

RECEIVED

Form 3160-5
(March 2012)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOV 15 2012

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014Farmington Field Office
Bureau of Land Management
SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.5. Lease Serial No.
JIC 1466. If Indian, Allottee or Tribe Name
Jicarilla Apache Nation

SUBMIT IN TRIPLICATE - Other instructions on page 2.

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
JICARILLA 2505-3H 14E2. Name of Operator
Bill Barrett Corporation9. API Well No.
30-039-311393a. Address
1099 18th Street, Suite 2300 Denver, CO 802023b. Phone No. (include area code)
303-312-817210. Field and Pool or Exploratory Area
Lindrith Gallup-Dakota, West4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SW SW 1212' FSL and 176' FWL, Sec. 3, T25N-R5W (Surface)
NW SW 2310' FSL and 380' FWL, Sec. 4, T25N-R5W (Btm Hole)11. County or Parish, State
Rio Arriba County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other _____
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

BBC hereby requests to revise the well name, bottom hole and also add a pilot hole to this location.

The bottom hole location is being revised to comply with the Basin-Mancos Gas Pool 660' spacing setback. The project area will now be the E/2 and W/2 of Section 4, T25N-R5W; 640 acres.

Approved Well Name: Jicarilla 2505-3H 14E
Revised Well Name: Jicarilla 2505-4 13HRCVD DEC 19 '12
OIL CONS. DIV.
DIST. 3Approved Bottom Hole: NW SW 2310' FSL and 380' FWL, Sec. 4, T25N-R5W
-Revised Bottom Hole: NW SW 2310' FSL and 700' FWL, Sec. 4, T25N-R5W

Please see revised plats, drilling program and directional plan attached.

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.**BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS**14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
Venessa Langmacker

Title Senior Permit Analyst

Signature

Venessa Langmacker

Date 11/13/2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Troy L. Salyers

Title Petroleum Engineer

Date 12/17/2012

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

FFO

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

NWOC D A

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

RECEIVED

NOV 15 2012

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr. Farmington Field Office
Santa Fe, N.M. 87505 Bureau of Land Management

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-31139	² Pool Code	³ Pool Name
⁴ Property Code 391687	⁵ Property Name JICARILLA 2505-4	⁶ Well Number 13H
⁷ GRID No. 287508	⁸ Operator Name BILL BARRETT CORPORATION UNDER OPERATING AGREEMENT WITH ENERVEST MESA, LLC & EV PROPERTIES, LP	⁹ Elevation 6654

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	3	25 N	5 W		1212	SOUTH	176	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

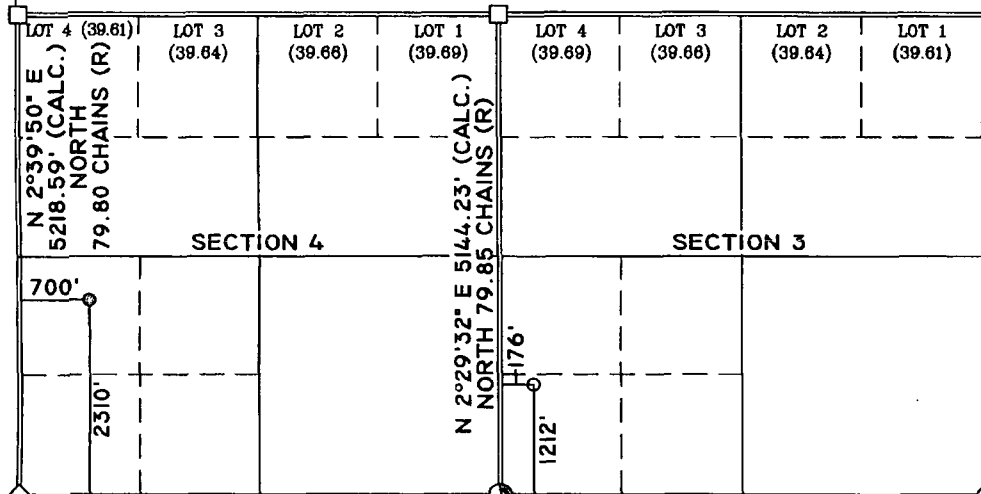
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	4	25 N	5 W		2310	SOUTH	700	WEST	RIO ARriba

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
			RCUD DEC 19 12 OIL CONS. DIV.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION DIST. 3

¹⁶ LEGEND:

- = SURFACE LOCATION
- ⊙ = BOTTOM HOLE LOCATION
- ⊕ = FOUND STONE MOUND
- ◇ = D.P. SECTION CORNER
- = S.P. SECTION CORNER



S 89°44'23\"/>

N 88°05'54\"/>

BOTTOM HOLE

NAD 83
LAT: 36.4281553° N
LONG: 107.3715964° W
NAD 27
LAT: 36.4281442° N
LONG: 107.3709946° W
LAT: 36°25'41.319\"/>

SURFACE

NAD 83
LAT: 36.4253291° N
LONG: 107.3553950° W
NAD 27
LAT: 36.4253179° N
LONG: 107.3547936° W
LAT: 36°25'31.144\"/>

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Venessa Langmacker 11-13-12
Signature Date
Venessa Langmacker
Printed Name
vlangmacker@billbarrettcorp.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted 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 belief.

05/02/12

Date of Survey

Signature and Seal of Professional Surveyor:



14831
Certificate Number

11-5-2012

DRILLING PLAN

BILL BARRETT CORPORATION

Jicarilla 2505-4-13H Well

SW SW, 1212' FSL and 176' FWL, Section 3, T25N, R5W, (surface hole)

NW SW, 2310' FSL and 700' FWL, Section 4, T25N, R5W, (bottom hole)

Rio Arriba County, New Mexico

Bill Barrett Corporation (BBC) intends to drill a vertical "pilot hole" through the Dakota formation, obtaining open hole logs in the vertical portion of the wellbore. Once having successfully obtained log data for determination of lateral wellbore placement, BBC would then plug and abandon the vertical portion of the wellbore to 5737', +/- 300' above the planned kick off point. Once the cement plug has cured accordingly BBC would utilize the cement plug to side track the wellbore at kick off point. The lateral portion of the wellbore would then be drilled horizontally through the prospective zone within the Tocito, as identified by open hole logs from the pilot hole.

Plug Back Procedure:

- 1) TIH open ended to 6337'
- 2) Pump Cement Plug as follows:

Fluid 1: Water Based Spacer

MUD FLUSH III Fluid Density: 8.40 lbm/gal

Total Volume: 37.27 bbl

Volume Ahead: 31.90 bbl

Fluid 2: Plug Cement

Premium Cement Fluid Weight 17 lbm/gal

94 lbm/sk Premium Cement (Cement) Slurry Yield: 1.00 ft³/sk

3 % KCL (Accelerator) Total Mixing Fluid: 3.82 Gal/sk

0.1 % HR-5 (Retarder) Top of Fluid: 5737 ft

Calculated Fill: 600 ft

Volume: 62.47 bbl

Calculated Sacks: 351 sks

Proposed Sacks: 351 sks

Fluid 3: Water Spacer

Displacement Fluid Density: 8.33 lbm/gal

Total Volume: 37.27 bbl

Volume Behind: 5.37 bbl

- 3) TOOH to 4000' and Circulate and condition mud for 8 hours.
- 4) TOOH, Pick up BHA to drill cement.
- 5) TIH slowly, tag cement, Record in IADC reports.
- 6) Drill cement to KOP.
- 7) TOOH, Lay down cement drilling assembly.
- 8) Pick up Kick off assembly, and drill curve section.

Bill Barrett Corporation
Drilling Program
Jicarilla 2505-4-13H
Rio Arriba County, New Mexico

1 - 2. Estimated Tops of Geological Markers and Formations

<u>Formation</u>	<u>Depth – MD (Horizontal)</u>	<u>Depth – TVD</u>
Ojo Alamo	2,532	2,490
Kirtland	2,578	2,535
Fruitland	2,783	2,735
Pictured Cliffs	2,959	2,907
Cliff House	4,705	4,610
Menefee	4,751	4,655
Point Lookout	5,243	5,135
Mancos	5,468	5,355
Niobrara	6,060	5,942
Tocito	6,679	6,428
TD	11,119	6,445

3. BOP and Pressure Containment Data

<u>Depth Intervals</u>	<u>BOP Equipment</u>
0 – 350'	No pressure control required
350' – 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 psi. All BOP and BOPE tests will be in accordance with the requirements of onshore Order No. 2;	
- The BLM and the State of New Mexico 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.	

4. Casing Program

<u>Hole Size</u>	<u>SETTING DEPTH (FROM) (TO)</u>		<u>Casing Size</u>	<u>Casing Weight</u>	<u>Casing Grade</u>	<u>Thread</u>	<u>Condition</u>
26"	Surface	40'	16"	65#			
12 1/4"	Surface	350' 500'	9 5/8"	36#	J or K 55	STC	New
8 3/4"	Surface	7230'	7"	26#	N-80	LT&C	New
6 1/8"	KOP	TD	4 1/2"	11.6#	P-110	LT&C	New

<u>Casing Size</u>	<u>Casing Weight</u>	<u>Casing Grade</u>	<u>Thread</u>	<u>Collapse Pressure (psi)</u>	<u>Burst Pressure (psi)</u>	<u>Tension Strength (1,000 lbs)</u>
9 5/8"	36#	J or K 55	STC	2020	3520	394/423
7"	26#	N-80	LT&C	5410	7240	519
4 1/2" Liner	11.6#	P-110	LT&C	7560	10690	279

Bill Barrett Corporation
Drilling Program
Jicarilla 2505-4-13H
Rio Arriba County, New Mexico

<u>Casing Size</u>	<u>Casing Weight</u>	<u>Casing Grade</u>	<u>Thread</u>	<u>SF_c</u>	<u>SF_b</u>	<u>SF_t</u>
9 5/8"	36#	J or K 55	STC	16.14	42.33	36.13/38.79
7"	26#	N-80	LT&C	2.04	3.86	3.21
4 1/2" Liner	11.6#	P-110	LT&C	2.85	5.70	2.54

5. Centralizers

<u>Casing Size</u>	<u>SETTING DEPTH (FROM) (TO)</u>		<u>Centralizer Description</u>
9 5/8"	Surface	350' 500'	1 on Shoe Joint + Every other to surface (6 Centralizers)
7"	Surface	7230'	1 on Shoe Joint + Every other to TOC
4 1/2" Liner	KOP	TD	Swell Packers with 1 centralizer above and below each packer.

6. Cementing Program

<u>Casing</u>	<u>Cementing</u>
16" Conductor Casing	<i>Grout</i>
9 5/8" Surface Casing	Approximately 210 sx Halliburton Premium Cement with additives mixed at 15.8 ppg (yield = 1.17 ft ³ /sx) circulated to surface with 100% excess. Top of cement estimated at surface.
7" Intermediate Casing	Lead with approximately 720 sx Halliburton Light Premium cement with additives, mixed at 12.5 ppg (yield = 1.85 ft ³ /sx). Top of lead estimated at Surface. Tail with approximately 200 sx Halliburton Premium cement with additives mixed at 15.8 ppg (yield = 1.15 ft ³ /sx). Top of tail estimated at 5,971'.
4 1/2" Liner	No cement will be used in this section. Swell packers will be run to isolate the production hole from the intermediate casing section. No Centralizers.

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 – 8.8	26 – 36	NC	Freshwater Spud Mud Fluid System
40' – 250' 500'	8.3 – 8.8	26 – 36	NC	Freshwater Spud Mud Fluid System
500' 250' – TD	8.6 – 9.8	38-50	15 cc or less	Low Solids Non-Dispersed
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' samples; surface casing to TD. Preserve samples all show intervals;
Surveys	MWD as needed to land wellbore
Logging	Vertical Hole- Triple Combo Platform Express (RT Scanner, Density Neutron, Dipole Sonic, FMI) Horizontal Hole- MWD Gamma, FMI

8. **Anticipated Abnormal Pressures or Temperatures**

No abnormal pressures or temperatures or other hazards are anticipated.

Maximum anticipated bottom hole pressure equals approximately 3297 psi* and maximum anticipated surface pressure equals approximately 1874 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 TVD = A (bottom hole pressure)

**Maximum surface pressure = A – (0.22 x TVD)

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: TBA
Spud: TBA
Duration: 20 days drilling time
45 days completion time



Bill Barrett Corporation

COMPANY DETAILS: BILL BARRETT CORP

Calculation Method: Minimum Curvature
Error System: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Warning Method: Error Ratio

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Jicarilla 2505-4-13H, True North
Vertical (TVD) Reference: KB @ 6667.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: KB @ 6667.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: Jicarilla 2505-4-13H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	602271.72	400879.52	36° 25' 31.185 N	107° 21' 19.422 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	921.3	12.64	0.00	917.9	46.3	0.0	3.00	0.00	9.8	
4	5515.9	12.64	0.00	5401.2	1051.7	0.0	0.00	0.00	222.0	
5	5937.3	0.00	0.00	5819.1	1098.0	0.0	3.00	180.00	231.8	
6	6037.3	0.00	0.00	5919.1	1098.0	0.0	0.00	0.00	231.8	
7	6907.0	90.30	270.00	6471.0	1098.0	-554.8	10.38	270.00	774.0	2505-3H #14F LP
8	6954.0	90.30	269.06	6470.7	1097.6	-601.7	2.00	-90.00	819.8	
9	9157.0	90.30	269.06	6459.2	1061.5	-2804.4	0.00	0.00	2965.3	
10	9162.0	90.40	269.06	6459.1	1061.4	-2809.4	2.00	0.00	2970.1	
11	11119.6	90.40	269.06	6445.5	1029.3	-4766.6	0.00	0.00	4876.5	2505-3H #14F PBHL

PROJECT DETAILS: RIO ARriba COUNTY, NM

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Central Zone

FORMATION TOP DETAILS

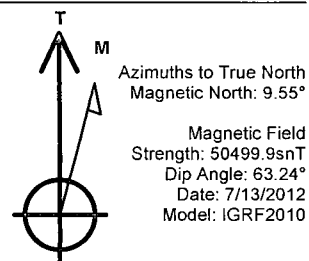
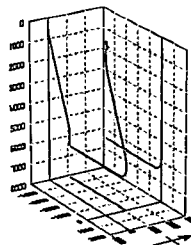
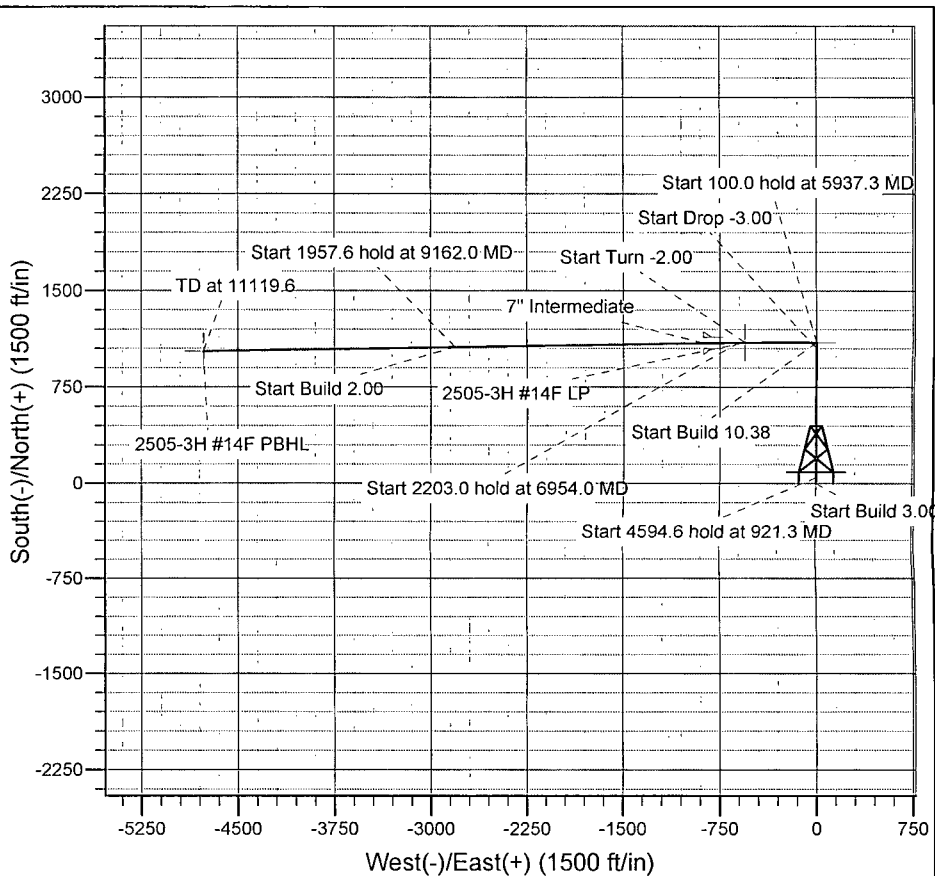
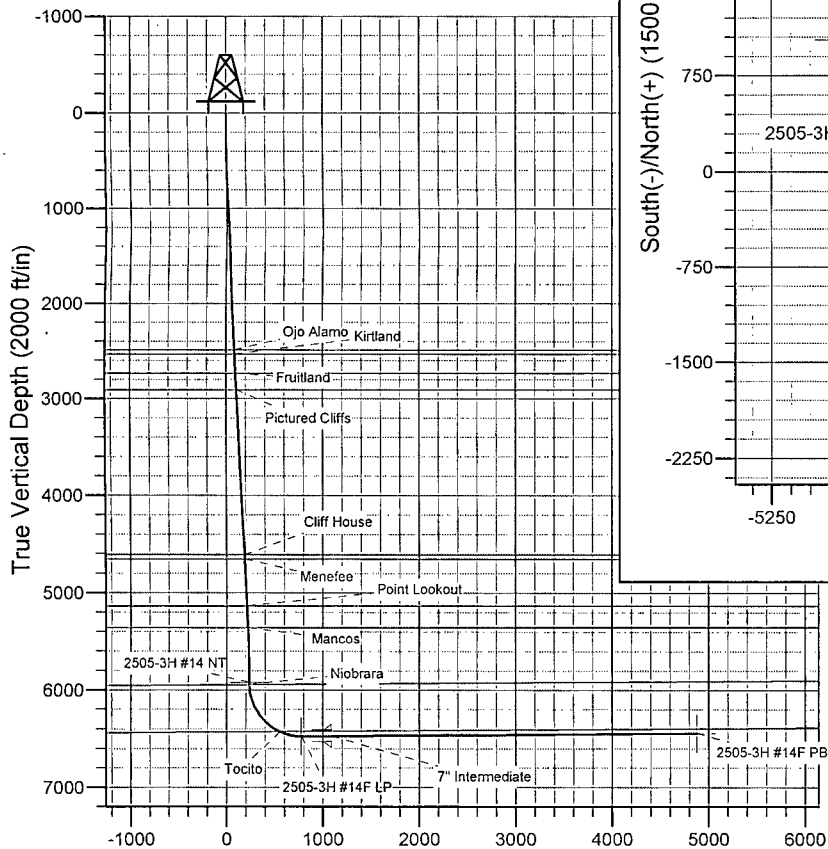
TVDPath	MDPath	Formation
2490.0	2532.5	Ojo Alamo
2535.0	2578.6	Kirtland
2735.0	2783.5	Fruitland
2907.0	2959.8	Pictured Cliffs
4610.0	4705.1	Cliff House
4655.0	4751.2	Menefee
5135.0	5243.2	Point Lookout
5355.0	5468.6	Mancos
5942.1	6060.3	Niobrara
6425.8	6679.3	Tocito

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
2505-3H #14 NT	5919.1	1098.0	0.0	Point
2505-3H #14F PBHL	6444.0	1029.3	-4766.6	Point
2505-3H #14F LP	6471.0	1098.0	-556.0	Point

CASING DETAILS

TVD	MD	Name	Size
6469.3	7230.0	7" Intermediate	7.000



Bill Barrett Corp

Planning Report

Database: Compass
 Company: BILL BARRETT CORP
 Project: RIO ARRIBA COUNTY, NM
 Site: Jicarilla 2505-4-43H
 Well: Jicarilla 2505-4-43H
 Wellbore: Wellbore #1
 Design: Design #1

Local Co-ordinate Reference: Well Jicarilla 2505-4-43H
 TVD Reference: KB @ 6640.0ft (Original Well Elev)
 MD Reference: KB @ 6640.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Project	RIO ARRIBA COUNTY, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Jicarilla 2505-4-43H		
Site Position:		Northing:	602,251.63m
From:	Lat/Long	Easting:	402,530.23m
Position Uncertainty:	0.0 ft	Slot Radius:	in
		Latitude:	36° 25' 31.141 N
		Longitude:	107° 20' 13.152 W
		Grid Convergence:	-0.65 °

Well	Jicarilla 2505-4-43H		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	36° 25' 31.141 N
		Longitude:	107° 20' 13.152 W
		Ground Level:	6,627.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	10/18/2012	(°)
			9.51
			Dip Angle
			(°)
			63.24
			Field Strength
			(nT)
			50,476

Design	Design #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			(°)
			280.61

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
884.8	11.54	357.22	882.2	38.6	-1.9	3.00	3.00	0.00	357.22	
5,412.7	11.54	357.22	5,318.5	943.7	-45.8	0.00	0.00	0.00	0.00	
5,874.5	0.00	0.00	5,777.2	990.0	-48.0	2.50	-2.50	0.00	180.00	
6,024.5	0.00	0.00	5,927.2	990.0	-48.0	0.00	0.00	0.00	0.00	2505-4-43H NTG
6,896.8	90.40	270.00	6,480.0	990.0	-604.7	10.36	10.36	0.00	270.00	2505-4-43H LP
6,979.2	90.40	271.24	6,479.5	990.9	-687.1	1.50	0.00	1.50	90.00	2505-4-43H PBHL
12,180.8	90.40	271.24	6,443.1	1,103.1	-5,887.4	0.00	0.00	0.00	0.00	2505-4-43H PBHL

Bill Barrett Corp

Planning Report

Database: Compass
Company: BILL BARRETT CORP
Project: RIO ARRIBA COUNTY, NM
Site: Jicarilla 2505-4-43H
Well: Jicarilla 2505-4-43H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Jicarilla 2505-4-43H
TVD Reference: KB @ 6640.0ft (Original Well Elev)
MD Reference: KB @ 6640.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	3.00	357.22	600.0	2.6	-0.1	0.6	3.00	3.00	0.00
700.0	6.00	357.22	699.6	10.5	-0.5	2.4	3.00	3.00	0.00
800.0	9.00	357.22	798.8	23.5	-1.1	5.4	3.00	3.00	0.00
884.8	11.54	357.22	882.2	38.6	-1.9	8.9	3.00	3.00	0.00
900.0	11.54	357.22	897.1	41.6	-2.0	9.6	0.00	0.00	0.00
1,000.0	11.54	357.22	995.1	61.6	-3.0	14.3	0.00	0.00	0.00
1,100.0	11.54	357.22	1,093.0	81.6	-4.0	18.9	0.00	0.00	0.00
1,200.0	11.54	357.22	1,191.0	101.6	-4.9	23.6	0.00	0.00	0.00
1,300.0	11.54	357.22	1,289.0	121.6	-5.9	28.2	0.00	0.00	0.00
1,400.0	11.54	357.22	1,387.0	141.6	-6.9	32.8	0.00	0.00	0.00
1,500.0	11.54	357.22	1,485.0	161.6	-7.8	37.5	0.00	0.00	0.00
1,600.0	11.54	357.22	1,582.9	181.6	-8.8	42.1	0.00	0.00	0.00
1,700.0	11.54	357.22	1,680.9	201.5	-9.8	46.7	0.00	0.00	0.00
1,800.0	11.54	357.22	1,778.9	221.5	-10.7	51.4	0.00	0.00	0.00
1,900.0	11.54	357.22	1,876.9	241.5	-11.7	56.0	0.00	0.00	0.00
2,000.0	11.54	357.22	1,974.8	261.5	-12.7	60.6	0.00	0.00	0.00
2,100.0	11.54	357.22	2,072.8	281.5	-13.6	65.3	0.00	0.00	0.00
2,200.0	11.54	357.22	2,170.8	301.5	-14.6	69.9	0.00	0.00	0.00
2,300.0	11.54	357.22	2,268.8	321.5	-15.6	74.5	0.00	0.00	0.00
2,400.0	11.54	357.22	2,366.7	341.5	-16.6	79.2	0.00	0.00	0.00
2,419.5	11.54	357.22	2,385.8	345.4	-16.7	80.1	0.00	0.00	0.00
Ojo Alamo									
2,500.0	11.54	357.22	2,464.7	361.5	-17.5	83.8	0.00	0.00	0.00
2,595.0	11.54	357.22	2,557.8	380.4	-18.4	88.2	0.00	0.00	0.00
Kirtland									
2,600.0	11.54	357.22	2,562.7	381.4	-18.5	88.4	0.00	0.00	0.00
2,700.0	11.54	357.22	2,660.7	401.4	-19.5	93.1	0.00	0.00	0.00
2,791.0	11.54	357.22	2,749.8	419.6	-20.3	97.3	0.00	0.00	0.00
Fruitland									
2,800.0	11.54	357.22	2,758.7	421.4	-20.4	97.7	0.00	0.00	0.00
2,900.0	11.54	357.22	2,856.6	441.4	-21.4	102.3	0.00	0.00	0.00
2,982.8	11.54	357.22	2,937.8	458.0	-22.2	106.2	0.00	0.00	0.00
Pictured Cliffs									
3,000.0	11.54	357.22	2,954.6	461.4	-22.4	107.0	0.00	0.00	0.00
3,100.0	11.54	357.22	3,052.6	481.4	-23.3	111.6	0.00	0.00	0.00
3,200.0	11.54	357.22	3,150.6	501.4	-24.3	116.2	0.00	0.00	0.00
3,300.0	11.54	357.22	3,248.5	521.4	-25.3	120.9	0.00	0.00	0.00
3,400.0	11.54	357.22	3,346.5	541.4	-26.2	125.5	0.00	0.00	0.00
3,500.0	11.54	357.22	3,444.5	561.3	-27.2	130.1	0.00	0.00	0.00
3,600.0	11.54	357.22	3,542.5	581.3	-28.2	134.8	0.00	0.00	0.00
3,700.0	11.54	357.22	3,640.4	601.3	-29.2	139.4	0.00	0.00	0.00
3,800.0	11.54	357.22	3,738.4	621.3	-30.1	144.0	0.00	0.00	0.00
3,900.0	11.54	357.22	3,836.4	641.3	-31.1	148.7	0.00	0.00	0.00
4,000.0	11.54	357.22	3,934.4	661.3	-32.1	153.3	0.00	0.00	0.00
4,100.0	11.54	357.22	4,032.4	681.3	-33.0	157.9	0.00	0.00	0.00
4,200.0	11.54	357.22	4,130.3	701.3	-34.0	162.6	0.00	0.00	0.00
4,300.0	11.54	357.22	4,228.3	721.3	-35.0	167.2	0.00	0.00	0.00
4,400.0	11.54	357.22	4,326.3	741.3	-35.9	171.8	0.00	0.00	0.00

Bill Barrett Corp

Planning Report

Database: Compass
Company: BILL BARRETT CORP
Project: RIO ARRIBA COUNTY, NM
Site: Jicarilla 2505-4-43H
Well: Jicarilla 2505-4-43H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Jicarilla 2505-4-43H
TVD Reference: KB @ 6640.0ft (Original Well Elev)
MD Reference: KB @ 6640.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	11.54	357.22	4,424.3	761.2	-36.9	176.5	0.00	0.00	0.00
4,600.0	11.54	357.22	4,522.2	781.2	-37.9	181.1	0.00	0.00	0.00
4,692.2	11.54	357.22	4,612.6	799.7	-38.8	185.4	0.00	0.00	0.00
Cliff House									
4,700.0	11.54	357.22	4,620.2	801.2	-38.8	185.7	0.00	0.00	0.00
4,729.0	11.54	357.22	4,648.6	807.0	-39.1	187.1	0.00	0.00	0.00
Menefee									
4,800.0	11.54	357.22	4,718.2	821.2	-39.8	190.4	0.00	0.00	0.00
4,900.0	11.54	357.22	4,816.2	841.2	-40.8	195.0	0.00	0.00	0.00
5,000.0	11.54	357.22	4,914.2	861.2	-41.8	199.6	0.00	0.00	0.00
5,100.0	11.54	357.22	5,012.1	881.2	-42.7	204.3	0.00	0.00	0.00
5,200.0	11.54	357.22	5,110.1	901.2	-43.7	208.9	0.00	0.00	0.00
5,231.1	11.54	357.22	5,140.6	907.4	-44.0	210.3	0.00	0.00	0.00
Point Lookout									
5,300.0	11.54	357.22	5,208.1	921.2	-44.7	213.5	0.00	0.00	0.00
5,400.0	11.54	357.22	5,306.1	941.1	-45.6	218.2	0.00	0.00	0.00
5,412.7	11.54	357.22	5,318.5	943.7	-45.8	218.8	0.00	0.00	0.00
5,462.6	10.30	357.22	5,367.5	953.1	-46.2	221.0	2.50	-2.50	0.00
Mancos									
5,500.0	9.36	357.22	5,404.3	959.5	-46.5	222.4	2.50	-2.50	0.00
5,600.0	6.86	357.22	5,503.3	973.6	-47.2	225.7	2.50	-2.50	0.00
5,700.0	4.36	357.22	5,602.9	983.4	-47.7	228.0	2.50	-2.50	0.00
5,800.0	1.86	357.22	5,702.7	988.8	-47.9	229.2	2.50	-2.50	0.00
5,874.5	0.00	0.00	5,777.2	990.0	-48.0	229.5	2.50	-2.50	0.00
5,900.0	0.00	0.00	5,802.7	990.0	-48.0	229.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,902.7	990.0	-48.0	229.5	0.00	0.00	0.00
6,024.5	0.00	0.00	5,927.2	990.0	-48.0	229.5	0.00	0.00	0.00
2505-4-43H NTG									
6,043.8	2.00	270.00	5,946.5	990.0	-48.3	229.8	10.36	10.36	0.00
Niobrara									
6,100.0	7.82	270.00	6,002.4	990.0	-53.1	234.6	10.36	10.36	0.00
6,200.0	18.19	270.00	6,099.8	990.0	-75.6	256.6	10.36	10.36	0.00
6,300.0	28.55	270.00	6,191.4	990.0	-115.2	295.6	10.36	10.36	0.00
6,400.0	38.91	270.00	6,274.5	990.0	-170.7	350.1	10.36	10.36	0.00
6,500.0	49.28	270.00	6,346.2	990.0	-240.2	418.4	10.36	10.36	0.00
6,600.0	59.64	270.00	6,404.2	990.0	-321.4	498.3	10.36	10.36	0.00
6,666.2	66.50	270.00	6,434.2	990.0	-380.4	556.2	10.36	10.36	0.00
Tocito									
6,700.0	70.01	270.00	6,446.7	990.0	-411.8	587.1	10.36	10.36	0.00
6,800.0	80.37	270.00	6,472.3	990.0	-508.4	682.0	10.36	10.36	0.00
6,896.8	90.40	270.00	6,480.0	990.0	-604.7	776.7	10.36	10.36	0.00
6,900.0	90.40	270.05	6,480.0	990.0	-607.9	779.8	1.50	0.00	1.50
6,912.1	90.40	270.23	6,479.9	990.0	-620.0	791.7	1.50	0.00	1.50
2505-4-43H LP									
6,946.0	90.40	270.74	6,479.7	990.3	-653.9	825.1	1.50	0.00	1.50
7" INTERMEDIATE									
6,979.2	90.40	271.24	6,479.5	990.9	-687.1	857.8	1.50	0.00	1.50
7,000.0	90.40	271.24	6,479.3	991.3	-707.9	878.4	0.00	0.00	0.00
7,100.0	90.40	271.24	6,478.6	993.5	-807.9	977.0	0.00	0.00	0.00
7,200.0	90.40	271.24	6,477.9	995.7	-907.9	1,075.7	0.00	0.00	0.00
7,300.0	90.40	271.24	6,477.2	997.8	-1,007.8	1,174.4	0.00	0.00	0.00
7,400.0	90.40	271.24	6,476.5	1,000.0	-1,107.8	1,273.0	0.00	0.00	0.00
7,500.0	90.40	271.24	6,475.8	1,002.1	-1,207.8	1,371.7	0.00	0.00	0.00

Bill Barrett Corp

Planning Report

Database: Compass
 Company: BILL BARRETT CORP
 Project: RIO ARRIBA COUNTY, NM
 Site: Jicarilla 2505-4-43H
 Well: Jicarilla 2505-4-43H
 Wellbore: Wellbore #1
 Design: Design #1

Local Co-ordinate Reference: Well Jicarilla 2505-4-43H
 TVD Reference: KB @ 6640.0ft (Original Well Elev)
 MD Reference: KB @ 6640.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,600.0	90.40	271.24	6,475.1	1,004.3	-1,307.8	1,470.3	0.00	0.00	0.00
7,700.0	90.40	271.24	6,474.4	1,006.4	-1,407.7	1,569.0	0.00	0.00	0.00
7,800.0	90.40	271.24	6,473.7	1,008.6	-1,507.7	1,667.7	0.00	0.00	0.00
7,900.0	90.40	271.24	6,473.0	1,010.8	-1,607.7	1,766.3	0.00	0.00	0.00
8,000.0	90.40	271.24	6,472.3	1,012.9	-1,707.7	1,865.0	0.00	0.00	0.00
8,100.0	90.40	271.24	6,471.6	1,015.1	-1,807.6	1,963.6	0.00	0.00	0.00
8,200.0	90.40	271.24	6,470.9	1,017.2	-1,907.6	2,062.3	0.00	0.00	0.00
8,300.0	90.40	271.24	6,470.2	1,019.4	-2,007.6	2,161.0	0.00	0.00	0.00
8,400.0	90.40	271.24	6,469.5	1,021.5	-2,107.5	2,259.6	0.00	0.00	0.00
8,500.0	90.40	271.24	6,468.8	1,023.7	-2,207.5	2,358.3	0.00	0.00	0.00
8,600.0	90.40	271.24	6,468.1	1,025.9	-2,307.5	2,457.0	0.00	0.00	0.00
8,700.0	90.40	271.24	6,467.4	1,028.0	-2,407.5	2,555.6	0.00	0.00	0.00
8,800.0	90.40	271.24	6,466.7	1,030.2	-2,507.4	2,654.3	0.00	0.00	0.00
8,900.0	90.40	271.24	6,466.0	1,032.3	-2,607.4	2,752.9	0.00	0.00	0.00
9,000.0	90.40	271.24	6,465.3	1,034.5	-2,707.4	2,851.6	0.00	0.00	0.00
9,100.0	90.40	271.24	6,464.6	1,036.6	-2,807.4	2,950.3	0.00	0.00	0.00
9,200.0	90.40	271.24	6,463.9	1,038.8	-2,907.3	3,048.9	0.00	0.00	0.00
9,300.0	90.40	271.24	6,463.2	1,040.9	-3,007.3	3,147.6	0.00	0.00	0.00
9,400.0	90.40	271.24	6,462.6	1,043.1	-3,107.3	3,246.2	0.00	0.00	0.00
9,500.0	90.40	271.24	6,461.9	1,045.3	-3,207.3	3,344.9	0.00	0.00	0.00
9,600.0	90.40	271.24	6,461.2	1,047.4	-3,307.2	3,443.6	0.00	0.00	0.00
9,700.0	90.40	271.24	6,460.5	1,049.6	-3,407.2	3,542.2	0.00	0.00	0.00
9,800.0	90.40	271.24	6,459.8	1,051.7	-3,507.2	3,640.9	0.00	0.00	0.00
9,900.0	90.40	271.24	6,459.1	1,053.9	-3,607.2	3,739.6	0.00	0.00	0.00
10,000.0	90.40	271.24	6,458.4	1,056.0	-3,707.1	3,838.2	0.00	0.00	0.00
10,100.0	90.40	271.24	6,457.7	1,058.2	-3,807.1	3,936.9	0.00	0.00	0.00
10,200.0	90.40	271.24	6,457.0	1,060.4	-3,907.1	4,035.5	0.00	0.00	0.00
10,300.0	90.40	271.24	6,456.3	1,062.5	-4,007.1	4,134.2	0.00	0.00	0.00
10,400.0	90.40	271.24	6,455.6	1,064.7	-4,107.0	4,232.9	0.00	0.00	0.00
10,500.0	90.40	271.24	6,454.9	1,066.8	-4,207.0	4,331.5	0.00	0.00	0.00
10,600.0	90.40	271.24	6,454.2	1,069.0	-4,307.0	4,430.2	0.00	0.00	0.00
10,700.0	90.40	271.24	6,453.5	1,071.1	-4,407.0	4,528.8	0.00	0.00	0.00
10,800.0	90.40	271.24	6,452.8	1,073.3	-4,506.9	4,627.5	0.00	0.00	0.00
10,900.0	90.40	271.24	6,452.1	1,075.5	-4,606.9	4,726.2	0.00	0.00	0.00
11,000.0	90.40	271.24	6,451.4	1,077.6	-4,706.9	4,824.8	0.00	0.00	0.00
11,100.0	90.40	271.24	6,450.7	1,079.8	-4,806.9	4,923.5	0.00	0.00	0.00
11,200.0	90.40	271.24	6,450.0	1,081.9	-4,906.8	5,022.2	0.00	0.00	0.00
11,300.0	90.40	271.24	6,449.3	1,084.1	-5,006.8	5,120.8	0.00	0.00	0.00
11,400.0	90.40	271.24	6,448.6	1,086.2	-5,106.8	5,219.5	0.00	0.00	0.00
11,500.0	90.40	271.24	6,447.9	1,088.4	-5,206.8	5,318.1	0.00	0.00	0.00
11,600.0	90.40	271.24	6,447.2	1,090.6	-5,306.7	5,416.8	0.00	0.00	0.00
11,700.0	90.40	271.24	6,446.5	1,092.7	-5,406.7	5,515.5	0.00	0.00	0.00
11,800.0	90.40	271.24	6,445.8	1,094.9	-5,506.7	5,614.1	0.00	0.00	0.00
11,900.0	90.40	271.24	6,445.1	1,097.0	-5,606.7	5,712.8	0.00	0.00	0.00
12,000.0	90.40	271.24	6,444.4	1,099.2	-5,706.6	5,811.4	0.00	0.00	0.00
12,100.0	90.40	271.24	6,443.7	1,101.3	-5,806.6	5,910.1	0.00	0.00	0.00
12,180.8	90.40	271.24	6,443.1	1,103.1	-5,887.4	5,989.9	0.00	0.00	0.00

2505-4-43H PBHL

Bill Barrett Corp

Planning Report

Database: Compass
Company: BILL BARRETT CORP
Project: RIO ARRIBA COUNTY, NM
Site: Jicarilla 2505-4-43H
Well: Jicarilla 2505-4-43H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Jicarilla 2505-4-43H
TVD Reference: KB @ 6640.0ft (Original Well Elev)
MD Reference: KB @ 6640.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
6,946.0	6,479.7	7" INTERMEDIATE	7.000	8.750

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,419.5	2,386.0	Ojo Alamo		-0.40	271.24
2,595.0	2,558.0	Kirtland		-0.40	271.24
2,791.0	2,750.0	Fruitland		-0.40	271.24
2,982.8	2,938.0	Pictured Cliffs		-0.40	271.24
4,692.2	4,613.0	Cliff House		-0.40	271.24
4,729.0	4,649.0	Menefee		-0.40	271.24
5,231.1	5,141.0	Point Lookout		-0.40	271.24
5,462.6	5,368.0	Mancos		-0.40	271.24
6,043.8	5,947.0	Niobrara		-0.40	271.24
6,666.2	6,437.0	Tocito		-0.40	271.24