

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Tony Delfin
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 8-26-15

Well information;

Operator BP, Well Name and Number Storey B LS 6#1H

API# 30-045-35712, Section 11, Township 30 N/S, Range 11 E/W

Conditions of Approval: (See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
 - ☐ Hold C-104 for NSL, NSP, DHC
 - ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
 - ☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☒ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☒ Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.


NMOCD Approved by Signature

6-20-2016
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUN 06 2016

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		CONFIDENTIAL		5. Lease Serial No. NMSF078138A
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone				6. If Indian, Allottee or Tribe Name
2. Name of Operator BP AMERICA PRODUCTION COMPANY		Contact: TOYA COLVIN Toya.Colvin@bp.com		7. If Unit or CA Agreement, Name and No.
3a. Address 737 NORTH ELDRIDGE PARKWAY 12.181A HOUSTON, TX 77079		3b. Phone No. (include area code) Ph: 281-366-7148		8. Lease Name and Well No. STOREY B LS 6 1H
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface G SWNE 1719FNL 1981FEL 36.828878 N Lat, 107.958211 W Lon At proposed prod. zone SESE 710FSL 943FEL 36.821046 N Lat, 107.954766 W Lon		9. API Well No. 30-045-35712		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL
14. Distance in miles and direction from nearest town or post office* WELL IS 2.5 MILES SOUTHWEST OF AZTEC, NM.		11. Sec., T., R., M., or Blk. and Survey or Area Sec 11 T30N R11W Mer		12. County or Parish SAN JUAN
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) WELL IS 674 FEET FROM THE NEAREST UNIT/LEASE LINE. 478.63		16. No. of Acres in Lease 478.63		13. State NM
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. WELL IS 762 FEET FROM THE NEAREST WELL STUBBY (FC)		19. Proposed Depth 2394 TVD		17. Spacing Unit dedicated to this well 320.00
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5936 GL		22. Approximate date work will start 11/01/2015		20. BLM/BIA Bond No. on file WY2924
		23. Estimated duration 15 DAYS		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) TOYA COLVIN Ph: 281-366-7148	Date 08/26/2015
Title REGULATORY ANALYST		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 6/1/16
Title AFM	Office FEO	

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

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.

Additional Operator Remarks (see next page)

Electronic Submission #314254 verified by the BLM Well Information System
For BP AMERICA PRODUCTION COMPANY, sent to the Farmington



H₂S POTENTIAL EXIST

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

NMCD *AV*

JUN 06 2016

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

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

Division II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

Division III
1000 Rio Breros Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

Division IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35712	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 001136	⁵ Property Name Storey B LS 6	⁶ Well Number 1H
⁷ OGRID No. 000778	⁸ Operator Name BP America Production Company	⁹ Elevation 5936

" Surface Location

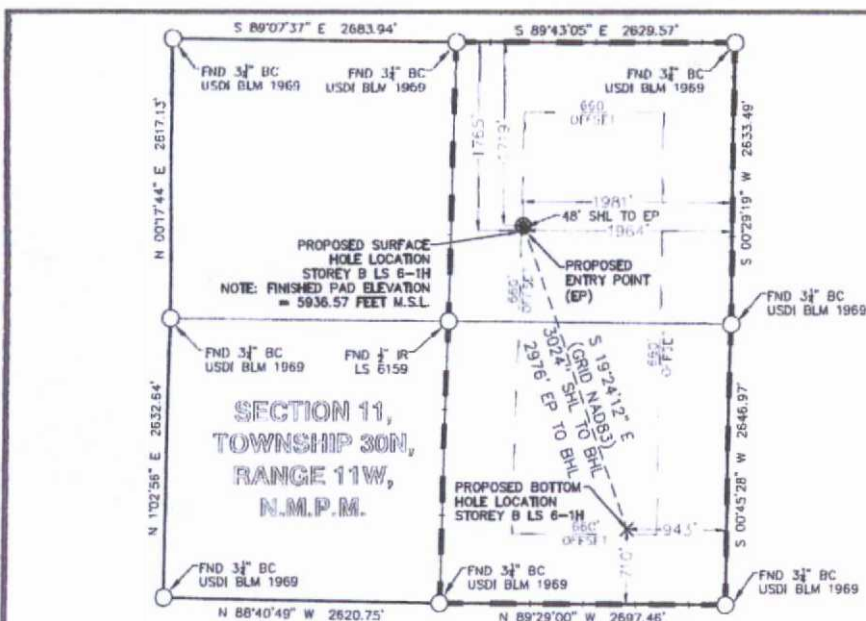
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	11	30N	11W		1719	North	1981	East	San Juan

" 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
P	11	30N	11W		710	South	943	East	San Juan

¹² Dedicated Acres 320 319.80	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



LEGEND
FOUND MONUMENT O
PROPOSED SURFACE HOLE LOCATION ●
PROPOSED BOTTOM HOLE LOCATION X

STOREY B LS 6-1H	NWQZ NAD'83	NAD'83	TIES
PROPOSED SURFACE HOLE LOCATION (SHL)	N (Y) = 2,121,057.66' E (X) = 2,686,544.58'	LAT. = 36.82887854°N LON. = 107.95821179°W	FNL = 1719' FEL = 1981'
PROPOSED ENTRY POINT (EP)	N (Y) = 2,121,011.84' E (X) = 2,686,580.72'	LAT. = 36.82875274°N LON. = 107.95815644°W	FNL = 1765' FEL = 1964'
PROPOSED BOTTOM HOLE LOCATION (BHL)	N (Y) = 2,118,205.16' E (X) = 2,687,549.29'	LAT. = 36.82104683°N LON. = 107.95476640°W	FSL = 710' FEL = 943'

" 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 undivided 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 as required by the Division.

Toya Colvin 4/24/15
Signature Date

Toya Colvin

Printed Name

Toya.Colvin@bp.com

E mail Address

" 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 is true and correct to the best of my belief.

6-9-15
Date of Survey

Signature and Seal of Professional Surveyor

17078
Certificate Number



**Application for Permit to Drill
Drilling Plan
REVISED 06/19/2015**

BP AMERICA PRODUCTION COMPANY

STOREY B LS 6-1H

Surface Location: 1719' FNL & 1981' FEL
Section 11, T30N, R11W
Proposed GL Elev = 5936.57'
Lat. = 36.828878544° N
Long. = 107.95821179° W
NAD 83
San Juan County, New Mexico

Proposed Top of Production Location: 1765' FNL – 1964' FEL
Proposed Bottom Hole Location: 710' FSL – 943' FEL
Section 11, T30N, R11W
San Juan County, Colorado

Drilling program written in compliance with onshore Oil and Gas Order No. 1
(III.D.3, effective May 2007) and Onshore Order No. 2 Dated November 18, 1988

A. Names and estimated tops of all geologic groups, formations, members or zones.

Depths referenced to GL of 5,936.57' & RKB 11' @ 5,947.57'			
Marker	Sub Sea	TVD	MD
Nacimiento	5,937	11	11
Ojo Alamo	4,935	1,013	1,013
Kirtland Sh	4,816	1,132	1,132
Farmington Ss	4,309	1,639	1,639
Lwr. Kirtland Sh	4,108	1,840	1,840
Fruitland Coal	3,868	2,080	2,087
Fruitland Ss	3,707	2,241	2,281
Fruitland Ss Base	3,683	2,265	2,315
Cottonwood Seam	3,666	2,282	2,340
Cahn Seam	3,540	2,408	2,622
TOTAL DEPTH:	3,554	2,394	5,201

B. Estimated depth and thickness of formations, members or zones potentially containing useable water, oil, gas or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator's plans for protecting such resources.

Depths referenced to GL of 5,936.57' & RKB 11' @ 5,947.57'					
Marker	Sub Sea	TVD	Thickness	MD	
Nacimiento	5,937	11	1002	11	Usable Water
Ojo Alamo	4,935	1,013	119	1,013	Water
Kirtland Sh	4,816	1,132	507	1,132	Water
Farmington Ss	4,309	1,639	201	1,639	Gas & Water
Lwr. Kirtland Sh	4,108	1,840	240	1,840	Gas & Water
Fruitland Coal	3,868	2,080	161	2,087	Gas, Water
Fruitland Ss	3,707	2,241	24	2,281	Gas
Fruitland Ss Base	3,683	2,265	17	2,315	Gas
Cottonwood Coal	3,666	2,282	126	2,340	Gas
Cahn Coal	3,540	2,408	18	2,622	Gas
TOTAL DEPTH:	3,554	2,394		5,201	

Conductor: No conductor casing is necessary

Surface Casing: Protection shall be accomplished by setting surface casing 50' below known fresh water sources and cemented to surface with 9 5/8" surface casing.

Possible Aquifers: Nacimiento, 250'

Oil Shale: None Expected.

Oil & Gas: Primary objective is gas in the Cahn Coal 2408' TVD.

Protection of oil, gas, water, or other mineral bearing formations: Protection shall be accomplished by setting surface casing below base of possible aquifer and cementing surface casing to surface.

Intermediate casing will be set at 2756'MD/2422'TVD and cemented to surface.

C. The operator's minimum specifications for blowout prevention equipment and diverter systems to be used, including size, pressure rating, configuration and the testing procedure and frequency. Blowout prevention equipment must meet the minimum standards outlined in Order 2.

BOP equipment and accessories will meet or exceed BLM requirements outlined in 43 CFR Part 3160.

The working pressure of all BOPE shall exceed the anticipated surface pressure to which it may be subjected, assuming a partially evacuated hole with a pressure gradient of 0.22 psi/ft.

Expected Maximum Bottom Hole pressure = 1066 psi, which is less than 2,000 psi working pressure. Therefore, a 2000 psi BOPE system is required that consists of the following:

- Annular preventer, or double ram, or two rams with one being blind and one being a pipe ram.
- Kill line (2" minimum)
- 1 Kill line valve (2" minimum)
- 1 choke line valve
- 2 chokes (refer to diagram in Attachment 1)
- Upper Kelly cock valve with handle available
- Safety valve and subs to fit all drill strings in use
- Pressure gauge on choke manifold

- 2" minimum choke manifold
- Fill-up line above the uppermost preventer

See attached diagram for the proposed BOP system. The wellhead BOP equipment will be nipped-up on the 9-5/8" x 11" 2,000 psi flanged casing head. The BOP will be hydraulically operated.

All ram preventers and related equipment will be tested to 2,000 psi for 10 minutes. Annular preventers will be tested to 50% of rated working pressure for 10 minutes. Surface casing will be tested to 1500 psi. All preventers and surface casing will be tested before drilling out of surface casing. BOP equipment will be tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs and at least once every 30 days. Annular preventers will be functionally operated at least once per week. Rams preventers will be activated each trip, not to exceed once per day.

D. The operator's proposed casing program, including size, grade, weight, type of thread and coupling, the setting depth of each string, and it's condition. The operator must include the minimum design criteria, including casing loading assumptions and corresponding safety factors for burst, collapse, and tensions (body yield and joint strength). The operator must also include the lengths and setting depth of each casing when a tapered casing string is proposed. The hole size for each wellbore section of hole drilled must be included. Special casing designs such as the use of coil tubing or expandable casing may necessitate additional information.

Casing & Hole Size	Grade	Weight	Coupling	Setting Depth (MD)	Condition
9-5/8" (12-1/4")	J-55	36 ppf	LT&C	0' - 300'	New casing.
7" (8-3/4")	J-55	23 ppf	LT&C	0' - 2756'	New casing.
4-1/2" (6-1/4)	J-55	11.6 ppf	LT&C	2656' - 5201'	New casing.

Casing strings below the conductor casing will be tested to .22 psi per foot of the casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield.

Minimum casing design factors used:

Collapse -	1.0
Burst -	1.1
Tension -	1.4

Surface casing shall have a minimum of 1 centralizer per joint on the bottom three (3) joints, starting with the shoe joint.

The intermediate casing will be centralized using 1 centralizer the first 6 jts and spaced appropriately through the curve section of the well-bore and then spaced +/- 1 centralizer / 4 jts through the remainder of the cement column, using approximately 30 centralizers.

Surface casing maybe preset with a preset rig.

The production liner will be set a minimum of 100' above the 7" casing shoe and is uncemented and isolated between stages with packers.

Surface Casing Design - Evacuation/Casing Test (collapse & burst), 100k overpull (tension)

	Collapse	Burst	Tension
Min Safety Factors	1.000	1.100	1.400

	Size	Weight	Grade	Conn	Collapse	Burst	Tension (Pipe Body)	Tension (Connection)	Notes
Surface	9.625	36	J55	STC	2,020	3,520	564,000	394,000	0' - 300'
					80% of Burst =		2,816		

36 ppf J55 STC

	Casing TVD	MW in	MW out	Pres in	Pres out	SF	
Collapse	300	0	15.80	0	246	8.20	Full evacuation with 15.8ppg cement in the annulus
Burst	300	9.0	0	1500	0	2.35	1500psi casing test
		Mud Wt	Air Wt	Bouy Wt	BW +100k		
Tension (Pipe Body)	300	9.0	10,800	9,316	109,316	5.16	100k over pull
Tension (Connection)	300	9.0	10,800	9,316	109,316	3.60	
BF = 1 - (MW)/65.5 = 0.8626							

Intermediate Casing Design - Evacuation/Casing Test (collapse & burst), 100k overpull (tension)

	Collapse	Burst	Tension
Min Safety Factors	1.000	1.100	1.400

	Size	Weight	Grade	Conn	Collapse	Burst	Tension (Pipe Body)	Tension (Connection)	Notes
Surface	7	23	N80	LTC	3,830	6,340	532,000	442,000	0' - 2756'
					80% of Burst =		5,072		

36 ppf J55 STC

	Casing TVD	MW in	MW out	Pres in	Pres out	SF	
Collapse	2422	0	15.80	0	1990	1.92	Full evacuation with 15.8ppg cement in the annulus
Burst	2422	9.0	0	1133	0	5.59	Evacuated annulus with Frac pressure
				4650		1.10	Frac pressure
		Mud Wt	Air Wt	Bouy Wt	BW +100k		
Tension (Pipe Body)	2422	9.0	55,706	48,052	148,052	3.59	100k over pull
Tension (Connection)	2422	9.0	55,706	48,052	148,052	2.99	
	BF= 1 - (MW)/65.5 = 0.8626						

Production Casing Design - Evacuation/Casing Test (collapse & burst), 100k overpull (tension)

	Collapse	Burst	Tension
Min Safety Factors	1.000	1.100	1.400

	Size	Weight	Grade	Conn	Collapse	Burst	Tension (Pipe Body)	Tension (Connection)	Notes
Production	4.5	11.6	N80	LTC	6,350	7,780	267,000	223,000	2656' - 5201'
					80% of Burst =		6,224		

24 ppf J55 LTC

	Casing TVD	MW in	MW out	Pres in	Pres out	SF	
Collapse	2422	0	15.80	0	1990	3.19	Full evacuation with 15.8ppg cement in the annulus
Burst	2422	9.0	0	1133 4650	0	6.86 1.35	Evacuated annulus with Frac pressure Frac pressure
		Mud Wt	Air Wt	Bouy Wt	BW +100k		
Tension (Pipe Body)	2422	9.0	28,095	24,235	124,235	2.15	100k over pull
Tension (Connection)	2422	9.0	28,095	24,235	124,235	1.79	
BF= 1- (MW)/65.5 = 0.8626							

- E. The estimated amount and type(s) of cement expected to be used in the setting of each casing string. If stage cementing will be used, provide the setting depth of the stage tool(s) and the amount and type of cement including additives, to be used for each stage. Provide the yield of each cement slurry and the expected top of cement, with excess, for each cemented string or stage.**

The proposed cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. All indications of useable water shall be reported.

The surface casing shall be cemented back to surface. In the event cement does not circulate to surface, remedial cementing shall be done to cement the casing back to surface. If returns are lost and/or cement is not brought to surface, a cement bond log (CBL) will be required to determine the quality of the job prior to drilling ahead (see OO2).

Top plugs shall be used to reduce contamination of cement by displacement fluid. A fluid spacer will be pumped to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

Intermediate casing will be cemented to surface. Tail cement for the intermediate cement job is designed to cover from the casing shoe to the curve KOP, lead cement is designed to circulate to surface. Planned excess is 50% in the open hole.

Surface Casing Single Stage Job – (0-300'MD):

Excess – 100% over gauge hole – 12-1/4" hole and 9-5/8" casing (0.3132ft3/ft)

Top of Lead Cement - Surface

Lead Slurry - (0' – 168'): 43 sx – 12.3 ppg, conventional cement containing:

HALCEM™ SYSTEM – Cement – 94 lbs/sx

Yield – 2.45 ft3/sx

Water requirement – 13.77 gal/sx.

Top of Tail Cement - 168'

Tail Slurry - (168' – 300' MD): 45 sx - 13.5 ppg, conventional cement containing:

HALCEM™ CEMENT – Cement – 94 lbs/sx

Yield – 1.842 ft3/sx

Water requirement – 9.31 gal/sx.

Total sacks of cement pumped on surface job = 88 sx

Intermediate Casing Single Stage Job – (0-2756'MD/ 2422'TVD):

Excess – 50% over gauge hole – 8-3/4" hole and 7" casing (0.1503 ft3/ft)

Excess - 0% inside surface casing – 8.921" surf csg ID and 7" casing (0.1668 ft3/ft)

Top of Lead Cement - Surface

Lead Slurry - (0' – 1849' MD): 163 sx – 12.3 ppg, conventional cement containing:

VARICEM™ CEMENT – Cement – 94 lbs/sx

Yield – 2.454 ft3/sx

Water requirement – 13.78 gal/sx.

Top of Tail Cement - 1849' MD

Tail Slurry - (1849' – 2756'): 120 sx - 13.5 ppg, conventional cement containing:

VARICEM™ CEMENT – Cement – 94 lbs/sx

Yield – 1.849 ft3/sx

Water requirement – 9.33 gal/sx.

Total sacks of cement pumped on intermediate job = 283 sx

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on selected slurries.

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

- F. Type and characteristics of the proposed circulating medium or mediums proposed for the drilling of each well bore section, the quantities and types of mud and weighting material to be maintained, and the monitoring equipment to be used on the circulating system. The operator must submit the detailed information when air or gas drill is proposed.**

Interval (MD)	Hole Section	Hole Size	Type	MW (ppg)	VIS (s/qt)	FL (mL/30 min)	PV (cP)	YP (lbs/100ft ²)	Max Salinity (mg/L)	pH
0'-300'	Surface	12-1/4"	FW/Gel	8.4-8.8	~100	NC	16-22	18-24	2500	8-8.5
300'-2756'	Intermed.	8-3/4"	LSND	8.8-9.5	35-44	<6	8-15	6-12	5000	8-8.5
2756'-5201'	Production	6-1/4"	Brine	8.4-8.8	35-45	<10	6-15	4-12	50000	8-8.5

Sufficient weighting material will be on hand to weight mud up 1 PPG, if required.

The formula for weight up with barite is listed below:

Sacks of Barite per 100 bbl of mud = $1470 \times (W2 - W1) \div (35 - W2)$

Where; W1 = current mud weight, W2 = new mud weight

Sacks = $1470 \times (10.5 - 9.5) \div (35 - 10.5) = 60 \text{ sx} \times 5 \text{ (500bbls minimum)} = 300\text{sx}$

Mud Product	Estimated Quantity on Location
Baroid 41	300 sx
Aquagel Gold Seal	250 sx
Lime	4 sx
Caustic Soda	8 sx
EZ-Mud	20 buckets
Barazan D Plus	20 sx
Pac R	20 sx
Filter-Chek	30 sx
LCM	120 sx

Pit Volume Totalizer (PVT) equipment (or equivalent) will be on each pit to monitor pit levels. A trip tank equipped with a PVT sensor will be used to monitor trip volumes. Possible lost circulation in the Fruitland Coal and Pictured Cliffs Sand. Lost circulation has been successfully mitigated with lost circulation materials.

There will not be a reserve pit for this well. A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water.

- G. The testing, logging, and coring procedures proposed, including drill stem testing procedures, equipment, and safety measures.**

Testing: None planned

Open Hole Logging: None planned

Mud Logging: None planned

Coring: None planned

Cased Hole Logging: If cement is not brought to surface on the surface casing string, then a cement bond log (CBL) will be run to determine the quality of the job prior to drilling ahead. A Cement Bond Log (CBL) will be run after the drilling of the well has been completed and as the start of the completion process. The CBL will confirm the quality of the cement bond and the actual TOC. Gamma ray and density logs will be obtained with the CBL to describe the stratigraphy of the wellbore.

- H. The expected bottom-hole pressure and any anticipated abnormal pressures, temperatures, or potential hazards that the operator expects to encounter, such as lost circulation and hydrogen sulfide. A description or the operator's plans for mitigating such hazards must be included.**

Normal to subnormal pressure gradient to TD.

Maximum expected BHP @ Cahn Coal target at 2422' TVD (0.44 psi/ft): 1066 psi

Maximum expected BHP @ TD at 5201'MD/2394'TVD: 1053 psi

Maximum expected BHT @ 2422' TVD: ~100° F

The maximum anticipated bottom hole pressure will be controlled with mud weight and BOP equipment.

No hydrogen sulfide gas is anticipated, however, if H₂S is encountered, the guidelines in Onshore Order No. 6 will be followed.

- I. Any other facets of the proposed operation that the operator would like the BLM to considered in reviewing the application. Examples include, but are not limited to: For directional wells, proposed directional designs, plan view, and vertical section in true vertical and measured depths: Horizontal drilling; and Coil tubing Operations.**

Timing:

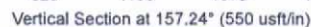
The operation is expected to start September 2015. Drilling operations will last approximately 15 days. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies and the completion rig will be on location approximately two to three weeks.

Directional Plans:

Horizontal directional well, directional plans attached.

Completion:

The well will be completed in the Cahn coal seam, identified by cased hole logs, estimated from 2394'-2422' TVD. BP plans on completing the well utilizing hydraulic fracturing for approximately 9 stages. Frac design to follow. Adjustments maybe be made to the number of stages and stage size based on the petrophysical properties of the target zone.





B.P.

San Juan County, NM NAD83

Storey Pad

Storey B LS 6-1H

OH

Plan: Plan #6

Standard Planning Report

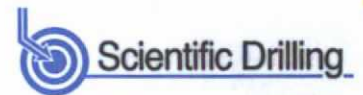
28 December, 2015



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Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Company:	B.P.	TVD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Site:	Storey Pad	North Reference:	Grid
Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #6		

Project	San Juan County, NM NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	Storey Pad			
Site Position:		Northing:	2,120,838.10 usft	Latitude: 36.8282751
From:	Map	Easting:	2,686,445.65 usft	Longitude: -107.9585489
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -0.08 °

Well	Storey B LS 6-1H			
Well Position	+N/-S	0.00 usft	Northing:	2,120,838.10 usft
	+E/-W	0.00 usft	Easting:	2,686,445.65 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 5,938.60 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/16/2015	9.33	63.43	50,187

Design	Plan #6			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	157.24

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
613.02	23.15	352.68	600.52	91.53	-11.75	5.00	5.00	0.00	352.68	
1,549.44	23.15	352.68	1,461.54	456.69	-58.64	0.00	0.00	0.00	0.00	
1,970.36	0.00	0.00	1,871.10	539.89	-69.32	5.50	-5.50	0.00	180.00	
2,515.82	60.00	160.24	2,322.19	294.79	18.73	11.00	11.00	0.00	160.24	
2,575.82	60.00	160.24	2,352.19	245.89	36.30	0.00	0.00	0.00	0.00	
2,853.73	90.55	159.05	2,422.00	-3.06	128.87	11.00	10.99	-0.43	-2.34	
5,670.19	90.55	159.05	2,395.00	-2,633.23	1,135.82	0.00	0.00	0.00	0.00	Storey BHL



Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Company:	B.P.	TVD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Site:	Storey Pad	North Reference:	Grid
Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #6		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
Nacimiento									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.50	352.68	199.98	1.08	-0.14	-1.05	5.00	5.00	0.00
300.00	7.50	352.68	299.57	9.72	-1.25	-9.45	5.00	5.00	0.00
400.00	12.50	352.68	398.02	26.94	-3.46	-26.18	5.00	5.00	0.00
500.00	17.50	352.68	494.58	52.60	-6.75	-51.12	5.00	5.00	0.00
600.00	22.50	352.68	588.52	86.52	-11.11	-84.08	5.00	5.00	0.00
613.02	23.15	352.68	600.52	91.53	-11.75	-88.95	5.00	5.00	0.00
700.00	23.15	352.68	680.50	125.44	-16.11	-121.91	0.00	0.00	0.00
800.00	23.15	352.68	772.45	164.44	-21.11	-159.81	0.00	0.00	0.00
900.00	23.15	352.68	864.39	203.44	-26.12	-197.70	0.00	0.00	0.00
1,000.00	23.15	352.68	956.34	242.43	-31.13	-235.60	0.00	0.00	0.00
1,061.62	23.15	352.68	1,013.00	266.46	-34.21	-258.95	0.00	0.00	0.00
Ojo Alamo									
1,100.00	23.15	352.68	1,048.29	281.43	-36.13	-273.50	0.00	0.00	0.00
1,191.04	23.15	352.68	1,132.00	316.93	-40.69	-308.00	0.00	0.00	0.00
Kirtland Sh									
1,200.00	23.15	352.68	1,140.24	320.42	-41.14	-311.39	0.00	0.00	0.00
1,300.00	23.15	352.68	1,232.18	359.42	-46.15	-349.29	0.00	0.00	0.00
1,400.00	23.15	352.68	1,324.13	398.41	-51.15	-387.19	0.00	0.00	0.00
1,500.00	23.15	352.68	1,416.08	437.41	-56.16	-425.08	0.00	0.00	0.00
1,549.44	23.15	352.68	1,461.54	456.69	-58.64	-443.82	0.00	0.00	0.00
1,600.00	20.37	352.68	1,508.49	475.27	-61.02	-461.88	5.50	-5.50	0.00
1,700.00	14.87	352.68	1,603.76	505.29	-64.88	-491.05	5.50	-5.50	0.00
1,736.30	12.87	352.68	1,639.00	513.92	-65.99	-499.44	5.50	-5.50	0.00
Farmington Ss									
1,800.00	9.37	352.68	1,701.49	526.10	-67.55	-511.28	5.50	-5.50	0.00
1,900.00	3.87	352.68	1,800.79	537.53	-69.02	-522.39	5.50	-5.50	0.00
1,939.26	1.71	352.68	1,840.00	539.43	-69.26	-524.23	5.50	-5.50	0.00
Lwr. Kirtland Sh									
1,970.36	0.00	0.00	1,871.10	539.89	-69.32	-524.68	5.50	-5.50	0.00
2,000.00	3.26	160.24	1,900.72	539.10	-69.04	-523.84	11.00	11.00	0.00
2,100.00	14.26	160.24	1,999.40	524.79	-63.89	-508.65	11.00	11.00	0.00
2,185.31	23.64	160.24	2,080.00	498.74	-54.54	-481.01	11.00	11.00	0.00
Fruitland Coal									
2,200.00	25.26	160.24	2,093.37	493.02	-52.48	-474.94	11.00	11.00	0.00
2,300.00	36.26	160.24	2,179.17	444.96	-35.22	-423.95	11.00	11.00	0.00
2,381.70	45.25	160.24	2,241.00	394.82	-17.20	-370.74	11.00	11.00	0.00
Fruitland Ss									
2,400.00	47.26	160.24	2,253.65	382.38	-12.74	-357.54	11.00	11.00	0.00
2,417.02	49.13	160.24	2,265.00	370.43	-8.45	-344.87	11.00	11.00	0.00
Fruitland Ss Base									
2,443.81	52.08	160.24	2,282.00	350.95	-1.45	-324.19	11.00	11.00	0.00
Cottonwood Seam									
2,500.00	58.26	160.24	2,314.07	307.57	14.14	-278.16	11.00	11.00	0.00
2,515.82	60.00	160.24	2,322.19	294.79	18.73	-264.60	11.00	11.00	0.00
2,575.82	60.00	160.24	2,352.19	245.89	36.30	-212.71	0.00	0.00	0.00
2,600.00	62.66	160.12	2,363.79	225.93	43.49	-191.52	11.00	10.99	-0.51



Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Company:	B.P.	TVD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Site:	Storey Pad	North Reference:	Grid
Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #6		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,700.00	73.65	159.66	2,400.94	138.91	75.36	-98.94	11.00	10.99	-0.45
2,727.55	76.68	159.55	2,408.00	113.95	84.64	-72.34	11.00	10.99	-0.42
Cahn									
2,800.00	84.64	159.26	2,419.74	47.08	109.77	-0.96	11.00	10.99	-0.40
2,853.73	90.55	159.05	2,422.00	-3.06	128.87	52.67	11.00	10.99	-0.39
Storey LP - Storey LP (75' inside hardline)									
2,900.00	90.55	159.05	2,421.55	-46.27	145.41	98.92	0.00	0.00	0.00
3,000.00	90.55	159.05	2,420.60	-139.66	181.16	198.86	0.00	0.00	0.00
3,100.00	90.55	159.05	2,419.64	-233.04	216.91	298.81	0.00	0.00	0.00
3,200.00	90.55	159.05	2,418.68	-326.43	252.67	398.75	0.00	0.00	0.00
3,300.00	90.55	159.05	2,417.72	-419.82	288.42	498.70	0.00	0.00	0.00
3,400.00	90.55	159.05	2,416.76	-513.20	324.17	598.65	0.00	0.00	0.00
3,500.00	90.55	159.05	2,415.80	-606.59	359.92	698.59	0.00	0.00	0.00
3,600.00	90.55	159.05	2,414.84	-699.97	395.68	798.54	0.00	0.00	0.00
3,700.00	90.55	159.05	2,413.89	-793.36	431.43	898.48	0.00	0.00	0.00
3,800.00	90.55	159.05	2,412.93	-886.74	467.18	998.43	0.00	0.00	0.00
3,900.00	90.55	159.05	2,411.97	-980.13	502.93	1,098.37	0.00	0.00	0.00
4,000.00	90.55	159.05	2,411.01	-1,073.51	538.69	1,198.32	0.00	0.00	0.00
4,100.00	90.55	159.05	2,410.05	-1,166.90	574.44	1,298.27	0.00	0.00	0.00
4,200.00	90.55	159.05	2,409.09	-1,260.28	610.19	1,398.21	0.00	0.00	0.00
4,300.00	90.55	159.05	2,408.13	-1,353.67	645.94	1,498.16	0.00	0.00	0.00
4,400.00	90.55	159.05	2,407.18	-1,447.06	681.70	1,598.10	0.00	0.00	0.00
4,500.00	90.55	159.05	2,406.22	-1,540.44	717.45	1,698.05	0.00	0.00	0.00
4,600.00	90.55	159.05	2,405.26	-1,633.83	753.20	1,797.99	0.00	0.00	0.00
4,700.00	90.55	159.05	2,404.30	-1,727.21	788.95	1,897.94	0.00	0.00	0.00
4,800.00	90.55	159.05	2,403.34	-1,820.60	824.71	1,997.89	0.00	0.00	0.00
4,900.00	90.55	159.05	2,402.38	-1,913.98	860.46	2,097.83	0.00	0.00	0.00
5,000.00	90.55	159.05	2,401.42	-2,007.37	896.21	2,197.78	0.00	0.00	0.00
5,100.00	90.55	159.05	2,400.47	-2,100.75	931.96	2,297.72	0.00	0.00	0.00
5,200.00	90.55	159.05	2,399.51	-2,194.14	967.72	2,397.67	0.00	0.00	0.00
5,300.00	90.55	159.05	2,398.55	-2,287.52	1,003.47	2,497.61	0.00	0.00	0.00
5,400.00	90.55	159.05	2,397.59	-2,380.91	1,039.22	2,597.56	0.00	0.00	0.00
5,500.00	90.55	159.05	2,396.63	-2,474.30	1,074.97	2,697.51	0.00	0.00	0.00
5,600.00	90.55	159.05	2,395.67	-2,567.68	1,110.72	2,797.45	0.00	0.00	0.00
5,670.19	90.55	159.05	2,395.00	-2,633.23	1,135.82	2,867.60	0.00	0.00	0.00
Storey BHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Storey BHL	0.00	359.39	2,395.00	-2,633.23	1,135.82	2,118,204.87	2,687,581.47	36.8210461	-107.9546565
- plan hits target center									
- Point									
Storey LP	0.00	359.39	2,423.94	-3.06	128.87	2,120,835.04	2,686,574.52	36.8282671	-107.9581085
- plan misses target center by 1.94usft at 2853.73usft MD (2422.00 TVD, -3.06 N, 128.87 E)									
- Point									



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Company:	B.P.	TVD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5938.60' & RKB 11' @ 5949.60usft (Aztec 507)
Site:	Storey Pad	North Reference:	Grid
Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #6		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
11.00	-79.47	Nacimiento		0.00	360.00	
1,061.62	922.53	Ojo Alamo		0.00	360.00	
1,191.04	1,041.53	Kirtland Sh		0.00	360.00	
1,736.30	1,548.53	Farmington Ss		0.00	360.00	
1,939.26	1,749.53	Lwr. Kirtland Sh		0.00	360.00	
2,185.31	1,989.53	Fruitland Coal		0.00	360.00	
2,381.70	2,150.53	Fruitland Ss		0.00	360.00	
2,417.02	2,174.53	Fruitland Ss Base		0.00	360.00	
2,443.81	2,191.53	Cottonwood Seam		0.00	360.00	
2,727.55	2,317.53	Cahn		0.00	360.00	



B.P.

San Juan County, NM NAD83

Storey Pad

Storey B LS 6-1H

OH

Plan #1

Anticollision Report

19 June, 2015



Scientific Drilling

www.scientificdrilling.com



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 30,000.06 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	6/19/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,200.45	Plan #1 (OH)	Gyro		

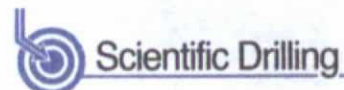
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Storey Pad						
Current #2 - OH - OH	2,371.51	2,282.91	485.96	451.29	14.019	CC, ES
Current #2 - OH - OH	2,400.00	2,299.79	486.50	451.59	13.935	SF
Storey B LS 1A - OH - OH	3,900.00	2,339.64	489.87	422.23	7.243	SF
Storey B LS 1A - OH - OH	3,900.40	2,339.64	489.87	422.23	7.243	CC, ES
Storey LS B6 - OH - OH	1,800.00	1,810.16	337.97	310.33	12.227	CC
Storey LS B6 - OH - OH	1,900.00	1,910.09	338.46	307.79	11.036	ES
Storey LS B6 - OH - OH	2,100.00	2,102.22	353.46	317.30	9.774	SF

Offset Design		Storey Pad - Current #2 - OH - OH										Offset Site Error: 0.00 ft	
Survey Program: 2020-INCLINOMETER												Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	19.16	0.00	0.00	95.16	-48.07	532.15	534.66				
100.00	100.00	80.84	100.00	0.00	1.23	95.16	-48.07	532.15	534.32	533.09	1.23	435.148	
200.00	200.00	180.84	200.00	0.00	2.75	95.16	-48.07	532.15	534.32	531.57	2.75	194.557	
300.00	300.00	280.84	300.00	0.00	4.26	95.16	-48.07	532.15	534.32	530.05	4.26	125.287	
400.00	400.00	380.84	400.00	0.00	5.78	95.16	-48.07	532.15	534.32	528.53	5.78	92.392	
500.00	500.00	480.84	500.00	0.00	7.30	95.16	-48.07	532.15	534.32	527.02	7.30	73.178	
600.00	600.00	580.84	600.00	0.00	8.82	95.16	-48.07	532.15	534.32	525.50	8.82	60.580	
700.00	700.00	680.84	700.00	0.00	10.34	95.16	-48.07	532.15	534.32	523.98	10.34	51.682	
800.00	800.00	780.84	800.00	0.00	11.86	95.16	-48.07	532.15	534.32	522.46	11.86	45.064	
900.00	900.00	880.84	900.00	0.00	13.38	95.16	-48.07	532.15	534.32	520.94	13.38	39.948	
1,000.00	1,000.00	980.84	1,000.00	0.00	14.89	95.16	-48.07	532.15	534.32	519.42	14.89	35.875	
1,100.00	1,100.00	1,080.84	1,100.00	0.00	16.41	95.16	-48.07	532.15	534.32	517.91	16.41	32.556	
1,200.00	1,200.00	1,180.84	1,200.00	0.00	17.93	95.16	-48.07	532.15	534.32	516.39	17.93	29.799	
1,300.00	1,300.00	1,280.84	1,300.00	0.00	19.45	95.16	-48.07	532.15	534.32	514.87	19.45	27.473	
1,400.00	1,400.00	1,380.84	1,400.00	0.00	20.97	95.16	-48.07	532.15	534.32	513.35	20.97	25.483	
1,500.00	1,500.00	1,480.84	1,500.00	0.00	22.49	95.16	-48.07	532.15	534.32	511.83	22.49	23.762	
1,600.00	1,600.00	1,580.84	1,600.00	0.00	24.00	95.16	-48.07	532.15	534.32	510.31	24.00	22.259	
1,700.00	1,700.00	1,680.84	1,700.00	0.00	25.52	95.16	-48.07	532.15	534.32	508.80	25.52	20.935	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Storey Pad - Current #2 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 2620-INCLINOMETER														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
1,800.00	1,800.00	1,780.84	1,800.00	0.00	27.04	95.16	-48.07	532.15	534.32	507.28	27.04	18.759			
1,900.00	1,899.93	1,880.77	1,899.93	0.00	28.56	-85.74	-48.07	532.15	533.38	504.84	28.54	18.689			
2,000.00	1,998.26	1,979.10	1,998.26	0.00	30.05	-68.10	-48.07	532.15	526.41	496.50	29.91	17.599			
2,100.00	2,092.06	2,072.90	2,092.06	0.00	31.48	-72.61	-48.07	532.15	514.20	482.97	31.23	16.467			
2,200.00	2,178.47	2,159.31	2,178.47	0.00	32.79	-78.76	-48.07	532.15	500.07	467.49	32.58	15.347			
2,300.00	2,254.87	2,235.71	2,254.87	0.00	33.95	-85.54	-48.07	532.15	488.91	455.01	33.90	14.423			
2,371.51	2,302.07	2,282.91	2,302.07	0.00	34.66	-90.00	-48.07	532.15	485.96	451.29	34.66	14.019 CC, ES			
2,400.00	2,318.95	2,299.79	2,318.95	0.00	34.92	-91.55	-48.07	532.15	486.50	451.59	34.91	13.935 SF			
2,500.00	2,368.74	2,349.58	2,368.74	0.00	35.68	-95.42	-48.07	532.15	498.15	462.60	35.55	14.013			
2,600.00	2,402.75	2,383.59	2,402.75	0.00	36.19	-96.15	-48.07	532.15	526.82	490.82	36.00	14.633			
2,700.00	2,419.94	2,400.78	2,419.94	0.00	36.45	-93.04	-48.07	532.15	572.05	535.65	36.40	15.714			
2,800.00	2,421.50	2,402.34	2,421.50	0.00	36.48	-89.46	-48.07	532.15	630.52	594.04	36.48	17.286			
2,900.00	2,420.36	2,401.20	2,420.36	0.00	36.46	-89.33	-48.07	532.15	698.50	662.04	36.46	19.159			
3,000.00	2,419.23	2,400.07	2,419.23	0.00	36.44	-89.20	-48.07	532.15	773.46	737.02	36.44	21.225			
3,100.00	2,418.09	2,398.93	2,418.09	0.00	36.43	-89.06	-48.07	532.15	853.57	817.14	36.42	23.436			
3,200.00	2,416.96	2,397.80	2,416.96	0.00	36.41	-88.93	-48.07	532.15	937.50	901.10	36.40	25.753			
3,300.00	2,415.82	2,396.66	2,415.82	0.00	36.39	-88.79	-48.07	532.15	1,024.33	987.94	36.38	28.153			
3,400.00	2,414.69	2,395.53	2,414.69	0.00	36.37	-88.66	-48.07	532.15	1,113.36	1,077.00	36.37	30.616			
3,500.00	2,413.56	2,394.40	2,413.56	0.00	36.36	-88.53	-48.07	532.15	1,204.12	1,167.77	36.35	33.130			
3,600.00	2,412.42	2,393.26	2,412.42	0.00	36.34	-88.39	-48.07	532.15	1,296.23	1,259.91	36.33	35.683			
3,700.00	2,411.29	2,392.13	2,411.29	0.00	36.32	-88.26	-48.07	532.15	1,389.44	1,353.13	36.31	38.270			
3,800.00	2,410.15	2,390.99	2,410.15	0.00	36.31	-88.13	-48.07	532.15	1,483.53	1,447.24	36.29	40.884			
3,900.00	2,409.02	2,389.86	2,409.02	0.00	36.29	-87.99	-48.07	532.15	1,578.35	1,542.06	36.27	43.521			
4,000.00	2,407.88	2,388.72	2,407.88	0.00	36.27	-87.86	-48.07	532.15	1,673.77	1,637.52	36.25	46.177			
4,100.00	2,406.75	2,387.59	2,406.75	0.00	36.25	-87.73	-48.07	532.15	1,769.69	1,733.47	36.23	48.851			
4,200.00	2,405.61	2,386.45	2,405.61	0.00	36.24	-87.59	-48.07	532.15	1,866.04	1,829.84	36.21	51.540			
4,300.00	2,404.48	2,385.32	2,404.48	0.00	36.22	-87.46	-48.07	532.15	1,962.76	1,926.57	36.18	54.243			
4,400.00	2,403.35	2,384.19	2,403.35	0.00	36.20	-87.32	-48.07	532.15	2,059.79	2,023.62	36.16	56.957			
4,500.00	2,402.21	2,383.05	2,402.21	0.00	36.19	-87.19	-48.07	532.15	2,157.09	2,120.95	36.14	59.683			
4,600.00	2,401.06	2,381.92	2,401.06	0.00	36.17	-87.06	-48.07	532.15	2,254.62	2,218.50	36.12	62.419			
4,700.00	2,399.94	2,380.78	2,399.94	0.00	36.15	-86.92	-48.07	532.15	2,352.37	2,316.27	36.10	65.163			
4,800.00	2,398.81	2,379.65	2,398.81	0.00	36.13	-86.79	-48.07	532.15	2,450.29	2,414.21	36.08	67.917			
4,900.00	2,397.67	2,378.51	2,397.67	0.00	36.12	-86.66	-48.07	532.15	2,548.37	2,512.32	36.06	70.679			
5,000.00	2,396.54	2,377.38	2,396.54	0.00	36.10	-86.52	-48.07	532.15	2,646.60	2,610.57	36.03	73.448			
5,100.00	2,395.40	2,376.24	2,395.40	0.00	36.08	-86.39	-48.07	532.15	2,744.96	2,708.95	36.01	76.225			
5,200.01	2,394.27	2,375.11	2,394.27	0.00	36.06	-86.26	-48.07	532.15	2,843.44	2,807.45	35.99	79.009			
5,200.55	2,394.26	2,375.10	2,394.26	0.00	36.06	-86.26	-48.07	532.15	2,843.97	2,807.98	35.99	79.024			



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Storey Pad - Storey B LS 1A - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 225-INCLINOMETER												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance		Minimum		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	69.38	0.00	0.00	176.46	-1,789.01	110.76	1,793.78				
100.00	100.00	30.62	100.00	0.00	0.47	176.46	-1,789.01	110.76	1,792.44	1,791.97	0.47	3,852.040	
200.00	200.00	130.62	200.00	0.00	1.98	176.46	-1,789.01	110.76	1,792.44	1,790.46	1.98	903.592	
300.00	300.00	230.62	300.00	0.00	3.59	176.46	-1,789.01	110.76	1,792.44	1,788.85	3.59	409.661	
400.00	400.00	330.62	400.00	0.00	6.62	176.46	-1,789.01	110.76	1,792.44	1,785.81	6.62	270.587	
500.00	500.00	430.62	500.00	0.00	9.66	176.46	-1,789.01	110.76	1,792.44	1,782.78	9.66	185.531	
600.00	600.00	530.62	600.00	0.00	12.70	176.46	-1,789.01	110.76	1,792.44	1,779.74	12.70	141.159	
700.00	700.00	630.62	700.00	0.00	15.73	176.46	-1,789.01	110.76	1,792.44	1,776.70	15.73	113.915	
800.00	800.00	734.00	803.38	0.00	18.87	176.46	-1,789.01	110.76	1,792.44	1,773.57	18.87	94.967	
834.50	834.50	765.12	834.50	0.00	19.82	176.46	-1,789.01	110.76	1,792.44	1,772.62	19.82	90.438	
900.00	900.00	830.62	900.00	0.00	21.81	176.46	-1,789.01	110.76	1,792.44	1,770.63	21.81	82.189	
1,000.00	1,000.00	930.62	1,000.00	0.00	24.85	176.46	-1,789.01	110.76	1,792.44	1,767.59	24.85	72.143	
1,100.00	1,100.00	1,030.62	1,100.00	0.00	27.88	176.46	-1,789.01	110.76	1,792.44	1,764.56	27.88	64.286	
1,200.00	1,200.00	1,130.62	1,200.00	0.00	30.92	176.46	-1,789.01	110.76	1,792.44	1,761.52	30.92	57.972	
1,300.00	1,300.00	1,238.00	1,307.38	0.00	34.18	176.46	-1,789.01	110.76	1,792.45	1,758.27	34.18	52.441	
1,335.99	1,335.99	1,266.61	1,335.99	0.00	35.05	176.46	-1,789.01	110.76	1,792.44	1,757.39	35.05	51.141	
1,400.00	1,400.00	1,330.62	1,400.00	0.00	36.99	176.46	-1,789.01	110.76	1,792.44	1,755.45	36.99	48.453	
1,500.00	1,500.00	1,430.62	1,500.00	0.00	40.03	176.46	-1,789.01	110.76	1,792.44	1,752.41	40.03	44.777	
1,600.00	1,600.00	1,530.62	1,600.00	0.00	43.07	176.46	-1,789.01	110.76	1,792.44	1,749.37	43.07	41.620	
1,700.00	1,700.00	1,630.62	1,700.00	0.00	46.10	176.46	-1,789.01	110.76	1,792.44	1,746.34	46.10	38.878	
1,800.00	1,800.00	1,730.62	1,800.00	0.00	49.14	176.46	-1,789.01	110.76	1,792.44	1,743.30	49.14	36.476	
1,900.00	1,899.93	1,830.56	1,899.93	0.00	52.18	15.94	-1,789.01	110.76	1,790.28	1,738.28	51.99	34.437	
2,000.00	1,998.26	1,928.89	1,998.26	0.00	55.16	16.58	-1,789.01	110.76	1,773.44	1,720.01	53.43	33.191	
2,100.00	2,092.06	2,022.68	2,092.06	0.00	58.01	17.95	-1,789.01	110.76	1,740.49	1,687.37	53.12	32.766	
2,200.00	2,178.47	2,109.09	2,178.47	0.00	60.63	20.28	-1,789.01	110.76	1,692.50	1,641.36	51.13	33.100	
2,300.00	2,254.87	2,185.50	2,254.87	0.00	62.95	24.04	-1,789.01	110.76	1,631.04	1,582.92	48.12	33.898	
2,400.00	2,318.95	2,249.57	2,318.95	0.00	64.90	30.06	-1,789.01	110.76	1,558.13	1,512.29	45.85	33.986	
2,500.00	2,368.74	2,299.37	2,368.74	0.00	66.41	39.87	-1,789.01	110.76	1,476.20	1,428.40	47.80	30.885	
2,600.00	2,402.75	2,333.38	2,402.75	0.00	67.44	55.71	-1,789.01	110.76	1,387.97	1,331.34	56.63	24.509	
2,700.00	2,419.94	2,350.56	2,419.94	0.00	67.97	78.16	-1,789.01	110.76	1,296.38	1,229.84	66.54	19.483	
2,800.00	2,421.50	2,352.12	2,421.50	0.00	68.01	91.46	-1,789.01	110.76	1,204.44	1,136.45	67.99	17.714	
2,900.00	2,420.36	2,350.99	2,420.36	0.00	67.98	91.33	-1,789.01	110.76	1,113.84	1,045.88	67.96	16.389	
3,000.00	2,419.23	2,349.85	2,419.23	0.00	67.95	91.19	-1,789.01	110.76	1,024.98	957.05	67.93	15.089	
3,100.00	2,418.09	2,348.72	2,418.09	0.00	67.91	91.06	-1,789.01	110.76	938.36	870.46	67.90	13.820	
3,200.00	2,416.96	2,347.59	2,416.96	0.00	67.88	90.93	-1,789.01	110.76	854.67	786.80	67.87	12.593	
3,300.00	2,415.82	2,346.45	2,415.82	0.00	67.84	90.80	-1,789.01	110.76	774.86	707.02	67.84	11.423	
3,400.00	2,414.69	2,345.32	2,414.69	0.00	67.81	90.66	-1,789.01	110.76	700.24	632.44	67.80	10.328	
3,500.00	2,413.56	2,344.18	2,413.56	0.00	67.77	90.53	-1,789.01	110.76	632.67	564.90	67.77	9.335	
3,600.00	2,412.42	2,343.05	2,412.42	0.00	67.74	90.40	-1,789.01	110.76	574.83	506.89	67.74	8.483	
3,700.00	2,411.29	2,341.91	2,411.29	0.00	67.70	90.27	-1,789.01	110.76	529.27	461.56	67.70	7.817	
3,800.00	2,410.15	2,340.78	2,410.15	0.00	67.67	90.13	-1,789.01	110.76	500.05	432.38	67.67	7.390	
3,900.00	2,409.02	2,339.64	2,409.02	0.00	67.64	90.00	-1,789.01	110.76	489.87	422.23	67.64	7.243 SF	
3,900.40	2,409.01	2,339.64	2,409.01	0.00	67.64	90.00	-1,789.01	110.76	489.87	422.23	67.64	7.243 CC, ES	
4,000.00	2,407.88	2,338.51	2,407.88	0.00	67.60	89.87	-1,789.01	110.76	499.89	432.29	67.60	7.395	
4,100.00	2,406.75	2,337.38	2,406.75	0.00	67.57	89.74	-1,789.01	110.76	528.97	461.40	67.57	7.829	
4,200.00	2,405.61	2,336.24	2,405.61	0.00	67.53	89.60	-1,789.01	110.76	574.21	506.68	67.53	8.503	
4,300.00	2,404.48	2,335.11	2,404.48	0.00	67.50	89.47	-1,789.01	110.76	632.17	564.67	67.49	9.386	
4,400.00	2,403.35	2,333.97	2,403.35	0.00	67.46	89.34	-1,789.01	110.76	699.67	632.22	67.46	10.372	
4,500.00	2,402.21	2,332.84	2,402.21	0.00	67.43	89.20	-1,789.01	110.76	774.24	706.82	67.42	11.483	
4,600.00	2,401.08	2,331.70	2,401.08	0.00	67.39	89.07	-1,789.01	110.76	854.02	788.64	67.39	12.674	
4,700.00	2,399.94	2,330.57	2,399.94	0.00	67.36	88.94	-1,789.01	110.76	937.69	870.34	67.35	13.923	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Storey Pad - Storey B LS 1A - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 225-INCLINOMETER													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
4,800.00	2,398.81	2,329.43	2,398.81	0.00	67.33	88.61	-1,789.01	110.76	1,024.28	956.97	67.31	15.217		
4,900.00	2,397.67	2,328.30	2,397.67	0.00	67.29	88.67	-1,789.01	110.76	1,113.13	1,045.85	67.27	16.546		
5,000.00	2,396.54	2,327.17	2,396.54	0.00	67.26	88.54	-1,789.01	110.76	1,203.72	1,136.49	67.23	17.903		
5,100.00	2,395.40	2,326.03	2,395.40	0.00	67.22	88.41	-1,789.01	110.76	1,295.70	1,228.50	67.20	19.282		
5,200.01	2,394.27	2,324.90	2,394.27	0.00	67.19	88.28	-1,789.01	110.76	1,388.80	1,321.64	67.16	20.680		
5,200.55	2,394.26	2,324.89	2,394.26	0.00	67.19	88.28	-1,789.01	110.76	1,389.30	1,322.15	67.16	20.687		



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Storey Pad - Storey LS B6 - OH - OH													Offset Site Error:
Survey Program: 1800 INCLINOMETER													0.00 ft
Reference													Offset Well Error:
Offset													0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	10.16	0.00	0.00	0.15	58.30	177.61	287.54	337.97				
100.00	100.00	110.16	100.00	0.00	1.67	58.30	177.61	287.54	337.97	336.30	1.67	202.004	
200.00	200.00	210.16	200.00	0.00	3.19	58.30	177.61	287.54	337.97	334.78	3.19	105.897	
300.00	300.00	310.16	300.00	0.00	4.71	58.30	177.61	287.54	337.97	333.26	4.71	71.757	
400.00	400.00	410.16	400.00	0.00	6.23	58.30	177.61	287.54	337.97	331.74	6.23	54.263	
500.00	500.00	510.16	500.00	0.00	7.75	58.30	177.61	287.54	337.97	330.23	7.75	43.627	
600.00	600.00	610.16	600.00	0.00	9.27	58.30	177.61	287.54	337.97	328.71	9.27	36.477	
700.00	700.00	710.16	700.00	0.00	10.78	58.30	177.61	287.54	337.97	327.19	10.78	31.341	
800.00	800.00	810.16	800.00	0.00	12.30	58.30	177.61	287.54	337.97	325.67	12.30	27.473	
900.00	900.00	910.16	900.00	0.00	13.82	58.30	177.61	287.54	337.97	324.15	13.82	24.454	
1,000.00	1,000.00	1,010.16	1,000.00	0.00	15.34	58.30	177.61	287.54	337.97	322.63	15.34	22.034	
1,100.00	1,100.00	1,110.16	1,100.00	0.00	16.86	58.30	177.61	287.54	337.97	321.11	16.86	20.049	
1,200.00	1,200.00	1,210.16	1,200.00	0.00	18.38	58.30	177.61	287.54	337.97	319.60	18.38	18.392	
1,300.00	1,300.00	1,310.16	1,300.00	0.00	19.89	58.30	177.61	287.54	337.97	318.08	19.89	16.988	
1,400.00	1,400.00	1,410.16	1,400.00	0.00	21.41	58.30	177.61	287.54	337.97	316.56	21.41	15.784	
1,500.00	1,500.00	1,510.16	1,500.00	0.00	22.93	58.30	177.61	287.54	337.97	315.04	22.93	14.739	
1,600.00	1,600.00	1,610.16	1,600.00	0.00	24.45	58.30	177.61	287.54	337.97	313.52	24.45	13.823	
1,700.00	1,700.00	1,710.16	1,700.00	0.00	25.97	58.30	177.61	287.54	337.97	312.00	25.97	13.015	
1,800.00	1,800.00	1,810.16	1,800.00	0.00	27.49	58.30	177.61	287.54	337.97	310.48	27.49	12.227 CC	
1,827.50	1,827.49	1,837.65	1,827.49	0.00	28.48	-102.35	177.61	287.54	338.04	309.57	28.48	11.872	
1,900.00	1,899.93	1,910.09	1,899.93	0.00	30.68	-102.63	177.61	287.54	338.46	307.79	30.67	11.036 ES	
2,000.00	1,998.26	2,008.42	1,998.26	0.00	33.66	-105.02	177.61	287.54	342.73	309.14	33.58	10.204	
2,100.00	2,092.06	2,102.22	2,092.06	0.00	36.51	-109.07	177.61	287.54	353.46	317.30	36.16	9.774 SF	
2,200.00	2,178.47	2,188.63	2,178.47	0.00	39.13	-113.58	177.61	287.54	374.26	336.15	39.10	9.822	
2,300.00	2,254.87	2,265.03	2,254.87	0.00	41.45	-117.21	177.61	287.54	408.49	389.24	39.25	10.406	
2,400.00	2,318.95	2,329.11	2,318.95	0.00	43.40	-118.79	177.61	287.54	457.80	417.88	39.92	11.468	
2,500.00	2,368.74	2,378.90	2,368.74	0.00	44.91	-117.24	177.61	287.54	521.51	480.60	40.91	12.748	
2,600.00	2,402.75	2,412.91	2,402.75	0.00	45.95	-111.19	177.61	287.54	597.16	554.07	43.08	13.880	
2,700.00	2,419.94	2,430.10	2,419.94	0.00	46.47	-98.78	177.61	287.54	681.31	635.37	45.93	14.833	
2,800.00	2,421.50	2,431.66	2,421.50	0.00	46.51	-88.63	177.61	287.54	770.25	723.74	46.50	16.564	
2,900.00	2,420.36	2,430.52	2,420.36	0.00	46.48	-88.43	177.61	287.54	861.65	815.19	46.46	18.545	
3,000.00	2,419.23	2,429.39	2,419.23	0.00	46.45	-88.24	177.61	287.54	954.78	908.36	46.42	20.567	
3,100.00	2,418.09	2,428.25	2,418.09	0.00	46.41	-88.04	177.61	287.54	1,049.17	1,002.79	46.38	22.619	
3,200.00	2,416.96	2,427.12	2,416.96	0.00	46.38	-87.84	177.61	287.54	1,144.52	1,098.17	46.34	24.696	
3,300.00	2,415.82	2,425.98	2,415.82	0.00	46.34	-87.65	177.61	287.54	1,240.59	1,194.29	46.30	26.793	
3,400.00	2,414.69	2,424.85	2,414.69	0.00	46.31	-87.45	177.61	287.54	1,337.25	1,290.98	46.26	28.906	
3,500.00	2,413.56	2,423.72	2,413.56	0.00	46.27	-87.25	177.61	287.54	1,434.36	1,388.13	46.22	31.033	
3,600.00	2,412.42	2,422.58	2,412.42	0.00	46.24	-87.06	177.61	287.54	1,531.84	1,485.66	46.18	33.172	
3,700.00	2,411.29	2,421.45	2,411.29	0.00	46.20	-86.86	177.61	287.54	1,629.82	1,583.48	46.14	35.322	
3,800.00	2,410.15	2,420.31	2,410.15	0.00	46.17	-86.67	177.61	287.54	1,727.66	1,681.57	46.09	37.482	
3,900.00	2,409.02	2,419.18	2,409.02	0.00	46.14	-86.47	177.61	287.54	1,825.91	1,779.86	46.05	39.651	
4,000.00	2,407.88	2,418.04	2,407.88	0.00	46.10	-86.27	177.61	287.54	1,924.34	1,878.33	46.00	41.829	
4,100.00	2,406.75	2,416.91	2,406.75	0.00	46.07	-86.08	177.61	287.54	2,022.82	1,976.96	45.96	44.015	
4,200.00	2,405.61	2,415.77	2,405.61	0.00	46.03	-85.88	177.61	287.54	2,121.64	2,075.72	45.91	46.208	
4,300.00	2,404.48	2,414.64	2,404.48	0.00	46.00	-85.69	177.61	287.54	2,220.47	2,174.60	45.87	48.409	
4,400.00	2,403.35	2,413.51	2,403.35	0.00	45.96	-85.49	177.61	287.54	2,319.40	2,273.57	45.82	50.617	
4,500.00	2,402.21	2,412.37	2,402.21	0.00	45.93	-85.29	177.61	287.54	2,418.41	2,372.64	45.78	52.832	
4,600.00	2,401.08	2,411.24	2,401.08	0.00	45.89	-85.10	177.61	287.54	2,517.51	2,471.78	45.73	55.053	
4,700.00	2,399.94	2,410.10	2,399.94	0.00	45.86	-84.90	177.61	287.54	2,616.67	2,570.99	45.68	57.282	
4,800.00	2,398.81	2,408.97	2,398.81	0.00	45.83	-84.71	177.61	287.54	2,715.89	2,670.26	45.63	59.517	
4,900.00	2,397.67	2,407.83	2,397.67	0.00	45.79	-84.51	177.61	287.54	2,815.17	2,769.59	45.58	61.759	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Storey Pad - Storey LS B6 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1800-INCLINOMETER													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	2,396.54	2,406.70	2,396.54	0.00	45.76	-84.32	177.61	287.54	2,914.50	2,868.96	45.53	64.007		
5,100.00	2,395.40	2,405.56	2,395.40	0.00	45.72	-84.12	177.61	287.54	3,013.87	2,968.38	45.48	66.261		
5,200.01	2,394.27	2,404.43	2,394.27	0.00	45.69	-83.93	177.61	287.54	3,113.29	3,067.86	45.43	68.523		
5,200.55	2,394.26	2,404.42	2,394.26	0.00	45.69	-83.93	177.61	287.54	3,113.83	3,068.40	45.43	68.535		



Anticollision Report

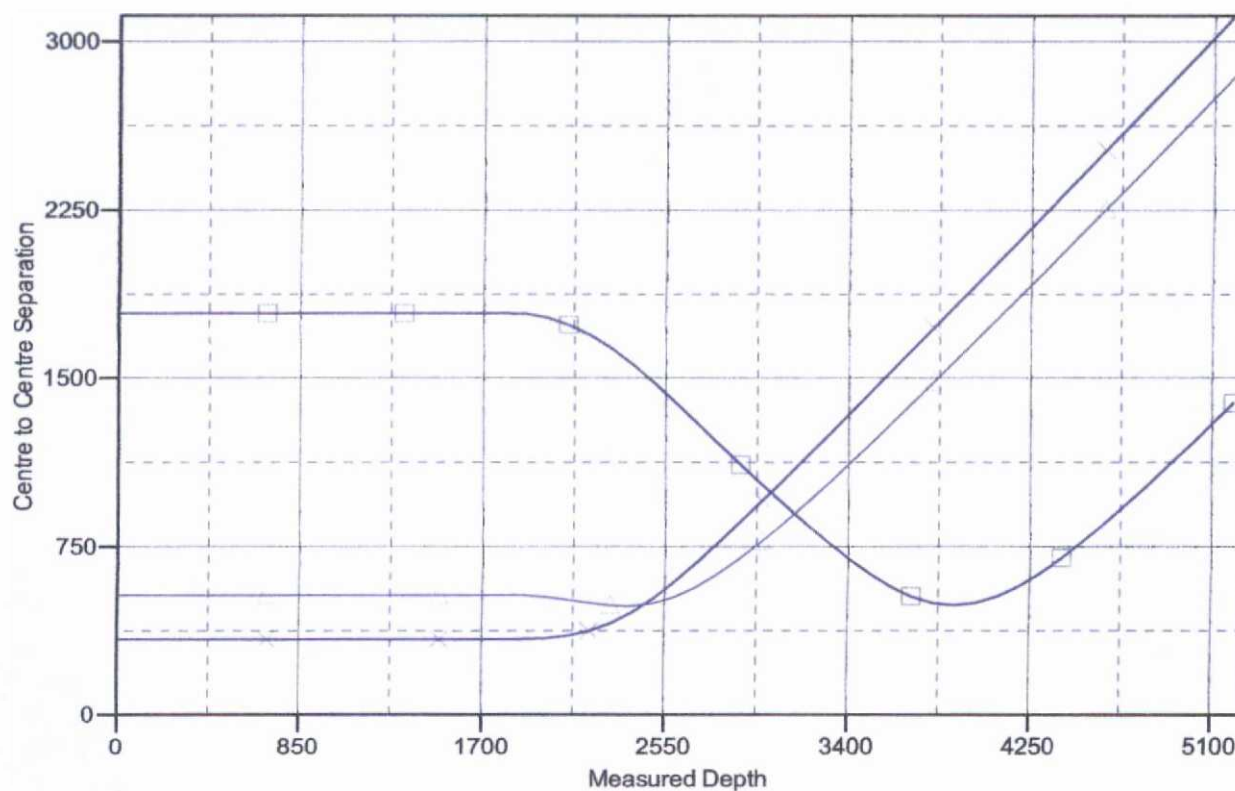


Company:	B.P.	Local Co-ordinate Reference:	Well Storey B LS 6-1H
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Reference Site:	Storey Pad	MD Reference:	GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Storey B LS 6-1H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	Grand Junction District
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 5936.57' & RKB 11' @ 5947.67ft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: Storey B LS 6-1H
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: -0.07"

Ladder Plot



LEGEND

✱ Storey LS B6, OH, OH V0 □ Storey B LS 1A, OH, OH V0 ▲ Current #2, OH, OH V0



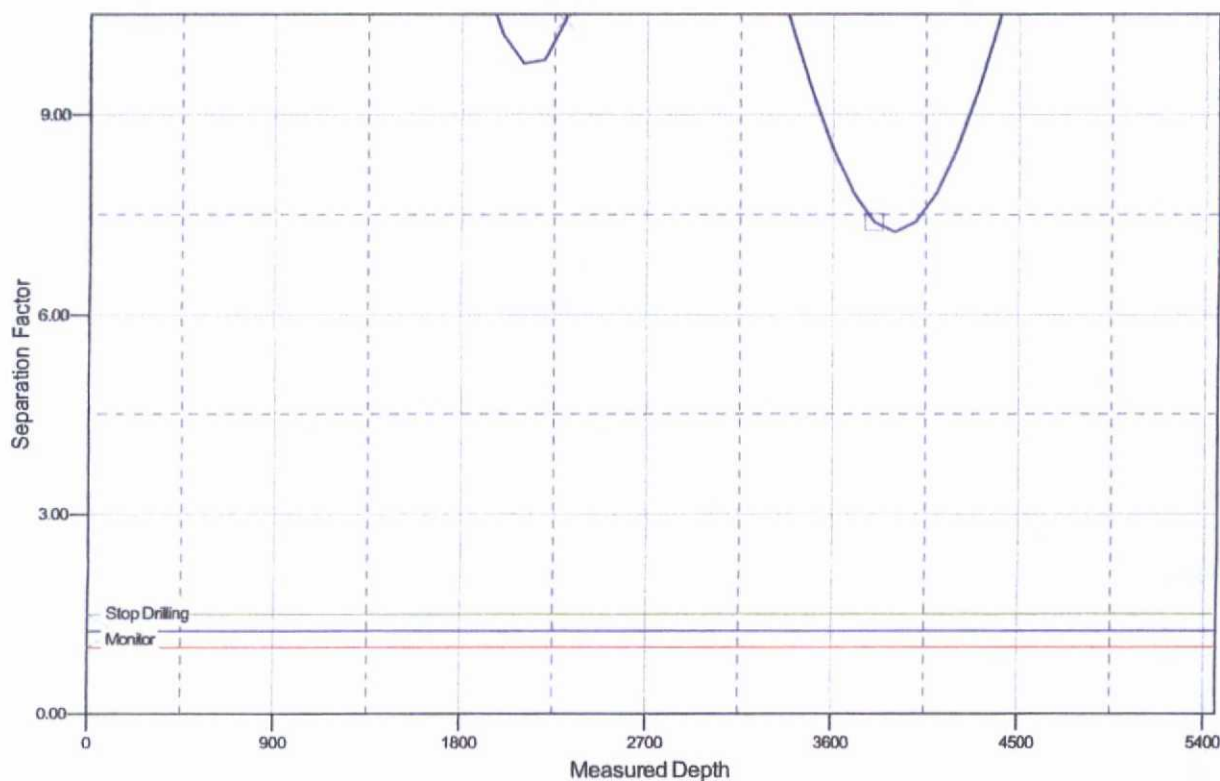
Company: B.P.
Project: San Juan County, NM NAD83
Reference Site: Storey Pad
Site Error: 0.00 ft
Reference Well: Storey B LS 6-1H
Well Error: 0.00 ft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: Well Storey B LS 6-1H
GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
MD Reference: GL 5936.57' & RKB 11' @ 5947.67ft (Aztec 507)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: Grand Junction District
Offset TVD Reference: Reference Datum

Reference Depths are relative to GL 5936.57' & RKB 11' @ 5947.67ft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.833334

Coordinates are relative to: Storey B LS 6-1H
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: -0.07"

Separation Factor Plot



LEGEND

✱ Storey LS B6, OH, OH V0 □ Storey B LS 1A, OH, OH V0 ▲ Current #2, OH, OH V0

7. The well pad will be constructed from the earthen materials present on-site. A combination of magnesium chloride and gravel will be used to top the pad to stabilize the driving surface.
8. Stormwater will be diverted to flow around the well pad at the upslope (southeast) side. During construction activities the dirt contractor, in coordination with the designated stormwater compliance manager, will determine if a culvert is necessary at the entrance to the well pad where the access road crosses a dry wash, allowing stormwater to flow underneath the access road rather than across the access road surface.
9. The operator has proposed a closed-loop system. No drilling pits will be used for the proposed project.
10. Construction of the well pad will take approximately two weeks.

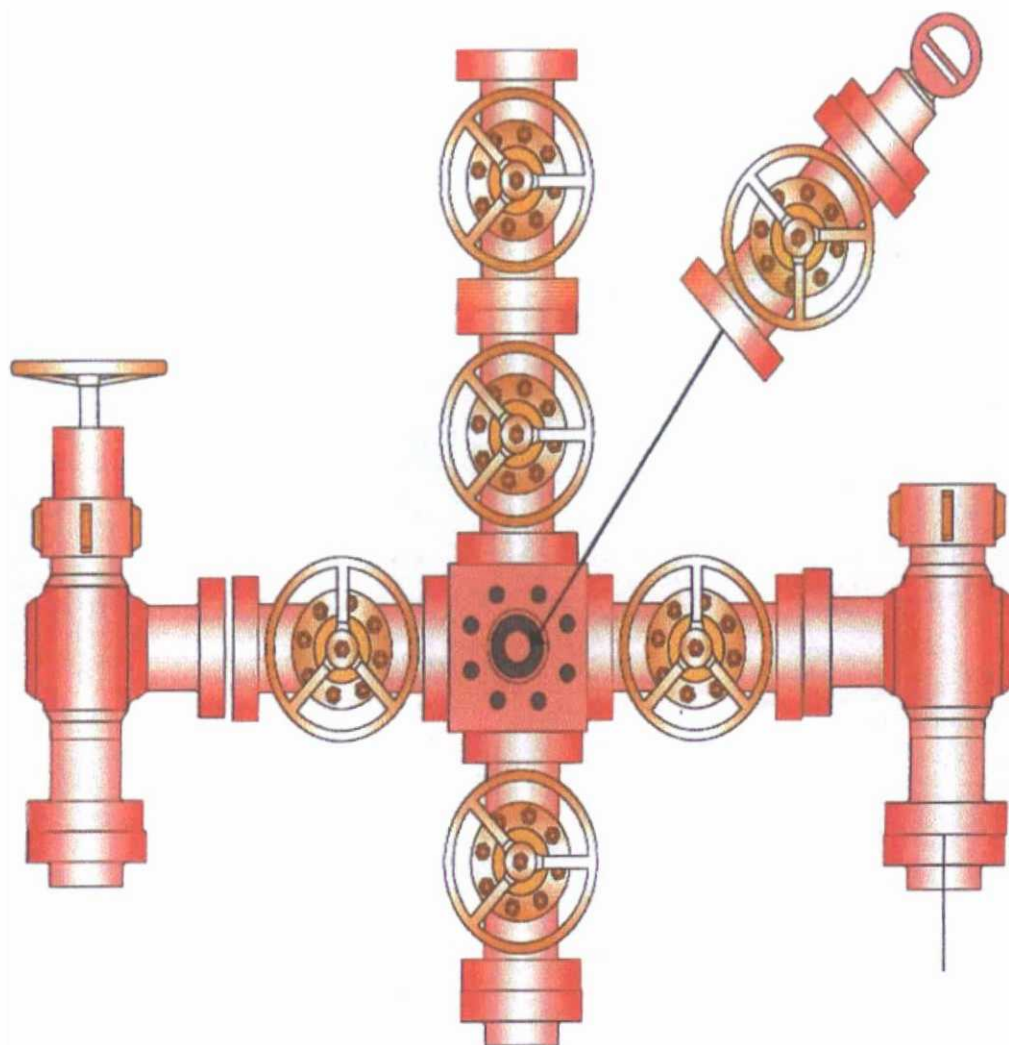
G. Methods for Handling Waste



1. Cuttings - Drilling operations will utilize a closed-loop system with water based mud. All cuttings will be placed in roll-off bins and hauled to a commercial disposal facility or land farm. BP will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation and removal of the closed-loop systems. No blow pit will be used. Closed-loop tanks will be adequately sized for containment of all fluids.
2. Drilling Fluids
 - a. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted locations or returned to the vendor for re-use, as practical. Residual fluids will be vacuumed from the storage tanks and disposed of at an appropriate waste disposal facility.
 - b. Drilling fluid storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.
3. Flowback Water
 - a. The water-based solution that flows back to the surface during and after completion operations will be placed in storage tanks on location.
 - b. Flowback water will be confined to a storage tank for a period not to exceed 90 days after initial production and will be disposed of an approved disposal facility, or recycled.
4. Spills – any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site. Spills less than 10 barrels do not require reporting. Spills of 10 barrels or more will follow BLM spill reporting guidelines¹.
5. Sewage – self-contained, chemical toilets will be provided for human waste disposal. The toilet holding tanks will be pumped by a 3rd party vendor, as needed, and the contents thereof disposed of in an approved sewage disposal facility. The toilets will be onsite during all operations.

Garbage and other waste material – garbage, trash, and other waste materials will be collected in a portable, self-contained and fully-enclosed trash container during drilling and completion operations. The accumulated trash will be removed, as needed, and will be disposed of at an approved landfill. No trash will be buried or burned on location. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash container will be cleaned up and removed from the well location.

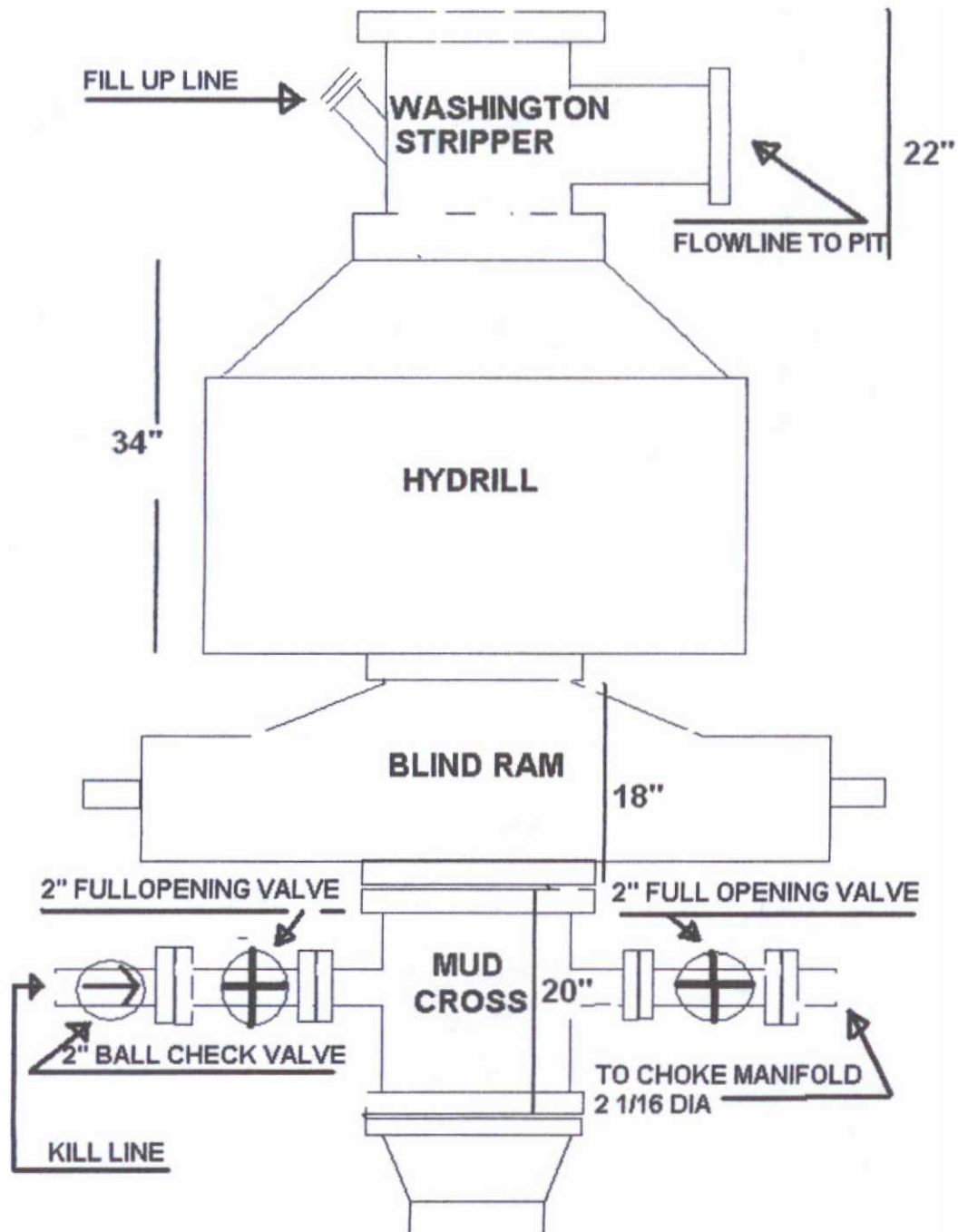
¹ http://www.blm.gov/style/medialib/blm/nm/programs/0/og_docs/ntls.Par.71941.File.dat/ntl3a.pdf



(Minimum 2")

Proposed 2,000 psi Choke Manifold Stack

92" overall height



Proposed 2,000 psi BOP Stack