pad 11

Fed Unit Boundary Map

• Bottom Hole Location

Gibson Gulch Fed Unit



29

6S/91W

28

6S/91W

19

20

21

30

29

28



BIM Barrett Corporation

MDP Pad 11  
NENE, Section 28, T6S, R91W  
Garfield County, Colorado

Legend

- ✱ Abandoned - 6 Total
- ✱ Gas - 74 Total
- Water - 8 Total
- Oil - 1 Total

June 2, 2010

Wt\_8500675

1

43B

43D

44A

44C

13-21

11A 13A  
11B 13B  
11C 13C  
11D 13D  
14A 21A  
14B 21B  
14C 21C  
14D 21D

21-2100

Wt\_270789

14A

14D

15-19

15-20A

15-20B

15-20C

15-20D

15-20E

15-20F

15-20G

15-20H

15-20I

15-20J

15-20K

15-20L

15-20M

15-20N

15-20O

15-20P

15-20Q

15-20R

15-20S

15-20T

15-20U

15-20V

15-20W

15-20X

15-20Y

15-20Z

15-20AA

15-20AB

15-20AC

15-20AD

15-20AE

15-20AF

15-20AG

15-20AH

15-20AI

15-20AJ

15-20AK

15-20AL

15-20AM

15-20AN

15-20AO

15-20AP

15-20AQ

15-20AR

15-20AS

15-20AT

15-20AU

15-20AV

15-20AW

15-20AX

15-20AY

15-20AZ

15-20BA

15-20BB

15-20BC

15-20BD

15-20BE

15-20BF

15-20BG

15-20BH

15-20BI

15-20BJ

15-20BK

15-20BL

15-20BM

15-20BN

15-20BO

15-20BP

15-20BQ

15-20BR

15-20BS

15-20BT

15-20BU

15-20BV

15-20BW

15-20BX

15-20BY

15-20BZ

15-20CA

15-20CB

15-20CC

15-20CD

15-20CE

15-20CF

15-20CG

15-20CH

15-20CI

15-20CJ

15-20CK

15-20CL

15-20CM

15-20CN

15-20CO

15-20CP

15-20CQ

15-20CR

15-20CS

15-20CT

15-20CU

15-20CV

15-20CW

15-20CX

15-20CY

15-20CZ

15-20DA

15-20DB

15-20DC

15-20DD

15-20DE

15-20DF

15-20DG

15-20DH

15-20DI

15-20DJ

15-20DK

15-20DL

15-20DM

15-20DN

15-20DO

15-20DP

15-20DQ

15-20DR

15-20DS

15-20DT

15-20DU

15-20DV

15-20DW

15-20DX

15-20DY

15-20DZ

15-20EA

15-20EB

15-20EC

15-20ED

15-20EE

15-20EF

15-20EG

15-20EH

15-20EI

15-20EJ

15-20EK

15-20EL

15-20EM

15-20EN

15-20EO

15-20EP

15-20EQ

15-20ER

15-20ES

15-20ET

15-20EU

15-20EV

15-20EW

15-20EX

15-20EY

15-20EZ

15-20FA

15-20FB

15-20FC

15-20FD

15-20FE

15-20FF

15-20FG

15-20FH

15-20FI

15-20FJ

15-20FK

15-20FL

15-20FM

15-20FN

15-20FO

15-20FP

15-20FQ

15-20FR

15-20FS

15-20FT

15-20FU

15-20FV

15-20FW

15-20FX

15-20FY

15-20FZ

15-20GA

15-20GB

15-20GC

15-20GD

15-20GE

15-20GF

15-20GG

15-20GH

15-20GI

15-20GJ

15-20GK

15-20GL

15-20GM

15-20GN

15-20GO

15-20GP

15-20GQ

15-20GR

15-20GS

15-20GT

15-20GU

15-20GV

15-20GW

15-20GX

15-20GY

15-20GZ

15-20HA

15-20HB

15-20HC

15-20HD

15-20HE

15-20HF

15-20HG

15-20HH

15-20HI

15-20HJ

15-20HK

15-20HL

15-20HM

15-20HN

15-20HO

15-20HP

15-20HQ

15-20HR

15-20HS

15-20HT

15-20HU

15-20HV

15-20HW

15-20HX

15-20HY

15-20HZ

15-20IA

15-20IB

15-20IC

15-20ID

15-20IE

15-20IF

15-20IG

15-20IH

15-20II

15-20IJ

15-20IK

15-20IL

15-20IM

15-20IN

15-20IO

15-20IP

15-20IQ

15-20IR

15-20IS

15-20IT

15-20IU

15-20IV

15-20IW

15-20IX

15-20IY

15-20IZ

15-20JA

15-20JB

15-20JC

15-20JD

15-20JE

15-20JF

15-20JG

15-20JH

15-20JI

15-20JJ

15-20JK

15-20JL

15-20JM

15-20JN

15-20JO

15-20JP

15-20JQ

15-20JR

15-20JS

15-20JT

15-20JU

15-20JV

15-20JW

15-20JX

15-20JY

15-20JZ

15-20KA

15-20KB

15-20KC</

## **SURFACE USE PLAN**

### **BILL BARRETT CORPORATION**

#### **MDP Pad #11**

#### **Garfield County, CO**

<u><b>GGU Federal 41A-29-691</b></u> NENE, 1236' FNL, 1279' FEL, Sec. 29, T6S-R91W (surface hole) NENE, 1146' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)	<u><b>GGU Federal 42D-29-691</b></u> NENE, 1246' FNL, 1282' FEL, Sec. 29, T6S-R91W (surface hole) SENE, 1473' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)
<u><b>GGU Federal 41C-29-691</b></u> NENE, 1230' FNL, 1293' FEL, Sec. 29, T6S-R91W (surface hole) NENE, 492' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)	<u><b>GGU Federal 41B-29-691</b></u> NENE, 1240' FNL, 1367' FEL, Sec. 29, T6S-R91W (surface hole) NENE, 819' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)
<u><b>GGU Federal 41D-29-691</b></u> NENE, 1224' FNL, 1308' FEL, Sec. 29, T6S-R91W (surface hole) NENE, 165' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)	<u><b>GGU Federal 42C-29-691</b></u> NENE, 1234' FNL, 1312' FEL, Sec. 29, T6S-R91W (surface hole) SENE, 1800' FNL, 664' FEL, Sec. 29, T6S-R91W (bottom hole)
<u><b>GGU Jolley 44B-20-691</b></u> NENE, 1218' FNL, 1323' FEL, Sec. 29, T6S-R91W (surface hole) SESE, 460' FSL, 666' FEL, Sec. 20, T6S-R91W (bottom hole)	<u><b>GGU Swanson 32C-29-691</b></u> NENE, 1227' FNL, 1327' FEL, Sec. 29, T6S-R91W (surface hole) SWNE, 1800' FNL, 1990' FEL, Sec. 29, T6S-R91W (bottom hole)
<u><b>GGU Federal 34A-20-691</b></u> NWNE, 1212' FNL, 1338' FEL, Sec. 29, T6S-R91W (surface hole) SWSE, 165' FSL, 1990' FEL, Sec. 20, T6S-R91W (bottom hole)	<u><b>GGU Swanson 32D-29-691</b></u> NWNE, 1221' FNL, 1342' FEL, Sec. 29, T6S-R91W (surface hole) SWNE, 1473' FNL, 1990' FEL, Sec. 29, T6S-R91W (bottom hole)
<u><b>GGU Federal 31D-29-691</b></u> NWNE, 1206' FNL, 1353' FEL, Sec. 29, T6S-R91W (surface hole) NWNE, 165' FNL, 1990' FEL, Sec. 29, T6S-R91W (bottom hole)	<u><b>GGU Federal 31A-29-691</b></u> NWNE, 1215' FNL, 1356' FEL, Sec. 29, T6S-R91W (surface hole) NWNE, 1146' FNL, 1990' FEL, Sec. 29, T6S-R91W (bottom hole)
<u><b>GGU Federal 31C-29-691</b></u> NWNE, 1200' FNL, 1367' FEL, Sec. 29, T6S-R91W (surface hole) NWNE, 492' FNL, 1990' FEL, Sec. 29, T6S-R91W (bottom hole)	<u><b>GGU Federal 31B-29-691</b></u> NWNE, 1209' FNL, 1371' FEL, Sec. 29, T6S-R91W (surface hole) NWNE, 819' FNL, 1990' FEL, Sec. 29, T6S-R91W (bottom hole)

The final onsite for this well pad occurred on October 1, 2008. The proposed well pad is located on federal surface under the management of the BLM – White River Field Office with a total of fourteen (14) proposed directional wells. Three (3) of the wells are proposed within private leases (Swanson and Jolley) and one (1) proposed within COC-50126 (federal) and ten (10) proposed within COC-46972 (federal)

This is a new pad with all fourteen (14) wells to be drilled in mid 2010.

The excavation contractor would be provided with a copy of the approved Surface Use Plan before initiating construction.

#### **1. Existing Roads:**

- A. The proposed well pad is located approximately 23 miles southeast of Rifle, CO. Maps and an access road description to the proposed well pad are included (see Topographic Maps A, B, and Access Road Description sheet).
- B. The use of roads under State and County Road Department maintenance are necessary to access the well pad. However, an encroachment permit is not anticipated as there are no upgrades to these road systems proposed at this time.
- C. No topsoil stripping would occur as there are no improvements proposed to existing State or County access roads.

- D. From the County Road surface, existing previously approved Gibson Gulch Unit access roads under the maintenance of BBC would be utilized to the pad.
- E. All existing roads would be maintained and kept in good repair during all phases of operation. BBC would coordinate with the necessary owners/agencies to ensure maintenance of the access roads.
- F. Vehicle operators would obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions. Additional signs may be posted, as necessary, to warn the public of project related traffic. Travel would be limited to the existing access roads and proposed access road.

2. Planned Access Road:

- A. From the existing BBC maintained access road in the NW/4 NE/4 of Sec. 29, T6S, R91W, 6<sup>th</sup> P.M. an access road upgrade is proposed traversing 454' (0.09 miles) east across federal surface to a point where new access will begin. The new access road is proposed traversing 368' (0.07 miles) east across federal surface from the access road upgrade to the proposed well site (see attached Topographic Map "B"). The proposed road upgrade and new access road are both on lease and within the federal unit.
- B. The upgrade and new road segments would be constructed and maintained to accommodate drilling and completion equipment access in a safe manner. ROW width requested for all proposed road would be 32 feet, with a typical running surface varying between 22 – 24 feet. A maximum grade of 10% would be maintained and any additional drainage structures, where necessary, would be incorporated to prevent soil erosion and accommodate all-weather traffic. Following completion of all wells on the pad, the temporary disturbance area would be reclaimed according to BLM or private landowner specifications.
- C. Access road construction would typically require a D6 or larger crawler tractor, a D12 or larger motor grader, a Class 12R or larger track hoe, a mid-sized backhoe, two to four 10-yard dump trucks, and possibly a Class 988 loader. Road construction/improvement would include clearing and grubbing of brush and trees, windrowing of topsoil, construction of reinforced rolling dips and grade dips where feasible, installation of culverts in ditched sections and side drainages to provide ditch relief and sediment control, construction of retaining structures on steep slopes (as approved by the BLM), placement of slash and topsoil on cut and fill slopes, placement of erosion and sediment controls on cut and fill slopes as approved by the BLM, seeding of all disturbed areas outside of the travel way, and installation of cattle guards and road closure gates where needed. Topsoil would be stripped and stockpiled during road construction and re-spread to the greatest degree practical on cut slopes, fill slopes, and borrow ditches prior to seeding.
- D. No surfacing material would come from Indian lands or off-lease Federal lands. BBC requests that any excess rock from construction of the pad be used for surfacing of the proposed access road, if necessary. Any additional materials needed would be purchased from a private source and be properly permitted with the State of Colorado.
- E. 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.

- F. 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.
- G. The access roads would be inspected by the BLM and, if necessary, maintained by BBC on an as needed or quarterly basis (at a minimum).

3. Location of Existing Wells:

- A. Following is a list of existing wells within a one-mile radius of the proposed well (see enclosed One-Mile Radius Map):

i.	water wells	8
ii.	injection wells	none
iii.	disposal wells	none
iv.	drilling wells	none
v.	temp shut-in wells	none
vi.	producing wells	75
vii.	abandoned wells	6
viii.	wells drilled; w/o completion	none

4. Location of Production Facilities:

- A. Facilities for this pad (see Sheet 7) may be shared by individual wells drilled from this pad. Surface facilities would consist of wellheads, separation units, gas metering units, fugitive emission combusters, radio antennas, solar panel brackets, chemical storage containers less than 500 gallons in capacity and above-ground condensate and produced water tanks with approximately 300 to 500-barrel capacities each. Telemetry equipment may be used where feasible to remotely monitor well conditions.
- B. An off-site facility pad is not proposed with this application. Tank batteries would be placed on the pad within secondary containment to prevent the off-site migration of accidentally-spilled condensate or produced water. Secondary containment would consist of corrugated steel containment rings. Construction of the containment rings surrounding the tank batteries would be constructed to prevent lateral movement of fluids through an impermeable barrier attached to the rings and laid under the tanks. Secondary containment would be sized to contain a minimum of 110 percent of the storage capacity of the single largest tank within the barrier. All loading lines would be placed inside the containment barrier or would have secondary containment vessels. 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.
- C. All permanent above-ground structures would be painted a flat, non-reflective Olive Black color to match the standard environment and would be painted the designated color at the time of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded.
- D. Site security guidelines identified in 43 CFR 3163.7-5 and Onshore Oil and Gas Order No. 3 would be adhered to.

- E. 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.
  - F. A tank battery will be constructed on this lease. It will be surrounded by a dike of sufficient capacity to contain 1.5 times the storage capacity of the largest tank. All loading lines and valves will be placed inside the berm surrounding the tank battery or will have a secondary containment vessel. 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. BBC requests permission to install the necessary production/operation facilities with this application
  - G. Any necessary pits would be properly fenced to prevent any wildlife and livestock entry.
  - H. The pad area and access road would require periodic maintenance to ensure that drainages are kept open and free of debris, ice and snow, and that surfaces are properly treated to reduce erosion, fugitive dust, and impacts to adjacent areas.
  - I. Bill Barrett Corporation (BBC) proposes to construct a new pipeline corridor containing up to three buried pipelines; 1) one (up to 12-inch diameter) steel low-pressure natural gas gathering pipeline, 2) one (up to 10-inch diameter) HDPE (SDR 17) produced water gathering pipeline, and 3) one (up to 6-inch diameter) steel industrial water pipeline and associated infrastructure and an adjacent gas pipeline next to an existing gas corridor containing the same infrastructure (i.e., up to three buried pipelines).
  - J. The 822' (0.15 mile) of new pipeline corridor across federal surface would traverse from the well pad west to an existing pipeline. The 245' (0.05 mile) of new pipeline adjacent to an existing pipeline corridor would traverse northwesterly across federal surface to a tie-in location on fee surface within the NW/4 NE/4 of Sec. 29, T6S, R91W, 6<sup>th</sup> P.M.. The 50' wide corridor will parallel the proposed and existing access corridors and consist of 1.2 acres of disturbance. (see attached Topographic Map "D").
5. Location and Type of Water Supply:
- A. Bill Barrett Corporation would utilize water from private landowners. If an alternate source is located, a Sundry Notice would be filed indicating the new source of water.
6. Source of Construction Material:
- A. The use of materials would conform to 43 CFR 3610.2-3.
  - B. No construction materials would be removed from BLM.
  - C. If any gravel is used, it would be obtained from a State approved gravel pit.

7. Methods of Handling Waste Disposal:

- A. All wastes associated with this application would be contained and disposed according to regulatory requirement and at state-approved facilities.
- B. Drill cuttings from the wellbore (mainly shale, sand, and miscellaneous rock minerals) would be directed to a reserve pit or a closed-loop system, and eventually buried on location. The reserve pit would adhere to BLM and Colorado Oil and Gas Conservation Commission (COGCC) guidelines.
- C. The reserve pit is located inboard of the location along the north side of the pad and would be constructed so as not to leak, break or allow any discharge.
- D. Pit walls would be sloped no greater than 2:1 and the depth of the reserve pit is approximately 12 feet. A minimum 2 foot freeboard would be maintained in the pit at all times during the drilling and completion operations.
- F. The reserve pit has been located in cut material. Three sides of the reserve pit would be fenced before drilling starts. The fourth side would be fenced as soon as drilling is completed and shall remain until the pit is dry. After the reserve pit has dried, all areas not needed for production would be rehabilitated.
- G. Any necessary pits would be properly fenced to prevent any wildlife and livestock entry.
- H. All "frac" flowback water would be contained in temporary tanks or lined frac pit (if frac pit constructed, methods would be consistent with D. and F. above) during completion operations and would be recycled for re-use, or piped off site to approved disposal facilities. Flowback water would be recycled for use in drilling and completion operations, properly disposed of, or treated and recycled or discharged. Prior to any discharges, all required permits from the State of Colorado, as well as approval from the BLM (if discharges are proposed on BLM lands) would be acquired. If necessary, the frac pit will be permitted as needed through proper regulatory agencies.
- I. After first production, produced wastewater would be confined to a pit or storage tank for a period not to exceed ninety (90) days. Thereafter, produced water would be used in further drilling and completion activities, evaporated in the pit, piped or hauled to a State approved disposal facility.
- J. Any spills of oil, gas, salt water or other produced fluids would be cleaned up and removed.
- 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. 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) in quantities over 10,000 pounds that may be used, produced, stored, transported or disposed of annually in association with the drilling, testing or completion of each well include diesel fuel, hydrochloric acid and silica sand. This material would be consumed in the drilling and completion process. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities would be used, produced, stored, transported or disposed of in association with the drilling, testing or completion of the well.



- M. Trash would be contained in a trash cage and hauled away to an approved disposal site as necessary but no later than at the completion of drilling operations. The contents of the trash container would be hauled off periodically to an approved landfill.
  - N. Sanitary facilities would be on site at all times during operations. Sewage would be placed in a portable chemical toilet and the toilet replaced periodically utilizing a licensed contractor to transport by truck the portable chemical toilet so that its contents can be delivered to an approved facility/landfill.
  - O. A flare pit may be constructed a minimum of 110' from the wellheads and may be used during completion work. In the event a flare pit proves to be unworkable in this situation, a flare stack would be installed. BBC would flow back as much fluid and gas as possible into vessels, separating the fluid from the gas. The fluid would then be either returned to the reserve pit or placed into a tank. Gas would be then directed into the flare pit or the flare stack with a constant source of ignition. Natural gas would be directed to the pipeline as soon as pipeline gas quality standards are met.
  - P. Hydrocarbons would be removed from the reserve pit according to regulatory guidelines. In the event immediate removal is not practical, the reserve pit would be flagged overhead or covered with wire or plastic mesh to protect migrating birds.
8. Ancillary Facilities:
- A. Garbage containers and portable toilets are the only ancillary facilities proposed in this application
9. Well Site Layout:
- A. Each well would be properly identified in accordance with 43 CFR 3162.6.
  - B. The rig layout (see Sheet 6), cross sections of the well pad and cuts and fills, and production facilities (see Sheets 4 & 5) are attached.
  - C. This well pad disturbance lies entirely on federal surface managed by the BLM – White River Energy Office.
  - D. All surface disturbing activities would be supervised by a qualified, responsible company representative who is aware of the terms and conditions of the APD and specifications in the approved plans.
  - E. All cut and fill slopes would be constructed so that stability can be maintained for the life of the activity.
  - F. Diversion ditches would be constructed, if necessary, around to prevent surface waters from entering the well site area.
  - G. The site surface would be graded to drain away from the pit to avoid pit spillage during large storm events.
  - H. Pits would remain fenced until site cleanup.

- I. If air drilling occurs, the blooie line would be located at least 100 feet from the individual wellhead and would run from each wellhead directly to the pit. .
  - J. Water application may be implemented if necessary to minimize the amount of fugitive dust.
10. Plan for Restoration of the Surface:

Producing Wells

- A. Rat and mouse holes would be filled and compacted from bottom to top immediately upon release of the drilling rig from location.
- B. The reserve pit would be closed as soon as reasonably practical, but no later than 90 days from completion of the last well on the pad, provided favorable weather conditions and that there are no plans to re-use the pit within one year. An extension may be given at the discretion of the BLM Authorized Officer. The following are requirements for pit closures:
  - Squeezing of pit fluids and cuttings is prohibited;
  - Pits must be dry of fluids or they must be removed via vac-truck or other environmentally acceptable method prior to backfilling, re-contouring and replacement of topsoil;
  - Mud and cuttings left in pit must be buried at least 3-feet below re-co-contoured grad;
  - The polyethylene nylon reinforced liner shall be torn and perforated before backfilling;
  - The operator would be responsible for re-contouring any subsidence areas that develop from closing a pit before it is sufficiently dry;
  - The operator shall contact the BLM Authorized Officer at least 48-hours prior to the filling and reclamation of pits and the start of any reclamation such as re-contouring and reseeding.
- C. Reclamation requirements: Prior to reseeding the site, all disturbed areas, including the access road, would be scarified and left with a rough surface. The site would then be seeded and/or planted as prescribed by the BLM. The BLM recommended seed mix would be detailed within their surface use agreement.
- D. The operator would control noxious weeds along access road use authorizations, pipeline route authorizations, well sites or other applicable facilities by spraying or mechanical removal. A list of noxious weeds may be obtained from the BLM or the appropriate county extension office.

Dry Hole

- A. All disturbed lands associated with this project, including the pipelines, access roads, water management facilities, etc., would be expediently reclaimed and reseeded in accordance with the reclamation plan and any pertinent site specific COAs.

11. Surface and Mineral Ownership:

- A. Surface ownership – Federal under the management of the Bureau of Land Management
- B. Mineral ownership – Federal under the management of the Bureau of Land Management

12. Other Information:

- a. Grand River Institute (GRI) has previously conducted a Class III archeological survey on the federal lands associated with the project. A copy of the report has been submitted under separate cover to the appropriate agencies by GRI as Report No. 2010-16.
- b. A combustor may be installed at this location for control of associated condensate tank emissions. A combustor ranges from 24" to 48" wide and is approximately 10' tall. Combustor placement would be on existing disturbance and would not be closer than 100' to any tank or wellheads.

## 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 and that bond coverage is provided. These statements are subject to the provisions of 18 U.S.C. 1001 for the filings of false statements.

The operator must make a good faith effort to provide a copy of their Surface Use Plan of Operations to the surface owner. After the APD is approved the operator must make a good faith effort to provide a copy of the Conditions of Approval to the surface owner. The APD approval is not contingent upon delivery of a copy of the Conditions of Approval to the surface owner.

Executed this 10 day of June 2010  
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Elaine Winick  
Elaine Winick – Senior Regulatory Analyst





## Surface Owner Map

MDP Pad 11  
NENE, Section 29, T6S R91W  
Garfield County, Colorado



### Wells

- Proposed O&G SH Location
- (---) 500' Buffer

### Legend

- Pad Disturbance
- Production Facility

