

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: 4-1-16

Well information;

Operator BP, Well Name and Number Gallegos Canyon Unit 599 COM #14

API# 30-045-35711, Section 19, Township 28 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

5-12-2016
Date KC

APR 06 2016

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

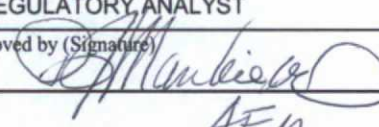
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		CONFIDENTIAL		5. Lease Serial No. NMSF080844A
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		2. Name of Operator BP AMERICA PRODUCTION COMPANY		6. If Indian, Allottee or Tribe Name
3a. Address 737 NORTH ELDRIDGE PARKWAY 12.181A HOUSTON, TX 77079		3b. Phone No. (include area code) Ph: 281-366-7148		7. If Unit or CA Agreement, Name and No.
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENE 517FNL 599FEL 36.653524 N Lat, 108.038212 W Lon At proposed prod. zone NWNW 990FNL 711FWL 36.652252 N Lat, 108.069647 W Lon		9. API Well No. 30-045-35711		8. Lease Name and Well No. GALLEGOS CANYON UNIT 599 COM 1H
14. Distance in miles and direction from nearest town or post office* WELL IS 4.8 MILES SOUTHWEST OF BLOOMFIELD, NM.		10. Field and Pool, or Exploratory BASIN MANCOS		11. Sec., T., R., M., or Blk. and Survey or Area Sec 19 T28N R11W Mer
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) THIS WELL IS 711 FEET FROM THE NEAREST UNIT LINE.		16. No. of Acres in Lease UNB. LINE.		12. County or Parish SAN JUAN
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. WELL IS 423 FEET FROM THE NEAREST WELL GCS100210A)		19. Proposed Depth 5150 TVD		13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5587 GL		22. Approximate date work will start 11/01/2015		17. Spacing Unit dedicated to this well 1200.00 1275.84
		23. Estimated duration 25 DAYS		20. BLM/BIA Bond No. on file WY2924

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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
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 08/24/2015
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) AFN	Date 4/1/16
Title AFN		

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 #313586 verified by the BLM Well Information System
For BP AMERICA PRODUCTION COMPANY, sent to the Farmington

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

NMOCD TV

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District 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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

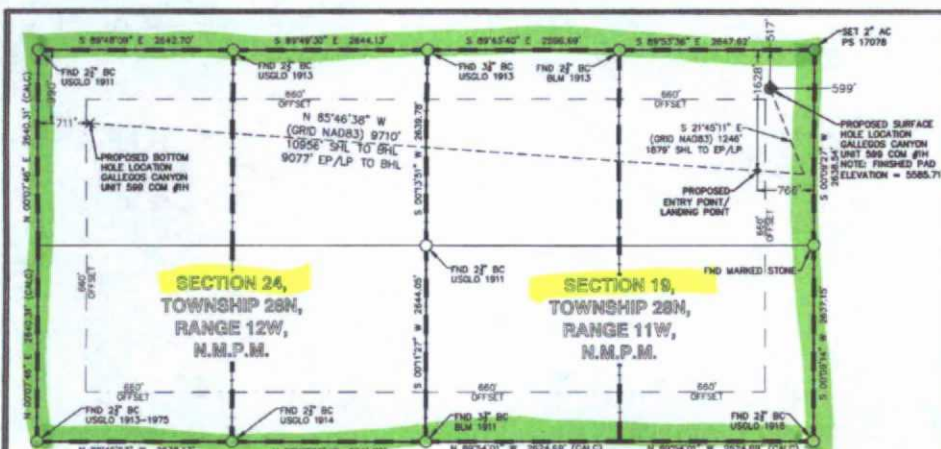
¹ API Number 30-045-35711	² Pool Code 97232	³ Pool Name Basin Mancos
⁴ Property Code 000570	⁵ Property Name Gallegos Canyon Unit 599 Com	⁶ Well Number 1H
⁷ OGRID No. 000778	⁸ Operator Name BP America Production Company	⁹ Elevation 5587

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
A	19	28N	11W		517	North	599	East	San Juan

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
D	24	28N	12W		990	North	711	West	San Juan

¹² Dedicated Acres 1280	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.



OIL CONS. DIV DIST. 3

APR 06 2016

LEGEND

FOUND MONUMENT O

PROPOSED SURFACE HOLE LOCATION *

PROPOSED BOTTOM HOLE LOCATION X

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 unless 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.

Signature: Toya Colvin Date: 8/04/15

Printed Name: Toya Colvin

E-mail Address: Toya.Colvin@bp.com

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 is true and correct to the best of my belief.

Date of Survey: 5-26-15

Signature and Seal of



Certificate Number: 17078

GCU 599 COM #1H	NW4Z NAD'83	NAD'83	TIES
PROPOSED SURFACE HOLE LOCATION (SHL)	N (Y) = 2,057,259.93' E (X) = 2,662,995.00'	LAT. = 36.65352492°N LON. = 108.03821214°W	FNL = 517' FEL = 599'
PROPOSED ENTRY POINT (EP)/ LANDING POINT (LP)	N (Y) = 2,056,149.61' E (X) = 2,662,824.88'	LAT. = 36.65047400°N LON. = 108.03878400°W	FNL = 1628' FEL = 766'
PROPOSED BOTTOM HOLE LOCATION (BHL)	N (Y) = 2,056,817.93' E (X) = 2,653,773.06'	LAT. = 36.65225258°N LON. = 108.06964722°W	FNL = 990' FWL = 711'

**Attachment to Application for Permit to Drill.
Drilling program
Revised 7/23/2015**

**BP America Production Company
US Lower 48 Onshore
200 Energy Court
Farmington, NM 87401**

**GCU 599 Com #1H
Mancos Horizontal Development Well
Surface Location: 517' FNL & 599' FEL
Section 19, T28N, R11W
GL Elev = 5586.28'
Lat. = 36.65352492° N
Long. = 108.03821214° W
NAD83
San Juan County, New Mexico**

Proposed Bottom Hole Location: 990' FNL – 711' FWL
Section 24, T28N, R12W
San Juan County, New Mexico

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 based on an estimated GR of 5586.28'

<u>Formation Tops</u>	<u>Surface (TVD)</u>	<u>Thickness</u>	<u>BHP psi/ft.</u>
Ojo Alamo Sd	334	82	0.440
Kirtland Sh	416	321	0.440
Farmington Sd	737	262	0.440
Fruitland Coal	999	486	0.117
Pictured Cliffs Sd	1514	164	0.115
Lewis Shale	1678	1358	0.345
Chacra Sd	2434	175	0.344
Mesa Verde/Cliff House Sd	3036	120	0.352
Mesa Verde/Menefee Sd	3156	753	0.354
Mesa Verde/Point Lookout Sd	3909	97	0.355
Mancos Sh	4216	1180	0.309
Upper Gallup	5105	236	0.307
Middle Gallup	5341	185	0.316
Gallup Pinon Sd	5526	20	0.314
Sanastee Sh	5547	343	0.324

Note: Geological tops will be updated based on drilling and geology operations

Drilling Plan

Drill 12 1/4" hole to 385' then set 9 5/8" casing. Drill 8 3/4" hole with fresh water Flex Firm KA mud from 385' MD to kick off point (KOP) #1 at 550' MD and build 2 degrees per 100' to 22.5 degrees and 158.25 azimuth. Hold inclination and azimuth to 3791' MD. Then drop 2 degrees per 100' to vertical point at 4916' MD. Trip out of hole and pick up 8 3/4" kick off assembly. KOP #2 is 4916' MD and build 10 degrees per 100' to 5516' MD at 60 degrees inclination. Hold 60 degrees inclination to 5576' MD, then finishing building the curve with 10 degrees per 100' to 7" casing point at 90.95 degrees and 274.22 azimuth, 5885' MD / 5300' TVD.

The 7" casing will be drilled out with a 6 1/8" drilling assembly holding angle of 90.95 degrees inclination and 274.22 degree azimuth. Drill to a total depth at 14,962' MD / 5,150' TVD. Adjustments may be made to the directional program based on geology.

The Bottom hole location will be in a legal location at 14,962' MD / 5,150' TVD at 990' FNL & 711' FWL of section 24.
A total of 9233' of horizontal hole will be drilled.

b. Estimated depth and thickness of formations, members or zones potentially containing usable 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.

<u>Formation Tops</u>	<u>Surface (TVD)</u>	<u>Thickness</u>	<u>Contents</u>
Ojo Alamo Sd	334	82	Fresh Water
Kirtland Sh	416	321	Wet
Farmington Sd	737	262	Wet
Fruitland Coal	999	486	Gas
Pictured Cliffs Sd	1514	164	Wet
Lewis Shale	1678	1358	Wet
Chacra Sd	2434	175	Gas/Water
Mesa Verde/Cliff House Sd	3036	120	Wet/Injection
Mesa Verde/Menefee Sd	3156	753	Wet/Injection
Mesa Verde/Point Lookout Sd	3909	97	Wet/Injection
Mancos Sh	4216	1180	Gas/Oil
Upper Gallup	5105	236	Gas/Oil
Middle Gallup	5341	185	Gas/Oil
Gallup Pinon Sd	5526	20	Gas/Oil
Sanastee Sh	5547	343	Wet

Possible Aquifers: Ojo Alamo, base at 334'.

Oil Shale: None Expected.

Oil & Gas: Primary objective is the Mancos formation from 4216' to 5547'.

Landing point is expected to be in the Upper Gallup at 5300' TVD. Landing point will be updated based on offset core evaluation and drilling operations

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 5300' 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.

Maximum Bottom Hole pressure = 5547' TVD x 0.324 psi/ft = 1797 psi (based on measured offset bottom hole pressures).

Maximum Surface Pressure = 1797 psi - (5547' TVD x .22 psi/ft) = 1797psi - 1220 psi = 577 psi, which is less than 2000 psi working pressure.

Therefore a 2000 psi BOPE system required.

A 2000 psig double ram hydraulic BOP will be used (see attached diagram) accessories to the BOP will meet BLM requirements for a 2000 psig system, in accordance with Onshore Order #2 (111.A well requirements).

The accumulator system capacity will be sufficient to close all BOPE with a 50% safety factor. Fill line, kill line and line to the choke manifold will be 2".

BOPs will be function tested every 24 hours and will be recorded on an IADC log. Accessories to the BOPE will include upper and lower Kelly cocks with handles with a stabbing valve to fit drill pipe on the floor at all times, string float at bit, 3000 psig choke manifold with 2" adjustable and 2" positive chokes, and pressure gauge.

All BOP equipment will be hydraulically operated with controls accessible both on the rig floor.

The wellhead BOP equipment will be nipped-up on the 9-5/8" x 11" 2,000 psi WP casing head prior to drilling out from under surface casing. 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 70% of internal yield pressure. All preventers and surface casing will be tested before drilling out of surface casing. BOP equipment will be tested every 14 days, after any repairs are made to the BOP equipment, and after the BOP equipment is subjected to pressure. Annular preventers will be functionally operated at least once per week. Pipe rams will be activated daily and blind rams shall be activated each trip or at least weekly. The New Mexico Oil & Gas Conservation Commission and the BLM will be notified 24 hours in advance of testing of BOPE.

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.

1. **Bit Program**
 12-1/4" Surface Hole = Surface to 385'
 8-3/4" = 385' to 5885' MD = 7" Casing point @ 90.95 degrees
 6-1/8" Lateral = 5885' MD to 14,962' MD = Pay Zone Horizontal

2. **Casing Program – all casing strings are new casing**

Casing & Hole Size	Weight	Grade	Coupling	Setting Depth (MD)	Comments
9-5/8" (12-1/4")	36 ppf	J or K-55	LT&C	0' - 385'	New casing. Cement to surface. *Surface Casing maybe preset
7" (8-3/4")	23 ppf	J or K-55	LT&C	0' - 5885' MD	New Casing. Foam Cement in one stage to surface
4-1/2" (6-1/8")	11.6 ppf	P-110	LT&C	5735' - 14,962' MD	New Casing –Foam Cement – Cement in one stage to Top of liner – ±150' above 7" shoe.

Casing strings below the conductor casing will be tested to .22 psi per foot of 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 -	1.125
Burst -	1.0
Jt. Strength -	1.20

Surface casing shall have a minimum of 1 centralizer per joint on the bottom three (3) joints, starting with the shoe joint for a total of (4) minimum centralizers. Centralizers will be placed 10' above the shoe on the shoe joint, on the 1st, 2nd and 3rd casing collars.

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 40 centralizers.

*Surface casing maybe preset with a preset rig (MOTE).

Surface Casing Design - Evacuated/Max SICP (collapse & burst), 100k overpull (tension)

	Size	Weight	Grade	Conn	Collapse	Burst	Tension	Notes
Surface	9.625	36	K55	LTC	2,020 1.125	3,520 1.000	489,000 1.200	0' - 385'
341 psi (Maximum Estimated SICP)								
<u>36 ppf K55 LTC</u>								
Collapse	Casing Depth	MW in	MW out	Pres in	Pres out	SF		
	385	0	16	0	316	6.39	15.8ppg cement in annulus & evacuated pipe	
Burst	385	9	0	876	0	4.02	700psi test with 9ppg MW	
Tension	385	Mud Wt 9 BF 0.8626	Air Wt 13,860	Bouy Wt 11,956	BW +100k 111,956	4.37	100k over pull BF= 1- (MW)/65.5	

Intermediate Casing Design - Evacuated/Max Mud Wt (collapse & burst), 100k overpull (tension)

Intermediate Interval 1	Top Interval	Btm Interval	Size	Weight	Grade	Conn	Collapse	Burst	Tension	Notes
	0	5885	7	23	K55	LTC	3,270 1.125	4,360 1.000	341,000 1.200	
Collapse										
Interval 1	0	5885	Depth TVD	MW in	MW out	Pres in	Pres out	SF - 1.125		
23	K55		5300	0.00	9	0	2480	1.32		
Burst										
Interval 1	0	5885	Depth TVD	MW in	MW out	Pres in	Pres out	SF - 1.0	Frac Pres	
23	K55		5300	9	0	2480 2480	0	1.76	0	
Tension										
Interval 1	0	5885	5300	Mud Wt	Air Wt	Bouy Wt	BW +100k	SF - 1.2		
23	K55			9 BF 0.8626	121,900	105,150	205,150	1.66	BF= 1- (MW)/65.5	

Liner Casing Design - Evacuation/Max Mud Wt (collapse), Max Frac Pres (burst) & 100k overpull (tension)

Liner Interval 1	Size 4.5	Weight 11.6	Grade P-110	Conn LTC	Collapse 7,560 1.125	Burst 10,690 1.000	Tension 279,000 1.200	Notes TD 14962', TVD 5150'
Collapse	Casing Depth (TVD) 5150	MW in 0.00	MW out 9.00	Pres in 0	Pres out 2410	SF 3.14		
Burst	5150	9.00	0.00	2410 8910	0	1.20	6500	Burst pressure = Hyd + frac pressure
Tension	5150	Mud Wt 8.80 BF 0.8656	Air Wt 59,740	Bouy Wt 51,714	BW +100k 151,714	1.84		100k over pull BF= 1- (MW)/65.5

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. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

- Pea Gravel or other material shall not be used to fill up around the surface casing in the event cement fall back occurs.
- The surface casing shall in all cases be cemented back to surface. In the event cement does not circulate to surface or fall back of the cement column occurs, remedial cementing shall be done to cement the casing back to surface. No more than the top 100' will be remediated with 1" line if fall back occurs. Anything more than 100' will require plan approval to remediate.
- If returns are lost and/or cement is not brought to surface and no fallback occurs, 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 bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.
- Production liner will be cemented.

Surface Casing Single Stage Job – (0-385'MD/TVD):

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

Top of Cement - Surface

Lead #1 - (0' – 385'): 139 sx - 13.5 ppg, conventional cement containing:

VARICEM™ CEMENT – Cement – 94.02 lbs/sx BWOB

FE-2 – Controls Gel Thickening – 0.10% BWOB

Kol-Seal – Lost Circulation Control Agent – 5 lbs/sx BWOB

Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx BWOB

Yield – 1.859 ft³/sx

Water requirement – 9.4 gal/sx.

Total sacks of cement to be pumped = 139

Intermediate Casing – Foam Cement (Single Stage, Constant Density) - (0-5885'MD/5300'TVD):

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

Top of Cement – Surface.

Lead #1 - (0'): 50 sx – 13.0 ppg, 35:65 Dak G, conventional cement containing:

EXTENDACEM™ – Cement – 62.01 lbs/sx WBWOB

HALAD -766 – Retarder – 0.15% BWOW

Yield – 1.433 ft³/sx

Water requirement – 6.75 gal/sx.

Lead #2 - (0' – 4950'): 620 sx – 13.0 ppg, 35:65 Dak G, conventional cement containing:

EXTENDASEAL™ – Cement – 62.01 lbs/sx WBWOB

HALAD -766 – Retarder – 0.15% BWOW

Yield – 1.434 ft³/sx

Water requirement – 6.77 gal/sx.

Liquid Volume: 210 bbls

Foamed Weight - 10 ppg (Constant Density Method)

Average Foam Yield – 1.91 ft³/sx

Foamed Volume: 210 bbls

Tail #1 - (4950' - 5885') : 100 sx – 13.5 ppg, 35:65 Dak G, conventional cement containing:

EXTENDACEM™ – Cement – 62.01 lbs/sx WBWOB

Kol-Seal – Lost Circulation Control Agent – 5 lbs/sx WBWOB

Poly-E-Flake – Lost Circulation Control Agent – 0.125 lbs/sx WBWOB

Yield – 1.306 ft³/sx

Water requirement – 5.35 gal/sx.

Cap Cement - (Top off Annulus): 100 sx – 15.8 ppg, conventional cement containing:

PREMIUM CEMENT – Cement – 94.02 lbs/sx WBWOB

Calcium Chloride Pellet – Accelerates Thickening Time – 2.0% BWOW

Yield – 1.174 ft³/sx

Water requirement – 5.15 gal/sx.

Total sacks of cement pumped = 870

Cement volumes are minimums and may be adjusted based on hole conditions.

Foam Output Parameter Summary:

Stage 1

Foam Calculation Method : Constant Density Calculated Gas : 31979.5 scf
Annulus Back Pressure : 100 psig Additional Gas : 40000 scf
Bottom Hole Circulating Temp : 105degF Total Gas : 71979.5 scf
Mud Outlet Temperature : 95degF

Fluid #	Fluid Name	Unfoamed Liquid Volume (bbl)	Beginning Density (lbm/gal)	Ending Density (lbm/gal)	Beginning Rate (scf/bbl)	Ending Rate (scf/bbl)
1	Chemical Wash	0	8.33		-6.03	-6.03
2	Extend aCem	0	13		10.83	10.83
3	Extend aSeal	8	10		11.11	13.56
3	Extend aSeal	167.7	10		31.21	32.99

Production Casing (Liner) – Single Stage Conventional Cement - (5735' - 14,962' MD/ 5150'TVD):

Excess – 20% over gauge hole – 6-1/8" hole and 4-1/2" casing (0.0942 ft3/ft)

Top of Cement – Top of liner.

Tail #1 - (5735' – 14,962'): XX sx – 13.3 ppg, conventional cement containing:

EXTENDACEM™ – Cement – 62.01 lbs/sx WBWOB

Kol-Seal – Lost Circulation Control Agent – 2.5 lbs/sx WBWOB

Yield – 1.347 ft3/sx

Water requirement – 5.85 gal/sx.

Total sacks of cement pumped = 775

Cement calculations are used for volume estimation. Well conditions will dictate final cement job design.

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

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	VIS	FL	PV	YP	PH	REMARKS
0'- 385'	Surface	12-1/4"	FW/Gel	8.4-9.0	32-44	NC	8	12	9.0	Spud Mud
385'-4916'	Vertical to KOP	8-3/4"	Flex Firm KA	8.4-9.5	38-42	6	14	12	11.0	Fresh Water
4916'-5885'	Curve	8-3/4"	Flex Firm KA	9.0-9.5	38-42	6	14	12	11.0	30% LCM
5885'- 14962'	Horizontal	6-1/8"	Evolution	8.3-9.0	36-50	10	8	8	9.5	LSND

Sufficient weighting material will be on hand to weight mud up to 1 PPG over, 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 = $1470 \times (10.5 - 8.4) \div (35 - 10.5) = 126 \text{ sx} \times 5 \text{ (500bbls minimum)} = 630\text{sx}$

Pason Pit Volume Totalizer (PVT) equipment (or equivalent) will be on each pit to monitor pit levels. A trip tank equipped with a Pason PVT will be used to monitor trip volumes.

Possible lost circulation in the Fruitland Coal at 1000' and Pictured Cliffs Sand at 1533'. Lost circulation has been successfully mitigated with lost circulation materials in concentrations of up to 30% by volume. Intermediate casing will be set through this interval to 5885'MD.

Possible water flow in Mesa Verde at 1709' due to produced water injection 1.5 mile West.

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, including fresh water and oil-based operations. 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. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of as outlined in surface use plan location will be lined in accordance with the Surface Use Plan of Operations.

g. The testing, logging, and coring procedures proposed, including drill stem testing procedures, equipment, and safety measures.

Testing: None planned.

Logging:

From KOP of curve to Surface casing shoe (pull GR to surface):

Triple Combo + Rt Scanner

Minimum logging requirements for the entire well shall consist of a calibrated gamma ray (GR) log scaled in API units from total measured depth to surface, with a repeat section. Maximum logging speed 3,600 feet/hour in open hole and 2,000 feet/hour in cased hole. An MWD GR log is sufficient for this requirement in the curved and lateral portions of the well.

Minimum logging requirements above the kick off point (KOP) shall consist of:

1. Multiple depth-of-investigation resistivity log from surface casing to the KOP, and
2. Compensated density-neutron logs over potential hydrocarbon producing zones or,
3. A cased hole pulsed neutron log if there are open hole compensated density-neutron, gamma ray, and multiple depth-of-investigation resistivity logs (such as medium and deep induction and shallow laterlog,

or array (induction logs) suitable for calibration within one-half mile. The pulsed neutron log should be run from KOP to the base of surface casing no faster than 1,800 feet/hour.

BLM shall be provided with a directional survey to establish the location of the horizontal lateral and bottom of the well including the surface reference, inclination, horizontal angle, reference, and direction turned. If reduced data are provided, the algorithm, datum, and projection should also be provided.

Submission of digital logging data shall be in Log ASCII Standard (LAS) file format.

Mud Logging:

Geologist & a manned mud-logging unit will be operational @ +/- 3,000' on the main hole to TD of the horizontal hole.

Gas detecting equipment shall be installed in the mud return system for exploratory wells and hydrocarbon gas shall be monitored for pore pressure changes from base of surface casing to TD.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

Coring: None.

Cement Bond Log:

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. If either of these two data points were not satisfactory per BLM, State and standard procedure, remedial cement work, if required, will be performed after consultation and approval of a plan from both the BLM and State agencies.

A cement bond log shall be run if the well is cased for production, injection, or disposal. The logged interval should extend from at least 50 feet below the KOP, if practical, to 200 feet above the top of cement. In no case shall the cement bond log begin above the KOP.

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 operators plans for mitigating such hazards must be included.

Normal to subnormal pressure gradient to TD.

MASP and casing design parameters determined using 0.324 psi/ft.

Maximum expected BHP @ 5547' TVD: 1797 psi

Maximum expected BHT @ 5547' TVD: ~160° F

Possible lost circulation in the Fruitland Coal at 1000' and Pictured Cliffs Sand at 1533'. Lost circulation has been successfully mitigated with lost circulation materials in concentrations of up to 30% by volume. Intermediate casing will be set through this interval to 5885'MD.

Possible water flow in Mesa Verde at 1709' due to produced water injection 1.5 mile West.

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.

Directional Plans: Horizontal directional well, directional plans attached.

Completion:

BP plans on completing plug and perforation hydraulic fracturing for approximately 26 stages. Each stage will consist of approximately 275,000 pounds of 20/40 mesh sand and 25,000 pounds of 12/20 mesh sand pumped via nitrogen foamed gel system. Adjustments maybe be made to the number of stages and stage size based on the petrophysical properties of the target zone.

The wellbore is then opened for flowback operations. The well is placed through sales equipment once natural gas is experienced at surface.

Once stimulation operations are completed, BP intends to drill out the plugs within one to two weeks with workover rig or coil unit operations. Then 2-3/8", 4.7#, L or N-80 tubing will be landed in the wellbore for production.

Timing: BP plans to drill this well in November, 2015

It is anticipated that the drilling of this well will take approximately 25 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.

✓ **CLOSED-LOOP SYSTEM DESIGN PLAN**

The closed-loop system will consist of a series of temporary above-ground storage tanks and/or haul-off bins suitable for holding the cuttings and fluids from drilling operations. The closed loop system will not entail temporary pits, below-grade storage tanks, below-grade sumps, or drying pads.

Design considerations include:

- The closed-loop system will be signed in accordance with 19.15.17.11 NMAC.
- The closed-loop system storage tanks will be of adequate volume to ensure confinement of all fluids and provide sufficient freeboard to prevent uncontrolled releases.
- Topsoil will be salvaged and stored for use in reclamation activities.
- The closed-loop system storage tanks will be placed in bermed secondary containment sized to contain a minimum of 110 percent of the volume of the largest storage tank.

CLOSED-LOOP SYSTEM OPERATING & MAINTENANCE PLAN

The closed-loop system will be operated and maintained to contain liquids and solids; minimize the amount of drilling fluids and cuttings that require disposal; maximize the amount of drilling fluid recycled and reused in the drilling process; isolate drilling wastes from the environment; prevent contamination of fresh water; and protect public health and the environment.

Operation and maintenance considerations include:

- Fluid levels will be maintained to provide sufficient freeboard to prevent over-topping.
- Visual inspections will be conducted on a daily basis to identify any potential leaks and to ensure that the closed-loop system storage tanks have sufficient freeboard to prevent over-topping.
- Only drilling fluids or cuttings intrinsic to, used by, or generated from, drilling operations will be stored in the closed-loop system storage tanks. Hazardous waste, miscellaneous solid waste, and/or debris will not be stored in the storage tanks.
- The OCD District Office will be notified within 48 hours of discovery of a leak in the closed-loop drilling system. If a leak is discovered, all liquid will be removed within 48 hours and the damage repaired.

CLOSED-LOOP SYSTEM CLOSURE PLAN

The closed-loop system will be closed in accordance with 19.15.17.13 NMAC. Closure considerations include:

- Drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical.
- Residual fluids will be pulled from the storage tanks, mixed with saw dust or similar absorbent material, and disposed of at Industrial Ecosystem, Inc. waste disposal facilities.
- Remaining cuttings or sludges will be vacuumed from the storage tanks and disposed of at the Envirotech, Inc and/or Industrial Ecosystem, Inc. waste disposal facilities.
- Storage tanks will be removed from the well location during the rig move.
- The well pad will be reclaimed and seeded in accordance with subsections G, Hand I of 19.15.17.13 NMAC.



B.P.

San Juan County, NM NAD83

GCU 599 Pad

GCU 599 Com 1

Lateral 1

Plan: Plan #2

Standard Planning Report

16 July, 2015



Scientific Drilling

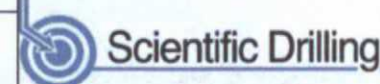
www.scientificdrilling.com



Company: B.P.
Project: San Juan County, NM NAD83
Site: GCU 599 Pad
Well: GCU 599 Com 1
Wellbore: Lateral 1
Design: Plan #2

PROJECT DETAILS: San Juan County, NM NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Local North: Grid



Azimuths to Grid North
True North: 0.12°
Magnetic North: 9.39°

Magnetic Field
Strength: 50125.6nT
Dip Angle: 63.33°
Date: 6/23/2015
Model: HDGM

WELL DETAILS: GCU 599 Com 1

GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	2057259.93	2662995.00	36.6535249	-108.0382121

Plan: Plan #2 (GCU 599 Com 1/Lateral 1)

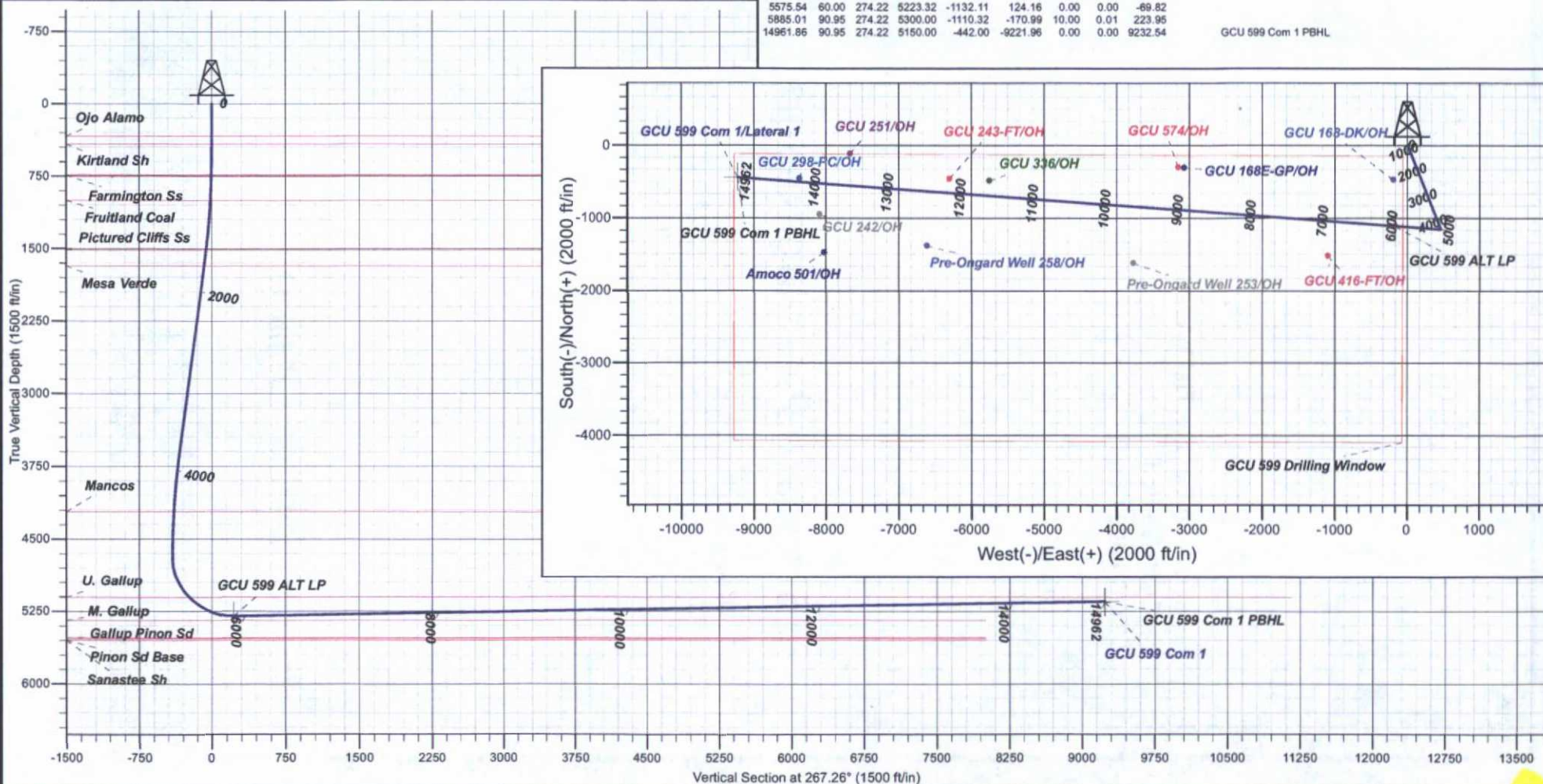
Created By: Janie Collins Date: 10:18, July 16 2015

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
GCU 599 Com 1 PBHL	5150.00	-442.00	-9221.96	2056817.93	2653773.06	36.6522526	-108.0696472
GCU 599 ALT LP	5300.00	-1110.32	-170.99	2056149.61	2662824.01	36.6504740	-108.0387870

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSec	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00		
1675.00	22.50	158.25	1646.31	-202.54	80.82	2.00	158.25	-71.03		
3790.54	22.50	158.25	3600.81	-954.47	380.86	0.00	0.00	-334.73		
4915.54	0.00	0.00	4697.12	-1157.01	461.68	2.00	180.00	-405.76		
5515.54	60.00	274.22	5193.32	-1135.93	175.98	10.00	274.22	-121.39		
5575.54	60.00	274.22	5223.32	-1132.11	124.16	0.00	0.00	-69.82		
5885.01	90.95	274.22	5300.00	-1110.32	-170.99	10.00	0.01	223.95		
14961.86	90.95	274.22	5150.00	-442.00	-9221.96	0.00	0.00	9232.54		GCU 599 Com 1 PBHL





Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 599 Com 1
Company:	B.P.	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site:	GCU 599 Pad	North Reference:	Grid
Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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		GCU 599 Pad			
Site Position:		Northing:	2,057,259.93 usft	Latitude:	36.6535249
From:	Map	Easting:	2,662,995.00 usft	Longitude:	-108.0382122
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.12 °

Well	GCU 599 Com 1					
Well Position	+N/-S	0.00 ft	Northing:	2,057,259.93 usft	Latitude:	36.6535249
	+E/-W	0.00 ft	Easting:	2,662,995.00 usft	Longitude:	-108.0382122
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,586.28 ft

Wellbore	Lateral 1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/23/2015	9.27	63.33	50,126

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	267.26

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,675.00	22.50	158.25	1,646.31	-202.54	80.82	2.00	2.00	0.00	158.25	
3,790.54	22.50	158.25	3,600.81	-954.47	380.86	0.00	0.00	0.00	0.00	
4,915.54	0.00	0.00	4,697.12	-1,157.01	461.68	2.00	-2.00	0.00	180.00	
5,515.54	60.00	274.22	5,193.32	-1,135.93	175.98	10.00	10.00	0.00	274.22	
5,575.54	60.00	274.22	5,223.32	-1,132.11	124.16	0.00	0.00	0.00	0.00	
5,885.01	90.95	274.22	5,300.00	-1,110.32	-170.99	10.00	10.00	0.00	0.01	
14,961.86	90.95	274.22	5,150.00	-442.00	-9,221.96	0.00	0.00	0.00	0.00	GCU 599 Com 1 PBH



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 599 Com 1
Company:	B.P.	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site:	GCU 599 Pad	North Reference:	Grid
Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
334.00	0.00	0.00	334.00	0.00	0.00	0.00	0.00	0.00	0.00
Ojo Alamo									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
416.00	0.00	0.00	416.00	0.00	0.00	0.00	0.00	0.00	0.00
Kirtland Sh									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	1.00	158.25	600.00	-0.41	0.16	-0.14	2.00	2.00	0.00
700.00	3.00	158.25	699.93	-3.65	1.46	-1.28	2.00	2.00	0.00
737.13	3.74	158.25	737.00	-5.67	2.26	-1.99	2.00	2.00	0.00
Farmington Ss									
800.00	5.00	158.25	799.68	-10.13	4.04	-3.55	2.00	2.00	0.00
900.00	7.00	158.25	899.13	-19.83	7.91	-6.96	2.00	2.00	0.00
1,000.00	9.00	158.25	998.15	-32.76	13.07	-11.49	2.00	2.00	0.00
1,000.86	9.02	158.25	999.00	-32.88	13.12	-11.53	2.00	2.00	0.00
Fruitland Coal									
1,100.00	11.00	158.25	1,096.63	-48.89	19.51	-17.14	2.00	2.00	0.00
1,200.00	13.00	158.25	1,194.44	-68.20	27.21	-23.92	2.00	2.00	0.00
1,300.00	15.00	158.25	1,291.46	-90.66	36.18	-31.80	2.00	2.00	0.00
1,400.00	17.00	158.25	1,387.58	-116.26	46.39	-40.77	2.00	2.00	0.00
1,500.00	19.00	158.25	1,482.68	-144.96	57.84	-50.84	2.00	2.00	0.00
1,533.19	19.66	158.25	1,514.00	-155.17	61.92	-54.42	2.00	2.00	0.00
Pictured Cliffs Ss									
1,600.00	21.00	158.25	1,576.65	-176.73	70.52	-61.98	2.00	2.00	0.00
1,675.00	22.50	158.25	1,646.31	-202.54	80.82	-71.03	2.00	2.00	0.00
1,700.00	22.50	158.25	1,669.40	-211.43	84.36	-74.15	0.00	0.00	0.00
1,709.30	22.50	158.25	1,678.00	-214.73	85.68	-75.31	0.00	0.00	0.00
Mesa Verde									
1,800.00	22.50	158.25	1,761.79	-246.97	98.55	-86.61	0.00	0.00	0.00
1,900.00	22.50	158.25	1,854.18	-282.51	112.73	-99.08	0.00	0.00	0.00
2,000.00	22.50	158.25	1,946.57	-318.06	126.91	-111.54	0.00	0.00	0.00
2,100.00	22.50	158.25	2,038.96	-353.60	141.10	-124.01	0.00	0.00	0.00
2,200.00	22.50	158.25	2,131.34	-389.14	155.28	-136.47	0.00	0.00	0.00
2,300.00	22.50	158.25	2,223.73	-424.68	169.46	-148.94	0.00	0.00	0.00
2,400.00	22.50	158.25	2,316.12	-460.23	183.64	-161.40	0.00	0.00	0.00
2,500.00	22.50	158.25	2,408.51	-495.77	197.83	-173.87	0.00	0.00	0.00
2,600.00	22.50	158.25	2,500.90	-531.31	212.01	-186.33	0.00	0.00	0.00
2,700.00	22.50	158.25	2,593.28	-566.86	226.19	-198.80	0.00	0.00	0.00
2,800.00	22.50	158.25	2,685.67	-602.40	240.37	-211.26	0.00	0.00	0.00
2,900.00	22.50	158.25	2,778.06	-637.94	254.56	-223.72	0.00	0.00	0.00
3,000.00	22.50	158.25	2,870.45	-673.49	268.74	-236.19	0.00	0.00	0.00
3,100.00	22.50	158.25	2,962.84	-709.03	282.92	-248.65	0.00	0.00	0.00
3,200.00	22.50	158.25	3,055.22	-744.57	297.11	-261.12	0.00	0.00	0.00
3,300.00	22.50	158.25	3,147.61	-780.12	311.29	-273.58	0.00	0.00	0.00
3,400.00	22.50	158.25	3,240.00	-815.66	325.47	-286.05	0.00	0.00	0.00
3,500.00	22.50	158.25	3,332.39	-851.20	339.65	-298.51	0.00	0.00	0.00
3,600.00	22.50	158.25	3,424.78	-886.75	353.84	-310.98	0.00	0.00	0.00



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 599 Com 1
Company:	B.P.	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site:	GCU 599 Pad	North Reference:	Grid
Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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)
3,700.00	22.50	158.25	3,517.16	-922.29	368.02	-323.44	0.00	0.00	0.00
3,790.54	22.50	158.25	3,600.81	-954.47	380.86	-334.73	0.00	0.00	0.00
3,800.00	22.31	158.25	3,609.56	-957.82	382.20	-335.90	2.00	-2.00	0.00
3,900.00	20.31	158.25	3,702.71	-991.57	395.67	-347.74	2.00	-2.00	0.00
4,000.00	18.31	158.25	3,797.08	-1,022.28	407.92	-358.51	2.00	-2.00	0.00
4,100.00	16.31	158.25	3,892.55	-1,049.92	418.95	-368.20	2.00	-2.00	0.00
4,200.00	14.31	158.25	3,989.00	-1,074.44	428.73	-376.80	2.00	-2.00	0.00
4,300.00	12.31	158.25	4,086.30	-1,095.83	437.27	-384.30	2.00	-2.00	0.00
4,400.00	10.31	158.25	4,184.36	-1,114.04	444.53	-390.69	2.00	-2.00	0.00
4,432.13	9.67	158.25	4,216.00	-1,119.22	446.60	-392.51	2.00	-2.00	0.00
Mancos									
4,500.00	8.31	158.25	4,283.03	-1,129.07	450.53	-395.96	2.00	-2.00	0.00
4,600.00	6.31	158.25	4,382.22	-1,140.89	455.25	-400.11	2.00	-2.00	0.00
4,700.00	4.31	158.25	4,481.78	-1,149.48	458.68	-403.12	2.00	-2.00	0.00
4,800.00	2.31	158.25	4,581.61	-1,154.85	460.82	-405.00	2.00	-2.00	0.00
4,900.00	0.31	158.25	4,681.58	-1,156.97	461.66	-405.75	2.00	-2.00	0.00
4,915.54	0.00	0.00	4,697.12	-1,157.01	461.68	-405.76	2.00	-2.00	0.00
5,000.00	8.45	274.22	4,781.27	-1,156.55	455.48	-399.59	10.00	10.00	0.00
5,100.00	18.45	274.22	4,878.41	-1,154.84	432.32	-376.54	10.00	10.00	0.00
5,200.00	28.45	274.22	4,970.04	-1,151.92	392.69	-337.10	10.00	10.00	0.00
5,300.00	38.45	274.22	5,053.37	-1,147.87	337.80	-282.46	10.00	10.00	0.00
5,369.43	45.39	274.22	5,105.00	-1,144.46	291.57	-236.45	10.00	10.00	0.00
U. Gallup									
5,400.00	48.45	274.22	5,125.88	-1,142.82	269.30	-214.28	10.00	10.00	0.00
5,500.00	58.45	274.22	5,185.36	-1,136.91	189.29	-134.65	10.00	10.00	0.00
5,515.54	60.00	274.22	5,193.32	-1,135.93	175.98	-121.39	10.00	10.00	0.00
5,575.54	60.00	274.22	5,223.32	-1,132.11	124.16	-69.82	0.00	0.00	0.00
5,600.00	62.45	274.22	5,235.09	-1,130.53	102.78	-48.54	10.00	10.00	0.00
5,700.00	72.45	274.22	5,273.40	-1,123.74	10.79	43.02	10.00	10.00	0.00
5,800.00	82.45	274.22	5,295.11	-1,116.56	-86.43	139.78	10.00	10.00	0.00
5,867.14	89.16	274.22	5,300.02	-1,111.64	-153.17	206.21	10.00	10.00	0.00
GCU 599 Com 1 LP									
5,885.01	90.95	274.22	5,300.00	-1,110.32	-170.99	223.95	10.00	10.00	0.00
GCU 599 ALT LP									
5,900.00	90.95	274.22	5,299.75	-1,109.22	-185.93	238.82	0.00	0.00	0.00
6,000.00	90.95	274.22	5,298.10	-1,101.85	-285.65	338.07	0.00	0.00	0.00
6,100.00	90.95	274.22	5,296.45	-1,094.49	-385.36	437.32	0.00	0.00	0.00
6,200.00	90.95	274.22	5,294.79	-1,087.13	-485.08	536.57	0.00	0.00	0.00
6,300.00	90.95	274.22	5,293.14	-1,079.76	-584.79	635.82	0.00	0.00	0.00
6,400.00	90.95	274.22	5,291.49	-1,072.40	-684.51	735.06	0.00	0.00	0.00
6,500.00	90.95	274.22	5,289.84	-1,065.04	-784.22	834.31	0.00	0.00	0.00
6,600.00	90.95	274.22	5,288.18	-1,057.68	-883.94	933.56	0.00	0.00	0.00
6,700.00	90.95	274.22	5,286.53	-1,050.31	-983.65	1,032.81	0.00	0.00	0.00
6,800.00	90.95	274.22	5,284.88	-1,042.95	-1,083.37	1,132.06	0.00	0.00	0.00
6,900.00	90.95	274.22	5,283.23	-1,035.59	-1,183.08	1,231.30	0.00	0.00	0.00
7,000.00	90.95	274.22	5,281.57	-1,028.22	-1,282.80	1,330.55	0.00	0.00	0.00
7,100.00	90.95	274.22	5,279.92	-1,020.86	-1,382.51	1,429.80	0.00	0.00	0.00
7,200.00	90.95	274.22	5,278.27	-1,013.50	-1,482.23	1,529.05	0.00	0.00	0.00
7,300.00	90.95	274.22	5,276.62	-1,006.14	-1,581.94	1,628.30	0.00	0.00	0.00
7,400.00	90.95	274.22	5,274.96	-998.77	-1,681.66	1,727.54	0.00	0.00	0.00
7,500.00	90.95	274.22	5,273.31	-991.41	-1,781.37	1,826.79	0.00	0.00	0.00
7,600.00	90.95	274.22	5,271.66	-984.05	-1,881.09	1,926.04	0.00	0.00	0.00



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 599 Com 1
Company:	B.P.	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site:	GCU 599 Pad	North Reference:	Grid
Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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)
7,700.00	90.95	274.22	5,270.01	-976.68	-1,980.80	2,025.29	0.00	0.00	0.00
7,800.00	90.95	274.22	5,268.35	-969.32	-2,080.52	2,124.54	0.00	0.00	0.00
7,900.00	90.95	274.22	5,266.70	-961.96	-2,180.23	2,223.78	0.00	0.00	0.00
8,000.00	90.95	274.22	5,265.05	-954.59	-2,279.95	2,323.03	0.00	0.00	0.00
8,100.00	90.95	274.22	5,263.40	-947.23	-2,379.66	2,422.28	0.00	0.00	0.00
8,200.00	90.95	274.22	5,261.74	-939.87	-2,479.38	2,521.53	0.00	0.00	0.00
8,300.00	90.95	274.22	5,260.09	-932.51	-2,579.09	2,620.78	0.00	0.00	0.00
8,400.00	90.95	274.22	5,258.44	-925.14	-2,678.81	2,720.02	0.00	0.00	0.00
8,500.00	90.95	274.22	5,256.79	-917.78	-2,778.52	2,819.27	0.00	0.00	0.00
8,600.00	90.95	274.22	5,255.13	-910.42	-2,878.24	2,918.52	0.00	0.00	0.00
8,700.00	90.95	274.22	5,253.48	-903.05	-2,977.95	3,017.77	0.00	0.00	0.00
8,800.00	90.95	274.22	5,251.83	-895.69	-3,077.67	3,117.02	0.00	0.00	0.00
8,900.00	90.95	274.22	5,250.18	-888.33	-3,177.38	3,216.27	0.00	0.00	0.00
9,000.00	90.95	274.22	5,248.52	-880.97	-3,277.10	3,315.51	0.00	0.00	0.00
9,100.00	90.95	274.22	5,246.87	-873.60	-3,376.81	3,414.76	0.00	0.00	0.00
9,200.00	90.95	274.22	5,245.22	-866.24	-3,476.53	3,514.01	0.00	0.00	0.00
9,300.00	90.95	274.22	5,243.57	-858.88	-3,576.24	3,613.26	0.00	0.00	0.00
9,400.00	90.95	274.22	5,241.91	-851.51	-3,675.95	3,712.51	0.00	0.00	0.00
9,500.00	90.95	274.22	5,240.26	-844.15	-3,775.67	3,811.75	0.00	0.00	0.00
9,600.00	90.95	274.22	5,238.61	-836.79	-3,875.38	3,911.00	0.00	0.00	0.00
9,700.00	90.95	274.22	5,236.96	-829.43	-3,975.10	4,010.25	0.00	0.00	0.00
9,800.00	90.95	274.22	5,235.30	-822.06	-4,074.81	4,109.50	0.00	0.00	0.00
9,900.00	90.95	274.22	5,233.65	-814.70	-4,174.53	4,208.75	0.00	0.00	0.00
10,000.00	90.95	274.22	5,232.00	-807.34	-4,274.24	4,307.99	0.00	0.00	0.00
10,100.00	90.95	274.22	5,230.34	-799.97	-4,373.96	4,407.24	0.00	0.00	0.00
10,200.00	90.95	274.22	5,228.69	-792.61	-4,473.67	4,506.49	0.00	0.00	0.00
10,300.00	90.95	274.22	5,227.04	-785.25	-4,573.39	4,605.74	0.00	0.00	0.00
10,400.00	90.95	274.22	5,225.39	-777.89	-4,673.10	4,704.99	0.00	0.00	0.00
10,500.00	90.95	274.22	5,223.73	-770.52	-4,772.82	4,804.23	0.00	0.00	0.00
10,600.00	90.95	274.22	5,222.08	-763.16	-4,872.53	4,903.48	0.00	0.00	0.00
10,700.00	90.95	274.22	5,220.43	-755.80	-4,972.25	5,002.73	0.00	0.00	0.00
10,800.00	90.95	274.22	5,218.78	-748.43	-5,071.96	5,101.98	0.00	0.00	0.00
10,900.00	90.95	274.22	5,217.12	-741.07	-5,171.68	5,201.23	0.00	0.00	0.00
11,000.00	90.95	274.22	5,215.47	-733.71	-5,271.39	5,300.47	0.00	0.00	0.00
11,100.00	90.95	274.22	5,213.82	-726.34	-5,371.11	5,399.72	0.00	0.00	0.00
11,200.00	90.95	274.22	5,212.17	-718.98	-5,470.82	5,498.97	0.00	0.00	0.00
11,300.00	90.95	274.22	5,210.51	-711.62	-5,570.54	5,598.22	0.00	0.00	0.00
11,400.00	90.95	274.22	5,208.86	-704.26	-5,670.25	5,697.47	0.00	0.00	0.00
11,500.00	90.95	274.22	5,207.21	-696.89	-5,769.97	5,796.71	0.00	0.00	0.00
11,600.00	90.95	274.22	5,205.56	-689.53	-5,869.68	5,895.96	0.00	0.00	0.00
11,700.00	90.95	274.22	5,203.90	-682.17	-5,969.40	5,995.21	0.00	0.00	0.00
11,800.00	90.95	274.22	5,202.25	-674.80	-6,069.11	6,094.46	0.00	0.00	0.00
11,900.00	90.95	274.22	5,200.60	-667.44	-6,168.83	6,193.71	0.00	0.00	0.00
12,000.00	90.95	274.22	5,198.95	-660.08	-6,268.54	6,292.95	0.00	0.00	0.00
12,100.00	90.95	274.22	5,197.29	-652.72	-6,368.26	6,392.20	0.00	0.00	0.00
12,200.00	90.95	274.22	5,195.64	-645.35	-6,467.97	6,491.45	0.00	0.00	0.00
12,300.00	90.95	274.22	5,193.99	-637.99	-6,567.69	6,590.70	0.00	0.00	0.00
12,400.00	90.95	274.22	5,192.34	-630.63	-6,667.40	6,689.95	0.00	0.00	0.00
12,500.00	90.95	274.22	5,190.68	-623.26	-6,767.12	6,789.20	0.00	0.00	0.00
12,600.00	90.95	274.22	5,189.03	-615.90	-6,866.83	6,888.44	0.00	0.00	0.00
12,700.00	90.95	274.22	5,187.38	-608.54	-6,966.55	6,987.69	0.00	0.00	0.00
12,800.00	90.95	274.22	5,185.73	-601.18	-7,066.26	7,086.94	0.00	0.00	0.00



Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 599 Com 1
Company:	B.P.	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site:	GCU 599 Pad	North Reference:	Grid
Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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)
12,900.00	90.95	274.22	5,184.07	-593.81	-7,165.98	7,186.19	0.00	0.00	0.00
13,000.00	90.95	274.22	5,182.42	-586.45	-7,265.69	7,285.44	0.00	0.00	0.00
13,100.00	90.95	274.22	5,180.77	-579.09	-7,365.41	7,384.68	0.00	0.00	0.00
13,200.00	90.95	274.22	5,179.12	-571.72	-7,465.12	7,483.93	0.00	0.00	0.00
13,300.00	90.95	274.22	5,177.46	-564.36	-7,564.84	7,583.18	0.00	0.00	0.00
13,400.00	90.95	274.22	5,175.81	-557.00	-7,664.55	7,682.43	0.00	0.00	0.00
13,500.00	90.95	274.22	5,174.16	-549.64	-7,764.26	7,781.68	0.00	0.00	0.00
13,600.00	90.95	274.22	5,172.51	-542.27	-7,863.98	7,880.92	0.00	0.00	0.00
13,616.40	90.95	274.22	5,172.23	-541.06	-7,880.33	7,897.20	0.00	0.00	0.00
GCU Midpoint									
13,700.00	90.95	274.22	5,170.85	-534.91	-7,963.69	7,980.17	0.00	0.00	0.00
13,800.00	90.95	274.22	5,169.20	-527.55	-8,063.41	8,079.42	0.00	0.00	0.00
13,900.00	90.95	274.22	5,167.55	-520.18	-8,163.12	8,178.67	0.00	0.00	0.00
14,000.00	90.95	274.22	5,165.90	-512.82	-8,262.84	8,277.92	0.00	0.00	0.00
14,100.00	90.95	274.22	5,164.24	-505.46	-8,362.55	8,377.16	0.00	0.00	0.00
14,200.00	90.95	274.22	5,162.59	-498.10	-8,462.27	8,476.41	0.00	0.00	0.00
14,300.00	90.95	274.22	5,160.94	-490.73	-8,561.98	8,575.66	0.00	0.00	0.00
14,400.00	90.95	274.22	5,159.29	-483.37	-8,661.70	8,674.91	0.00	0.00	0.00
14,500.00	90.95	274.22	5,157.63	-476.01	-8,761.41	8,774.16	0.00	0.00	0.00
14,600.00	90.95	274.22	5,155.98	-468.64	-8,861.13	8,873.40	0.00	0.00	0.00
14,700.00	90.95	274.22	5,154.33	-461.28	-8,960.84	8,972.65	0.00	0.00	0.00
14,800.00	90.95	274.22	5,152.67	-453.92	-9,060.56	9,071.90	0.00	0.00	0.00
14,900.00	90.95	274.22	5,151.02	-446.55	-9,160.27	9,171.15	0.00	0.00	0.00
14,961.86	90.95	274.22	5,150.00	-442.00	-9,221.96	9,232.54	0.00	0.00	0.00
GCU 599 Com 1 PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GCU 599 Com 1 PBHL - plan hits target center - Point	0.00	0.00	5,150.00	-442.00	-9,221.96	2,056,817.93	2,653,773.06	36.6522526	-108.0696473
GCU 599 ALT LP - plan hits target center - Point	0.00	0.00	5,300.00	-1,110.32	-170.99	2,056,149.61	2,662,824.01	36.6504740	-108.0387870



Database:	Grand Junction District	Local Co-ordinate Reference:	Well GCU 599 Com 1
Company:	B.P.	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Project:	San Juan County, NM NAD83	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site:	GCU 599 Pad	North Reference:	Grid
Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
334.00	334.00	Ojo Alamo		0.00	360.00
416.00	416.00	Kirtland Sh		0.00	360.00
737.13	737.00	Farmington Ss		0.00	360.00
1,000.86	999.00	Fruitland Coal		0.00	360.00
1,533.19	1,514.00	Pictured Cliffs Ss		0.00	360.00
1,709.30	1,678.00	Mesa Verde		0.00	360.00
4,432.13	4,216.00	Mancos		0.00	360.00
5,369.43	5,105.00	U. Gallup		0.00	360.00



B.P.

San Juan County, NM NAD83

GCU 599 Pad

GCU 599 Com 1

Lateral 1

Plan #2

Anticollision Report

16 July, 2015

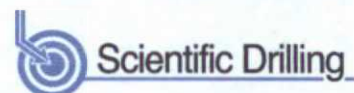


Scientific Drilling

www.scientificdrilling.com



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference	Plan #2		
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	7/16/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,961.86	Plan #2 (Lateral 1)	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						
GCU 599 Pad						
Amoco 501 - OH - OH	13,694.56	5,305.66	940.43	730.20	4.473	CC, ES, SF
GCU 168-DK - OH - OH	2,063.15	2,048.72	358.73	317.75	8.755	CC
GCU 168-DK - OH - OH	2,100.00	2,082.77	359.00	317.35	8.619	ES
GCU 168-DK - OH - OH	5,958.17	5,342.60	633.20	526.35	5.926	SF
GCU 168E-GP - OH - OH	8,839.90	5,252.24	583.95	478.90	5.559	CC, ES, SF
GCU 242 - OH - OH	13,794.58	5,266.20	423.29	317.96	4.019	CC, ES, SF
GCU 243-FT - OH - OH	12,053.34	5,244.99	196.59	91.69	1.874	CC, ES, SF
GCU 251 - OH - OH	13,439.14	5,267.37	440.28	334.93	4.179	CC, ES, SF
GCU 298-PC - OH - OH	1,800.00	1,840.00	8,470.91	8,434.39	231.956	SF
GCU 298-PC - OH - OH	14,167.72	1,840.00	3,447.22	3,446.42	4,297.731	CC, ES
GCU 336 - OH - OH	1,700.00	1,680.00	5,847.73	5,814.35	175.201	SF
GCU 336 - OH - OH	11,561.54	1,680.00	3,600.75	3,598.71	1,764.478	CC, ES
GCU 416-FT - OH - OH	1,976.69	1,701.00	1,739.06	1,705.47	51.775	CC, ES, SF
GCU 574 - OH - OH	500.00	501.96	3,171.84	3,161.80	315.935	CC
GCU 574 - OH - OH	800.00	801.64	3,174.93	3,158.90	198.083	ES
GCU 574 - OH - OH	1,700.00	1,671.36	3,243.35	3,210.18	97.773	SF
Pre-Ongard Well 253 - OH - OH	9,440.65	5,288.96	772.36	563.04	3.690	CC, ES, SF
Pre-Ongard Well 258 - OH - OH	12,292.78	5,281.83	742.37	533.33	3.551	CC, ES, SF

Offset Design													
GCU 599 Pad - Amoco 501 - OH - OH													
Survey Program:	100-UNKNOWN											Offset Site Error:	0.00 ft
Reference	Offset											Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	134.72	0.00	0.00	3.39	-100.40	-1,473.18	-8,027.53	8,161.58				
100.00	100.00	234.72	100.00	0.00	7.39	-100.40	-1,473.18	-8,027.53	8,161.58	8,154.19	7.39	1,104.559	
200.00	200.00	334.72	200.00	0.00	11.39	-100.40	-1,473.18	-8,027.53	8,161.58	8,150.19	11.39	716.620	
300.00	300.00	434.72	300.00	0.00	15.39	-100.40	-1,473.18	-8,027.53	8,161.58	8,146.19	15.39	530.352	
400.00	400.00	534.72	400.00	0.00	19.39	-100.40	-1,473.18	-8,027.53	8,161.58	8,142.19	19.39	420.939	
500.00	500.00	634.72	500.00	0.00	23.39	-100.40	-1,473.18	-8,027.53	8,161.58	8,138.19	23.39	348.950	
527.78	527.78	662.50	527.78	0.00	24.50	101.35	-1,473.18	-8,027.53	8,161.60	8,137.10	24.50	333.121	
600.00	600.00	734.72	600.00	0.00	27.39	101.36	-1,473.18	-8,027.53	8,161.67	8,134.28	27.39	297.994	

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Amoco 501 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN													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		
700.00	699.93	834.65	699.93	0.00	31.39	101.37	-1,473.18	-8,027.53	8,162.36	8,130.97	31.38	260.075		
800.00	799.68	934.40	799.68	0.00	35.38	101.39	-1,473.18	-8,027.53	8,163.74	8,126.37	35.37	230.803		
900.00	899.13	1,033.85	899.13	0.00	39.35	101.42	-1,473.18	-8,027.53	8,165.81	8,126.47	39.34	207.556		
1,000.00	998.15	1,132.87	998.15	0.00	43.31	101.46	-1,473.18	-8,027.53	8,168.60	8,125.31	43.29	188.677		
1,100.00	1,096.63	1,231.35	1,096.63	0.00	47.25	101.51	-1,473.18	-8,027.53	8,172.11	8,124.89	47.22	173.085		
1,200.00	1,194.44	1,329.16	1,194.44	0.00	51.17	101.56	-1,473.18	-8,027.53	8,176.36	8,125.24	51.11	159.962		
1,300.00	1,291.46	1,426.18	1,291.46	0.00	55.05	101.63	-1,473.18	-8,027.53	8,181.36	8,126.39	54.97	148.826		
1,400.00	1,387.58	1,522.30	1,387.58	0.00	58.89	101.69	-1,473.18	-8,027.53	8,187.15	8,126.36	58.79	139.264		
1,500.00	1,482.68	1,617.40	1,482.68	0.00	62.70	101.77	-1,473.18	-8,027.53	8,193.74	8,131.18	62.56	130.978		
1,600.00	1,576.65	1,711.37	1,576.65	0.00	66.45	101.84	-1,473.18	-8,027.53	8,201.17	8,134.89	66.28	123.744		
1,700.00	1,669.40	1,804.12	1,669.40	0.00	70.16	101.96	-1,473.18	-8,027.53	8,209.43	8,139.49	69.94	117.371		
1,800.00	1,761.79	1,896.51	1,761.79	0.00	73.86	102.20	-1,473.18	-8,027.53	8,218.07	8,144.45	73.62	111.630		
1,900.00	1,854.18	1,988.90	1,854.18	0.00	77.56	102.44	-1,473.18	-8,027.53	8,226.88	8,149.58	77.29	106.439		
2,000.00	1,946.57	2,081.29	1,946.57	0.00	81.25	102.68	-1,473.18	-8,027.53	8,235.85	8,154.88	80.96	101.722		
2,100.00	2,038.96	2,173.68	2,038.96	0.00	84.95	102.92	-1,473.18	-8,027.53	8,244.99	8,160.35	84.64	97.418		
2,200.00	2,131.34	2,266.06	2,131.34	0.00	88.64	103.16	-1,473.18	-8,027.53	8,254.30	8,165.99	88.31	93.474		
2,300.00	2,223.73	2,358.45	2,223.73	0.00	92.34	103.40	-1,473.18	-8,027.53	8,263.77	8,171.80	91.97	89.849		
2,400.00	2,316.12	2,450.84	2,316.12	0.00	96.03	103.64	-1,473.18	-8,027.53	8,273.41	8,177.77	95.64	86.504		
2,500.00	2,408.51	2,543.23	2,408.51	0.00	99.73	103.88	-1,473.18	-8,027.53	8,283.22	8,183.91	99.31	83.409		
2,600.00	2,500.90	2,635.62	2,500.90	0.00	103.42	104.12	-1,473.18	-8,027.53	8,293.19	8,190.22	102.97	80.537		
2,700.00	2,593.28	2,728.00	2,593.28	0.00	107.12	104.36	-1,473.18	-8,027.53	8,303.33	8,196.69	106.64	77.885		
2,800.00	2,685.67	2,820.39	2,685.67	0.00	110.82	104.60	-1,473.18	-8,027.53	8,313.63	8,203.33	110.30	75.373		
2,900.00	2,778.06	2,912.78	2,778.06	0.00	114.51	104.83	-1,473.18	-8,027.53	8,324.09	8,210.13	113.96	73.044		
3,000.00	2,870.45	3,005.17	2,870.45	0.00	118.21	105.07	-1,473.18	-8,027.53	8,334.72	8,217.10	117.62	70.881		
3,100.00	2,962.84	3,097.56	2,962.84	0.00	121.90	105.30	-1,473.18	-8,027.53	8,345.51	8,224.23	121.28	68.813		
3,200.00	3,055.22	3,189.94	3,055.22	0.00	125.60	105.54	-1,473.18	-8,027.53	8,356.46	8,231.52	124.94	66.886		
3,300.00	3,147.61	3,282.33	3,147.61	0.00	129.29	105.77	-1,473.18	-8,027.53	8,367.57	8,238.97	128.59	65.071		
3,400.00	3,240.00	3,374.72	3,240.00	0.00	132.99	106.01	-1,473.18	-8,027.53	8,378.84	8,246.59	132.25	63.358		
3,500.00	3,332.39	3,467.11	3,332.39	0.00	136.68	106.24	-1,473.18	-8,027.53	8,390.27	8,254.37	135.90	61.739		
3,600.00	3,424.78	3,559.50	3,424.78	0.00	140.38	106.48	-1,473.18	-8,027.53	8,401.85	8,262.30	139.55	60.206		
3,700.00	3,517.16	3,651.88	3,517.16	0.00	144.08	106.71	-1,473.18	-8,027.53	8,413.60	8,270.40	143.20	58.754		
3,800.00	3,609.56	3,744.28	3,609.56	0.00	147.77	106.96	-1,473.18	-8,027.53	8,425.50	8,278.64	146.86	57.370		
3,900.00	3,702.71	3,837.43	3,702.71	0.00	151.50	107.40	-1,473.18	-8,027.53	8,436.95	8,286.27	150.68	55.993		
4,000.00	3,797.08	3,931.80	3,797.08	0.00	155.27	107.81	-1,473.18	-8,027.53	8,447.49	8,292.94	154.55	54.657		
4,100.00	3,892.55	4,027.27	3,892.55	0.00	159.09	108.18	-1,473.18	-8,027.53	8,457.07	8,298.59	158.48	53.364		
4,200.00	3,989.00	4,123.72	3,989.00	0.00	162.95	108.50	-1,473.18	-8,027.53	8,465.66	8,303.21	162.45	52.113		
4,300.00	4,086.30	4,221.02	4,086.30	0.00	166.84	108.79	-1,473.18	-8,027.53	8,473.20	8,306.75	166.45	50.906		
4,400.00	4,184.36	4,319.08	4,184.36	0.00	170.76	109.04	-1,473.18	-8,027.53	8,479.67	8,309.20	170.47	49.742		
4,500.00	4,283.03	4,417.75	4,283.03	0.00	174.71	109.24	-1,473.18	-8,027.53	8,485.04	8,310.53	174.51	48.621		
4,600.00	4,382.22	4,516.94	4,382.22	0.00	178.68	109.40	-1,473.18	-8,027.53	8,489.28	8,310.72	178.56	47.543		
4,700.00	4,481.78	4,616.50	4,481.78	0.00	182.66	109.52	-1,473.18	-8,027.53	8,492.37	8,309.77	182.60	46.507		
4,800.00	4,581.61	4,716.33	4,581.61	0.00	186.65	109.59	-1,473.18	-8,027.53	8,494.31	8,307.67	186.64	45.513		
4,900.00	4,681.58	4,816.30	4,681.58	0.00	190.65	109.62	-1,473.18	-8,027.53	8,495.08	8,304.43	190.65	44.558		
5,000.00	4,781.27	4,915.99	4,781.27	0.00	194.64	-6.43	-1,473.18	-8,027.53	8,488.92	8,296.36	192.56	44.086		
5,100.00	4,878.41	5,013.13	4,878.41	0.00	198.53	-6.72	-1,473.18	-8,027.53	8,465.84	8,277.37	188.47	44.919		
5,200.00	4,970.04	5,104.76	4,970.04	0.00	202.19	-7.28	-1,473.18	-8,027.53	8,426.35	8,248.15	178.20	47.287		
5,300.00	5,053.37	5,188.09	5,053.37	0.00	205.52	-8.21	-1,473.18	-8,027.53	8,371.65	8,209.65	162.00	51.678		
5,400.00	5,125.88	5,260.60	5,125.88	0.00	208.42	-9.75	-1,473.18	-8,027.53	8,303.40	8,162.65	140.75	58.993		
5,500.00	5,185.36	5,320.08	5,185.36	0.00	210.80	-12.40	-1,473.18	-8,027.53	8,223.70	8,106.83	116.86	70.370		
5,600.00	5,235.09	5,369.81	5,235.09	0.00	212.79	-14.11	-1,473.18	-8,027.53	8,137.52	8,028.87	108.65	74.895		
5,700.00	5,273.40	5,408.12	5,273.40	0.00	214.32	-21.31	-1,473.18	-8,027.53	8,045.91	7,947.46	98.46	81.719		

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Amoco 501 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance									
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	Warning		
5,800.00	5,295.11	5,429.83	5,295.11	0.00	215.19	-42.18	-1,473.18	-8,027.53	7,949.10	7,803.09	146.01	54.441			
5,900.00	5,299.75	5,434.47	5,299.75	0.00	215.38	-97.80	-1,473.18	-8,027.53	7,850.03	7,636.85	213.39	36.788			
6,000.00	5,298.10	5,432.82	5,298.10	0.00	215.31	-97.70	-1,473.18	-8,027.53	7,750.78	7,537.40	213.37	36.325			
6,100.00	5,296.45	5,431.17	5,296.45	0.00	215.25	-97.60	-1,473.18	-8,027.53	7,651.54	7,438.18	213.36	35.863			
6,200.00	5,294.79	5,429.51	5,294.79	0.00	215.18	-97.50	-1,473.18	-8,027.53	7,552.32	7,338.98	213.34	35.400			
6,300.00	5,293.14	5,427.86	5,293.14	0.00	215.11	-97.40	-1,473.18	-8,027.53	7,453.12	7,239.80	213.32	34.938			
6,400.00	5,291.49	5,426.21	5,291.49	0.00	215.05	-97.30	-1,473.18	-8,027.53	7,353.95	7,140.64	213.30	34.476			
6,500.00	5,289.84	5,424.56	5,289.84	0.00	214.98	-97.20	-1,473.18	-8,027.53	7,254.79	7,041.51	213.29	34.014			
6,600.00	5,288.18	5,422.90	5,288.18	0.00	214.92	-97.11	-1,473.18	-8,027.53	7,155.66	6,942.40	213.27	33.553			
6,700.00	5,286.53	5,421.25	5,286.53	0.00	214.85	-97.01	-1,473.18	-8,027.53	7,056.55	6,843.31	213.25	33.091			
6,800.00	5,284.88	5,419.60	5,284.88	0.00	214.78	-96.91	-1,473.18	-8,027.53	6,957.47	6,744.25	213.23	32.630			
6,900.00	5,283.23	5,417.95	5,283.23	0.00	214.72	-96.81	-1,473.18	-8,027.53	6,858.42	6,645.21	213.20	32.168			
7,000.00	5,281.57	5,416.29	5,281.57	0.00	214.65	-96.71	-1,473.18	-8,027.53	6,759.39	6,546.21	213.18	31.707			
7,100.00	5,279.92	5,414.64	5,279.92	0.00	214.59	-96.61	-1,473.18	-8,027.53	6,660.39	6,447.23	213.16	31.246			
7,200.00	5,278.27	5,412.99	5,278.27	0.00	214.52	-96.51	-1,473.18	-8,027.53	6,561.42	6,348.28	213.14	30.785			
7,300.00	5,276.62	5,411.34	5,276.62	0.00	214.45	-96.41	-1,473.18	-8,027.53	6,462.48	6,249.37	213.11	30.324			
7,400.00	5,274.96	5,409.68	5,274.96	0.00	214.39	-96.31	-1,473.18	-8,027.53	6,363.58	6,150.49	213.09	29.864			
7,500.00	5,273.31	5,408.03	5,273.31	0.00	214.32	-96.21	-1,473.18	-8,027.53	6,264.71	6,051.64	213.06	29.403			
7,600.00	5,271.66	5,406.38	5,271.66	0.00	214.26	-96.11	-1,473.18	-8,027.53	6,165.87	5,952.83	213.04	28.943			
7,700.00	5,270.01	5,404.73	5,270.01	0.00	214.19	-96.01	-1,473.18	-8,027.53	6,067.07	5,854.06	213.01	28.482			
7,800.00	5,268.35	5,403.07	5,268.35	0.00	214.12	-95.91	-1,473.18	-8,027.53	5,968.32	5,755.33	212.98	28.022			
7,900.00	5,266.70	5,401.42	5,266.70	0.00	214.06	-95.81	-1,473.18	-8,027.53	5,869.60	5,656.64	212.96	27.562			
8,000.00	5,265.05	5,399.77	5,265.05	0.00	213.99	-95.71	-1,473.18	-8,027.53	5,770.93	5,558.00	212.93	27.103			
8,100.00	5,263.40	5,398.12	5,263.40	0.00	213.92	-95.61	-1,473.18	-8,027.53	5,672.30	5,459.40	212.90	26.643			
8,200.00	5,261.74	5,396.46	5,261.74	0.00	213.86	-95.51	-1,473.18	-8,027.53	5,573.72	5,360.85	212.87	26.184			
8,300.00	5,260.09	5,394.81	5,260.09	0.00	213.79	-95.41	-1,473.18	-8,027.53	5,475.20	5,262.36	212.84	25.725			
8,400.00	5,258.44	5,393.16	5,258.44	0.00	213.73	-95.31	-1,473.18	-8,027.53	5,376.72	5,163.92	212.81	25.266			
8,500.00	5,256.79	5,391.51	5,256.79	0.00	213.66	-95.21	-1,473.18	-8,027.53	5,278.31	5,065.53	212.78	24.807			
8,600.00	5,255.13	5,389.85	5,255.13	0.00	213.59	-95.11	-1,473.18	-8,027.53	5,179.95	4,967.21	212.74	24.348			
8,700.00	5,253.48	5,388.20	5,253.48	0.00	213.53	-95.02	-1,473.18	-8,027.53	5,081.66	4,868.95	212.71	23.890			
8,800.00	5,251.83	5,386.55	5,251.83	0.00	213.46	-94.92	-1,473.18	-8,027.53	4,983.43	4,770.76	212.68	23.432			
8,900.00	5,250.18	5,384.90	5,250.18	0.00	213.40	-94.82	-1,473.18	-8,027.53	4,885.28	4,672.64	212.64	22.974			
9,000.00	5,248.52	5,383.24	5,248.52	0.00	213.33	-94.72	-1,473.18	-8,027.53	4,787.20	4,574.60	212.61	22.517			
9,100.00	5,246.87	5,381.59	5,246.87	0.00	213.26	-94.62	-1,473.18	-8,027.53	4,689.21	4,476.63	212.57	22.059			
9,200.00	5,245.22	5,379.94	5,245.22	0.00	213.20	-94.52	-1,473.18	-8,027.53	4,591.30	4,378.76	212.54	21.602			
9,300.00	5,243.57	5,378.29	5,243.57	0.00	213.13	-94.42	-1,473.18	-8,027.53	4,493.48	4,280.98	212.50	21.146			
9,400.00	5,241.91	5,376.63	5,241.91	0.00	213.07	-94.32	-1,473.18	-8,027.53	4,395.75	4,183.29	212.46	20.690			
9,500.00	5,240.26	5,374.98	5,240.26	0.00	213.00	-94.21	-1,473.18	-8,027.53	4,298.13	4,085.71	212.42	20.234			
9,600.00	5,238.61	5,373.33	5,238.61	0.00	212.93	-94.11	-1,473.18	-8,027.53	4,200.63	3,988.24	212.38	19.778			
9,700.00	5,236.96	5,371.68	5,236.96	0.00	212.87	-94.01	-1,473.18	-8,027.53	4,103.24	3,890.90	212.34	19.323			
9,800.00	5,235.30	5,370.02	5,235.30	0.00	212.80	-93.91	-1,473.18	-8,027.53	4,005.98	3,793.68	212.30	18.869			
9,900.00	5,233.65	5,368.37	5,233.65	0.00	212.73	-93.81	-1,473.18	-8,027.53	3,908.86	3,696.60	212.26	18.415			
10,000.00	5,232.00	5,366.72	5,232.00	0.00	212.67	-93.71	-1,473.18	-8,027.53	3,811.89	3,599.66	212.22	17.962			
10,100.00	5,230.34	5,365.06	5,230.34	0.00	212.60	-93.61	-1,473.18	-8,027.53	3,715.07	3,502.89	212.18	17.509			
10,200.00	5,228.69	5,363.41	5,228.69	0.00	212.54	-93.51	-1,473.18	-8,027.53	3,618.43	3,406.29	212.14	17.057			
10,300.00	5,227.04	5,361.76	5,227.04	0.00	212.47	-93.41	-1,473.18	-8,027.53	3,521.98	3,309.88	212.09	16.606			
10,400.00	5,225.39	5,360.11	5,225.39	0.00	212.40	-93.31	-1,473.18	-8,027.53	3,425.72	3,213.68	212.05	16.155			
10,500.00	5,223.73	5,358.45	5,223.73	0.00	212.34	-93.21	-1,473.18	-8,027.53	3,329.69	3,117.69	212.00	15.706			
10,600.00	5,222.08	5,356.80	5,222.08	0.00	212.27	-93.11	-1,473.18	-8,027.53	3,233.90	3,021.94	211.96	15.257			
10,700.00	5,220.43	5,355.15	5,220.43	0.00	212.21	-93.01	-1,473.18	-8,027.53	3,138.37	2,926.46	211.91	14.810			

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Amoco 501 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN													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		
10,800.00	5,218.78	5,353.50	5,218.78	0.00	212.14	-92.91	-1,473.18	-8,027.53	3,043.13	2,831.26	211.87	14.363		
10,900.00	5,217.12	5,351.84	5,217.12	0.00	212.07	-92.81	-1,473.18	-8,027.53	2,948.20	2,736.38	211.82	13.918		
11,000.00	5,215.47	5,350.19	5,215.47	0.00	212.01	-92.71	-1,473.18	-8,027.53	2,853.61	2,641.84	211.77	13.475		
11,100.00	5,213.82	5,348.54	5,213.82	0.00	211.94	-92.61	-1,473.18	-8,027.53	2,759.41	2,547.68	211.72	13.033		
11,200.00	5,212.17	5,346.89	5,212.17	0.00	211.88	-92.51	-1,473.18	-8,027.53	2,665.62	2,453.95	211.67	12.593		
11,300.00	5,210.51	5,345.23	5,210.51	0.00	211.81	-92.41	-1,473.18	-8,027.53	2,572.31	2,360.69	211.62	12.155		
11,400.00	5,208.86	5,343.58	5,208.86	0.00	211.74	-92.31	-1,473.18	-8,027.53	2,479.51	2,267.94	211.57	11.719		
11,500.00	5,207.21	5,341.93	5,207.21	0.00	211.68	-92.21	-1,473.18	-8,027.53	2,387.30	2,175.78	211.52	11.286		
11,600.00	5,205.56	5,340.28	5,205.56	0.00	211.61	-92.11	-1,473.18	-8,027.53	2,295.74	2,084.27	211.47	10.856		
11,700.00	5,203.90	5,338.62	5,203.90	0.00	211.54	-92.01	-1,473.18	-8,027.53	2,204.90	1,993.49	211.42	10.429		
11,800.00	5,202.25	5,336.97	5,202.25	0.00	211.48	-91.91	-1,473.18	-8,027.53	2,114.90	1,903.54	211.36	10.006		
11,900.00	5,200.60	5,335.32	5,200.60	0.00	211.41	-91.81	-1,473.18	-8,027.53	2,025.83	1,814.52	211.31	9.587		
12,000.00	5,198.95	5,333.67	5,198.95	0.00	211.35	-91.71	-1,473.18	-8,027.53	1,937.82	1,726.57	211.25	9.173		
12,100.00	5,197.29	5,332.01	5,197.29	0.00	211.28	-91.60	-1,473.18	-8,027.53	1,851.04	1,639.84	211.20	8.764		
12,200.00	5,195.64	5,330.36	5,195.64	0.00	211.21	-91.50	-1,473.18	-8,027.53	1,765.65	1,554.51	211.14	8.362		
12,300.00	5,193.99	5,328.71	5,193.99	0.00	211.15	-91.40	-1,473.18	-8,027.53	1,681.87	1,470.78	211.09	7.968		
12,400.00	5,192.34	5,327.06	5,192.34	0.00	211.08	-91.30	-1,473.18	-8,027.53	1,599.95	1,388.92	211.03	7.582		
12,500.00	5,190.68	5,325.40	5,190.68	0.00	211.02	-91.20	-1,473.18	-8,027.53	1,520.20	1,309.23	210.97	7.206		
12,600.00	5,189.03	5,323.75	5,189.03	0.00	210.95	-91.10	-1,473.18	-8,027.53	1,442.96	1,232.05	210.91	6.842		
12,700.00	5,187.38	5,322.10	5,187.38	0.00	210.88	-91.00	-1,473.18	-8,027.53	1,368.68	1,157.83	210.85	6.491		
12,800.00	5,185.73	5,320.45	5,185.73	0.00	210.82	-90.90	-1,473.18	-8,027.53	1,297.86	1,087.06	210.79	6.157		
12,900.00	5,184.07	5,318.79	5,184.07	0.00	210.75	-90.80	-1,473.18	-8,027.53	1,231.08	1,020.35	210.73	5.842		
13,000.00	5,182.42	5,317.14	5,182.42	0.00	210.69	-90.70	-1,473.18	-8,027.53	1,169.05	958.38	210.67	5.549		
13,100.00	5,180.77	5,315.49	5,180.77	0.00	210.62	-90.60	-1,473.18	-8,027.53	1,112.57	901.96	210.61	5.283		
13,200.00	5,179.12	5,313.84	5,179.12	0.00	210.55	-90.50	-1,473.18	-8,027.53	1,062.51	851.96	210.55	5.046		
13,300.00	5,177.46	5,312.18	5,177.46	0.00	210.49	-90.40	-1,473.18	-8,027.53	1,019.82	809.34	210.48	4.845		
13,400.00	5,175.81	5,310.53	5,175.81	0.00	210.42	-90.30	-1,473.18	-8,027.53	985.47	775.05	210.42	4.683		
13,500.00	5,174.16	5,308.88	5,174.16	0.00	210.36	-90.20	-1,473.18	-8,027.53	960.34	749.98	210.35	4.565		
13,600.00	5,172.51	5,307.23	5,172.51	0.00	210.29	-90.10	-1,473.18	-8,027.53	945.17	734.88	210.29	4.495		
13,694.56	5,170.94	5,305.66	5,170.94	0.00	210.23	-90.00	-1,473.18	-8,027.53	940.43	730.20	210.23	4.473	CC, ES, SF	
13,700.00	5,170.85	5,305.57	5,170.85	0.00	210.22	-89.99	-1,473.18	-8,027.53	940.44	730.22	210.22	4.474		
13,800.00	5,169.20	5,303.92	5,169.20	0.00	210.16	-89.89	-1,473.18	-8,027.53	946.32	736.16	210.16	4.503		
13,900.00	5,167.55	5,302.27	5,167.55	0.00	210.09	-89.79	-1,473.18	-8,027.53	962.60	752.51	210.09	4.582		
14,000.00	5,165.90	5,300.62	5,165.90	0.00	210.02	-89.69	-1,473.18	-8,027.53	988.77	778.75	210.02	4.708		
14,100.00	5,164.24	5,298.96	5,164.24	0.00	209.96	-89.59	-1,473.18	-8,027.53	1,024.08	814.12	209.95	4.878		
14,200.00	5,162.59	5,297.31	5,162.59	0.00	209.89	-89.49	-1,473.18	-8,027.53	1,067.61	857.73	209.88	5.087		
14,300.00	5,160.94	5,295.66	5,160.94	0.00	209.83	-89.39	-1,473.18	-8,027.53	1,118.42	908.60	209.81	5.330		
14,400.00	5,159.29	5,294.01	5,159.29	0.00	209.76	-89.29	-1,473.18	-8,027.53	1,175.55	965.80	209.74	5.605		
14,500.00	5,157.63	5,292.35	5,157.63	0.00	209.69	-89.19	-1,473.18	-8,027.53	1,238.12	1,028.45	209.67	5.905		
14,600.00	5,155.98	5,290.70	5,155.98	0.00	209.63	-89.09	-1,473.18	-8,027.53	1,305.37	1,095.77	209.60	6.228		
14,700.00	5,154.33	5,289.05	5,154.33	0.00	209.56	-88.99	-1,473.18	-8,027.53	1,376.60	1,167.07	209.53	6.570		
14,800.00	5,152.67	5,287.39	5,152.67	0.00	209.50	-88.89	-1,473.18	-8,027.53	1,451.23	1,241.77	209.46	6.929		
14,900.00	5,151.02	5,285.74	5,151.02	0.00	209.43	-88.79	-1,473.18	-8,027.53	1,528.75	1,319.37	209.38	7.301		
14,961.86	5,150.00	5,284.72	5,150.00	0.00	209.39	-88.72	-1,473.18	-8,027.53	1,577.98	1,368.64	209.34	7.538		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168-DK - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6210-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Separation Factor		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	43.81	0.00	0.00	0.88	-157.38	-473.45	-197.31	512.92					
100.00	100.00	143.81	100.00	0.00	2.88	-157.38	-473.45	-197.31	512.92	510.04	2.88	178.308		
200.00	200.00	243.81	200.00	0.00	4.88	-157.38	-473.45	-197.31	512.92	508.04	4.88	105.180		
300.00	300.00	343.81	300.00	0.00	6.88	-157.38	-473.45	-197.31	512.92	506.04	6.88	74.589		
400.00	400.00	443.81	400.00	0.00	8.88	-157.38	-473.45	-197.31	512.92	504.04	8.88	57.784		
500.00	500.00	543.81	500.00	0.00	10.88	-157.38	-473.45	-197.31	512.92	502.04	10.88	47.158		
600.00	600.00	643.81	600.00	0.00	12.88	44.42	-473.45	-197.31	512.61	499.73	12.88	39.813		
700.00	699.93	743.74	699.93	0.00	14.88	44.73	-473.45	-197.31	510.12	495.26	14.86	34.317		
800.00	799.68	843.49	799.68	0.00	16.87	45.35	-473.45	-197.31	505.19	488.35	16.84	30.002		
900.00	899.13	942.94	899.13	0.00	18.86	46.31	-473.45	-197.31	497.88	479.09	18.79	26.494		
1,000.00	998.15	1,041.96	998.15	0.00	20.84	47.63	-473.45	-197.31	488.33	467.61	20.72	23.564		
1,100.00	1,096.63	1,140.44	1,096.63	0.00	22.81	49.33	-473.45	-197.31	476.72	454.09	22.63	21.064		
1,200.00	1,194.44	1,238.25	1,194.44	0.00	24.77	51.47	-473.45	-197.31	463.29	438.77	24.52	18.894		
1,300.00	1,291.46	1,335.27	1,291.46	0.00	26.71	54.08	-473.45	-197.31	448.38	421.98	26.40	16.986		
1,400.00	1,387.58	1,431.39	1,387.58	0.00	28.63	57.23	-473.45	-197.31	432.40	404.14	28.27	15.297		
1,500.00	1,482.68	1,526.49	1,482.68	0.00	30.53	60.97	-473.45	-197.31	415.94	385.80	30.15	13.797		
1,600.00	1,576.65	1,620.46	1,576.65	0.00	32.41	65.35	-473.45	-197.31	399.72	367.68	32.05	12.474		
1,700.00	1,669.40	1,713.21	1,669.40	0.00	34.26	70.31	-473.45	-197.31	384.71	350.73	33.98	11.322		
1,800.00	1,761.79	1,805.60	1,761.79	0.00	36.11	75.46	-473.45	-197.31	372.59	336.65	35.95	10.366		
1,900.00	1,854.18	1,897.99	1,854.18	0.00	37.96	80.86	-473.45	-197.31	364.12	326.23	37.89	9.610		
2,000.00	1,946.57	1,990.38	1,946.57	0.00	39.81	86.44	-473.45	-197.31	359.54	319.74	39.80	9.034		
2,063.15	2,004.91	2,048.72	2,004.91	0.00	40.97	90.00	-473.45	-197.31	358.73	317.75	40.97	8.755 CC		
2,100.00	2,038.96	2,082.77	2,038.96	0.00	41.66	92.08	-473.45	-197.31	359.00	317.35	41.65	8.619 ES		
2,200.00	2,131.34	2,175.15	2,131.34	0.00	43.50	97.68	-473.45	-197.31	362.53	319.08	43.45	8.344		
2,300.00	2,223.73	2,267.54	2,223.73	0.00	45.35	103.14	-473.45	-197.31	370.00	324.82	45.18	8.190		
2,400.00	2,316.12	2,359.93	2,316.12	0.00	47.20	108.37	-473.45	-197.31	381.18	334.33	46.85	8.135		
2,500.00	2,408.51	2,452.32	2,408.51	0.00	49.05	113.29	-473.45	-197.31	395.77	347.29	48.48	8.163		
2,600.00	2,500.90	2,544.71	2,500.90	0.00	50.89	117.88	-473.45	-197.31	413.39	363.32	50.07	8.256		
2,700.00	2,593.28	2,637.09	2,593.28	0.00	52.74	122.11	-473.45	-197.31	433.68	382.04	51.64	8.398		
2,800.00	2,685.67	2,729.48	2,685.67	0.00	54.59	125.99	-473.45	-197.31	456.29	403.09	53.19	8.578		
2,900.00	2,778.06	2,821.87	2,778.06	0.00	56.44	129.52	-473.45	-197.31	480.88	426.14	54.74	8.785		
3,000.00	2,870.45	2,914.26	2,870.45	0.00	58.29	132.72	-473.45	-197.31	507.17	450.88	56.29	9.010		
3,100.00	2,962.84	3,006.65	2,962.84	0.00	60.13	135.62	-473.45	-197.31	534.90	477.06	57.84	9.248		
3,200.00	3,055.22	3,099.03	3,055.22	0.00	61.98	138.25	-473.45	-197.31	563.87	504.47	59.40	9.493		
3,300.00	3,147.61	3,191.42	3,147.61	0.00	63.83	140.64	-473.45	-197.31	593.90	532.93	60.97	9.741		
3,400.00	3,240.00	3,283.81	3,240.00	0.00	65.68	142.80	-473.45	-197.31	624.83	562.28	62.55	9.989		
3,500.00	3,332.39	3,376.20	3,332.39	0.00	67.52	144.77	-473.45	-197.31	656.53	592.39	64.14	10.236		
3,600.00	3,424.78	3,468.59	3,424.78	0.00	69.37	146.57	-473.45	-197.31	688.89	623.16	65.74	10.479		
3,700.00	3,517.16	3,560.97	3,517.16	0.00	71.22	148.21	-473.45	-197.31	721.84	654.49	67.35	10.718		
3,800.00	3,609.56	3,653.37	3,609.56	0.00	73.07	149.74	-473.45	-197.31	755.28	686.25	69.03	10.942		
3,900.00	3,702.71	3,746.52	3,702.71	0.00	74.93	151.38	-473.45	-197.31	787.44	716.08	71.37	11.034		
4,000.00	3,797.08	3,840.89	3,797.08	0.00	76.82	152.76	-473.45	-197.31	817.02	743.26	73.76	11.077		
4,100.00	3,892.55	3,936.36	3,892.55	0.00	78.73	153.93	-473.45	-197.31	843.85	767.67	76.18	11.077		
4,200.00	3,989.00	4,032.81	3,989.00	0.00	80.66	154.90	-473.45	-197.31	867.83	789.22	78.61	11.040		
4,300.00	4,086.30	4,130.11	4,086.30	0.00	82.60	155.70	-473.45	-197.31	888.84	807.81	81.03	10.970		
4,400.00	4,184.36	4,228.17	4,184.36	0.00	84.56	156.36	-473.45	-197.31	906.82	823.40	83.42	10.871		
4,500.00	4,283.03	4,326.84	4,283.03	0.00	86.54	156.88	-473.45	-197.31	921.70	835.93	85.77	10.746		
4,600.00	4,382.22	4,426.03	4,382.22	0.00	88.52	157.28	-473.45	-197.31	933.43	845.37	88.06	10.599		
4,700.00	4,481.78	4,525.59	4,481.78	0.00	90.51	157.56	-473.45	-197.31	941.99	851.69	90.29	10.432		
4,800.00	4,581.61	4,625.42	4,581.61	0.00	92.51	157.73	-473.45	-197.31	947.33	854.88	92.44	10.248		
4,900.00	4,681.58	4,725.39	4,681.58	0.00	94.51	157.80	-473.45	-197.31	949.45	854.94	94.51	10.046		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
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Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168-DK - OH - OH													Offset Site Error: 0.00 ft	
Survey Program: 6210-UNKNOWN													Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance							
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	Warning	
5,000.00	4,781.27	4,825.08	4,781.27	0.00	96.50	42.39	-473.45	-197.31	944.86	848.93	95.93	9.849		
5,100.00	4,878.41	4,922.22	4,878.41	0.00	98.44	44.55	-473.45	-197.31	927.76	831.85	95.91	9.673		
5,200.00	4,970.04	5,013.85	4,970.04	0.00	100.28	48.45	-473.45	-197.31	899.12	803.98	95.14	9.450		
5,300.00	5,053.37	5,097.18	5,053.37	0.00	101.94	54.19	-473.45	-197.31	880.92	765.96	94.96	9.066		
5,400.00	5,125.88	5,169.69	5,125.88	0.00	103.39	61.67	-473.45	-197.31	815.95	719.30	96.66	8.442		
5,500.00	5,185.36	5,229.17	5,185.36	0.00	104.58	70.25	-473.45	-197.31	767.88	667.73	100.16	7.667		
5,600.00	5,235.09	5,278.90	5,235.09	0.00	105.58	75.75	-473.45	-197.31	722.36	619.33	103.03	7.011		
5,700.00	5,273.40	5,317.21	5,273.40	0.00	106.34	83.06	-473.45	-197.31	682.78	577.14	105.64	6.463		
5,800.00	5,295.11	5,338.92	5,295.11	0.00	106.78	88.12	-473.45	-197.31	652.60	545.88	106.72	6.115		
5,900.00	5,299.75	5,343.56	5,299.75	0.00	106.87	90.09	-473.45	-197.31	635.87	529.00	106.87	5.950		
5,958.17	5,298.79	5,342.60	5,298.79	0.00	106.85	90.00	-473.45	-197.31	633.20	526.35	106.85	5.926 SF		
6,000.00	5,298.10	5,341.91	5,298.10	0.00	106.84	89.94	-473.45	-197.31	634.58	527.74	106.84	5.940		
6,100.00	5,296.45	5,340.26	5,296.45	0.00	106.81	89.79	-473.45	-197.31	648.89	542.08	106.80	6.075		
6,200.00	5,294.79	5,338.60	5,294.79	0.00	106.77	89.64	-473.45	-197.31	677.80	571.03	106.77	6.348		
6,300.00	5,293.14	5,336.95	5,293.14	0.00	106.74	89.49	-473.45	-197.31	719.55	612.82	106.74	6.742		
6,400.00	5,291.49	5,335.30	5,291.49	0.00	106.71	89.34	-473.45	-197.31	772.08	665.38	106.70	7.236		
6,500.00	5,289.84	5,333.65	5,289.84	0.00	106.67	89.19	-473.45	-197.31	833.33	726.67	106.66	7.813		
6,600.00	5,288.18	5,331.99	5,288.18	0.00	106.64	89.04	-473.45	-197.31	901.54	794.92	106.63	8.455		
6,700.00	5,286.53	5,330.34	5,286.53	0.00	106.61	88.89	-473.45	-197.31	975.25	868.66	106.59	9.150		
6,800.00	5,284.88	5,328.69	5,284.88	0.00	106.57	88.74	-473.45	-197.31	1,053.29	946.75	106.55	9.886		
6,900.00	5,283.23	5,327.04	5,283.23	0.00	106.54	88.59	-473.45	-197.31	1,134.79	1,028.28	106.51	10.654		
7,000.00	5,281.57	5,325.38	5,281.57	0.00	106.51	88.44	-473.45	-197.31	1,219.04	1,112.57	106.47	11.450		
7,100.00	5,279.92	5,323.73	5,279.92	0.00	106.47	88.29	-473.45	-197.31	1,305.51	1,199.08	106.43	12.267		
7,200.00	5,278.27	5,322.08	5,278.27	0.00	106.44	88.14	-473.45	-197.31	1,393.79	1,287.41	106.39	13.101		
7,300.00	5,276.62	5,320.43	5,276.62	0.00	106.41	87.99	-473.45	-197.31	1,483.56	1,377.22	106.34	13.951		
7,400.00	5,274.96	5,318.77	5,274.96	0.00	106.38	87.85	-473.45	-197.31	1,574.56	1,468.26	106.30	14.812		
7,500.00	5,273.31	5,317.12	5,273.31	0.00	106.34	87.70	-473.45	-197.31	1,666.59	1,560.34	106.26	15.685		
7,600.00	5,271.66	5,315.47	5,271.66	0.00	106.31	87.55	-473.45	-197.31	1,759.49	1,653.28	106.21	16.566		
7,700.00	5,270.01	5,313.82	5,270.01	0.00	106.28	87.40	-473.45	-197.31	1,853.13	1,746.96	106.17	17.455		
7,800.00	5,268.35	5,312.16	5,268.35	0.00	106.24	87.25	-473.45	-197.31	1,947.40	1,841.28	106.12	18.351		
7,900.00	5,266.70	5,310.51	5,266.70	0.00	106.21	87.10	-473.45	-197.31	2,042.21	1,936.13	106.07	19.253		
8,000.00	5,265.05	5,308.86	5,265.05	0.00	106.18	86.95	-473.45	-197.31	2,137.49	2,031.47	106.03	20.160		
8,100.00	5,263.40	5,307.21	5,263.40	0.00	106.14	86.80	-473.45	-197.31	2,233.19	2,127.21	105.98	21.072		
8,200.00	5,261.74	5,305.55	5,261.74	0.00	106.11	86.65	-473.45	-197.31	2,329.24	2,223.31	105.93	21.988		
8,300.00	5,260.09	5,303.90	5,260.09	0.00	106.08	86.50	-473.45	-197.31	2,425.62	2,319.73	105.88	22.909		
8,400.00	5,258.44	5,302.25	5,258.44	0.00	106.04	86.35	-473.45	-197.31	2,522.27	2,416.44	105.83	23.833		
8,500.00	5,256.79	5,300.60	5,256.79	0.00	106.01	86.21	-473.45	-197.31	2,619.17	2,513.40	105.78	24.761		
8,600.00	5,255.13	5,298.94	5,255.13	0.00	105.98	86.06	-473.45	-197.31	2,716.30	2,610.57	105.73	25.691		
8,700.00	5,253.48	5,297.29	5,253.48	0.00	105.95	85.91	-473.45	-197.31	2,813.63	2,707.96	105.68	26.625		
8,800.00	5,251.83	5,295.64	5,251.83	0.00	105.91	85.76	-473.45	-197.31	2,911.14	2,805.52	105.62	27.562		
8,900.00	5,250.18	5,293.99	5,250.18	0.00	105.88	85.61	-473.45	-197.31	3,008.81	2,903.24	105.57	28.501		
9,000.00	5,248.52	5,292.33	5,248.52	0.00	105.85	85.46	-473.45	-197.31	3,106.63	3,001.11	105.52	29.443		
9,100.00	5,246.87	5,290.68	5,246.87	0.00	105.81	85.31	-473.45	-197.31	3,204.58	3,099.12	105.46	30.387		
9,200.00	5,245.22	5,289.03	5,245.22	0.00	105.78	85.16	-473.45	-197.31	3,302.66	3,197.25	105.40	31.333		
9,300.00	5,243.57	5,287.38	5,243.57	0.00	105.75	85.02	-473.45	-197.31	3,400.84	3,295.49	105.35	32.282		
9,400.00	5,241.91	5,285.72	5,241.91	0.00	105.71	84.87	-473.45	-197.31	3,499.13	3,393.84	105.29	33.233		
9,500.00	5,240.26	5,284.07	5,240.26	0.00	105.68	84.72	-473.45	-197.31	3,597.51	3,492.28	105.23	34.186		
9,600.00	5,238.61	5,282.42	5,238.61	0.00	105.65	84.57	-473.45	-197.31	3,695.98	3,590.80	105.17	35.141		
9,700.00	5,236.96	5,280.77	5,236.96	0.00	105.62	84.42	-473.45	-197.31	3,794.52	3,689.41	105.12	36.099		
9,800.00	5,235.30	5,279.11	5,235.30	0.00	105.58	84.28	-473.45	-197.31	3,893.14	3,788.09	105.06	37.058		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168-DK - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6210-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface	Distance		Minimum Separation	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,900.00	5,233.65	5,277.46	5,233.65	0.00	105.55	84.13	-473.45	-197.31	3,991.83	3,886.84	105.00	38.019		
10,000.00	5,232.00	5,275.81	5,232.00	0.00	105.52	83.98	-473.45	-197.31	4,090.58	3,985.65	104.93	38.982		
10,100.00	5,230.34	5,274.15	5,230.34	0.00	105.48	83.83	-473.45	-197.31	4,189.39	4,084.52	104.87	39.947		
10,200.00	5,228.69	5,272.50	5,228.69	0.00	105.45	83.68	-473.45	-197.31	4,288.26	4,183.45	104.81	40.914		
10,300.00	5,227.04	5,270.85	5,227.04	0.00	105.42	83.54	-473.45	-197.31	4,387.17	4,282.42	104.75	41.883		
10,400.00	5,225.39	5,269.20	5,225.39	0.00	105.38	83.39	-473.45	-197.31	4,486.13	4,381.45	104.68	42.854		
10,500.00	5,223.73	5,267.54	5,223.73	0.00	105.35	83.24	-473.45	-197.31	4,585.14	4,480.52	104.62	43.827		
10,600.00	5,222.08	5,265.89	5,222.08	0.00	105.32	83.09	-473.45	-197.31	4,684.19	4,579.64	104.55	44.802		
10,700.00	5,220.43	5,264.24	5,220.43	0.00	105.28	82.95	-473.45	-197.31	4,783.28	4,678.79	104.49	45.778		
10,800.00	5,218.78	5,262.59	5,218.78	0.00	105.25	82.80	-473.45	-197.31	4,882.40	4,777.98	104.42	46.756		
10,900.00	5,217.12	5,260.93	5,217.12	0.00	105.22	82.65	-473.45	-197.31	4,981.56	4,877.21	104.36	47.737		
11,000.00	5,215.47	5,259.28	5,215.47	0.00	105.19	82.50	-473.45	-197.31	5,080.75	4,976.47	104.29	48.719		
11,100.00	5,213.82	5,257.63	5,213.82	0.00	105.15	82.36	-473.45	-197.31	5,179.97	5,075.76	104.22	49.703		
11,200.00	5,212.17	5,255.98	5,212.17	0.00	105.12	82.21	-473.45	-197.31	5,279.23	5,175.07	104.15	50.689		
11,300.00	5,210.51	5,254.32	5,210.51	0.00	105.09	82.06	-473.45	-197.31	5,378.50	5,274.42	104.08	51.676		
11,400.00	5,208.86	5,252.67	5,208.86	0.00	105.05	81.92	-473.45	-197.31	5,477.81	5,373.80	104.01	52.666		
11,500.00	5,207.21	5,251.02	5,207.21	0.00	105.02	81.77	-473.45	-197.31	5,577.13	5,473.20	103.94	53.657		
11,600.00	5,205.56	5,249.37	5,205.56	0.00	104.99	81.62	-473.45	-197.31	5,676.49	5,572.62	103.87	54.651		
11,700.00	5,203.90	5,247.71	5,203.90	0.00	104.95	81.48	-473.45	-197.31	5,775.86	5,672.06	103.80	55.646		
11,800.00	5,202.25	5,246.06	5,202.25	0.00	104.92	81.33	-473.45	-197.31	5,875.25	5,771.53	103.72	56.643		
11,900.00	5,200.60	5,244.41	5,200.60	0.00	104.89	81.19	-473.45	-197.31	5,974.67	5,871.02	103.65	57.643		
12,000.00	5,198.95	5,242.76	5,198.95	0.00	104.86	81.04	-473.45	-197.31	6,074.10	5,970.52	103.58	58.644		
12,100.00	5,197.29	5,241.10	5,197.29	0.00	104.82	80.89	-473.45	-197.31	6,173.55	6,070.05	103.50	59.647		
12,200.00	5,195.64	5,239.45	5,195.64	0.00	104.79	80.75	-473.45	-197.31	6,273.02	6,169.59	103.43	60.652		
12,300.00	5,193.99	5,237.80	5,193.99	0.00	104.76	80.60	-473.45	-197.31	6,372.50	6,269.15	103.35	61.659		
12,400.00	5,192.34	5,236.15	5,192.34	0.00	104.72	80.46	-473.45	-197.31	6,472.00	6,368.73	103.27	62.668		
12,500.00	5,190.68	5,234.49	5,190.68	0.00	104.69	80.31	-473.45	-197.31	6,571.51	6,468.32	103.20	63.679		
12,600.00	5,189.03	5,232.84	5,189.03	0.00	104.66	80.17	-473.45	-197.31	6,671.04	6,567.92	103.12	64.692		
12,700.00	5,187.38	5,231.19	5,187.38	0.00	104.62	80.02	-473.45	-197.31	6,770.58	6,667.54	103.04	65.707		
12,800.00	5,185.73	5,229.54	5,185.73	0.00	104.59	79.88	-473.45	-197.31	6,870.14	6,767.17	102.96	66.724		
12,900.00	5,184.07	5,227.88	5,184.07	0.00	104.56	79.73	-473.45	-197.31	6,969.70	6,866.82	102.88	67.743		
13,000.00	5,182.42	5,226.23	5,182.42	0.00	104.52	79.59	-473.45	-197.31	7,069.28	6,966.48	102.80	68.765		
13,100.00	5,180.77	5,224.58	5,180.77	0.00	104.49	79.44	-473.45	-197.31	7,168.87	7,066.15	102.72	69.788		
13,200.00	5,179.12	5,222.93	5,179.12	0.00	104.46	79.30	-473.45	-197.31	7,268.47	7,165.83	102.64	70.813		
13,300.00	5,177.46	5,221.27	5,177.46	0.00	104.43	79.15	-473.45	-197.31	7,368.09	7,265.52	102.56	71.841		
13,400.00	5,175.81	5,219.62	5,175.81	0.00	104.39	79.01	-473.45	-197.31	7,467.71	7,365.23	102.48	72.871		
13,500.00	5,174.16	5,217.97	5,174.16	0.00	104.36	78.87	-473.45	-197.31	7,567.34	7,464.94	102.40	73.903		
13,600.00	5,172.51	5,216.32	5,172.51	0.00	104.33	78.72	-473.45	-197.31	7,666.98	7,564.67	102.31	74.937		
13,700.00	5,170.85	5,214.66	5,170.85	0.00	104.29	78.58	-473.45	-197.31	7,766.63	7,664.40	102.23	75.973		
13,800.00	5,169.20	5,213.01	5,169.20	0.00	104.26	78.44	-473.45	-197.31	7,866.29	7,764.14	102.14	77.011		
13,900.00	5,167.55	5,211.36	5,167.55	0.00	104.23	78.29	-473.45	-197.31	7,965.95	7,863.89	102.06	78.052		
14,000.00	5,165.90	5,209.71	5,165.90	0.00	104.19	78.15	-473.45	-197.31	8,065.63	7,963.65	101.97	79.095		
14,100.00	5,164.24	5,208.05	5,164.24	0.00	104.16	78.01	-473.45	-197.31	8,165.31	8,063.42	101.89	80.140		
14,200.00	5,162.59	5,206.40	5,162.59	0.00	104.13	77.86	-473.45	-197.31	8,265.00	8,163.19	101.80	81.188		
14,300.00	5,160.94	5,204.75	5,160.94	0.00	104.09	77.72	-473.45	-197.31	8,364.69	8,262.98	101.71	82.237		
14,400.00	5,159.29	5,203.10	5,159.29	0.00	104.06	77.58	-473.45	-197.31	8,464.39	8,362.77	101.63	83.289		
14,500.00	5,157.63	5,201.44	5,157.63	0.00	104.03	77.43	-473.45	-197.31	8,564.10	8,462.57	101.54	84.344		
14,600.00	5,155.98	5,199.79	5,155.98	0.00	104.00	77.29	-473.45	-197.31	8,663.82	8,562.37	101.45	85.401		
14,700.00	5,154.33	5,198.14	5,154.33	0.00	103.96	77.15	-473.45	-197.31	8,763.54	8,662.18	101.36	86.460		
14,800.00	5,152.67	5,196.48	5,152.67	0.00	103.93	77.01	-473.45	-197.31	8,863.27	8,762.00	101.27	87.521		
14,900.00	5,151.02	5,194.83	5,151.02	0.00	103.90	76.87	-473.45	-197.31	8,963.00	8,861.82	101.18	88.585		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168-DK - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 6210-UNKNOWN												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	
14,961.86	5,150.00	5,193.81	5,150.00	0.00	103.88	76.78	-473.45	-197.31	9,024.70	8,923.58	101.12	89.244	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168E-GP - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 6179-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.00	0.00	1.07	0.00	0.00	0.02	-95.76	-310.39	-3,074.45	3,090.07						
100.00	100.00	101.07	100.00	0.00	2.02	-95.76	-310.39	-3,074.45	3,090.07	3,088.05	2.02	1,528.380			
200.00	200.00	201.07	200.00	0.00	4.02	-95.76	-310.39	-3,074.45	3,090.07	3,088.05	4.02	768.332			
300.00	300.00	301.07	300.00	0.00	6.02	-95.76	-310.39	-3,074.45	3,090.07	3,084.05	6.02	513.149			
400.00	400.00	401.07	400.00	0.00	8.02	-95.76	-310.39	-3,074.45	3,090.07	3,082.05	8.02	385.210			
500.00	500.00	501.07	500.00	0.00	10.02	-95.76	-310.39	-3,074.45	3,090.07	3,080.05	10.02	308.336			
527.79	527.79	528.86	527.79	0.00	10.58	105.99	-310.39	-3,074.45	3,090.09	3,079.52	10.58	292.135			
600.00	600.00	601.07	600.00	0.00	12.02	105.99	-310.39	-3,074.45	3,090.19	3,078.17	12.02	257.054			
700.00	699.93	701.00	699.93	0.00	14.02	106.04	-310.39	-3,074.45	3,091.16	3,077.14	14.02	220.499			
800.00	799.68	800.75	799.68	0.00	16.02	106.12	-310.39	-3,074.45	3,093.10	3,077.08	16.01	193.189			
900.00	899.13	900.20	899.13	0.00	18.00	106.25	-310.39	-3,074.45	3,096.02	3,078.03	17.99	172.060			
1,000.00	998.15	999.22	998.15	0.00	19.98	106.42	-310.39	-3,074.45	3,099.98	3,080.01	19.97	155.269			
1,100.00	1,096.63	1,097.70	1,096.63	0.00	21.95	106.63	-310.39	-3,074.45	3,104.98	3,083.06	21.92	141.641			
1,200.00	1,194.44	1,195.51	1,194.44	0.00	23.91	106.87	-310.39	-3,074.45	3,111.10	3,087.24	23.86	130.392			
1,300.00	1,291.46	1,292.53	1,291.46	0.00	25.85	107.15	-310.39	-3,074.45	3,118.37	3,092.60	25.78	120.981			
1,400.00	1,387.58	1,388.65	1,387.58	0.00	27.77	107.45	-310.39	-3,074.45	3,126.87	3,099.20	27.67	113.020			
1,500.00	1,482.68	1,483.75	1,482.68	0.00	29.68	107.78	-310.39	-3,074.45	3,136.66	3,107.13	29.53	106.225			
1,600.00	1,576.65	1,577.72	1,576.65	0.00	31.55	108.12	-310.39	-3,074.45	3,147.80	3,116.45	31.36	100.383			
1,700.00	1,669.40	1,670.47	1,669.40	0.00	33.41	108.55	-310.39	-3,074.45	3,160.36	3,127.20	33.16	95.302			
1,800.00	1,761.79	1,762.86	1,761.79	0.00	35.26	109.16	-310.39	-3,074.45	3,173.63	3,138.65	34.98	90.731			
1,900.00	1,854.18	1,855.25	1,854.18	0.00	37.11	109.76	-310.39	-3,074.45	3,187.30	3,150.51	36.79	86.627			
2,000.00	1,946.57	1,947.64	1,946.57	0.00	38.95	110.37	-310.39	-3,074.45	3,201.37	3,162.76	38.61	82.924			
2,100.00	2,038.96	2,040.03	2,038.96	0.00	40.80	110.96	-310.39	-3,074.45	3,215.83	3,175.42	40.42	79.567			
2,200.00	2,131.34	2,132.41	2,131.34	0.00	42.65	111.56	-310.39	-3,074.45	3,230.68	3,188.46	42.22	76.511			
2,300.00	2,223.73	2,224.80	2,223.73	0.00	44.50	112.14	-310.39	-3,074.45	3,245.92	3,201.89	44.03	73.719			
2,400.00	2,316.12	2,317.19	2,316.12	0.00	46.34	112.73	-310.39	-3,074.45	3,261.53	3,215.70	45.83	71.158			
2,500.00	2,408.51	2,409.58	2,408.51	0.00	48.19	113.30	-310.39	-3,074.45	3,277.52	3,229.88	47.64	68.803			
2,600.00	2,500.90	2,501.97	2,500.90	0.00	50.04	113.88	-310.39	-3,074.45	3,293.87	3,244.44	49.44	66.629			
2,700.00	2,593.28	2,594.35	2,593.28	0.00	51.89	114.44	-310.39	-3,074.45	3,310.59	3,259.35	51.23	64.619			
2,800.00	2,685.67	2,686.74	2,685.67	0.00	53.73	115.01	-310.39	-3,074.45	3,327.66	3,274.63	53.03	62.754			
2,900.00	2,778.06	2,779.13	2,778.06	0.00	55.58	115.56	-310.39	-3,074.45	3,345.08	3,290.26	54.82	61.020			
3,000.00	2,870.45	2,871.52	2,870.45	0.00	57.43	116.12	-310.39	-3,074.45	3,362.85	3,306.24	56.61	59.404			
3,100.00	2,962.84	2,963.91	2,962.84	0.00	59.28	116.66	-310.39	-3,074.45	3,380.95	3,322.56	58.40	57.895			
3,200.00	3,055.22	3,056.29	3,055.22	0.00	61.13	117.21	-310.39	-3,074.45	3,399.39	3,339.21	60.18	56.484			
3,300.00	3,147.61	3,148.68	3,147.61	0.00	62.97	117.74	-310.39	-3,074.45	3,418.16	3,356.20	61.97	55.161			
3,400.00	3,240.00	3,241.07	3,240.00	0.00	64.82	118.27	-310.39	-3,074.45	3,437.26	3,373.51	63.75	53.920			
3,500.00	3,332.39	3,333.46	3,332.39	0.00	66.67	118.80	-310.39	-3,074.45	3,456.67	3,391.14	65.53	52.752			
3,600.00	3,424.78	3,425.85	3,424.78	0.00	68.52	119.32	-310.39	-3,074.45	3,476.39	3,409.09	67.30	51.653			
3,700.00	3,517.16	3,518.23	3,517.16	0.00	70.36	119.84	-310.39	-3,074.45	3,496.43	3,427.35	69.08	50.616			
3,800.00	3,609.56	3,610.63	3,609.56	0.00	72.21	120.38	-310.39	-3,074.45	3,516.75	3,445.88	70.87	49.623			
3,900.00	3,702.71	3,703.78	3,702.71	0.00	74.08	121.21	-310.39	-3,074.45	3,536.34	3,463.47	72.87	48.531			
4,000.00	3,797.08	3,798.15	3,797.08	0.00	75.96	121.96	-310.39	-3,074.45	3,554.39	3,479.48	74.91	47.451			
4,100.00	3,892.55	3,893.62	3,892.55	0.00	77.87	122.63	-310.39	-3,074.45	3,570.81	3,493.84	76.97	46.389			
4,200.00	3,989.00	3,990.07	3,989.00	0.00	79.80	123.22	-310.39	-3,074.45	3,585.53	3,506.47	79.07	45.348			
4,300.00	4,086.30	4,087.37	4,086.30	0.00	81.75	123.74	-310.39	-3,074.45	3,598.48	3,517.30	81.17	44.331			
4,400.00	4,184.36	4,185.43	4,184.36	0.00	83.71	124.18	-310.39	-3,074.45	3,609.58	3,526.30	83.28	43.340			
4,500.00	4,283.03	4,284.10	4,283.03	0.00	85.68	124.55	-310.39	-3,074.45	3,618.80	3,533.40	85.39	42.378			
4,600.00	4,382.22	4,383.29	4,382.22	0.00	87.67	124.83	-310.39	-3,074.45	3,626.08	3,538.59	87.49	41.444			
4,700.00	4,481.78	4,482.85	4,481.78	0.00	89.66	125.04	-310.39	-3,074.45	3,631.40	3,541.82	89.57	40.541			
4,800.00	4,581.61	4,582.68	4,581.61	0.00	91.65	125.17	-310.39	-3,074.45	3,634.72	3,543.09	91.63	39.668			
4,900.00	4,681.58	4,682.65	4,681.58	0.00	93.65	125.22	-310.39	-3,074.45	3,636.04	3,542.39	93.65	38.825			

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168E-GP - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6179-UNKNOWN													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	4,781.27	4,782.34	4,781.27	0.00	95.65	9.36	-310.39	-3,074.45	3,629.93	3,535.29	94.64	38.356		
5,100.00	4,878.41	4,879.48	4,878.41	0.00	97.59	9.81	-310.39	-3,074.45	3,607.01	3,514.29	92.73	38.900		
5,200.00	4,970.04	4,971.11	4,970.04	0.00	99.42	10.69	-310.39	-3,074.45	3,567.80	3,479.95	87.86	40.608		
5,300.00	5,053.37	5,054.44	5,053.37	0.00	101.09	12.15	-310.39	-3,074.45	3,513.51	3,433.24	80.27	43.771		
5,400.00	5,125.88	5,126.95	5,125.88	0.00	102.54	14.54	-310.39	-3,074.45	3,445.81	3,375.12	70.69	48.744		
5,500.00	5,185.36	5,186.43	5,185.36	0.00	103.73	18.61	-310.39	-3,074.45	3,366.77	3,305.60	61.17	55.039		
5,600.00	5,235.09	5,236.16	5,235.09	0.00	104.72	21.36	-310.39	-3,074.45	3,281.37	3,222.29	59.08	55.544		
5,700.00	5,273.40	5,274.47	5,273.40	0.00	105.49	31.69	-310.39	-3,074.45	3,190.65	3,128.98	61.67	51.734		
5,800.00	5,295.11	5,296.18	5,295.11	0.00	105.92	55.62	-310.39	-3,074.45	3,094.86	3,007.09	87.77	35.259		
5,900.00	5,299.75	5,300.82	5,299.75	0.00	106.02	94.76	-310.39	-3,074.45	2,996.94	2,891.28	105.65	28.366		
6,000.00	5,298.10	5,299.17	5,298.10	0.00	105.98	94.59	-310.39	-3,074.45	2,898.93	2,793.29	105.64	27.441		
6,100.00	5,296.45	5,297.52	5,296.45	0.00	105.95	94.43	-310.39	-3,074.45	2,801.07	2,695.43	105.63	26.517		
6,200.00	5,294.79	5,295.86	5,294.79	0.00	105.92	94.27	-310.39	-3,074.45	2,703.36	2,597.73	105.62	25.594		
6,300.00	5,293.14	5,294.21	5,293.14	0.00	105.88	94.11	-310.39	-3,074.45	2,605.82	2,500.21	105.61	24.674		
6,400.00	5,291.49	5,292.56	5,291.49	0.00	105.85	93.95	-310.39	-3,074.45	2,508.48	2,402.88	105.60	23.754		
6,500.00	5,289.84	5,290.91	5,289.84	0.00	105.82	93.79	-310.39	-3,074.45	2,411.35	2,305.76	105.59	22.838		
6,600.00	5,288.18	5,289.25	5,288.18	0.00	105.79	93.63	-310.39	-3,074.45	2,314.47	2,208.89	105.57	21.923		
6,700.00	5,286.53	5,287.60	5,286.53	0.00	105.75	93.47	-310.39	-3,074.45	2,217.86	2,112.30	105.56	21.011		
6,800.00	5,284.88	5,285.95	5,284.88	0.00	105.72	93.30	-310.39	-3,074.45	2,121.56	2,016.02	105.54	20.101		
6,900.00	5,283.23	5,284.30	5,283.23	0.00	105.69	93.14	-310.39	-3,074.45	2,025.63	1,920.10	105.53	19.195		
7,000.00	5,281.57	5,282.64	5,281.57	0.00	105.65	92.98	-310.39	-3,074.45	1,930.10	1,824.59	105.51	18.293		
7,100.00	5,279.92	5,280.99	5,279.92	0.00	105.62	92.82	-310.39	-3,074.45	1,835.05	1,729.56	105.49	17.395		
7,200.00	5,278.27	5,279.34	5,278.27	0.00	105.59	92.66	-310.39	-3,074.45	1,740.55	1,635.08	105.47	16.502		
7,300.00	5,276.62	5,277.69	5,276.62	0.00	105.55	92.49	-310.39	-3,074.45	1,646.70	1,541.25	105.45	15.615		
7,400.00	5,274.96	5,276.03	5,274.96	0.00	105.52	92.33	-310.39	-3,074.45	1,553.62	1,448.18	105.43	14.736		
7,500.00	5,273.31	5,274.38	5,273.31	0.00	105.49	92.17	-310.39	-3,074.45	1,461.45	1,356.03	105.41	13.864		
7,600.00	5,271.66	5,272.73	5,271.66	0.00	105.45	92.01	-310.39	-3,074.45	1,370.37	1,264.98	105.39	13.003		
7,700.00	5,270.01	5,271.08	5,270.01	0.00	105.42	91.85	-310.39	-3,074.45	1,280.83	1,175.26	105.37	12.154		
7,800.00	5,268.35	5,269.42	5,268.35	0.00	105.39	91.69	-310.39	-3,074.45	1,192.51	1,087.17	105.34	11.320		
7,900.00	5,266.70	5,267.77	5,266.70	0.00	105.36	91.52	-310.39	-3,074.45	1,106.42	1,001.10	105.32	10.505		
8,000.00	5,265.05	5,266.12	5,265.05	0.00	105.32	91.36	-310.39	-3,074.45	1,022.85	917.56	105.29	9.714		
8,100.00	5,263.40	5,264.47	5,263.40	0.00	105.29	91.20	-310.39	-3,074.45	942.49	837.23	105.27	8.953		
8,200.00	5,261.74	5,262.81	5,261.74	0.00	105.26	91.04	-310.39	-3,074.45	866.23	760.99	105.24	8.231		
8,300.00	5,260.09	5,261.16	5,260.09	0.00	105.22	90.88	-310.39	-3,074.45	795.24	690.03	105.21	7.558		
8,400.00	5,258.44	5,259.51	5,258.44	0.00	105.19	90.71	-310.39	-3,074.45	731.06	625.88	105.18	6.950		
8,500.00	5,256.79	5,257.86	5,256.79	0.00	105.16	90.55	-310.39	-3,074.45	675.64	570.49	105.15	6.425		
8,600.00	5,255.13	5,256.20	5,255.13	0.00	105.12	90.39	-310.39	-3,074.45	631.29	526.17	105.12	6.005		
8,700.00	5,253.48	5,254.55	5,253.48	0.00	105.09	90.23	-310.39	-3,074.45	600.47	495.38	105.09	5.714		
8,800.00	5,251.83	5,252.90	5,251.83	0.00	105.06	90.06	-310.39	-3,074.45	585.31	480.25	105.06	5.571		
8,839.90	5,251.17	5,252.24	5,251.17	0.00	105.04	90.00	-310.39	-3,074.45	583.95	478.90	105.05	5.559	CC, ES, SF	
8,900.00	5,250.18	5,251.25	5,250.18	0.00	105.02	89.90	-310.39	-3,074.45	587.03	482.01	105.02	5.589		
9,000.00	5,248.52	5,249.59	5,248.52	0.00	104.99	89.74	-310.39	-3,074.45	605.49	500.50	104.99	5.767		
9,100.00	5,246.87	5,247.94	5,246.87	0.00	104.96	89.58	-310.39	-3,074.45	639.24	534.29	104.96	6.091		
9,200.00	5,245.22	5,246.29	5,245.22	0.00	104.93	89.42	-310.39	-3,074.45	686.03	581.11	104.92	6.539		
9,300.00	5,243.57	5,244.64	5,243.57	0.00	104.89	89.25	-310.39	-3,074.45	743.39	638.51	104.88	7.088		
9,400.00	5,241.91	5,242.98	5,241.91	0.00	104.86	89.09	-310.39	-3,074.45	809.09	704.24	104.85	7.717		
9,500.00	5,240.26	5,241.33	5,240.26	0.00	104.83	88.93	-310.39	-3,074.45	881.26	776.45	104.81	8.408		
9,600.00	5,238.61	5,239.68	5,238.61	0.00	104.79	88.77	-310.39	-3,074.45	958.43	853.67	104.77	9.148		
9,700.00	5,236.96	5,238.03	5,236.96	0.00	104.76	88.61	-310.39	-3,074.45	1,039.51	934.78	104.73	9.926		
9,800.00	5,235.30	5,236.37	5,235.30	0.00	104.73	88.44	-310.39	-3,074.45	1,123.63	1,018.94	104.69	10.733		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168E-GP - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6179-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,900.00	5,233.65	5,234.72	5,233.65	0.00	104.69	88.28	-310.39	-3,074.45	1,210.17	1,105.52	104.65	11.564		
10,000.00	5,232.00	5,233.07	5,232.00	0.00	104.66	88.12	-310.39	-3,074.45	1,298.64	1,194.04	104.61	12.415		
10,100.00	5,230.34	5,231.41	5,230.34	0.00	104.63	87.96	-310.39	-3,074.45	1,388.68	1,284.12	104.56	13.281		
10,200.00	5,228.69	5,229.76	5,228.69	0.00	104.60	87.80	-310.39	-3,074.45	1,479.99	1,375.47	104.52	14.160		
10,300.00	5,227.04	5,228.11	5,227.04	0.00	104.56	87.63	-310.39	-3,074.45	1,572.36	1,467.89	104.47	15.050		
10,400.00	5,225.39	5,226.46	5,225.39	0.00	104.53	87.47	-310.39	-3,074.45	1,665.61	1,561.18	104.43	15.950		
10,500.00	5,223.73	5,224.80	5,223.73	0.00	104.50	87.31	-310.39	-3,074.45	1,759.60	1,655.22	104.38	16.857		
10,600.00	5,222.08	5,223.15	5,222.08	0.00	104.46	87.15	-310.39	-3,074.45	1,854.22	1,749.88	104.33	17.772		
10,700.00	5,220.43	5,221.50	5,220.43	0.00	104.43	86.99	-310.39	-3,074.45	1,949.37	1,845.08	104.29	18.693		
10,800.00	5,218.78	5,219.85	5,218.78	0.00	104.40	86.83	-310.39	-3,074.45	2,044.98	1,940.75	104.24	19.619		
10,900.00	5,217.12	5,218.19	5,217.12	0.00	104.36	86.66	-310.39	-3,074.45	2,141.00	2,036.81	104.19	20.549		
11,000.00	5,215.47	5,216.54	5,215.47	0.00	104.33	86.50	-310.39	-3,074.45	2,237.36	2,133.22	104.14	21.485		
11,100.00	5,213.82	5,214.89	5,213.82	0.00	104.30	86.34	-310.39	-3,074.45	2,334.03	2,229.94	104.09	22.424		
11,200.00	5,212.17	5,213.24	5,212.17	0.00	104.26	86.18	-310.39	-3,074.45	2,430.96	2,326.93	104.03	23.367		
11,300.00	5,210.51	5,211.58	5,210.51	0.00	104.23	86.02	-310.39	-3,074.45	2,528.13	2,424.15	103.98	24.314		
11,400.00	5,208.86	5,209.93	5,208.86	0.00	104.20	85.86	-310.39	-3,074.45	2,625.52	2,521.59	103.93	25.263		
11,500.00	5,207.21	5,208.28	5,207.21	0.00	104.17	85.70	-310.39	-3,074.45	2,723.09	2,619.22	103.87	26.216		
11,600.00	5,205.56	5,206.63	5,205.56	0.00	104.13	85.53	-310.39	-3,074.45	2,820.83	2,717.02	103.82	27.171		
11,700.00	5,203.90	5,204.97	5,203.90	0.00	104.10	85.37	-310.39	-3,074.45	2,918.73	2,814.97	103.76	28.129		
11,800.00	5,202.25	5,203.32	5,202.25	0.00	104.07	85.21	-310.39	-3,074.45	3,016.76	2,913.05	103.70	29.090		
11,900.00	5,200.60	5,201.67	5,200.60	0.00	104.03	85.05	-310.39	-3,074.45	3,114.91	3,011.27	103.65	30.053		
12,000.00	5,198.95	5,200.02	5,198.95	0.00	104.00	84.89	-310.39	-3,074.45	3,213.18	3,109.59	103.59	31.019		
12,100.00	5,197.29	5,198.36	5,197.29	0.00	103.97	84.73	-310.39	-3,074.45	3,311.55	3,208.02	103.53	31.987		
12,200.00	5,195.64	5,196.71	5,195.64	0.00	103.93	84.57	-310.39	-3,074.45	3,410.02	3,306.55	103.47	32.957		
12,300.00	5,193.99	5,195.06	5,193.99	0.00	103.90	84.41	-310.39	-3,074.45	3,508.57	3,405.16	103.41	33.930		
12,400.00	5,192.34	5,193.41	5,192.34	0.00	103.87	84.25	-310.39	-3,074.45	3,607.20	3,503.85	103.35	34.904		
12,500.00	5,190.68	5,191.75	5,190.68	0.00	103.84	84.09	-310.39	-3,074.45	3,705.90	3,602.62	103.28	35.881		
12,600.00	5,189.03	5,190.10	5,189.03	0.00	103.80	83.93	-310.39	-3,074.45	3,804.67	3,701.45	103.22	36.860		
12,700.00	5,187.38	5,188.45	5,187.38	0.00	103.77	83.77	-310.39	-3,074.45	3,903.50	3,800.35	103.16	37.841		
12,800.00	5,185.73	5,186.80	5,185.73	0.00	103.74	83.61	-310.39	-3,074.45	4,002.39	3,899.30	103.09	38.824		
12,900.00	5,184.07	5,185.14	5,184.07	0.00	103.70	83.45	-310.39	-3,074.45	4,101.33	3,998.31	103.03	39.809		
13,000.00	5,182.42	5,183.49	5,182.42	0.00	103.67	83.29	-310.39	-3,074.45	4,200.33	4,097.37	102.96	40.796		
13,100.00	5,180.77	5,181.84	5,180.77	0.00	103.64	83.13	-310.39	-3,074.45	4,299.36	4,196.47	102.89	41.785		
13,200.00	5,179.12	5,180.19	5,179.12	0.00	103.60	82.97	-310.39	-3,074.45	4,398.44	4,295.62	102.82	42.776		
13,300.00	5,177.46	5,178.53	5,177.46	0.00	103.57	82.81	-310.39	-3,074.45	4,497.57	4,394.81	102.76	43.769		
13,400.00	5,175.81	5,176.88	5,175.81	0.00	103.54	82.65	-310.39	-3,074.45	4,596.72	4,494.04	102.69	44.765		
13,500.00	5,174.16	5,175.23	5,174.16	0.00	103.50	82.49	-310.39	-3,074.45	4,695.92	4,593.30	102.62	45.762		
13,600.00	5,172.51	5,173.58	5,172.51	0.00	103.47	82.33	-310.39	-3,074.45	4,795.14	4,692.60	102.55	46.761		
13,700.00	5,170.85	5,171.92	5,170.85	0.00	103.44	82.17	-310.39	-3,074.45	4,894.40	4,791.93	102.47	47.762		
13,800.00	5,169.20	5,170.27	5,169.20	0.00	103.41	82.01	-310.39	-3,074.45	4,993.69	4,891.29	102.40	48.765		
13,900.00	5,167.55	5,168.62	5,167.55	0.00	103.37	81.85	-310.39	-3,074.45	5,093.00	4,990.67	102.33	49.771		
14,000.00	5,165.90	5,166.97	5,165.90	0.00	103.34	81.69	-310.39	-3,074.45	5,192.34	5,090.09	102.26	50.778		
14,100.00	5,164.24	5,165.31	5,164.24	0.00	103.31	81.53	-310.39	-3,074.45	5,291.70	5,189.52	102.18	51.787		
14,200.00	5,162.59	5,163.66	5,162.59	0.00	103.27	81.38	-310.39	-3,074.45	5,391.09	5,288.99	102.11	52.799		
14,300.00	5,160.94	5,162.01	5,160.94	0.00	103.24	81.22	-310.39	-3,074.45	5,490.50	5,388.47	102.03	53.812		
14,400.00	5,159.29	5,160.36	5,159.29	0.00	103.21	81.06	-310.39	-3,074.45	5,589.93	5,487.98	101.95	54.828		
14,500.00	5,157.63	5,158.70	5,157.63	0.00	103.17	80.90	-310.39	-3,074.45	5,689.38	5,587.50	101.88	55.846		
14,600.00	5,155.98	5,157.05	5,155.98	0.00	103.14	80.74	-310.39	-3,074.45	5,788.85	5,687.05	101.80	56.866		
14,700.00	5,154.33	5,155.40	5,154.33	0.00	103.11	80.59	-310.39	-3,074.45	5,888.33	5,786.61	101.72	57.888		
14,800.00	5,152.67	5,153.74	5,152.67	0.00	103.07	80.43	-310.39	-3,074.45	5,987.83	5,886.19	101.64	58.912		
14,900.00	5,151.02	5,152.09	5,151.02	0.00	103.04	80.27	-310.39	-3,074.45	6,087.35	5,985.79	101.56	59.938		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 168E-GP - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 6179-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
14,961.86	5,150.00	5,151.07	5,150.00	0.00	103.02	80.17	-310.39	-3,074.45	6,148.92	6,047.41	101.51	60.574	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 242 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6252-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore +N/-S (ft)	Centre +E/-W (ft)						
0.00	0.00	96.91	0.00	0.00	1.94	-96.70	-950.08	-8,089.18	8,144.78					
100.00	100.00	196.91	100.00	0.00	3.94	-96.70	-950.08	-8,089.18	8,144.78	8,140.84	3.94	2,067.941		
200.00	200.00	296.91	200.00	0.00	5.94	-96.70	-950.08	-8,089.18	8,144.78	8,138.84	5.94	1,371.500		
300.00	300.00	396.91	300.00	0.00	7.94	-96.70	-950.08	-8,089.18	8,144.78	8,136.84	7.94	1,025.973		
400.00	400.00	496.91	400.00	0.00	9.94	-96.70	-950.08	-8,089.18	8,144.78	8,134.84	9.94	819.511		
500.00	500.00	596.91	500.00	0.00	11.94	-96.70	-950.08	-8,089.18	8,144.78	8,132.84	11.94	682.223		
527.78	527.78	624.69	527.78	0.00	12.49	105.05	-950.08	-8,089.18	8,144.80	8,132.30	12.49	651.885		
600.00	600.00	696.91	600.00	0.00	13.94	105.06	-950.08	-8,089.18	8,144.89	8,130.95	13.94	584.350		
700.00	699.93	796.84	699.93	0.00	15.94	105.06	-950.08	-8,089.18	8,145.80	8,129.86	15.94	511.166		
800.00	799.68	896.59	799.68	0.00	17.93	105.07	-950.08	-8,089.18	8,147.62	8,129.69	17.93	454.473		
900.00	899.13	996.04	899.13	0.00	19.92	105.09	-950.08	-8,089.18	8,150.35	8,130.44	19.91	409.336		
1,000.00	998.15	1,095.06	998.15	0.00	21.90	105.11	-950.08	-8,089.18	8,154.01	8,132.13	21.88	372.612		
1,100.00	1,096.63	1,193.54	1,096.63	0.00	23.87	105.14	-950.08	-8,089.18	8,158.61	8,134.77	23.84	342.203		
1,200.00	1,194.44	1,291.35	1,194.44	0.00	25.83	105.17	-950.08	-8,089.18	8,164.16	8,138.38	25.78	316.655		
1,300.00	1,291.46	1,388.37	1,291.46	0.00	27.77	105.21	-950.08	-8,089.18	8,170.68	8,142.97	27.70	294.930		
1,400.00	1,387.58	1,484.49	1,387.58	0.00	29.69	105.24	-950.08	-8,089.18	8,178.19	8,148.58	29.60	276.268		
1,500.00	1,482.68	1,579.59	1,482.68	0.00	31.59	105.27	-950.08	-8,089.18	8,186.71	8,155.23	31.48	260.095		
1,600.00	1,576.65	1,673.56	1,576.65	0.00	33.47	105.31	-950.08	-8,089.18	8,196.26	8,162.94	33.32	245.976		
1,700.00	1,669.40	1,766.31	1,669.40	0.00	35.33	105.39	-950.08	-8,089.18	8,206.85	8,171.71	35.14	233.521		
1,800.00	1,761.79	1,858.70	1,761.79	0.00	37.17	105.63	-950.08	-8,089.18	8,217.86	8,180.88	36.98	222.247		
1,900.00	1,854.18	1,951.09	1,854.18	0.00	39.02	105.87	-950.08	-8,089.18	8,229.03	8,190.22	38.81	212.045		
2,000.00	1,946.57	2,043.48	1,946.57	0.00	40.87	106.10	-950.08	-8,089.18	8,240.36	8,199.72	40.64	202.770		
2,100.00	2,038.96	2,135.87	2,038.96	0.00	42.72	106.34	-950.08	-8,089.18	8,251.86	8,209.39	42.47	194.302		
2,200.00	2,131.34	2,228.25	2,131.34	0.00	44.57	106.58	-950.08	-8,089.18	8,263.52	8,219.22	44.30	186.540		
2,300.00	2,223.73	2,320.64	2,223.73	0.00	46.41	106.82	-950.08	-8,089.18	8,275.33	8,229.21	46.13	179.400		
2,400.00	2,316.12	2,413.03	2,316.12	0.00	48.26	107.05	-950.08	-8,089.18	8,287.31	8,239.35	47.96	172.810		
2,500.00	2,408.51	2,505.42	2,408.51	0.00	50.11	107.29	-950.08	-8,089.18	8,299.45	8,249.66	49.78	166.710		
2,600.00	2,500.90	2,597.81	2,500.90	0.00	51.96	107.52	-950.08	-8,089.18	8,311.74	8,260.13	51.61	161.048		
2,700.00	2,593.28	2,690.19	2,593.28	0.00	53.80	107.75	-950.08	-8,089.18	8,324.19	8,270.76	53.44	155.777		
2,800.00	2,685.67	2,782.58	2,685.67	0.00	55.65	107.99	-950.08	-8,089.18	8,336.80	8,281.54	55.26	150.860		
2,900.00	2,778.06	2,874.97	2,778.06	0.00	57.50	108.22	-950.08	-8,089.18	8,349.57	8,292.48	57.09	146.261		
3,000.00	2,870.45	2,967.36	2,870.45	0.00	59.35	108.45	-950.08	-8,089.18	8,362.49	8,303.58	58.91	141.953		
3,100.00	2,962.84	3,059.75	2,962.84	0.00	61.20	108.68	-950.08	-8,089.18	8,375.57	8,314.84	60.73	137.907		
3,200.00	3,055.22	3,152.13	3,055.22	0.00	63.04	108.91	-950.08	-8,089.18	8,388.80	8,326.24	62.56	134.101		
3,300.00	3,147.61	3,244.52	3,147.61	0.00	64.89	109.14	-950.08	-8,089.18	8,402.18	8,337.81	64.38	130.514		
3,400.00	3,240.00	3,336.91	3,240.00	0.00	66.74	109.37	-950.08	-8,089.18	8,415.72	8,349.52	66.20	127.129		
3,500.00	3,332.39	3,429.30	3,332.39	0.00	68.59	109.60	-950.08	-8,089.18	8,429.41	8,361.39	68.02	123.928		
3,600.00	3,424.78	3,521.69	3,424.78	0.00	70.43	109.83	-950.08	-8,089.18	8,443.25	8,373.41	69.84	120.898		
3,700.00	3,517.16	3,614.07	3,517.16	0.00	72.28	110.06	-950.08	-8,089.18	8,457.24	8,385.59	71.66	118.025		
3,800.00	3,609.56	3,706.47	3,609.56	0.00	74.13	110.31	-950.08	-8,089.18	8,471.38	8,397.89	73.48	115.283		
3,900.00	3,702.71	3,799.62	3,702.71	0.00	75.99	110.78	-950.08	-8,089.18	8,484.94	8,409.53	75.41	112.511		
4,000.00	3,797.08	3,893.99	3,797.08	0.00	77.88	111.22	-950.08	-8,089.18	8,497.40	8,420.03	77.38	109.821		
4,100.00	3,892.55	3,989.46	3,892.55	0.00	79.79	111.61	-950.08	-8,089.18	8,508.71	8,429.35	79.36	107.214		
4,200.00	3,989.00	4,085.91	3,989.00	0.00	81.72	111.96	-950.08	-8,089.18	8,518.82	8,437.45	81.37	104.694		
4,300.00	4,086.30	4,183.21	4,086.30	0.00	83.66	112.26	-950.08	-8,089.18	8,527.69	8,444.30	83.39	102.261		
4,400.00	4,184.36	4,281.27	4,184.36	0.00	85.63	112.52	-950.08	-8,089.18	8,535.28	8,449.86	85.42	99.917		
4,500.00	4,283.03	4,379.94	4,283.03	0.00	87.60	112.74	-950.08	-8,089.18	8,541.58	8,454.12	87.46	97.660		
4,600.00	4,382.22	4,479.13	4,382.22	0.00	89.58	112.91	-950.08	-8,089.18	8,546.55	8,457.05	89.50	95.491		
4,700.00	4,481.78	4,578.69	4,481.78	0.00	91.57	113.03	-950.08	-8,089.18	8,550.18	8,458.64	91.53	93.409		
4,800.00	4,581.61	4,678.52	4,581.61	0.00	93.57	113.11	-950.08	-8,089.18	8,552.44	8,458.89	93.56	91.412		
4,900.00	4,681.58	4,778.49	4,681.58	0.00	95.57	113.14	-950.08	-8,089.18	8,553.34	8,457.77	95.57	89.498		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 242 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 6252-UNKNOWN														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)					
5,000.00	4,781.27	4,878.18	4,781.27	0.00	97.56	-2.87	-950.08	-8,089.18	8,547.15	8,450.65	96.51	88.564			
5,100.00	4,878.41	4,975.32	4,878.41	0.00	99.51	-3.00	-950.08	-8,089.18	8,523.96	8,429.55	94.41	90.288			
5,200.00	4,970.04	5,066.95	4,970.04	0.00	101.34	-3.25	-950.08	-8,089.18	8,484.27	8,395.12	89.15	95.173			
5,300.00	5,053.37	5,150.28	5,053.37	0.00	103.01	-3.67	-950.08	-8,089.18	8,429.29	8,348.52	80.78	104.352			
5,400.00	5,125.88	5,222.79	5,125.88	0.00	104.46	-4.37	-950.08	-8,089.18	8,360.70	8,291.16	69.54	120.222			
5,500.00	5,185.36	5,282.27	5,185.36	0.00	105.65	-5.58	-950.08	-8,089.18	8,280.58	8,224.60	55.97	147.937			
5,600.00	5,235.09	5,332.00	5,235.09	0.00	106.64	-6.37	-950.08	-8,089.18	8,193.94	8,143.51	50.43	162.466			
5,700.00	5,273.40	5,370.31	5,273.40	0.00	107.41	-9.84	-950.08	-8,089.18	8,101.83	8,065.02	36.82	220.065			
5,800.00	5,295.11	5,392.02	5,295.11	0.00	107.84	-21.94	-950.08	-8,089.18	8,004.48	7,962.10	42.38	188.888			
5,900.00	5,299.75	5,396.66	5,299.75	0.00	107.93	-107.13	-950.08	-8,089.18	7,904.84	7,801.70	103.15	76.636			
6,000.00	5,298.10	5,395.01	5,298.10	0.00	107.90	-106.92	-950.08	-8,089.18	7,805.00	7,701.77	103.23	75.609			
6,100.00	5,296.45	5,393.36	5,296.45	0.00	107.87	-106.72	-950.08	-8,089.18	7,705.17	7,601.86	103.31	74.584			
6,200.00	5,294.79	5,391.70	5,294.79	0.00	107.83	-106.51	-950.08	-8,089.18	7,605.33	7,501.94	103.39	73.561			
6,300.00	5,293.14	5,390.05	5,293.14	0.00	107.80	-106.31	-950.08	-8,089.18	7,505.50	7,402.04	103.47	72.541			
6,400.00	5,291.49	5,388.40	5,291.49	0.00	107.77	-106.10	-950.08	-8,089.18	7,405.68	7,302.14	103.54	71.523			
6,500.00	5,289.84	5,386.75	5,289.84	0.00	107.73	-105.89	-950.08	-8,089.18	7,305.86	7,202.24	103.62	70.508			
6,600.00	5,288.18	5,385.09	5,288.18	0.00	107.70	-105.69	-950.08	-8,089.18	7,206.04	7,102.35	103.69	69.495			
6,700.00	5,286.53	5,383.44	5,286.53	0.00	107.67	-105.48	-950.08	-8,089.18	7,106.23	7,002.47	103.76	68.484			
6,800.00	5,284.88	5,381.79	5,284.88	0.00	107.64	-105.27	-950.08	-8,089.18	7,006.42	6,902.59	103.84	67.476			
6,900.00	5,283.23	5,380.14	5,283.23	0.00	107.60	-105.06	-950.08	-8,089.18	6,906.62	6,802.72	103.91	66.469			
7,000.00	5,281.57	5,378.48	5,281.57	0.00	107.57	-104.85	-950.08	-8,089.18	6,806.83	6,702.85	103.98	65.465			
7,100.00	5,279.92	5,376.83	5,279.92	0.00	107.54	-104.65	-950.08	-8,089.18	6,707.04	6,602.99	104.04	64.464			
7,200.00	5,278.27	5,375.18	5,278.27	0.00	107.50	-104.44	-950.08	-8,089.18	6,607.25	6,503.14	104.11	63.464			
7,300.00	5,276.62	5,373.53	5,276.62	0.00	107.47	-104.23	-950.08	-8,089.18	6,507.48	6,403.30	104.18	62.466			
7,400.00	5,274.96	5,371.87	5,274.96	0.00	107.44	-104.02	-950.08	-8,089.18	6,407.70	6,303.46	104.24	61.471			
7,500.00	5,273.31	5,370.22	5,273.31	0.00	107.40	-103.80	-950.08	-8,089.18	6,307.94	6,203.64	104.30	60.477			
7,600.00	5,271.66	5,368.57	5,271.66	0.00	107.37	-103.59	-950.08	-8,089.18	6,208.18	6,103.82	104.36	59.486			
7,700.00	5,270.01	5,366.92	5,270.01	0.00	107.34	-103.38	-950.08	-8,089.18	6,108.43	6,004.01	104.42	58.496			
7,800.00	5,268.35	5,365.26	5,268.35	0.00	107.31	-103.17	-950.08	-8,089.18	6,008.69	5,904.21	104.48	57.508			
7,900.00	5,266.70	5,363.61	5,266.70	0.00	107.27	-102.96	-950.08	-8,089.18	5,908.96	5,804.42	104.54	56.523			
8,000.00	5,265.05	5,361.96	5,265.05	0.00	107.24	-102.75	-950.08	-8,089.18	5,809.23	5,704.63	104.60	55.539			
8,100.00	5,263.40	5,360.31	5,263.40	0.00	107.21	-102.53	-950.08	-8,089.18	5,709.52	5,604.86	104.65	54.557			
8,200.00	5,261.74	5,358.65	5,261.74	0.00	107.17	-102.32	-950.08	-8,089.18	5,609.81	5,505.10	104.71	53.577			
8,300.00	5,260.09	5,357.00	5,260.09	0.00	107.14	-102.11	-950.08	-8,089.18	5,510.11	5,405.35	104.76	52.598			
8,400.00	5,258.44	5,355.35	5,258.44	0.00	107.11	-101.89	-950.08	-8,089.18	5,410.43	5,305.62	104.81	51.622			
8,500.00	5,256.79	5,353.70	5,256.79	0.00	107.07	-101.68	-950.08	-8,089.18	5,310.75	5,205.89	104.86	50.647			
8,600.00	5,255.13	5,352.04	5,255.13	0.00	107.04	-101.46	-950.08	-8,089.18	5,211.09	5,106.18	104.91	49.674			
8,700.00	5,253.48	5,350.39	5,253.48	0.00	107.01	-101.25	-950.08	-8,089.18	5,111.44	5,006.49	104.95	48.702			
8,800.00	5,251.83	5,348.74	5,251.83	0.00	106.97	-101.03	-950.08	-8,089.18	5,011.81	4,906.81	105.00	47.732			
8,900.00	5,250.18	5,347.09	5,250.18	0.00	106.94	-100.82	-950.08	-8,089.18	4,912.18	4,807.14	105.04	46.764			
9,000.00	5,248.52	5,345.43	5,248.52	0.00	106.91	-100.60	-950.08	-8,089.18	4,812.58	4,707.49	105.08	45.797			
9,100.00	5,246.87	5,343.78	5,246.87	0.00	106.88	-100.38	-950.08	-8,089.18	4,712.99	4,607.86	105.13	44.832			
9,200.00	5,245.22	5,342.13	5,245.22	0.00	106.84	-100.17	-950.08	-8,089.18	4,613.41	4,508.25	105.17	43.868			
9,300.00	5,243.57	5,340.48	5,243.57	0.00	106.81	-99.95	-950.08	-8,089.18	4,513.86	4,408.65	105.20	42.906			
9,400.00	5,241.91	5,338.82	5,241.91	0.00	106.78	-99.73	-950.08	-8,089.18	4,414.32	4,309.08	105.24	41.945			
9,500.00	5,240.26	5,337.17	5,240.26	0.00	106.74	-99.52	-950.08	-8,089.18	4,314.81	4,209.53	105.27	40.986			
9,600.00	5,238.61	5,335.52	5,238.61	0.00	106.71	-99.30	-950.08	-8,089.18	4,215.31	4,110.01	105.31	40.028			
9,700.00	5,236.96	5,333.87	5,236.96	0.00	106.68	-99.08	-950.08	-8,089.18	4,115.85	4,010.50	105.34	39.072			
9,800.00	5,235.30	5,332.21	5,235.30	0.00	106.64	-98.86	-950.08	-8,089.18	4,016.40	3,911.03	105.37	38.117			
9,900.00	5,233.65	5,330.56	5,233.65	0.00	106.61	-98.64	-950.08	-8,089.18	3,916.99	3,811.59	105.40	37.163			

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 242 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6252-UNKNOWN													Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		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		
10,000.00	5,232.00	5,328.91	5,232.00	0.00	106.58	-98.43	-950.08	-8,089.18	3,817.60	3,712.17	105.43	36.210		
10,100.00	5,230.34	5,327.25	5,230.34	0.00	106.55	-98.21	-950.08	-8,089.18	3,718.25	3,612.79	105.45	35.259		
10,200.00	5,228.69	5,325.60	5,228.69	0.00	106.51	-97.99	-950.08	-8,089.18	3,618.93	3,513.45	105.48	34.309		
10,300.00	5,227.04	5,323.95	5,227.04	0.00	106.48	-97.77	-950.08	-8,089.18	3,519.65	3,414.15	105.50	33.361		
10,400.00	5,225.39	5,322.30	5,225.39	0.00	106.45	-97.55	-950.08	-8,089.18	3,420.41	3,314.89	105.52	32.414		
10,500.00	5,223.73	5,320.64	5,223.73	0.00	106.41	-97.33	-950.08	-8,089.18	3,321.22	3,215.67	105.54	31.468		
10,600.00	5,222.08	5,318.99	5,222.08	0.00	106.38	-97.11	-950.08	-8,089.18	3,222.07	3,116.51	105.56	30.523		
10,700.00	5,220.43	5,317.34	5,220.43	0.00	106.35	-96.89	-950.08	-8,089.18	3,122.98	3,017.40	105.58	29.579		
10,800.00	5,218.78	5,315.69	5,218.78	0.00	106.31	-96.67	-950.08	-8,089.18	3,023.94	2,918.35	105.60	28.637		
10,900.00	5,217.12	5,314.03	5,217.12	0.00	106.28	-96.45	-950.08	-8,089.18	2,924.98	2,819.37	105.61	27.696		
11,000.00	5,215.47	5,312.38	5,215.47	0.00	106.25	-96.23	-950.08	-8,089.18	2,826.08	2,720.46	105.62	26.757		
11,100.00	5,213.82	5,310.73	5,213.82	0.00	106.21	-96.00	-950.08	-8,089.18	2,727.26	2,621.63	105.63	25.818		
11,200.00	5,212.17	5,309.08	5,212.17	0.00	106.18	-95.78	-950.08	-8,089.18	2,628.53	2,522.89	105.64	24.882		
11,300.00	5,210.51	5,307.42	5,210.51	0.00	106.15	-95.56	-950.08	-8,089.18	2,529.90	2,424.25	105.65	23.946		
11,400.00	5,208.86	5,305.77	5,208.86	0.00	106.12	-95.34	-950.08	-8,089.18	2,431.38	2,325.73	105.66	23.012		
11,500.00	5,207.21	5,304.12	5,207.21	0.00	106.08	-95.12	-950.08	-8,089.18	2,332.99	2,227.33	105.66	22.080		
11,600.00	5,205.56	5,302.47	5,205.56	0.00	106.05	-94.90	-950.08	-8,089.18	2,234.74	2,129.07	105.66	21.150		
11,700.00	5,203.90	5,300.81	5,203.90	0.00	106.02	-94.67	-950.08	-8,089.18	2,136.64	2,030.98	105.66	20.221		
11,800.00	5,202.25	5,299.16	5,202.25	0.00	105.98	-94.45	-950.08	-8,089.18	2,038.73	1,933.07	105.66	19.295		
11,900.00	5,200.60	5,297.51	5,200.60	0.00	105.95	-94.23	-950.08	-8,089.18	1,941.04	1,835.38	105.66	18.370		
12,000.00	5,198.95	5,295.86	5,198.95	0.00	105.92	-94.01	-950.08	-8,089.18	1,843.59	1,737.93	105.66	17.449		
12,100.00	5,197.29	5,294.20	5,197.29	0.00	105.88	-93.78	-950.08	-8,089.18	1,746.42	1,640.77	105.65	16.530		
12,200.00	5,195.64	5,292.55	5,195.64	0.00	105.85	-93.56	-950.08	-8,089.18	1,649.60	1,543.95	105.65	15.614		
12,300.00	5,193.99	5,290.90	5,193.99	0.00	105.82	-93.34	-950.08	-8,089.18	1,553.17	1,447.53	105.64	14.703		
12,400.00	5,192.34	5,289.25	5,192.34	0.00	105.78	-93.12	-950.08	-8,089.18	1,457.22	1,351.59	105.63	13.796		
12,500.00	5,190.68	5,287.59	5,190.68	0.00	105.75	-92.89	-950.08	-8,089.18	1,361.86	1,256.24	105.62	12.894		
12,600.00	5,189.03	5,285.94	5,189.03	0.00	105.72	-92.67	-950.08	-8,089.18	1,267.20	1,161.60	105.60	12.000		
12,700.00	5,187.38	5,284.29	5,187.38	0.00	105.69	-92.45	-950.08	-8,089.18	1,173.44	1,067.85	105.59	11.113		
12,800.00	5,185.73	5,282.64	5,185.73	0.00	105.65	-92.22	-950.08	-8,089.18	1,080.78	975.21	105.57	10.237		
12,900.00	5,184.07	5,280.98	5,184.07	0.00	105.62	-92.00	-950.08	-8,089.18	989.56	884.00	105.56	9.375		
13,000.00	5,182.42	5,279.33	5,182.42	0.00	105.59	-91.78	-950.08	-8,089.18	900.20	794.66	105.54	8.530		
13,100.00	5,180.77	5,277.68	5,180.77	0.00	105.55	-91.55	-950.08	-8,089.18	813.32	707.80	105.52	7.708		
13,200.00	5,179.12	5,276.03	5,179.12	0.00	105.52	-91.33	-950.08	-8,089.18	729.79	624.30	105.49	6.918		
13,300.00	5,177.46	5,274.37	5,177.46	0.00	105.49	-91.11	-950.08	-8,089.18	650.93	545.47	105.47	6.172		
13,400.00	5,175.81	5,272.72	5,175.81	0.00	105.45	-90.88	-950.08	-8,089.18	578.64	473.20	105.44	5.488		
13,500.00	5,174.16	5,271.07	5,174.16	0.00	105.42	-90.66	-950.08	-8,089.18	515.68	410.26	105.41	4.892		
13,600.00	5,172.51	5,269.42	5,172.51	0.00	105.39	-90.44	-950.08	-8,089.18	465.86	360.47	105.39	4.420		
13,700.00	5,170.85	5,267.76	5,170.85	0.00	105.36	-90.21	-950.08	-8,089.18	433.72	328.37	105.35	4.117		
13,794.58	5,169.29	5,266.20	5,169.29	0.00	105.32	-90.00	-950.08	-8,089.18	423.29	317.96	105.32	4.019 CC, ES, SF		
13,800.00	5,169.20	5,266.11	5,169.20	0.00	105.32	-89.99	-950.08	-8,089.18	423.32	318.00	105.32	4.019		
13,900.00	5,167.55	5,264.46	5,167.55	0.00	105.29	-89.76	-950.08	-8,089.18	436.21	330.92	105.29	4.143		
14,000.00	5,165.90	5,262.81	5,165.90	0.00	105.26	-89.54	-950.08	-8,089.18	470.48	365.23	105.25	4.470		
14,100.00	5,164.24	5,261.15	5,164.24	0.00	105.22	-89.32	-950.08	-8,089.18	521.94	416.73	105.22	4.961		
14,200.00	5,162.59	5,259.50	5,162.59	0.00	105.19	-89.09	-950.08	-8,089.18	586.08	480.90	105.18	5.572		
14,300.00	5,160.94	5,257.85	5,160.94	0.00	105.16	-88.87	-950.08	-8,089.18	659.20	554.07	105.14	6.270		
14,400.00	5,159.29	5,256.20	5,159.29	0.00	105.12	-88.65	-950.08	-8,089.18	738.65	633.55	105.09	7.028		
14,500.00	5,157.63	5,254.54	5,157.63	0.00	105.09	-88.42	-950.08	-8,089.18	822.59	717.54	105.05	7.830		
14,600.00	5,155.98	5,252.89	5,155.98	0.00	105.06	-88.20	-950.08	-8,089.18	909.78	804.77	105.01	8.664		
14,700.00	5,154.33	5,251.24	5,154.33	0.00	105.02	-87.98	-950.08	-8,089.18	999.37	894.41	104.96	9.521		
14,800.00	5,152.67	5,249.58	5,152.67	0.00	104.99	-87.75	-950.08	-8,089.18	1,090.76	985.85	104.91	10.397		
14,900.00	5,151.02	5,247.93	5,151.02	0.00	104.96	-87.53	-950.08	-8,089.18	1,183.55	1,078.69	104.86	11.287		

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



Anticollision Report

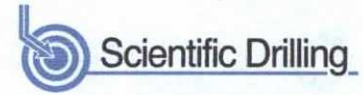


Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design												Offset Site Error:	0.00 ft
Survey Program: 6252-UNKNOWN												Offset Well Error:	0.00 ft
Reference													
Offset													
Semi Major Axis													
Distance													
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation	Warning
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
14,961.86	5,150.00	5,246.91	5,150.00	0.00	104.94	-87.39	-950.08	-8,089.18	1,241.51	1,136.68	104.83	11.843	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 243-FT - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 6205-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)				Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)
0.00	0.00	46.93	0.00	0.00	0.94	-94.17	-460.09	-6,307.25	6,324.01						
100.00	100.00	146.93	100.00	0.00	2.94	-94.17	-460.09	-6,307.25	6,324.01	6,321.07	2.94	2,151.760			
200.00	200.00	246.93	200.00	0.00	4.94	-94.17	-460.09	-6,307.25	6,324.01	6,319.07	4.94	1,280.425			
300.00	300.00	346.93	300.00	0.00	6.94	-94.17	-460.09	-6,307.25	6,324.01	6,317.07	6.94	911.374			
400.00	400.00	446.93	400.00	0.00	8.94	-94.17	-460.09	-6,307.25	6,324.01	6,315.07	8.94	707.464			
500.00	500.00	546.93	500.00	0.00	10.94	-94.17	-460.09	-6,307.25	6,324.01	6,313.07	10.94	578.117			
527.78	527.78	574.71	527.78	0.00	11.49	107.58	-460.09	-6,307.25	6,324.03	6,312.54	11.49	550.172			
600.00	600.00	646.93	600.00	0.00	12.94	107.58	-460.09	-6,307.25	6,324.14	6,311.20	12.94	488.775			
700.00	699.93	746.86	699.93	0.00	14.94	107.59	-460.09	-6,307.25	6,325.20	6,310.26	14.94	423.494			
800.00	799.68	846.61	799.68	0.00	16.93	107.61	-460.09	-6,307.25	6,327.31	6,310.39	16.93	373.806			
900.00	899.13	946.06	899.13	0.00	18.92	107.64	-460.09	-6,307.25	6,330.49	6,311.59	18.91	334.793			
1,000.00	998.15	1,045.08	998.15	0.00	20.90	107.68	-460.09	-6,307.25	6,334.75	6,313.88	20.88	303.412			
1,100.00	1,096.63	1,143.56	1,096.63	0.00	22.87	107.72	-460.09	-6,307.25	6,340.11	6,317.28	22.83	277.674			
1,200.00	1,194.44	1,241.37	1,194.44	0.00	24.83	107.78	-460.09	-6,307.25	6,346.58	6,321.81	24.77	256.230			
1,300.00	1,291.46	1,338.39	1,291.46	0.00	26.77	107.83	-460.09	-6,307.25	6,354.18	6,327.49	26.68	238.127			
1,400.00	1,387.58	1,434.51	1,387.58	0.00	28.69	107.89	-460.09	-6,307.25	6,362.94	6,334.37	28.57	222.678			
1,500.00	1,482.68	1,529.61	1,482.68	0.00	30.59	107.96	-460.09	-6,307.25	6,372.89	6,342.46	30.44	209.372			
1,600.00	1,576.65	1,623.58	1,576.65	0.00	32.47	108.02	-460.09	-6,307.25	6,384.06	6,351.79	32.27	197.822			
1,700.00	1,669.40	1,716.33	1,669.40	0.00	34.33	108.14	-460.09	-6,307.25	6,396.45	6,362.37	34.08	187.675			
1,800.00	1,761.79	1,808.72	1,761.79	0.00	36.17	108.44	-460.09	-6,307.25	6,409.34	6,373.44	35.91	178.490			
1,900.00	1,854.18	1,901.11	1,854.18	0.00	38.02	108.74	-460.09	-6,307.25	6,422.44	6,384.70	37.73	170.203			
2,000.00	1,946.57	1,993.50	1,946.57	0.00	39.87	109.05	-460.09	-6,307.25	6,435.73	6,396.18	39.56	162.690			
2,100.00	2,038.96	2,085.89	2,038.96	0.00	41.72	109.35	-460.09	-6,307.25	6,449.23	6,407.85	41.38	155.848			
2,200.00	2,131.34	2,178.27	2,131.34	0.00	43.57	109.64	-460.09	-6,307.25	6,462.92	6,419.72	43.20	149.592			
2,300.00	2,223.73	2,270.66	2,223.73	0.00	45.41	109.94	-460.09	-6,307.25	6,476.81	6,431.79	45.03	143.849			
2,400.00	2,316.12	2,363.05	2,316.12	0.00	47.26	110.24	-460.09	-6,307.25	6,490.90	6,444.05	46.85	138.560			
2,500.00	2,408.51	2,455.44	2,408.51	0.00	49.11	110.53	-460.09	-6,307.25	6,505.18	6,456.51	48.66	133.673			
2,600.00	2,500.90	2,547.83	2,500.90	0.00	50.96	110.83	-460.09	-6,307.25	6,519.65	6,469.17	50.48	129.146			
2,700.00	2,593.28	2,640.21	2,593.28	0.00	52.80	111.12	-460.09	-6,307.25	6,534.32	6,482.02	52.30	124.939			
2,800.00	2,685.67	2,732.60	2,685.67	0.00	54.65	111.41	-460.09	-6,307.25	6,549.17	6,495.06	54.12	121.020			
2,900.00	2,778.06	2,824.99	2,778.06	0.00	56.50	111.70	-460.09	-6,307.25	6,564.22	6,508.29	55.93	117.362			
3,000.00	2,870.45	2,917.38	2,870.45	0.00	58.35	111.99	-460.09	-6,307.25	6,579.45	6,521.71	57.75	113.939			
3,100.00	2,962.84	3,009.77	2,962.84	0.00	60.20	112.28	-460.09	-6,307.25	6,594.88	6,535.32	59.56	110.729			
3,200.00	3,055.22	3,102.15	3,055.22	0.00	62.04	112.57	-460.09	-6,307.25	6,610.48	6,549.11	61.37	107.714			
3,300.00	3,147.61	3,194.54	3,147.61	0.00	63.89	112.85	-460.09	-6,307.25	6,626.27	6,563.09	63.18	104.877			
3,400.00	3,240.00	3,286.93	3,240.00	0.00	65.74	113.14	-460.09	-6,307.25	6,642.25	6,577.26	64.99	102.202			
3,500.00	3,332.39	3,379.32	3,332.39	0.00	67.59	113.42	-460.09	-6,307.25	6,658.40	6,591.60	66.80	99.877			
3,600.00	3,424.78	3,471.71	3,424.78	0.00	69.43	113.70	-460.09	-6,307.25	6,674.74	6,606.13	68.61	97.288			
3,700.00	3,517.16	3,564.09	3,517.16	0.00	71.28	113.99	-460.09	-6,307.25	6,691.25	6,620.84	70.41	95.027			
3,800.00	3,609.56	3,656.49	3,609.56	0.00	73.13	114.29	-460.09	-6,307.25	6,707.94	6,635.71	72.23	92.866			
3,900.00	3,702.71	3,749.64	3,702.71	0.00	74.99	114.86	-460.09	-6,307.25	6,723.96	6,649.77	74.19	90.631			
4,000.00	3,797.08	3,844.01	3,797.08	0.00	76.88	115.37	-460.09	-6,307.25	6,738.67	6,662.48	76.18	88.456			
4,100.00	3,892.55	3,939.48	3,892.55	0.00	78.79	115.83	-460.09	-6,307.25	6,752.01	6,673.81	78.20	86.345			
4,200.00	3,989.00	4,035.93	3,989.00	0.00	80.72	116.24	-460.09	-6,307.25	6,763.94	6,683.71	80.24	84.301			
4,300.00	4,086.30	4,133.23	4,086.30	0.00	82.66	116.60	-460.09	-6,307.25	6,774.41	6,692.13	82.29	82.326			
4,400.00	4,184.36	4,231.29	4,184.36	0.00	84.63	116.91	-460.09	-6,307.25	6,783.38	6,699.03	84.35	80.421			
4,500.00	4,283.03	4,329.96	4,283.03	0.00	86.60	117.16	-460.09	-6,307.25	6,790.81	6,704.40	86.41	78.588			
4,600.00	4,382.22	4,429.15	4,382.22	0.00	88.58	117.36	-460.09	-6,307.25	6,796.68	6,708.21	88.47	76.825			
4,700.00	4,481.78	4,528.71	4,481.78	0.00	90.57	117.50	-460.09	-6,307.25	6,800.96	6,710.44	90.52	75.132			
4,800.00	4,581.61	4,628.54	4,581.61	0.00	92.57	117.60	-460.09	-6,307.25	6,803.63	6,711.08	92.55	73.509			
4,900.00	4,681.58	4,728.51	4,681.58	0.00	94.57	117.63	-460.09	-6,307.25	6,804.70	6,710.13	94.57	71.954			

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



Anticollision Report



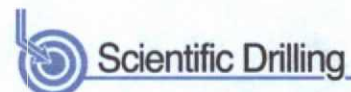
Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 243-FT - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6205-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface	Distance		Minimum Separation	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,000.00	4,781.27	4,828.20	4,781.27	0.00	96.56	1.68	-460.09	-6,307.25	6,798.50	6,702.99	95.52	71.175		
5,100.00	4,878.41	4,925.34	4,878.41	0.00	98.51	1.76	-460.09	-6,307.25	6,775.29	6,681.84	93.45	72.501		
5,200.00	4,970.04	5,016.97	4,970.04	0.00	100.34	1.91	-460.09	-6,307.25	6,735.57	6,647.33	88.24	76.333		
5,300.00	5,053.37	5,100.30	5,053.37	0.00	102.01	2.16	-460.09	-6,307.25	6,680.55	6,600.62	79.93	83.584		
5,400.00	5,125.88	5,172.81	5,125.88	0.00	103.46	2.57	-460.09	-6,307.25	6,611.90	6,543.19	68.71	96.224		
5,500.00	5,185.36	5,232.29	5,185.36	0.00	104.65	3.30	-460.09	-6,307.25	6,531.71	6,476.71	55.00	118.755		
5,600.00	5,235.09	5,282.02	5,235.09	0.00	105.64	3.78	-460.09	-6,307.25	6,445.00	6,395.74	49.26	130.846		
5,700.00	5,273.40	5,320.33	5,273.40	0.00	106.41	5.87	-460.09	-6,307.25	6,352.81	6,319.08	33.73	188.361		
5,800.00	5,295.11	5,342.04	5,295.11	0.00	106.84	13.46	-460.09	-6,307.25	6,255.37	6,227.00	28.37	220.503		
5,900.00	5,299.75	5,346.68	5,299.75	0.00	106.93	117.35	-460.09	-6,307.25	6,155.64	6,060.65	94.99	64.805		
6,000.00	5,298.10	5,345.03	5,298.10	0.00	106.90	116.97	-460.09	-6,307.25	6,055.71	5,960.42	95.28	63.556		
6,100.00	5,296.45	5,343.38	5,296.45	0.00	106.87	116.58	-460.09	-6,307.25	5,955.77	5,860.20	95.57	62.315		
6,200.00	5,294.79	5,341.72	5,294.79	0.00	106.83	116.20	-460.09	-6,307.25	5,855.84	5,759.98	95.87	61.084		
6,300.00	5,293.14	5,340.07	5,293.14	0.00	106.80	115.81	-460.09	-6,307.25	5,755.91	5,659.76	96.15	59.862		
6,400.00	5,291.49	5,338.42	5,291.49	0.00	106.77	115.41	-460.09	-6,307.25	5,655.99	5,559.55	96.44	58.648		
6,500.00	5,289.84	5,336.77	5,289.84	0.00	106.74	115.02	-460.09	-6,307.25	5,556.06	5,459.34	96.72	57.444		
6,600.00	5,288.18	5,335.11	5,288.18	0.00	106.70	114.62	-460.09	-6,307.25	5,456.14	5,359.14	97.00	56.248		
6,700.00	5,286.53	5,333.46	5,286.53	0.00	106.67	114.22	-460.09	-6,307.25	5,356.22	5,258.94	97.28	55.060		
6,800.00	5,284.88	5,331.81	5,284.88	0.00	106.64	113.82	-460.09	-6,307.25	5,256.30	5,158.75	97.55	53.881		
6,900.00	5,283.23	5,330.16	5,283.23	0.00	106.60	113.42	-460.09	-6,307.25	5,156.39	5,058.56	97.82	52.711		
7,000.00	5,281.57	5,328.50	5,281.57	0.00	106.57	113.01	-460.09	-6,307.25	5,056.47	4,958.38	98.09	51.548		
7,100.00	5,279.92	5,326.85	5,279.92	0.00	106.54	112.60	-460.09	-6,307.25	4,956.56	4,858.21	98.36	50.394		
7,200.00	5,278.27	5,325.20	5,278.27	0.00	106.50	112.19	-460.09	-6,307.25	4,856.66	4,758.04	98.62	49.247		
7,300.00	5,276.62	5,323.55	5,276.62	0.00	106.47	111.78	-460.09	-6,307.25	4,756.76	4,657.88	98.87	48.109		
7,400.00	5,274.96	5,321.89	5,274.96	0.00	106.44	111.36	-460.09	-6,307.25	4,656.86	4,557.73	99.13	46.978		
7,500.00	5,273.31	5,320.24	5,273.31	0.00	106.40	110.94	-460.09	-6,307.25	4,556.96	4,457.58	99.38	45.855		
7,600.00	5,271.66	5,318.59	5,271.66	0.00	106.37	110.52	-460.09	-6,307.25	4,457.07	4,357.45	99.62	44.739		
7,700.00	5,270.01	5,316.94	5,270.01	0.00	106.34	110.10	-460.09	-6,307.25	4,357.18	4,257.32	99.87	43.630		
7,800.00	5,268.35	5,315.28	5,268.35	0.00	106.31	109.67	-460.09	-6,307.25	4,257.30	4,157.20	100.10	42.529		
7,900.00	5,266.70	5,313.63	5,266.70	0.00	106.27	109.24	-460.09	-6,307.25	4,157.42	4,057.09	100.34	41.435		
8,000.00	5,265.05	5,311.98	5,265.05	0.00	106.24	108.81	-460.09	-6,307.25	4,057.55	3,956.99	100.57	40.347		
8,100.00	5,263.40	5,310.33	5,263.40	0.00	106.21	108.38	-460.09	-6,307.25	3,957.69	3,856.90	100.79	39.267		
8,200.00	5,261.74	5,308.67	5,261.74	0.00	106.17	107.95	-460.09	-6,307.25	3,857.83	3,756.82	101.01	38.193		
8,300.00	5,260.09	5,307.02	5,260.09	0.00	106.14	107.51	-460.09	-6,307.25	3,757.97	3,656.75	101.22	37.125		
8,400.00	5,258.44	5,305.37	5,258.44	0.00	106.11	107.07	-460.09	-6,307.25	3,658.13	3,556.69	101.43	36.064		
8,500.00	5,256.79	5,303.72	5,256.79	0.00	106.07	106.63	-460.09	-6,307.25	3,558.29	3,456.65	101.64	35.009		
8,600.00	5,255.13	5,302.06	5,255.13	0.00	106.04	106.19	-460.09	-6,307.25	3,458.46	3,356.62	101.84	33.960		
8,700.00	5,253.48	5,300.41	5,253.48	0.00	106.01	105.74	-460.09	-6,307.25	3,358.64	3,256.61	102.03	32.917		
8,800.00	5,251.83	5,298.76	5,251.83	0.00	105.98	105.29	-460.09	-6,307.25	3,258.83	3,156.61	102.22	31.879		
8,900.00	5,250.18	5,297.11	5,250.18	0.00	105.94	104.84	-460.09	-6,307.25	3,159.03	3,056.62	102.41	30.848		
9,000.00	5,248.52	5,295.45	5,248.52	0.00	105.91	104.39	-460.09	-6,307.25	3,059.25	2,956.66	102.59	29.821		
9,100.00	5,246.87	5,293.80	5,246.87	0.00	105.88	103.94	-460.09	-6,307.25	2,959.47	2,856.72	102.76	28.800		
9,200.00	5,245.22	5,292.15	5,245.22	0.00	105.84	103.49	-460.09	-6,307.25	2,859.72	2,756.79	102.93	27.784		
9,300.00	5,243.57	5,290.50	5,243.57	0.00	105.81	103.03	-460.09	-6,307.25	2,759.97	2,656.89	103.09	26.773		
9,400.00	5,241.91	5,288.84	5,241.91	0.00	105.78	102.57	-460.09	-6,307.25	2,660.25	2,557.01	103.24	25.767		
9,500.00	5,240.26	5,287.19	5,240.26	0.00	105.74	102.11	-460.09	-6,307.25	2,560.55	2,457.16	103.39	24.766		
9,600.00	5,238.61	5,285.54	5,238.61	0.00	105.71	101.65	-460.09	-6,307.25	2,460.87	2,357.34	103.53	23.769		
9,700.00	5,236.96	5,283.89	5,236.96	0.00	105.68	101.19	-460.09	-6,307.25	2,361.22	2,257.55	103.67	22.776		
9,800.00	5,235.30	5,282.23	5,235.30	0.00	105.64	100.72	-460.09	-6,307.25	2,261.59	2,157.79	103.80	21.788		
9,900.00	5,233.65	5,280.58	5,233.65	0.00	105.61	100.26	-460.09	-6,307.25	2,162.00	2,058.08	103.92	20.804		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 243-FT - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 6205-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
10,000.00	5,232.00	5,278.93	5,232.00	0.00	105.58	99.79	-460.09	-6,307.25	2,062.45	1,958.41	104.04	19.823		
10,100.00	5,230.34	5,277.27	5,230.34	0.00	105.55	99.32	-460.09	-6,307.25	1,962.94	1,858.79	104.15	18.847		
10,200.00	5,228.69	5,275.62	5,228.69	0.00	105.51	98.85	-460.09	-6,307.25	1,863.49	1,759.23	104.26	17.874		
10,300.00	5,227.04	5,273.97	5,227.04	0.00	105.48	98.38	-460.09	-6,307.25	1,764.09	1,659.74	104.35	16.905		
10,400.00	5,225.39	5,272.32	5,225.39	0.00	105.45	97.91	-460.09	-6,307.25	1,664.78	1,560.32	104.44	15.939		
10,500.00	5,223.73	5,270.66	5,223.73	0.00	105.41	97.44	-460.09	-6,307.25	1,565.52	1,460.99	104.53	14.977		
10,600.00	5,222.08	5,269.01	5,222.08	0.00	105.38	96.96	-460.09	-6,307.25	1,466.38	1,361.78	104.60	14.018		
10,700.00	5,220.43	5,267.36	5,220.43	0.00	105.35	96.49	-460.09	-6,307.25	1,367.36	1,262.69	104.67	13.063		
10,800.00	5,218.78	5,265.71	5,218.78	0.00	105.31	96.01	-460.09	-6,307.25	1,268.50	1,163.76	104.74	12.111		
10,900.00	5,217.12	5,264.05	5,217.12	0.00	105.28	95.54	-460.09	-6,307.25	1,169.82	1,065.03	104.79	11.163		
11,000.00	5,215.47	5,262.40	5,215.47	0.00	105.25	95.06	-460.09	-6,307.25	1,071.39	966.55	104.84	10.219		
11,100.00	5,213.82	5,260.75	5,213.82	0.00	105.22	94.58	-460.09	-6,307.25	973.27	868.39	104.88	9.280		
11,200.00	5,212.17	5,259.10	5,212.17	0.00	105.18	94.10	-460.09	-6,307.25	875.58	770.67	104.91	8.346		
11,300.00	5,210.51	5,257.44	5,210.51	0.00	105.15	93.62	-460.09	-6,307.25	778.47	673.53	104.94	7.418		
11,400.00	5,208.86	5,255.79	5,208.86	0.00	105.12	93.14	-460.09	-6,307.25	682.19	577.23	104.96	6.500		
11,500.00	5,207.21	5,254.14	5,207.21	0.00	105.08	92.66	-460.09	-6,307.25	587.15	482.19	104.97	5.594		
11,600.00	5,205.56	5,252.49	5,205.56	0.00	105.05	92.18	-460.09	-6,307.25	494.08	389.10	104.97	4.707		
11,700.00	5,203.90	5,250.83	5,203.90	0.00	105.02	91.70	-460.09	-6,307.25	404.31	299.34	104.97	3.852		
11,800.00	5,202.25	5,249.18	5,202.25	0.00	104.98	91.22	-460.09	-6,307.25	320.64	215.68	104.96	3.055		
11,900.00	5,200.60	5,247.53	5,200.60	0.00	104.95	90.74	-460.09	-6,307.25	249.31	144.37	104.94	2.376		
12,000.00	5,198.95	5,245.88	5,198.95	0.00	104.92	90.26	-460.09	-6,307.25	203.70	98.78	104.92	1.942		
12,053.34	5,198.06	5,244.99	5,198.06	0.00	104.90	90.00	-460.09	-6,307.25	196.59	91.69	104.90	1.874	CC, ES, SF	
12,100.00	5,197.29	5,244.22	5,197.29	0.00	104.88	89.78	-460.09	-6,307.25	202.05	97.17	104.88	1.926		
12,200.00	5,195.64	5,242.57	5,195.64	0.00	104.85	89.29	-460.09	-6,307.25	245.26	140.42	104.84	2.339		
12,300.00	5,193.99	5,240.92	5,193.99	0.00	104.82	88.81	-460.09	-6,307.25	315.39	210.60	104.80	3.010		
12,400.00	5,192.34	5,239.27	5,192.34	0.00	104.79	88.33	-460.09	-6,307.25	396.48	293.74	104.74	3.804		
12,500.00	5,190.68	5,237.61	5,190.68	0.00	104.75	87.85	-460.09	-6,307.25	487.95	383.28	104.68	4.661		
12,600.00	5,189.03	5,235.96	5,189.03	0.00	104.72	87.37	-460.09	-6,307.25	580.87	476.26	104.61	5.553		
12,700.00	5,187.38	5,234.31	5,187.38	0.00	104.69	86.89	-460.09	-6,307.25	675.80	571.27	104.53	6.465		
12,800.00	5,185.73	5,232.66	5,185.73	0.00	104.65	86.41	-460.09	-6,307.25	772.01	667.56	104.45	7.391		
12,900.00	5,184.07	5,231.00	5,184.07	0.00	104.62	85.93	-460.09	-6,307.25	869.07	764.72	104.36	8.328		
13,000.00	5,182.42	5,229.35	5,182.42	0.00	104.59	85.45	-460.09	-6,307.25	966.73	862.47	104.26	9.273		
13,100.00	5,180.77	5,227.70	5,180.77	0.00	104.55	84.97	-460.09	-6,307.25	1,064.82	960.67	104.15	10.224		
13,200.00	5,179.12	5,226.05	5,179.12	0.00	104.52	84.50	-460.09	-6,307.25	1,163.24	1,059.20	104.04	11.181		
13,300.00	5,177.46	5,224.39	5,177.46	0.00	104.49	84.02	-460.09	-6,307.25	1,261.90	1,157.98	103.92	12.143		
13,400.00	5,175.81	5,222.74	5,175.81	0.00	104.45	83.54	-460.09	-6,307.25	1,360.75	1,256.96	103.79	13.110		
13,500.00	5,174.16	5,221.09	5,174.16	0.00	104.42	83.07	-460.09	-6,307.25	1,459.78	1,356.10	103.66	14.082		
13,600.00	5,172.51	5,219.44	5,172.51	0.00	104.39	82.59	-460.09	-6,307.25	1,558.89	1,455.38	103.52	15.059		
13,700.00	5,170.85	5,217.78	5,170.85	0.00	104.36	82.12	-460.09	-6,307.25	1,658.13	1,554.76	103.37	16.041		
13,800.00	5,169.20	5,216.13	5,169.20	0.00	104.32	81.65	-460.09	-6,307.25	1,757.45	1,654.24	103.22	17.027		
13,900.00	5,167.55	5,214.48	5,167.55	0.00	104.29	81.18	-460.09	-6,307.25	1,856.84	1,753.79	103.06	18.018		
14,000.00	5,165.90	5,212.83	5,165.90	0.00	104.26	80.71	-460.09	-6,307.25	1,956.30	1,853.41	102.89	19.014		
14,100.00	5,164.24	5,211.17	5,164.24	0.00	104.22	80.24	-460.09	-6,307.25	2,055.80	1,953.09	102.72	20.015		
14,200.00	5,162.59	5,209.52	5,162.59	0.00	104.19	79.77	-460.09	-6,307.25	2,155.35	2,052.82	102.54	21.021		
14,300.00	5,160.94	5,207.87	5,160.94	0.00	104.16	79.31	-460.09	-6,307.25	2,254.94	2,152.59	102.35	22.032		
14,400.00	5,159.29	5,206.22	5,159.29	0.00	104.12	78.84	-460.09	-6,307.25	2,354.56	2,252.40	102.16	23.048		
14,500.00	5,157.63	5,204.56	5,157.63	0.00	104.09	78.38	-460.09	-6,307.25	2,454.21	2,352.25	101.96	24.071		
14,600.00	5,155.98	5,202.91	5,155.98	0.00	104.06	77.92	-460.09	-6,307.25	2,553.89	2,452.14	101.75	25.099		
14,700.00	5,154.33	5,201.26	5,154.33	0.00	104.03	77.46	-460.09	-6,307.25	2,653.59	2,552.05	101.54	26.132		
14,800.00	5,152.67	5,199.60	5,152.67	0.00	103.99	77.00	-460.09	-6,307.25	2,753.31	2,651.98	101.33	27.172		
14,900.00	5,151.02	5,197.95	5,151.02	0.00	103.96	76.54	-460.09	-6,307.25	2,853.05	2,751.95	101.11	28.218		

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



Anticollision Report

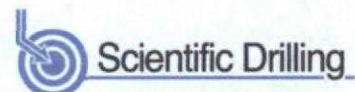


Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 243-FT - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 6205-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
14,961.86	5,150.00	5,196.93	5,150.00	0.00	103.94	76.26	-460.09	-6,307.25	2,914.76	2,813.80	100.97	28.869	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 251 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 5699-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.00	0.00	92.21	0.00	0.00	1.84	-90.86	-115.03	-7,671.16	7,672.02						
100.00	100.00	192.21	100.00	0.00	3.84	-90.86	-115.03	-7,671.16	7,672.02	7,668.17	3.84	1,995.534			
200.00	200.00	292.21	200.00	0.00	5.84	-90.86	-115.03	-7,671.16	7,672.02	7,666.17	5.84	1,312.670			
300.00	300.00	392.21	300.00	0.00	7.84	-90.86	-115.03	-7,671.16	7,672.02	7,664.17	7.84	978.002			
400.00	400.00	492.21	400.00	0.00	9.84	-90.86	-115.03	-7,671.16	7,672.02	7,662.17	9.84	779.314			
500.00	500.00	592.21	500.00	0.00	11.84	-90.86	-115.03	-7,671.16	7,672.02	7,660.17	11.84	647.724			
527.78	527.78	619.99	527.78	0.00	12.40	110.89	-115.03	-7,671.16	7,672.04	7,659.64	12.40	618.704			
600.00	600.00	692.21	600.00	0.00	13.84	110.89	-115.03	-7,671.16	7,672.17	7,658.33	13.84	554.177			
700.00	699.93	792.14	699.93	0.00	15.84	110.90	-115.03	-7,671.16	7,673.42	7,657.58	15.84	484.419			
800.00	799.68	891.89	799.68	0.00	17.84	110.90	-115.03	-7,671.16	7,675.91	7,658.08	17.83	430.515			
900.00	899.13	991.34	899.13	0.00	19.83	110.90	-115.03	-7,671.16	7,679.66	7,659.85	19.81	387.697			
1,000.00	998.15	1,090.36	998.15	0.00	21.81	110.90	-115.03	-7,671.16	7,684.67	7,662.89	21.77	352.935			
1,100.00	1,096.63	1,188.84	1,096.63	0.00	23.78	110.90	-115.03	-7,671.16	7,690.95	7,667.22	23.72	324.212			
1,200.00	1,194.44	1,286.65	1,194.44	0.00	25.73	110.90	-115.03	-7,671.16	7,698.51	7,672.86	25.65	300.134			
1,300.00	1,291.46	1,383.67	1,291.46	0.00	27.67	110.90	-115.03	-7,671.16	7,707.37	7,679.82	27.56	279.703			
1,400.00	1,387.58	1,479.79	1,387.58	0.00	29.60	110.90	-115.03	-7,671.16	7,717.55	7,688.11	29.43	262.191			
1,500.00	1,482.68	1,574.89	1,482.68	0.00	31.50	110.88	-115.03	-7,671.16	7,729.06	7,697.77	31.29	247.050			
1,600.00	1,576.65	1,668.86	1,576.65	0.00	33.38	110.87	-115.03	-7,671.16	7,741.92	7,708.82	33.10	233.863			
1,700.00	1,669.40	1,761.61	1,669.40	0.00	35.23	110.91	-115.03	-7,671.16	7,756.12	7,721.22	34.90	222.222			
1,800.00	1,761.79	1,854.00	1,761.79	0.00	37.08	111.15	-115.03	-7,671.16	7,770.82	7,734.10	36.73	211.595			
1,900.00	1,854.18	1,946.39	1,854.18	0.00	38.93	111.40	-115.03	-7,671.16	7,785.69	7,747.14	38.55	201.980			
2,000.00	1,946.57	2,038.78	1,946.57	0.00	40.78	111.64	-115.03	-7,671.16	7,800.71	7,760.34	40.37	193.242			
2,100.00	2,038.96	2,131.17	2,038.96	0.00	42.62	111.89	-115.03	-7,671.16	7,815.89	7,773.71	42.19	185.265			
2,200.00	2,131.34	2,223.55	2,131.34	0.00	44.47	112.13	-115.03	-7,671.16	7,831.23	7,787.23	44.01	177.955			
2,300.00	2,223.73	2,315.94	2,223.73	0.00	46.32	112.37	-115.03	-7,671.16	7,846.73	7,800.90	45.83	171.232			
2,400.00	2,316.12	2,408.33	2,316.12	0.00	48.17	112.61	-115.03	-7,671.16	7,862.38	7,814.74	47.64	165.029			
2,500.00	2,408.51	2,500.72	2,408.51	0.00	50.01	112.86	-115.03	-7,671.16	7,878.19	7,828.73	49.46	159.287			
2,600.00	2,500.90	2,593.11	2,500.90	0.00	51.86	113.09	-115.03	-7,671.16	7,894.15	7,842.87	51.27	153.958			
2,700.00	2,593.28	2,685.49	2,593.28	0.00	53.71	113.33	-115.03	-7,671.16	7,910.26	7,857.17	53.09	148.998			
2,800.00	2,685.67	2,777.88	2,685.67	0.00	55.56	113.57	-115.03	-7,671.16	7,926.53	7,871.62	54.90	144.372			
2,900.00	2,778.06	2,870.27	2,778.06	0.00	57.41	113.81	-115.03	-7,671.16	7,942.94	7,886.23	56.72	140.046			
3,000.00	2,870.45	2,962.66	2,870.45	0.00	59.25	114.04	-115.03	-7,671.16	7,959.51	7,900.98	58.53	135.993			
3,100.00	2,962.84	3,055.05	2,962.84	0.00	61.10	114.28	-115.03	-7,671.16	7,976.23	7,915.89	60.34	132.188			
3,200.00	3,055.22	3,147.43	3,055.22	0.00	62.95	114.51	-115.03	-7,671.16	7,993.09	7,930.94	62.15	128.609			
3,300.00	3,147.61	3,239.82	3,147.61	0.00	64.80	114.75	-115.03	-7,671.16	8,010.10	7,946.14	63.96	125.236			
3,400.00	3,240.00	3,332.21	3,240.00	0.00	66.64	114.98	-115.03	-7,671.16	8,027.26	7,961.49	65.77	122.053			
3,500.00	3,332.39	3,424.60	3,332.39	0.00	68.49	115.21	-115.03	-7,671.16	8,044.56	7,976.99	67.58	119.045			
3,600.00	3,424.78	3,516.99	3,424.78	0.00	70.34	115.44	-115.03	-7,671.16	8,062.01	7,992.63	69.38	116.196			
3,700.00	3,517.16	3,609.37	3,517.16	0.00	72.19	115.67	-115.03	-7,671.16	8,079.60	8,008.42	71.19	113.496			
3,800.00	3,609.56	3,701.77	3,609.56	0.00	74.04	115.93	-115.03	-7,671.16	8,097.33	8,024.32	73.01	110.910			
3,900.00	3,702.71	3,794.92	3,702.71	0.00	75.90	116.46	-115.03	-7,671.16	8,114.30	8,039.32	74.99	108.212			
4,000.00	3,797.08	3,889.29	3,797.08	0.00	77.79	116.94	-115.03	-7,671.16	8,129.86	8,052.86	76.99	105.591			
4,100.00	3,892.55	3,984.76	3,892.55	0.00	79.70	117.37	-115.03	-7,671.16	8,143.94	8,064.91	79.03	103.051			
4,200.00	3,989.00	4,081.21	3,989.00	0.00	81.62	117.76	-115.03	-7,671.16	8,156.51	8,075.43	81.08	100.596			
4,300.00	4,086.30	4,178.51	4,086.30	0.00	83.57	118.09	-115.03	-7,671.16	8,167.52	8,084.38	83.15	98.228			
4,400.00	4,184.36	4,276.57	4,184.36	0.00	85.53	118.38	-115.03	-7,671.16	8,176.95	8,091.72	85.22	95.949			
4,500.00	4,283.03	4,375.24	4,283.03	0.00	87.50	118.62	-115.03	-7,671.16	8,184.75	8,097.45	87.30	93.759			
4,600.00	4,382.22	4,474.43	4,382.22	0.00	89.49	118.80	-115.03	-7,671.16	8,190.90	8,101.53	89.36	91.658			
4,700.00	4,481.78	4,573.99	4,481.78	0.00	91.48	118.94	-115.03	-7,671.16	8,195.38	8,103.96	91.42	89.646			
4,800.00	4,581.61	4,673.82	4,581.61	0.00	93.48	119.02	-115.03	-7,671.16	8,198.18	8,104.72	93.46	87.720			
4,900.00	4,681.58	4,773.79	4,681.58	0.00	95.48	119.05	-115.03	-7,671.16	8,199.29	8,103.82	95.48	85.878			

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 251 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 5699-UNKNOWN													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	4,781.27	4,873.48	4,781.27	0.00	97.47	3.12	-115.03	-7,671.16	8,193.11	8,096.69	96.42	84.977		
5,100.00	4,878.41	4,970.62	4,878.41	0.00	99.41	3.26	-115.03	-7,671.16	8,169.92	8,075.60	94.32	86.617		
5,200.00	4,970.04	5,062.25	4,970.04	0.00	101.24	3.53	-115.03	-7,671.16	8,130.24	8,041.17	89.07	91.278		
5,300.00	5,053.37	5,145.58	5,053.37	0.00	102.91	3.99	-115.03	-7,671.16	8,075.28	7,994.55	80.72	100.037		
5,400.00	5,125.88	5,218.09	5,125.88	0.00	104.36	4.75	-115.03	-7,671.16	8,006.70	7,937.17	69.53	115.158		
5,500.00	5,185.36	5,277.57	5,185.36	0.00	105.55	6.07	-115.03	-7,671.16	7,926.59	7,870.55	56.05	141.421		
5,600.00	5,235.09	5,327.30	5,235.09	0.00	106.55	6.94	-115.03	-7,671.16	7,839.98	7,789.39	50.59	154.969		
5,700.00	5,273.40	5,365.61	5,273.40	0.00	107.31	10.69	-115.03	-7,671.16	7,747.89	7,710.37	37.52	206.488		
5,800.00	5,295.11	5,387.32	5,295.11	0.00	107.75	23.68	-115.03	-7,671.16	7,650.57	7,605.39	45.18	169.339		
5,900.00	5,299.75	5,391.96	5,299.75	0.00	107.84	105.80	-115.03	-7,671.16	7,550.96	7,447.19	103.77	72.768		
6,000.00	5,298.10	5,390.31	5,298.10	0.00	107.81	105.60	-115.03	-7,671.16	7,451.14	7,347.31	103.84	71.758		
6,100.00	5,296.45	5,388.66	5,296.45	0.00	107.77	105.40	-115.03	-7,671.16	7,351.33	7,247.43	103.91	70.750		
6,200.00	5,294.79	5,387.00	5,294.79	0.00	107.74	105.20	-115.03	-7,671.16	7,251.53	7,147.56	103.97	69.745		
6,300.00	5,293.14	5,385.35	5,293.14	0.00	107.71	105.00	-115.03	-7,671.16	7,151.73	7,047.69	104.04	68.741		
6,400.00	5,291.49	5,383.70	5,291.49	0.00	107.67	104.80	-115.03	-7,671.16	7,051.94	6,947.83	104.10	67.739		
6,500.00	5,289.84	5,382.05	5,289.84	0.00	107.64	104.60	-115.03	-7,671.16	6,952.15	6,847.98	104.17	66.740		
6,600.00	5,288.18	5,380.39	5,288.18	0.00	107.61	104.40	-115.03	-7,671.16	6,852.36	6,748.13	104.23	65.742		
6,700.00	5,286.53	5,378.74	5,286.53	0.00	107.57	104.19	-115.03	-7,671.16	6,752.59	6,648.30	104.29	64.747		
6,800.00	5,284.88	5,377.09	5,284.88	0.00	107.54	103.99	-115.03	-7,671.16	6,652.82	6,548.46	104.35	63.753		
6,900.00	5,283.23	5,375.44	5,283.23	0.00	107.51	103.79	-115.03	-7,671.16	6,553.05	6,448.64	104.41	62.762		
7,000.00	5,281.57	5,373.78	5,281.57	0.00	107.48	103.59	-115.03	-7,671.16	6,453.30	6,348.83	104.47	61.772		
7,100.00	5,279.92	5,372.13	5,279.92	0.00	107.44	103.38	-115.03	-7,671.16	6,353.55	6,249.02	104.53	60.784		
7,200.00	5,278.27	5,370.48	5,278.27	0.00	107.41	103.18	-115.03	-7,671.16	6,253.80	6,149.22	104.58	59.798		
7,300.00	5,276.62	5,368.83	5,276.62	0.00	107.38	102.97	-115.03	-7,671.16	6,154.07	6,049.43	104.64	58.814		
7,400.00	5,274.96	5,367.17	5,274.96	0.00	107.34	102.77	-115.03	-7,671.16	6,054.34	5,949.66	104.69	57.832		
7,500.00	5,273.31	5,365.52	5,273.31	0.00	107.31	102.57	-115.03	-7,671.16	5,954.63	5,849.89	104.74	56.851		
7,600.00	5,271.66	5,363.87	5,271.66	0.00	107.28	102.36	-115.03	-7,671.16	5,854.92	5,750.13	104.79	55.872		
7,700.00	5,270.01	5,362.22	5,270.01	0.00	107.24	102.15	-115.03	-7,671.16	5,755.22	5,650.38	104.84	54.895		
7,800.00	5,268.35	5,360.56	5,268.35	0.00	107.21	101.95	-115.03	-7,671.16	5,655.53	5,550.64	104.89	53.919		
7,900.00	5,266.70	5,358.91	5,266.70	0.00	107.18	101.74	-115.03	-7,671.16	5,555.86	5,450.92	104.94	52.945		
8,000.00	5,265.05	5,357.26	5,265.05	0.00	107.15	101.54	-115.03	-7,671.16	5,456.19	5,351.21	104.98	51.973		
8,100.00	5,263.40	5,355.61	5,263.40	0.00	107.11	101.33	-115.03	-7,671.16	5,356.54	5,251.51	105.03	51.002		
8,200.00	5,261.74	5,353.95	5,261.74	0.00	107.08	101.12	-115.03	-7,671.16	5,256.89	5,151.83	105.07	50.033		
8,300.00	5,260.09	5,352.30	5,260.09	0.00	107.05	100.92	-115.03	-7,671.16	5,157.27	5,052.16	105.11	49.066		
8,400.00	5,258.44	5,350.65	5,258.44	0.00	107.01	100.71	-115.03	-7,671.16	5,057.65	4,952.50	105.15	48.099		
8,500.00	5,256.79	5,349.00	5,256.79	0.00	106.98	100.50	-115.03	-7,671.16	4,958.05	4,852.86	105.19	47.135		
8,600.00	5,255.13	5,347.34	5,255.13	0.00	106.95	100.29	-115.03	-7,671.16	4,858.47	4,753.24	105.23	46.172		
8,700.00	5,253.48	5,345.69	5,253.48	0.00	106.91	100.08	-115.03	-7,671.16	4,758.90	4,653.64	105.26	45.210		
8,800.00	5,251.83	5,344.04	5,251.83	0.00	106.88	99.88	-115.03	-7,671.16	4,659.35	4,554.06	105.30	44.249		
8,900.00	5,250.18	5,342.39	5,250.18	0.00	106.85	99.67	-115.03	-7,671.16	4,559.83	4,454.49	105.33	43.290		
9,000.00	5,248.52	5,340.73	5,248.52	0.00	106.81	99.46	-115.03	-7,671.16	4,460.32	4,354.95	105.36	42.333		
9,100.00	5,246.87	5,339.08	5,246.87	0.00	106.78	99.25	-115.03	-7,671.16	4,360.83	4,255.44	105.39	41.376		
9,200.00	5,245.22	5,337.43	5,245.22	0.00	106.75	99.04	-115.03	-7,671.16	4,261.37	4,155.94	105.42	40.421		
9,300.00	5,243.57	5,335.78	5,243.57	0.00	106.72	98.83	-115.03	-7,671.16	4,161.93	4,056.48	105.45	39.468		
9,400.00	5,241.91	5,334.12	5,241.91	0.00	106.68	98.62	-115.03	-7,671.16	4,062.52	3,957.04	105.48	38.515		
9,500.00	5,240.26	5,332.47	5,240.26	0.00	106.65	98.41	-115.03	-7,671.16	3,963.13	3,857.63	105.50	37.564		
9,600.00	5,238.61	5,330.82	5,238.61	0.00	106.62	98.20	-115.03	-7,671.16	3,863.78	3,758.25	105.53	36.614		
9,700.00	5,236.96	5,329.17	5,236.96	0.00	106.58	97.99	-115.03	-7,671.16	3,764.46	3,658.91	105.55	35.665		
9,800.00	5,235.30	5,327.51	5,235.30	0.00	106.55	97.78	-115.03	-7,671.16	3,665.18	3,559.61	105.57	34.718		
9,900.00	5,233.65	5,325.86	5,233.65	0.00	106.52	97.57	-115.03	-7,671.16	3,565.94	3,460.35	105.59	33.771		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 251 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 5699-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface	Distance		Minimum Separation	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
10,000.00	5,232.00	5,324.21	5,232.00	0.00	106.48	97.35	-115.03	-7,671.16	3,466.74	3,361.13	105.61	32.826		
10,100.00	5,230.34	5,322.55	5,230.34	0.00	106.45	97.14	-115.03	-7,671.16	3,367.59	3,261.96	105.63	31.882		
10,200.00	5,228.69	5,320.90	5,228.69	0.00	106.42	96.93	-115.03	-7,671.16	3,268.49	3,162.85	105.64	30.940		
10,300.00	5,227.04	5,319.25	5,227.04	0.00	106.39	96.72	-115.03	-7,671.16	3,169.44	3,063.79	105.65	29.998		
10,400.00	5,225.39	5,317.60	5,225.39	0.00	106.35	96.51	-115.03	-7,671.16	3,070.45	2,964.79	105.67	29.058		
10,500.00	5,223.73	5,315.94	5,223.73	0.00	106.32	96.29	-115.03	-7,671.16	2,971.54	2,865.86	105.68	28.119		
10,600.00	5,222.08	5,314.29	5,222.08	0.00	106.29	96.08	-115.03	-7,671.16	2,872.69	2,767.00	105.69	27.181		
10,700.00	5,220.43	5,312.64	5,220.43	0.00	106.25	95.87	-115.03	-7,671.16	2,773.93	2,668.23	105.70	26.244		
10,800.00	5,218.78	5,310.99	5,218.78	0.00	106.22	95.66	-115.03	-7,671.16	2,675.26	2,569.55	105.70	25.309		
10,900.00	5,217.12	5,309.33	5,217.12	0.00	106.19	95.44	-115.03	-7,671.16	2,576.69	2,470.98	105.71	24.375		
11,000.00	5,215.47	5,307.68	5,215.47	0.00	106.15	95.23	-115.03	-7,671.16	2,478.23	2,372.52	105.71	23.443		
11,100.00	5,213.82	5,306.03	5,213.82	0.00	106.12	95.02	-115.03	-7,671.16	2,379.90	2,274.19	105.71	22.513		
11,200.00	5,212.17	5,304.38	5,212.17	0.00	106.09	94.80	-115.03	-7,671.16	2,281.71	2,176.00	105.72	21.584		
11,300.00	5,210.51	5,302.72	5,210.51	0.00	106.05	94.59	-115.03	-7,671.16	2,183.69	2,077.98	105.71	20.656		
11,400.00	5,208.86	5,301.07	5,208.86	0.00	106.02	94.38	-115.03	-7,671.16	2,085.86	1,980.14	105.71	19.731		
11,500.00	5,207.21	5,299.42	5,207.21	0.00	105.99	94.16	-115.03	-7,671.16	1,988.24	1,882.53	105.71	18.809		
11,600.00	5,205.56	5,297.77	5,205.56	0.00	105.96	93.95	-115.03	-7,671.16	1,890.86	1,785.16	105.70	17.888		
11,700.00	5,203.90	5,296.11	5,203.90	0.00	105.92	93.73	-115.03	-7,671.16	1,793.77	1,688.08	105.70	16.971		
11,800.00	5,202.25	5,294.46	5,202.25	0.00	105.89	93.52	-115.03	-7,671.16	1,697.02	1,591.33	105.69	16.057		
11,900.00	5,200.60	5,292.81	5,200.60	0.00	105.86	93.31	-115.03	-7,671.16	1,600.67	1,494.99	105.68	15.146		
12,000.00	5,198.95	5,291.16	5,198.95	0.00	105.82	93.09	-115.03	-7,671.16	1,504.79	1,399.12	105.67	14.241		
12,100.00	5,197.29	5,289.50	5,197.29	0.00	105.79	92.88	-115.03	-7,671.16	1,409.49	1,303.83	105.66	13.340		
12,200.00	5,195.64	5,287.85	5,195.64	0.00	105.76	92.66	-115.03	-7,671.16	1,314.87	1,209.23	105.64	12.446		
12,300.00	5,193.99	5,286.20	5,193.99	0.00	105.72	92.45	-115.03	-7,671.16	1,221.12	1,115.49	105.63	11.561		
12,400.00	5,192.34	5,284.55	5,192.34	0.00	105.69	92.23	-115.03	-7,671.16	1,128.43	1,022.82	105.61	10.685		
12,500.00	5,190.68	5,282.89	5,190.68	0.00	105.66	92.02	-115.03	-7,671.16	1,037.11	931.51	105.59	9.822		
12,600.00	5,189.03	5,281.24	5,189.03	0.00	105.62	91.80	-115.03	-7,671.16	947.53	841.96	105.57	8.975		
12,700.00	5,187.38	5,279.59	5,187.38	0.00	105.59	91.59	-115.03	-7,671.16	860.25	754.70	105.55	8.150		
12,800.00	5,185.73	5,277.94	5,185.73	0.00	105.56	91.37	-115.03	-7,671.16	776.04	670.51	105.53	7.354		
12,900.00	5,184.07	5,276.28	5,184.07	0.00	105.53	91.16	-115.03	-7,671.16	696.02	590.51	105.50	6.597		
13,000.00	5,182.42	5,274.63	5,182.42	0.00	105.49	90.94	-115.03	-7,671.16	621.80	516.32	105.48	5.895		
13,100.00	5,180.77	5,272.98	5,180.77	0.00	105.46	90.73	-115.03	-7,671.16	555.73	450.28	105.45	5.270		
13,200.00	5,179.12	5,271.33	5,179.12	0.00	105.43	90.51	-115.03	-7,671.16	501.02	395.60	105.42	4.752		
13,300.00	5,177.46	5,269.67	5,177.46	0.00	105.39	90.30	-115.03	-7,671.16	461.74	356.35	105.39	4.381		
13,400.00	5,175.81	5,268.02	5,175.81	0.00	105.36	90.08	-115.03	-7,671.16	442.02	336.66	105.36	4.195		
13,439.14	5,175.16	5,267.37	5,175.16	0.00	105.35	90.00	-115.03	-7,671.16	440.28	334.93	105.35	4.179 CC, ES, SF		
13,500.00	5,174.16	5,266.37	5,174.16	0.00	105.33	89.87	-115.03	-7,671.16	444.47	339.14	105.33	4.220		
13,600.00	5,172.51	5,264.72	5,172.51	0.00	105.29	89.65	-115.03	-7,671.16	468.74	363.45	105.29	4.452		
13,700.00	5,170.85	5,263.06	5,170.85	0.00	105.26	89.44	-115.03	-7,671.16	511.74	406.48	105.26	4.862		
13,800.00	5,169.20	5,261.41	5,169.20	0.00	105.23	89.22	-115.03	-7,671.16	569.24	464.02	105.22	5.410		
13,900.00	5,167.55	5,259.76	5,167.55	0.00	105.20	89.01	-115.03	-7,671.16	637.32	532.15	105.18	6.059		
14,000.00	5,165.90	5,258.11	5,165.90	0.00	105.16	88.79	-115.03	-7,671.16	712.97	607.83	105.14	6.781		
14,100.00	5,164.24	5,256.45	5,164.24	0.00	105.13	88.58	-115.03	-7,671.16	794.02	688.92	105.10	7.555		
14,200.00	5,162.59	5,254.80	5,162.59	0.00	105.10	88.36	-115.03	-7,671.16	878.98	773.92	105.05	8.367		
14,300.00	5,160.94	5,253.15	5,160.94	0.00	105.06	88.15	-115.03	-7,671.16	966.81	861.80	105.01	9.207		
14,400.00	5,159.29	5,251.50	5,159.29	0.00	105.03	87.93	-115.03	-7,671.16	1,056.81	951.85	104.96	10.069		
14,500.00	5,157.63	5,249.84	5,157.63	0.00	105.00	87.72	-115.03	-7,671.16	1,148.46	1,043.55	104.91	10.947		
14,600.00	5,155.98	5,248.19	5,155.98	0.00	104.96	87.51	-115.03	-7,671.16	1,241.40	1,136.54	104.86	11.838		
14,700.00	5,154.33	5,246.54	5,154.33	0.00	104.93	87.29	-115.03	-7,671.16	1,335.36	1,230.55	104.81	12.740		
14,800.00	5,152.67	5,244.88	5,152.67	0.00	104.90	87.08	-115.03	-7,671.16	1,430.13	1,325.37	104.76	13.651		
14,900.00	5,151.02	5,243.23	5,151.02	0.00	104.86	86.86	-115.03	-7,671.16	1,525.58	1,420.87	104.71	14.570		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 251 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 5699-UNKNOWN													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		
14,961.86	5,150.00	5,242.21	5,150.00	0.00	104.84	86.73	-115.03	-7,671.16	1,584.90	1,480.22	104.67	15.141		



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 298-PC - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1840-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	123.28	0.00	0.00	2.47	-93.12	-455.80	-8,369.67	8,382.07					
100.00	100.00	223.28	100.00	0.00	4.47	-93.12	-455.80	-8,369.67	8,382.07	8,377.60	4.47	1,876.873		
200.00	200.00	323.28	200.00	0.00	6.47	-93.12	-455.80	-8,369.67	8,382.07	8,375.60	6.47	1,296.337		
300.00	300.00	423.28	300.00	0.00	8.47	-93.12	-455.80	-8,369.67	8,382.07	8,373.60	8.47	990.091		
400.00	400.00	523.28	400.00	0.00	10.47	-93.12	-455.80	-8,369.67	8,382.07	8,371.60	10.47	800.890		
500.00	500.00	623.28	500.00	0.00	12.47	-93.12	-455.80	-8,369.67	8,382.07	8,369.60	12.47	672.398		
527.78	527.78	651.06	527.78	0.00	13.02	108.64	-455.80	-8,369.67	8,382.09	8,369.07	13.02	643.710		
600.00	600.00	723.28	600.00	0.00	14.47	108.64	-455.80	-8,369.67	8,382.21	8,367.74	14.47	579.456		
700.00	699.93	823.21	699.93	0.00	16.46	108.64	-455.80	-8,369.67	8,383.32	8,366.86	16.46	509.246		
800.00	799.68	922.96	799.68	0.00	18.46	108.64	-455.80	-8,369.67	8,385.56	8,367.11	18.45	454.443		
900.00	899.13	1,022.41	899.13	0.00	20.45	108.64	-455.80	-8,369.67	8,388.92	8,368.48	20.43	410.558		
1,000.00	998.15	1,121.43	998.15	0.00	22.43	108.65	-455.80	-8,369.67	8,393.41	8,371.01	22.40	374.692		
1,100.00	1,096.63	1,219.91	1,096.63	0.00	24.40	108.65	-455.80	-8,369.67	8,399.04	8,374.68	24.35	344.888		
1,200.00	1,194.44	1,317.72	1,194.44	0.00	26.35	108.65	-455.80	-8,369.67	8,405.82	8,379.53	26.29	319.780		
1,300.00	1,291.46	1,414.74	1,291.46	0.00	28.29	108.66	-455.80	-8,369.67	8,413.77	8,385.57	28.20	296.382		
1,400.00	1,387.58	1,510.86	1,387.58	0.00	30.22	108.65	-455.80	-8,369.67	8,422.91	8,392.82	30.09	279.969		
1,500.00	1,482.68	1,605.96	1,482.68	0.00	32.12	108.65	-455.80	-8,369.67	8,433.24	8,401.30	31.95	263.992		
1,600.00	1,576.65	1,699.93	1,576.65	0.00	34.00	108.63	-455.80	-8,369.67	8,444.80	8,411.02	33.78	250.030		
1,700.00	1,669.40	1,792.68	1,669.40	0.00	35.85	108.68	-455.80	-8,369.67	8,457.56	8,421.98	35.58	237.681		
1,800.00	1,761.79	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,470.91	8,434.39	36.52	231.956 SF		
1,900.00	1,854.18	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,485.28	8,448.76	36.52	232.350		
2,000.00	1,946.57	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,500.80	8,464.28	36.52	232.775		
2,100.00	2,038.96	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,517.47	8,480.95	36.52	233.231		
2,200.00	2,131.34	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,535.28	8,498.76	36.52	233.719		
2,300.00	2,223.73	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,554.22	8,517.70	36.52	234.238		
2,400.00	2,316.12	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,574.29	8,537.77	36.52	234.787		
2,500.00	2,408.51	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,595.47	8,558.95	36.52	235.367		
2,600.00	2,500.90	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,617.76	8,581.24	36.52	235.977		
2,700.00	2,593.28	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,641.15	8,604.63	36.52	236.618		
2,800.00	2,685.67	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,665.63	8,629.11	36.52	237.288		
2,900.00	2,778.06	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,691.19	8,654.68	36.52	237.988		
3,000.00	2,870.45	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,717.83	8,681.31	36.52	238.718		
3,100.00	2,962.84	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,745.53	8,709.01	36.52	239.476		
3,200.00	3,055.22	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,774.28	8,737.76	36.52	240.263		
3,300.00	3,147.61	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,804.07	8,767.55	36.52	241.079		
3,400.00	3,240.00	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,834.89	8,798.37	36.52	241.923		
3,500.00	3,332.39	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,866.74	8,830.22	36.52	242.795		
3,600.00	3,424.78	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,899.59	8,863.07	36.52	243.695		
3,700.00	3,517.16	1,840.00	1,716.72	0.00	36.80	108.79	-455.80	-8,369.67	8,933.44	8,896.92	36.52	244.622		
3,800.00	3,609.56	1,840.00	1,716.72	0.00	36.80	108.86	-455.80	-8,369.67	8,968.28	8,931.75	36.52	245.558		
3,900.00	3,702.91	1,840.00	1,716.72	0.00	36.80	109.57	-455.80	-8,369.67	9,003.46	8,966.91	36.55	246.329		
4,000.00	3,797.08	1,840.00	1,716.72	0.00	36.80	110.28	-455.80	-8,369.67	9,038.52	9,001.94	36.58	247.079		
4,100.00	3,892.55	1,840.00	1,716.72	0.00	36.80	110.97	-455.80	-8,369.67	9,073.42	9,036.81	36.61	247.814		
4,200.00	3,989.00	1,840.00	1,716.72	0.00	36.80	111.66	-455.80	-8,369.67	9,108.12	9,071.47	36.65	248.539		
4,300.00	4,086.30	1,840.00	1,716.72	0.00	36.80	112.34	-455.80	-8,369.67	9,142.57	9,105.89	36.68	249.258		
4,400.00	4,184.36	1,840.00	1,716.72	0.00	36.80	113.01	-455.80	-8,369.67	9,176.75	9,140.04	36.71	249.980		
4,500.00	4,283.03	1,840.00	1,716.72	0.00	36.80	113.67	-455.80	-8,369.67	9,210.60	9,173.86	36.74	250.709		
4,600.00	4,382.22	1,840.00	1,716.72	0.00	36.80	114.32	-455.80	-8,369.67	9,244.10	9,207.33	36.76	251.455		
4,700.00	4,481.78	1,840.00	1,716.72	0.00	36.80	114.96	-455.80	-8,369.67	9,277.20	9,240.42	36.78	252.223		
4,800.00	4,581.61	1,840.00	1,716.72	0.00	36.80	115.59	-455.80	-8,369.67	9,309.87	9,273.08	36.79	253.023		
4,900.00	4,681.58	1,840.00	1,716.72	0.00	36.80	116.20	-455.80	-8,369.67	9,342.08	9,305.28	36.80	253.860		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 298-PC - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1840-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,000.00	4,781.27	1,840.00	1,716.72	0.00	36.80	0.31	-455.80	-8,369.67	9,368.34	9,331.94	36.40	257.364		
5,100.00	4,878.41	1,840.00	1,716.72	0.00	36.80	0.30	-455.80	-8,369.67	9,378.70	9,343.79	34.91	268.657		
5,200.00	4,970.04	1,840.00	1,716.72	0.00	36.80	0.31	-455.80	-8,369.67	9,372.70	9,340.35	32.36	289.662		
5,300.00	5,053.37	1,840.00	1,716.72	0.00	36.80	0.32	-455.80	-8,369.67	9,350.51	9,321.69	28.82	324.422		
5,400.00	5,125.88	1,840.00	1,716.72	0.00	36.80	0.34	-455.80	-8,369.67	9,312.69	9,288.28	24.41	381.493		
5,500.00	5,185.36	1,840.00	1,716.72	0.00	36.80	0.38	-455.80	-8,369.67	9,260.19	9,240.94	19.26	480.829		
5,600.00	5,235.09	1,840.00	1,716.72	0.00	36.80	0.40	-455.80	-8,369.67	9,198.72	9,181.70	17.02	540.313		
5,700.00	5,273.40	1,840.00	1,716.72	0.00	36.80	0.48	-455.80	-8,369.67	9,128.43	9,117.33	11.10	822.157		
5,800.00	5,295.11	1,840.00	1,716.72	0.00	36.80	0.61	-455.80	-8,369.67	9,047.29	9,042.44	4.85	1,864.171		
5,900.00	5,299.75	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,957.60	8,956.80	0.80	N/A		
6,000.00	5,298.10	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,865.38	8,864.58	0.80	N/A		
6,100.00	5,296.45	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,773.34	8,772.54	0.80	N/A		
6,200.00	5,294.79	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,681.47	8,680.67	0.80	N/A		
6,300.00	5,293.14	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,589.78	8,588.98	0.80	N/A		
6,400.00	5,291.49	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,498.28	8,497.48	0.80	N/A		
6,500.00	5,289.84	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,406.98	8,406.18	0.80	N/A		
6,600.00	5,288.18	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,315.87	8,315.07	0.80	N/A		
6,700.00	5,286.53	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,224.97	8,224.17	0.80	N/A		
6,800.00	5,284.88	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,134.29	8,133.49	0.80	N/A		
6,900.00	5,283.23	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	8,043.82	8,043.02	0.80	N/A		
7,000.00	5,281.57	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,953.59	7,952.79	0.80	9,915.920		
7,100.00	5,279.92	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,863.59	7,862.79	0.80	9,803.715		
7,200.00	5,278.27	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,773.83	7,773.03	0.80	9,691.815		
7,300.00	5,276.62	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,684.33	7,683.53	0.80	9,580.230		
7,400.00	5,274.96	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,595.09	7,594.29	0.80	9,468.972		
7,500.00	5,273.31	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,506.12	7,505.32	0.80	9,358.052		
7,600.00	5,271.66	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,417.43	7,416.63	0.80	9,247.482		
7,700.00	5,270.01	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,329.04	7,328.23	0.80	9,137.276		
7,800.00	5,268.35	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,240.94	7,240.14	0.80	9,027.445		
7,900.00	5,266.70	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,153.16	7,152.36	0.80	8,918.005		
8,000.00	5,265.05	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	7,065.70	7,064.90	0.80	8,808.970		
8,100.00	5,263.40	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,978.58	6,977.78	0.80	8,700.355		
8,200.00	5,261.74	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,891.81	6,891.01	0.80	8,592.176		
8,300.00	5,260.09	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,805.40	6,804.60	0.80	8,484.450		
8,400.00	5,258.44	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,719.37	6,718.57	0.80	8,377.193		
8,500.00	5,256.79	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,633.73	6,632.93	0.80	8,270.425		
8,600.00	5,255.13	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,548.50	6,547.70	0.80	8,164.165		
8,700.00	5,253.48	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,463.69	6,462.89	0.80	8,058.433		
8,800.00	5,251.83	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,379.32	6,378.52	0.80	7,953.249		
8,900.00	5,250.18	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,295.41	6,294.61	0.80	7,848.635		
9,000.00	5,248.52	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,211.98	6,211.18	0.80	7,744.616		
9,100.00	5,246.87	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,129.04	6,128.24	0.80	7,641.215		
9,200.00	5,245.22	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	6,046.62	6,045.82	0.80	7,538.457		
9,300.00	5,243.57	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,964.73	5,963.93	0.80	7,436.370		
9,400.00	5,241.91	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,883.41	5,882.61	0.80	7,334.981		
9,500.00	5,240.26	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,802.67	5,801.87	0.80	7,234.319		
9,600.00	5,238.61	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,722.54	5,721.73	0.80	7,134.416		
9,700.00	5,236.96	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,643.04	5,642.24	0.80	7,035.304		
9,800.00	5,235.30	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,564.20	5,563.40	0.80	6,937.016		
9,900.00	5,233.65	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,486.05	5,485.25	0.80	6,839.588		

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 298-PC - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1840-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth 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		
10,000.00	5,232.00	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,408.63	5,407.82	0.80	6,743.058		
10,100.00	5,230.34	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,331.95	5,331.15	0.80	6,647.464		
10,200.00	5,228.69	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,256.06	5,255.26	0.80	6,552.848		
10,300.00	5,227.04	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,180.99	5,180.18	0.80	6,459.253		
10,400.00	5,225.39	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,106.77	5,105.96	0.80	6,366.722		
10,500.00	5,223.73	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	5,033.44	5,032.64	0.80	6,275.305		
10,600.00	5,222.08	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,961.05	4,960.24	0.80	6,185.049		
10,700.00	5,220.43	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,889.62	4,888.82	0.80	6,096.007		
10,800.00	5,218.78	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,819.22	4,818.42	0.80	6,008.232		
10,900.00	5,217.12	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,749.88	4,749.08	0.80	5,921.782		
11,000.00	5,215.47	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,681.64	4,680.84	0.80	5,836.714		
11,100.00	5,213.82	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,614.57	4,613.77	0.80	5,753.090		
11,200.00	5,212.17	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,548.70	4,547.90	0.80	5,670.973		
11,300.00	5,210.51	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,484.10	4,483.30	0.80	5,590.432		
11,400.00	5,208.86	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,420.82	4,420.01	0.80	5,511.533		
11,500.00	5,207.21	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,358.91	4,358.11	0.80	5,434.350		
11,600.00	5,205.56	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,298.43	4,297.63	0.80	5,358.956		
11,700.00	5,203.90	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,239.46	4,238.65	0.80	5,285.427		
11,800.00	5,202.25	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,182.04	4,181.24	0.80	5,213.843		
11,900.00	5,200.60	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,126.25	4,125.44	0.80	5,144.284		
12,000.00	5,198.95	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,072.14	4,071.34	0.80	5,076.835		
12,100.00	5,197.29	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	4,019.80	4,019.00	0.80	5,011.580		
12,200.00	5,195.64	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,969.29	3,968.49	0.80	4,948.605		
12,300.00	5,193.99	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,920.68	3,919.88	0.80	4,888.000		
12,400.00	5,192.34	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,874.04	3,873.24	0.80	4,829.853		
12,500.00	5,190.68	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,829.44	3,828.64	0.80	4,774.254		
12,600.00	5,189.03	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,786.96	3,786.16	0.80	4,721.294		
12,700.00	5,187.38	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,746.67	3,745.87	0.80	4,671.061		
12,800.00	5,185.73	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,708.64	3,707.84	0.80	4,623.645		
12,900.00	5,184.07	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,672.94	3,672.13	0.80	4,579.133		
13,000.00	5,182.42	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,639.63	3,638.83	0.80	4,537.611		
13,100.00	5,180.77	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,608.79	3,607.99	0.80	4,499.162		
13,200.00	5,179.12	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,580.48	3,579.68	0.80	4,463.864		
13,300.00	5,177.46	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,554.75	3,553.95	0.80	4,431.794		
13,400.00	5,175.81	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,531.68	3,530.87	0.80	4,403.022		
13,500.00	5,174.16	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,511.30	3,510.49	0.80	4,377.612		
13,600.00	5,172.51	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,493.66	3,492.86	0.80	4,355.624		
13,700.00	5,170.85	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,478.81	3,478.01	0.80	4,337.110		
13,800.00	5,169.20	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,466.78	3,465.98	0.80	4,322.114		
13,900.00	5,167.55	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,457.60	3,456.80	0.80	4,310.673		
14,000.00	5,165.90	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,451.30	3,450.50	0.80	4,302.815		
14,100.00	5,164.24	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,447.89	3,447.09	0.80	4,298.580		
14,167.72	5,163.12	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,447.22	3,446.42	0.80	4,297.731 CC, ES		
14,200.00	5,162.59	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,447.37	3,446.57	0.80	4,297.920		
14,300.00	5,160.94	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,449.76	3,448.96	0.80	4,300.894		
14,400.00	5,159.29	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,455.04	3,454.24	0.80	4,307.477		
14,500.00	5,157.63	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,463.20	3,462.40	0.80	4,317.650		
14,600.00	5,155.98	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,474.22	3,473.42	0.80	4,331.390		
14,700.00	5,154.33	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,488.07	3,487.27	0.80	4,348.662		
14,800.00	5,152.67	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,504.73	3,503.93	0.80	4,369.425		
14,900.00	5,151.02	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,524.14	3,523.34	0.80	4,393.628		

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



Anticollision Report

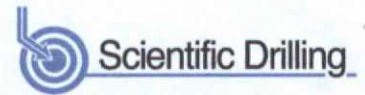


Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 298-PC - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 1840-UNKNOWN												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	
14,961.86	5,150.00	1,840.00	1,716.72	0.00	36.80	0.81	-455.80	-8,369.67	3,537.51	3,536.71	0.80	4,410.299	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 336 - OH - OH													Offset Site Error: 0.00 ft	
Survey Program: 1680-UNKNOWN													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)				
0.00	0.00	67.91	0.00	0.00	1.36	-94.83	-486.84	-5,756.59	5,777.14					
100.00	100.00	167.91	100.00	0.00	3.36	-94.83	-486.84	-5,756.59	5,777.14	5,773.78	3.36	1,720.114		
200.00	200.00	267.91	200.00	0.00	5.36	-94.83	-486.84	-5,756.59	5,777.14	5,771.78	5.36	1,078.113		
300.00	300.00	367.91	300.00	0.00	7.36	-94.83	-486.84	-5,756.59	5,777.14	5,769.78	7.36	785.092		
400.00	400.00	467.91	400.00	0.00	9.36	-94.83	-486.84	-5,756.59	5,777.14	5,767.78	9.36	617.312		
500.00	500.00	567.91	500.00	0.00	11.36	-94.83	-486.84	-5,756.59	5,777.14	5,765.78	11.36	508.617		
527.78	527.78	595.69	527.78	0.00	11.91	106.92	-486.84	-5,756.59	5,777.16	5,765.25	11.91	484.897		
600.00	600.00	667.91	600.00	0.00	13.36	106.92	-486.84	-5,756.59	5,777.27	5,763.91	13.36	432.485		
700.00	699.93	767.84	699.93	0.00	15.36	106.93	-486.84	-5,756.59	5,778.29	5,762.93	15.36	376.304		
800.00	799.68	867.59	799.68	0.00	17.35	106.96	-486.84	-5,756.59	5,780.32	5,762.98	17.35	333.226		
900.00	899.13	967.04	899.13	0.00	19.34	107.00	-486.84	-5,756.59	5,783.39	5,764.06	19.33	299.211		
1,000.00	998.15	1,066.06	998.15	0.00	21.32	107.05	-486.84	-5,756.59	5,787.50	5,766.21	21.30	271.726		
1,100.00	1,096.63	1,164.54	1,096.63	0.00	23.29	107.12	-486.84	-5,756.59	5,792.68	5,769.42	23.25	249.102		
1,200.00	1,194.44	1,262.35	1,194.44	0.00	25.25	107.19	-486.84	-5,756.59	5,798.94	5,773.74	25.19	230.196		
1,300.00	1,291.46	1,359.37	1,291.46	0.00	27.19	107.27	-486.84	-5,756.59	5,806.30	5,779.19	27.11	214.197		
1,400.00	1,387.58	1,455.49	1,387.58	0.00	29.11	107.36	-486.84	-5,756.59	5,814.80	5,785.81	29.00	200.516		
1,500.00	1,482.68	1,550.59	1,482.68	0.00	31.01	107.45	-486.84	-5,756.59	5,824.48	5,793.61	30.86	188.715		
1,600.00	1,576.65	1,644.56	1,576.65	0.00	32.89	107.54	-486.84	-5,756.59	5,835.36	5,802.66	32.70	178.457		
1,700.00	1,669.40	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,847.73	5,814.35	33.38	175.201 SF		
1,800.00	1,761.79	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,861.96	5,828.59	33.38	175.628		
1,900.00	1,854.18	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,877.87	5,844.49	33.38	176.104		
2,000.00	1,946.57	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,895.42	5,862.04	33.38	176.630		
2,100.00	2,038.96	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,914.62	5,881.24	33.38	177.205		
2,200.00	2,131.34	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,935.43	5,902.06	33.38	177.829		
2,300.00	2,223.73	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,957.86	5,924.48	33.38	178.501		
2,400.00	2,316.12	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	5,981.87	5,948.49	33.38	179.220		
2,500.00	2,408.51	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,007.45	5,974.07	33.38	179.987		
2,600.00	2,500.90	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,034.58	6,001.20	33.38	180.799		
2,700.00	2,593.28	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,063.24	6,029.86	33.38	181.658		
2,800.00	2,685.67	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,093.40	6,060.02	33.38	182.562		
2,900.00	2,778.06	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,125.05	6,091.67	33.38	183.510		
3,000.00	2,870.45	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,158.16	6,124.78	33.38	184.502		
3,100.00	2,962.84	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,192.71	6,159.33	33.38	185.537		
3,200.00	3,055.22	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,228.67	6,195.29	33.38	186.614		
3,300.00	3,147.61	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,266.02	6,232.64	33.38	187.733		
3,400.00	3,240.00	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,304.74	6,271.36	33.38	188.893		
3,500.00	3,332.39	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,344.79	6,311.42	33.38	190.094		
3,600.00	3,424.78	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,386.16	6,352.79	33.38	191.333		
3,700.00	3,517.16	1,680.00	1,612.09	0.00	33.60	107.49	-486.84	-5,756.59	6,428.82	6,395.45	33.38	192.611		
3,800.00	3,609.56	1,680.00	1,612.09	0.00	33.60	107.58	-486.84	-5,756.59	6,472.74	6,439.37	33.38	193.919		
3,900.00	3,702.71	1,680.00	1,612.09	0.00	33.60	108.53	-486.84	-5,756.59	6,517.34	6,483.95	33.40	195.158		
4,000.00	3,797.08	1,680.00	1,612.09	0.00	33.60	109.48	-486.84	-5,756.59	6,562.17	6,528.76	33.42	196.382		
4,100.00	3,892.55	1,680.00	1,612.09	0.00	33.60	110.42	-486.84	-5,756.59	6,607.18	6,573.74	33.44	197.592		
4,200.00	3,989.00	1,680.00	1,612.09	0.00	33.60	111.37	-486.84	-5,756.59	6,652.31	6,618.84	33.46	198.792		
4,300.00	4,086.30	1,680.00	1,612.09	0.00	33.60	112.31	-486.84	-5,756.59	6,697.50	6,664.01	33.49	199.985		
4,400.00	4,184.36	1,680.00	1,612.09	0.00	33.60	113.24	-486.84	-5,756.59	6,742.69	6,709.18	33.52	201.177		
4,500.00	4,283.03	1,680.00	1,612.09	0.00	33.60	114.17	-486.84	-5,756.59	6,787.84	6,754.30	33.54	202.373		
4,600.00	4,382.22	1,680.00	1,612.09	0.00	33.60	115.09	-486.84	-5,756.59	6,832.88	6,799.32	33.56	203.580		
4,700.00	4,481.78	1,680.00	1,612.09	0.00	33.60	115.99	-486.84	-5,756.59	6,877.77	6,844.19	33.58	204.806		
4,800.00	4,581.61	1,680.00	1,612.09	0.00	33.60	116.89	-486.84	-5,756.59	6,922.46	6,888.86	33.59	206.059		
4,900.00	4,681.58	1,680.00	1,612.09	0.00	33.60	117.77	-486.84	-5,756.59	6,966.89	6,933.29	33.60	207.347		

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



Anticollision Report



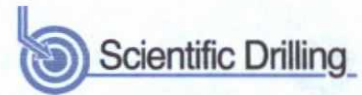
Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 336 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1680-UNKNOWN													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 +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,781.27	1,680.00	1,612.09	0.00	33.60	1.82	-486.84	-5,756.59	7,005.86	6,972.63	33.24	210.790		
5,100.00	4,878.41	1,680.00	1,612.09	0.00	33.60	1.74	-486.84	-5,756.59	7,029.77	6,997.90	31.88	220.538		
5,200.00	4,970.04	1,680.00	1,612.09	0.00	33.60	1.72	-486.84	-5,756.59	7,037.89	7,008.34	29.55	238.189		
5,300.00	5,053.37	1,680.00	1,612.09	0.00	33.60	1.74	-486.84	-5,756.59	7,030.00	7,003.68	26.32	267.065		
5,400.00	5,125.88	1,680.00	1,612.09	0.00	33.60	1.82	-486.84	-5,756.59	7,006.31	6,984.01	22.30	314.154		
5,500.00	5,185.36	1,680.00	1,612.09	0.00	33.60	1.96	-486.84	-5,756.59	6,967.38	6,949.77	17.61	395.644		
5,600.00	5,235.09	1,680.00	1,612.09	0.00	33.60	2.03	-486.84	-5,756.59	6,919.01	6,903.43	15.58	444.127		
5,700.00	5,273.40	1,680.00	1,612.09	0.00	33.60	2.30	-486.84	-5,756.59	6,861.02	6,850.80	10.22	671.633		
5,800.00	5,295.11	1,680.00	1,612.09	0.00	33.60	2.74	-486.84	-5,756.59	6,790.58	6,785.88	4.70	1,446.264		
5,900.00	5,299.75	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,709.58	6,707.54	2.04	3,287.899		
6,000.00	5,298.10	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,625.41	6,623.37	2.04	3,246.657		
6,100.00	5,296.45	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,541.70	6,539.66	2.04	3,205.633		
6,200.00	5,294.79	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,458.44	6,456.40	2.04	3,164.836		
6,300.00	5,293.14	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,375.67	6,373.63	2.04	3,124.275		
6,400.00	5,291.49	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,293.40	6,291.36	2.04	3,083.959		
6,500.00	5,289.84	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,211.65	6,209.61	2.04	3,043.899		
6,600.00	5,288.18	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,130.44	6,128.40	2.04	3,004.103		
6,700.00	5,286.53	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	6,049.79	6,047.75	2.04	2,964.583		
6,800.00	5,284.88	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,969.73	5,967.69	2.04	2,925.350		
6,900.00	5,283.23	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,890.28	5,888.23	2.04	2,886.416		
7,000.00	5,281.57	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,811.46	5,809.42	2.04	2,847.793		
7,100.00	5,279.92	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,733.30	5,731.26	2.04	2,809.493		
7,200.00	5,278.27	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,655.83	5,653.79	2.04	2,771.531		
7,300.00	5,276.62	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,579.08	5,577.04	2.04	2,733.920		
7,400.00	5,274.96	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,503.07	5,501.03	2.04	2,696.675		
7,500.00	5,273.31	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,427.84	5,425.80	2.04	2,659.811		
7,600.00	5,271.66	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,353.43	5,351.39	2.04	2,623.344		
7,700.00	5,270.01	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,279.86	5,277.82	2.04	2,587.292		
7,800.00	5,268.35	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,207.17	5,205.13	2.04	2,551.671		
7,900.00	5,266.70	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,135.39	5,133.35	2.04	2,516.501		
8,000.00	5,265.05	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	5,064.58	5,062.54	2.04	2,481.799		
8,100.00	5,263.40	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,994.76	4,992.72	2.04	2,447.587		
8,200.00	5,261.74	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,925.99	4,923.95	2.04	2,413.885		
8,300.00	5,260.09	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,858.30	4,856.25	2.04	2,380.714		
8,400.00	5,258.44	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,791.74	4,789.69	2.04	2,348.097		
8,500.00	5,256.79	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,726.35	4,724.31	2.04	2,316.058		
8,600.00	5,255.13	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,662.20	4,660.16	2.04	2,284.621		
8,700.00	5,253.48	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,599.33	4,597.29	2.04	2,253.811		
8,800.00	5,251.83	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,537.79	4,535.74	2.04	2,223.654		
8,900.00	5,250.18	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,477.63	4,475.59	2.04	2,194.177		
9,000.00	5,248.52	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,418.92	4,416.88	2.04	2,165.408		
9,100.00	5,246.87	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,361.72	4,359.68	2.04	2,137.375		
9,200.00	5,245.22	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,306.07	4,304.03	2.04	2,110.108		
9,300.00	5,243.57	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,252.05	4,250.01	2.04	2,083.637		
9,400.00	5,241.91	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,199.72	4,197.68	2.04	2,057.992		
9,500.00	5,240.26	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,149.14	4,147.10	2.04	2,033.205		
9,600.00	5,238.61	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,100.37	4,098.33	2.04	2,009.307		
9,700.00	5,236.96	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,053.48	4,051.44	2.04	1,986.331		
9,800.00	5,235.30	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,008.54	4,006.50	2.04	1,964.309		
9,900.00	5,233.65	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,965.62	3,963.58	2.04	1,943.274		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 336 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1680-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							
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	Warning	
10,000.00	5,232.00	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,924.77	3,922.73	2.04	1,923.257		
10,100.00	5,230.34	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,886.06	3,884.02	2.04	1,904.291		
10,200.00	5,228.69	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,849.57	3,847.53	2.04	1,886.407		
10,300.00	5,227.04	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,815.35	3,813.31	2.04	1,869.637		
10,400.00	5,225.39	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,783.46	3,781.42	2.04	1,854.012		
10,500.00	5,223.73	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,753.97	3,751.93	2.04	1,839.559		
10,600.00	5,222.08	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,726.92	3,724.88	2.04	1,826.307		
10,700.00	5,220.43	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,702.38	3,700.34	2.04	1,814.282		
10,800.00	5,218.78	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,680.40	3,678.36	2.04	1,803.509		
10,900.00	5,217.12	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,661.01	3,658.97	2.04	1,794.010		
11,000.00	5,215.47	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,644.27	3,642.23	2.04	1,785.805		
11,100.00	5,213.82	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,630.21	3,628.17	2.04	1,778.914		
11,200.00	5,212.17	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,618.85	3,616.81	2.04	1,773.350		
11,300.00	5,210.51	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,610.24	3,608.19	2.04	1,769.126		
11,400.00	5,208.86	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,604.37	3,602.33	2.04	1,766.252		
11,500.00	5,207.21	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,601.28	3,599.23	2.04	1,764.735		
11,561.54	5,206.19	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,600.75	3,598.71	2.04	1,764.478	CC, ES	
11,600.00	5,205.56	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,600.95	3,598.91	2.04	1,764.578		
11,700.00	5,203.90	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,603.41	3,601.37	2.04	1,765.782		
11,800.00	5,202.25	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,608.64	3,606.60	2.04	1,768.343		
11,900.00	5,200.60	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,616.62	3,614.58	2.04	1,772.256		
12,000.00	5,198.95	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,627.35	3,625.31	2.04	1,777.511		
12,100.00	5,197.29	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,640.79	3,638.75	2.04	1,784.098		
12,200.00	5,195.64	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,656.91	3,654.87	2.04	1,792.001		
12,300.00	5,193.99	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,675.69	3,673.65	2.04	1,801.202		
12,400.00	5,192.34	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,697.08	3,695.04	2.04	1,811.683		
12,500.00	5,190.68	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,721.04	3,718.99	2.04	1,823.422		
12,600.00	5,189.03	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,747.51	3,745.46	2.04	1,836.393		
12,700.00	5,187.38	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,776.44	3,774.40	2.04	1,850.571		
12,800.00	5,185.73	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,807.78	3,805.74	2.04	1,865.929		
12,900.00	5,184.07	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,841.47	3,839.43	2.04	1,882.437		
13,000.00	5,182.42	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,877.44	3,875.40	2.04	1,900.066		
13,100.00	5,180.77	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,915.64	3,913.60	2.04	1,918.785		
13,200.00	5,179.12	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,956.00	3,953.96	2.04	1,938.562		
13,300.00	5,177.46	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	3,998.45	3,996.41	2.04	1,959.366		
13,400.00	5,175.81	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,042.94	4,040.90	2.04	1,981.163		
13,500.00	5,174.16	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,089.38	4,087.34	2.04	2,003.922		
13,600.00	5,172.51	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,137.72	4,135.68	2.04	2,027.609		
13,700.00	5,170.85	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,187.89	4,185.85	2.04	2,052.194		
13,800.00	5,169.20	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,239.82	4,237.78	2.04	2,077.644		
13,900.00	5,167.55	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,293.46	4,291.42	2.04	2,103.927		
14,000.00	5,165.90	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,348.73	4,346.69	2.04	2,131.013		
14,100.00	5,164.24	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,405.58	4,403.54	2.04	2,158.872		
14,200.00	5,162.59	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,463.95	4,461.91	2.04	2,187.474		
14,300.00	5,160.94	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,523.78	4,521.74	2.04	2,216.790		
14,400.00	5,159.29	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,585.00	4,582.96	2.04	2,246.792		
14,500.00	5,157.63	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,647.57	4,645.53	2.04	2,277.454		
14,600.00	5,155.98	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,711.44	4,709.40	2.04	2,308.749		
14,700.00	5,154.33	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,776.54	4,774.50	2.04	2,340.651		
14,800.00	5,152.67	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,842.83	4,840.79	2.04	2,373.136		
14,900.00	5,151.02	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,910.27	4,908.23	2.04	2,406.181		

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 336 - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 1680-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
14,961.86	5,150.00	1,680.00	1,612.09	0.00	33.60	3.35	-486.84	-5,756.59	4,952.53	4,950.49	2.04	2,426.893	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 416-FT - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 1701-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.00	0.00	51.98	0.00	0.00	1.04	-144.04	-1,515.14	-1,099.18	1,871.86						
100.00	100.00	151.98	100.00	0.00	3.04	-144.04	-1,515.14	-1,099.18	1,871.86	1,868.82	3.04	615.747			
200.00	200.00	251.98	200.00	0.00	5.04	-144.04	-1,515.14	-1,099.18	1,871.86	1,866.82	5.04	371.403			
300.00	300.00	351.98	300.00	0.00	7.04	-144.04	-1,515.14	-1,099.18	1,871.86	1,864.82	7.04	265.891			
400.00	400.00	451.98	400.00	0.00	9.04	-144.04	-1,515.14	-1,099.18	1,871.86	1,862.82	9.04	207.065			
500.00	500.00	551.98	500.00	0.00	11.04	-144.04	-1,515.14	-1,099.18	1,871.86	1,860.82	11.04	169.554			
600.00	600.00	651.98	600.00	0.00	13.04	57.73	-1,515.14	-1,099.18	1,871.63	1,858.59	13.04	143.537			
700.00	699.93	751.91	699.93	0.00	15.04	57.85	-1,515.14	-1,099.18	1,869.77	1,854.73	15.03	124.380			
800.00	799.68	851.66	799.68	0.00	17.03	58.09	-1,515.14	-1,099.18	1,866.06	1,849.04	17.02	109.668			
900.00	899.13	951.11	899.13	0.00	19.02	58.46	-1,515.14	-1,099.18	1,860.54	1,841.56	18.98	98.007			
1,000.00	998.15	1,050.13	998.15	0.00	21.00	58.95	-1,515.14	-1,099.18	1,853.26	1,832.33	20.93	88.527			
1,100.00	1,096.63	1,148.61	1,096.63	0.00	22.97	59.56	-1,515.14	-1,099.18	1,844.28	1,821.42	22.86	80.660			
1,200.00	1,194.44	1,246.42	1,194.44	0.00	24.93	60.30	-1,515.14	-1,099.18	1,833.69	1,808.92	24.77	74.019			
1,300.00	1,291.46	1,343.44	1,291.46	0.00	26.87	61.16	-1,515.14	-1,099.18	1,821.59	1,794.93	26.66	68.330			
1,400.00	1,387.58	1,439.56	1,387.58	0.00	28.79	62.14	-1,515.14	-1,099.18	1,808.09	1,779.57	28.52	63.394			
1,500.00	1,482.68	1,534.66	1,482.68	0.00	30.69	63.24	-1,515.14	-1,099.18	1,793.35	1,762.99	30.36	59.066			
1,600.00	1,576.65	1,628.63	1,576.65	0.00	32.57	64.47	-1,515.14	-1,099.18	1,777.51	1,745.33	32.18	55.233			
1,700.00	1,669.40	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,760.93	1,727.34	33.59	52.426			
1,800.00	1,761.79	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,748.01	1,714.42	33.59	52.041			
1,900.00	1,854.18	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,740.75	1,707.16	33.59	51.825			
1,976.69	1,925.03	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,739.06	1,705.47	33.59	51.775 CC, ES, SF			
2,000.00	1,946.57	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,739.21	1,705.62	33.59	51.779			
2,100.00	2,038.96	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,743.42	1,709.83	33.59	51.905			
2,200.00	2,131.34	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,753.34	1,719.75	33.59	52.200			
2,300.00	2,223.73	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,768.86	1,735.27	33.59	52.662			
2,400.00	2,316.12	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,789.84	1,756.25	33.59	53.286			
2,500.00	2,408.51	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,816.09	1,782.50	33.59	54.068			
2,600.00	2,500.90	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,847.39	1,813.80	33.59	55.000			
2,700.00	2,593.28	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,883.48	1,849.89	33.59	56.074			
2,800.00	2,685.67	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,924.10	1,890.51	33.59	57.284			
2,900.00	2,778.06	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	1,968.96	1,935.38	33.59	58.619			
3,000.00	2,870.45	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,017.79	1,984.20	33.59	60.073			
3,100.00	2,962.84	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,070.30	2,036.71	33.59	61.636			
3,200.00	3,055.22	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,126.22	2,092.63	33.59	63.301			
3,300.00	3,147.61	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,185.28	2,151.70	33.59	65.060			
3,400.00	3,240.00	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,247.25	2,213.66	33.59	66.904			
3,500.00	3,332.39	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,311.88	2,278.29	33.59	68.829			
3,600.00	3,424.78	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,378.96	2,345.37	33.59	70.826			
3,700.00	3,517.16	1,701.00	1,649.02	0.00	34.02	65.50	-1,515.14	-1,099.18	2,448.29	2,414.70	33.59	72.890			
3,800.00	3,609.56	1,701.00	1,649.02	0.00	34.02	65.58	-1,515.14	-1,099.18	2,519.68	2,486.08	33.60	74.967			
3,900.00	3,702.71	1,701.00	1,649.02	0.00	34.02	67.69	-1,515.14	-1,099.18	2,593.52	2,559.80	33.72	76.905			
4,000.00	3,797.08	1,701.00	1,649.02	0.00	34.02	69.90	-1,515.14	-1,099.18	2,669.92	2,636.09	33.82	78.942			
4,100.00	3,892.55	1,701.00	1,649.02	0.00	34.02	72.31	-1,515.14	-1,099.18	2,748.56	2,714.66	33.90	81.088			
4,200.00	3,989.00	1,701.00	1,649.02	0.00	34.02	74.92	-1,515.14	-1,099.18	2,829.17	2,795.22	33.95	83.334			
4,300.00	4,086.30	1,701.00	1,649.02	0.00	34.02	77.74	-1,515.14	-1,099.18	2,911.50	2,877.52	33.99	85.669			
4,400.00	4,184.36	1,701.00	1,649.02	0.00	34.02	80.76	-1,515.14	-1,099.18	2,995.31	2,961.30	34.01	88.061			
4,500.00	4,283.03	1,701.00	1,649.02	0.00	34.02	83.97	-1,515.14	-1,099.18	3,080.37	3,046.36	34.02	90.556			
4,600.00	4,382.22	1,701.00	1,649.02	0.00	34.02	87.35	-1,515.14	-1,099.18	3,166.49	3,132.47	34.02	93.078			
4,700.00	4,481.78	1,701.00	1,649.02	0.00	34.02	90.87	-1,515.14	-1,099.18	3,253.49	3,219.47	34.02	95.634			
4,800.00	4,581.61	1,701.00	1,649.02	0.00	34.02	94.52	-1,515.14	-1,099.18	3,341.18	3,307.16	34.02	98.212			
4,900.00	4,681.58	1,701.00	1,649.02	0.00	34.02	98.25	-1,515.14	-1,099.18	3,429.42	3,395.40	34.02	100.806			

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 416-FT - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1701-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,000.00	4,781.27	1,701.00	1,649.02	0.00	34.02	-13.49	-1,515.14	-1,099.18	3,515.19	3,481.52	33.67	104.397		
5,100.00	4,878.41	1,701.00	1,649.02	0.00	34.02	-10.92	-1,515.14	-1,099.18	3,592.25	3,559.92	32.34	111.089		
5,200.00	4,970.04	1,701.00	1,649.02	0.00	34.02	-9.35	-1,515.14	-1,099.18	3,658.79	3,628.76	30.03	121.844		
5,300.00	5,053.37	1,701.00	1,649.02	0.00	34.02	-8.34	-1,515.14	-1,099.18	3,713.41	3,686.59	26.82	138.453		
5,400.00	5,125.88	1,701.00	1,649.02	0.00	34.02	-7.70	-1,515.14	-1,099.18	3,754.99	3,732.17	22.82	164.525		
5,500.00	5,185.36	1,701.00	1,649.02	0.00	34.02	-7.33	-1,515.14	-1,099.18	3,782.72	3,764.54	18.18	208.040		
5,600.00	5,235.09	1,701.00	1,649.02	0.00	34.02	-7.23	-1,515.14	-1,099.18	3,801.65	3,785.46	16.19	234.834		
5,700.00	5,273.40	1,701.00	1,649.02	0.00	34.02	-7.12	-1,515.14	-1,099.18	3,810.69	3,799.67	11.02	345.810		
5,800.00	5,295.11	1,701.00	1,649.02	0.00	34.02	-7.19	-1,515.14	-1,099.18	3,805.06	3,798.91	6.15	618.838		
5,900.00	5,299.75	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,785.06	3,780.64	4.42	857.137		
6,000.00	5,298.10	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,761.44	3,757.02	4.42	851.789		
6,100.00	5,295.45	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,740.35	3,735.93	4.42	847.013		
6,200.00	5,294.79	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,721.83	3,717.41	4.42	842.818		
6,300.00	5,293.14	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,705.91	3,701.49	4.42	839.214		
6,400.00	5,291.49	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,692.64	3,688.22	4.42	836.208		
6,500.00	5,289.84	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,682.03	3,677.61	4.42	833.806		
6,600.00	5,288.18	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,674.12	3,669.70	4.42	832.014		
6,700.00	5,286.53	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,668.91	3,664.49	4.42	830.835		
6,800.00	5,284.88	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,666.43	3,662.01	4.42	830.273		
6,841.09	5,284.20	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,666.20	3,661.78	4.42	830.221		
6,900.00	5,283.23	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,666.67	3,662.25	4.42	830.328		
7,000.00	5,281.57	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,669.64	3,665.22	4.42	831.000		
7,100.00	5,279.92	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,675.33	3,670.91	4.42	832.289		
7,200.00	5,278.27	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,683.72	3,679.31	4.42	834.190		
7,300.00	5,276.62	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,694.81	3,690.39	4.42	836.700		
7,400.00	5,274.96	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,708.56	3,704.14	4.42	839.813		
7,500.00	5,273.31	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,724.94	3,720.52	4.42	843.523		
7,600.00	5,271.66	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,743.92	3,739.51	4.42	847.822		
7,700.00	5,270.01	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,765.47	3,761.05	4.42	852.701		
7,800.00	5,268.35	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,789.53	3,785.11	4.42	858.149		
7,900.00	5,266.70	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,816.06	3,811.64	4.42	864.157		
8,000.00	5,265.05	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,845.01	3,840.59	4.42	870.713		
8,100.00	5,263.40	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,876.32	3,871.90	4.42	877.804		
8,200.00	5,261.74	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,909.94	3,905.53	4.42	885.418		
8,300.00	5,260.09	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,945.81	3,941.40	4.42	893.540		
8,400.00	5,258.44	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	3,983.87	3,979.45	4.42	902.159		
8,500.00	5,256.79	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,024.05	4,019.64	4.42	911.258		
8,600.00	5,255.13	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,066.30	4,061.88	4.42	920.825		
8,700.00	5,253.48	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,110.54	4,106.13	4.42	930.844		
8,800.00	5,251.83	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,156.72	4,152.31	4.42	941.302		
8,900.00	5,250.18	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,204.77	4,200.36	4.42	952.183		
9,000.00	5,248.52	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,254.63	4,250.22	4.42	963.474		
9,100.00	5,246.87	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,306.24	4,301.82	4.42	975.160		
9,200.00	5,245.22	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,359.53	4,355.11	4.42	987.227		
9,300.00	5,243.57	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,414.44	4,410.02	4.42	999.662		
9,400.00	5,241.91	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,470.91	4,466.49	4.42	1,012.451		
9,500.00	5,240.26	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,528.89	4,524.47	4.42	1,025.580		
9,600.00	5,238.61	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,588.31	4,583.90	4.42	1,039.037		
9,700.00	5,236.96	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,649.13	4,644.71	4.42	1,052.808		
9,800.00	5,235.30	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,711.28	4,706.87	4.42	1,066.883		

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 416-FT - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1701-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,900.00	5,233.65	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,774.72	4,770.30	4.42	1,081.249		
10,000.00	5,232.00	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,839.39	4,834.98	4.42	1,095.895		
10,100.00	5,230.34	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,905.25	4,900.84	4.42	1,110.809		
10,200.00	5,228.69	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	4,972.25	4,967.84	4.42	1,125.981		
10,300.00	5,227.04	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,040.35	5,035.93	4.42	1,141.401		
10,400.00	5,225.39	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,109.49	5,105.07	4.42	1,157.058		
10,500.00	5,223.73	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,179.64	5,175.22	4.42	1,172.944		
10,600.00	5,222.08	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,250.76	5,246.34	4.42	1,189.049		
10,700.00	5,220.43	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,322.80	5,318.39	4.42	1,205.364		
10,800.00	5,218.78	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,395.74	5,391.32	4.42	1,221.881		
10,900.00	5,217.12	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,469.53	5,465.12	4.42	1,238.591		
11,000.00	5,215.47	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,544.15	5,539.73	4.42	1,255.488		
11,100.00	5,213.82	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,619.55	5,615.13	4.42	1,272.563		
11,200.00	5,212.17	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,695.71	5,691.30	4.42	1,289.810		
11,300.00	5,210.51	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,772.60	5,768.18	4.42	1,307.222		
11,400.00	5,208.86	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,850.19	5,845.77	4.42	1,324.792		
11,500.00	5,207.21	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	5,928.45	5,924.03	4.42	1,342.514		
11,600.00	5,205.56	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,007.35	6,002.93	4.42	1,360.382		
11,700.00	5,203.90	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,086.87	6,082.46	4.42	1,378.390		
11,800.00	5,202.25	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,166.99	6,162.58	4.42	1,396.534		
11,900.00	5,200.60	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,247.69	6,243.27	4.42	1,414.807		
12,000.00	5,198.95	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,328.93	6,324.52	4.42	1,433.205		
12,100.00	5,197.29	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,410.71	6,406.29	4.42	1,451.723		
12,200.00	5,195.64	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,492.99	6,488.58	4.42	1,470.357		
12,300.00	5,193.99	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,575.77	6,571.35	4.42	1,489.102		
12,400.00	5,192.34	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,659.02	6,654.60	4.42	1,507.954		
12,500.00	5,190.68	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,742.72	6,738.31	4.42	1,526.909		
12,600.00	5,189.03	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,826.87	6,822.45	4.42	1,545.963		
12,700.00	5,187.38	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,911.43	6,907.01	4.42	1,565.113		
12,800.00	5,185.73	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	6,996.40	6,991.99	4.42	1,584.356		
12,900.00	5,184.07	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,081.77	7,077.35	4.42	1,603.687		
13,000.00	5,182.42	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,167.51	7,163.10	4.42	1,623.104		
13,100.00	5,180.77	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,253.62	7,249.20	4.42	1,642.603		
13,200.00	5,179.12	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,340.08	7,335.66	4.42	1,662.183		
13,300.00	5,177.46	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,426.88	7,422.47	4.42	1,681.839		
13,400.00	5,175.81	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,514.01	7,509.59	4.42	1,701.569		
13,500.00	5,174.16	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,601.46	7,597.04	4.42	1,721.372		
13,600.00	5,172.51	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,689.21	7,684.79	4.42	1,741.243		
13,700.00	5,170.85	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,777.26	7,772.84	4.42	1,761.182		
13,800.00	5,169.20	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,865.59	7,861.17	4.42	1,781.185		
13,900.00	5,167.55	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	7,954.20	7,949.78	4.42	1,801.251		
14,000.00	5,165.90	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,043.07	8,038.66	4.42	1,821.378		
14,100.00	5,164.24	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,132.21	8,127.79	4.42	1,841.562		
14,200.00	5,162.59	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,221.59	8,217.18	4.42	1,861.804		
14,300.00	5,160.94	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,311.22	8,306.81	4.42	1,882.100		
14,400.00	5,159.29	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,401.08	8,396.67	4.42	1,902.449		
14,500.00	5,157.63	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,491.17	8,486.75	4.42	1,922.850		
14,600.00	5,155.98	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,581.48	8,577.06	4.42	1,943.300		
14,700.00	5,154.33	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,672.00	8,667.58	4.42	1,963.799		
14,800.00	5,152.67	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,762.72	8,758.31	4.42	1,984.344		
14,900.00	5,151.02	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,853.65	8,849.23	4.42	2,004.934		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 416-FT - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 1701-UNKNOWN												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance									
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	Warning
14,961.86	5,150.00	1,701.00	1,649.02	0.00	34.02	-7.40	-1,515.14	-1,099.18	8,909.99	8,905.58	4.42	2,017.694	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 574 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 1677-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.00	0.00	1.96	0.00	0.00	0.04	-95.39	-297.73	-3,157.84	3,171.84						
100.00	100.00	101.96	100.00	0.00	2.04	-95.39	-297.73	-3,157.84	3,171.84	3,169.80	2.04	1,555.138			
200.00	200.00	201.96	200.00	0.00	4.04	-95.39	-297.73	-3,157.84	3,171.84	3,167.80	4.04	785.191			
300.00	300.00	301.96	300.00	0.00	6.04	-95.39	-297.73	-3,157.84	3,171.84	3,165.80	6.04	525.177			
400.00	400.00	401.96	400.00	0.00	8.04	-95.39	-297.73	-3,157.84	3,171.84	3,163.80	8.04	394.530			
500.00	500.00	501.96	500.00	0.00	10.04	-95.39	-297.73	-3,157.84	3,171.84	3,161.80	10.04	315.935 CC			
527.79	527.79	529.75	527.79	0.00	10.60	106.37	-297.73	-3,157.84	3,171.86	3,161.26	10.60	299.363			
600.00	600.00	601.96	600.00	0.00	12.04	106.37	-297.73	-3,157.84	3,171.96	3,159.92	12.04	263.467			
700.00	699.93	701.89	699.93	0.00	14.04	106.41	-297.73	-3,157.84	3,172.95	3,158.91	14.04	226.048			
800.00	799.68	801.64	799.68	0.00	16.03	106.50	-297.73	-3,157.84	3,174.93	3,158.90	16.03	196.083 ES			
900.00	899.13	901.09	899.13	0.00	18.02	106.62	-297.73	-3,157.84	3,177.92	3,159.91	18.01	176.442			
1,000.00	998.15	1,000.11	998.15	0.00	20.00	106.78	-297.73	-3,157.84	3,181.96	3,161.98	19.98	159.240			
1,100.00	1,098.63	1,098.59	1,098.63	0.00	21.97	106.98	-297.73	-3,157.84	3,187.07	3,165.14	21.94	145.277			
1,200.00	1,194.44	1,196.40	1,194.44	0.00	23.93	107.21	-297.73	-3,157.84	3,193.31	3,169.43	23.88	133.750			
1,300.00	1,291.46	1,293.42	1,291.46	0.00	25.87	107.47	-297.73	-3,157.84	3,200.72	3,174.93	25.79	124.105			
1,400.00	1,387.58	1,389.54	1,387.58	0.00	27.79	107.75	-297.73	-3,157.84	3,209.36	3,181.68	27.68	115.943			
1,500.00	1,482.68	1,484.64	1,482.68	0.00	29.69	108.07	-297.73	-3,157.84	3,219.31	3,189.77	29.54	108.976			
1,600.00	1,576.65	1,578.61	1,576.65	0.00	31.57	108.40	-297.73	-3,157.84	3,230.62	3,199.25	31.37	102.985			
1,700.00	1,669.40	1,671.36	1,669.40	0.00	33.43	108.80	-297.73	-3,157.84	3,243.35	3,210.18	33.17	97.773 SF			
1,800.00	1,761.79	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,257.93	3,224.65	33.28	97.885			
1,900.00	1,854.18	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,275.50	3,242.22	33.28	98.413			
2,000.00	1,946.57	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,296.02	3,262.73	33.28	99.029			
2,100.00	2,038.96	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,319.41	3,286.13	33.28	99.732			
2,200.00	2,131.34	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,345.64	3,312.36	33.28	100.520			
2,300.00	2,223.73	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,374.62	3,341.34	33.28	101.391			
2,400.00	2,316.12	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,406.30	3,373.02	33.28	102.343			
2,500.00	2,408.51	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,440.59	3,407.31	33.28	103.373			
2,600.00	2,500.90	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,477.42	3,444.14	33.28	104.480			
2,700.00	2,593.28	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,516.71	3,483.43	33.28	105.660			
2,800.00	2,685.67	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,558.38	3,525.09	33.28	106.912			
2,900.00	2,778.06	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,602.34	3,569.05	33.28	108.233			
3,000.00	2,870.45	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,648.51	3,615.23	33.28	109.620			
3,100.00	2,962.84	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,696.81	3,663.53	33.28	111.071			
3,200.00	3,055.22	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,747.16	3,713.88	33.28	112.584			
3,300.00	3,147.61	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,799.47	3,766.19	33.28	114.156			
3,400.00	3,240.00	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,853.67	3,820.39	33.28	115.784			
3,500.00	3,332.39	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,909.68	3,876.39	33.28	117.467			
3,600.00	3,424.78	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	3,967.41	3,934.13	33.28	119.202			
3,700.00	3,517.16	1,677.00	1,675.04	0.00	33.54	108.84	-297.73	-3,157.84	4,026.80	3,993.52	33.28	120.986			
3,800.00	3,609.56	1,677.00	1,675.04	0.00	33.54	108.98	-297.73	-3,157.84	4,087.78	4,054.49	33.28	122.816			
3,900.00	3,702.95	1,677.00	1,675.04	0.00	33.54	110.46	-297.73	-3,157.84	4,149.73	4,116.44	33.29	124.645			
4,000.00	3,797.08	1,677.00	1,675.04	0.00	33.54	111.96	-297.73	-3,157.84	4,212.21	4,178.90	33.31	126.462			
4,100.00	3,892.55	1,677.00	1,675.04	0.00	33.54	113.45	-297.73	-3,157.84	4,275.10	4,241.77	33.33	128.266			
4,200.00	3,989.00	1,677.00	1,675.04	0.00	33.54	114.94	-297.73	-3,157.84	4,338.34	4,304.98	33.36	130.056			
4,300.00	4,086.30	1,677.00	1,675.04	0.00	33.54	116.42	-297.73	-3,157.84	4,401.81	4,368.42	33.39	131.834			
4,400.00	4,184.36	1,677.00	1,675.04	0.00	33.54	117.88	-297.73	-3,157.84	4,465.43	4,432.01	33.42	133.606			
4,500.00	4,283.03	1,677.00	1,675.04	0.00	33.54	119.34	-297.73	-3,157.84	4,529.14	4,495.68	33.46	135.376			
4,600.00	4,382.22	1,677.00	1,675.04	0.00	33.54	120.77	-297.73	-3,157.84	4,592.83	4,559.34	33.49	137.152			
4,700.00	4,481.78	1,677.00	1,675.04	0.00	33.54	122.17	-297.73	-3,157.84	4,656.44	4,622.93	33.51	138.943			
4,800.00	4,581.61	1,677.00	1,675.04	0.00	33.54	123.55	-297.73	-3,157.84	4,719.90	4,686.37	33.53	140.759			
4,900.00	4,681.58	1,677.00	1,675.04	0.00	33.54	124.90	-297.73	-3,157.84	4,783.13	4,749.59	33.54	142.610			

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 574 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 1677-UNKNOWN													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)				
5,000.00	4,781.27	1,677.00	1,675.04	0.00	33.54	8.23	-297.73	-3,157.84	4,841.73	4,808.54	33.18	145.906		
5,100.00	4,878.41	1,677.00	1,675.04	0.00	33.54	7.53	-297.73	-3,157.84	4,887.28	4,855.43	31.85	153.459		
5,200.00	4,970.04	1,677.00	1,675.04	0.00	33.54	7.11	-297.73	-3,157.84	4,918.63	4,889.07	29.56	166.412		
5,300.00	5,053.37	1,677.00	1,675.04	0.00	33.54	6.90	-297.73	-3,157.84	4,935.11	4,908.72	26.39	187.022		
5,400.00	5,125.88	1,677.00	1,675.04	0.00	33.54	6.89	-297.73	-3,157.84	4,936.37	4,913.92	22.45	219.876		
5,500.00	5,185.36	1,677.00	1,675.04	0.00	33.54	7.06	-297.73	-3,157.84	4,922.39	4,904.49	17.90	275.000		
5,600.00	5,235.09	1,677.00	1,675.04	0.00	33.54	7.18	-297.73	-3,157.84	4,898.89	4,882.94	15.95	307.062		
5,700.00	5,273.40	1,677.00	1,675.04	0.00	33.54	7.64	-297.73	-3,157.84	4,865.25	4,854.28	10.97	443.381		
5,800.00	5,295.11	1,677.00	1,675.04	0.00	33.54	8.40	-297.73	-3,157.84	4,817.56	4,811.00	6.56	734.440		
5,900.00	5,299.75	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,757.02	4,751.53	5.49	865.898		
6,000.00	5,298.10	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,692.83	4,687.33	5.49	854.213		
6,100.00	5,296.45	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,629.90	4,624.41	5.49	842.760		
6,200.00	5,294.79	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,568.30	4,562.81	5.49	831.547		
6,300.00	5,293.14	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,508.08	4,502.59	5.49	820.585		
6,400.00	5,291.49	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,449.29	4,443.79	5.49	809.883		
6,500.00	5,289.84	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,391.99	4,386.49	5.49	799.453		
6,600.00	5,288.18	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,336.24	4,330.74	5.49	789.305		
6,700.00	5,286.53	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,282.09	4,276.60	5.49	779.449		
6,800.00	5,284.88	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,229.62	4,224.13	5.49	769.898		
6,900.00	5,283.23	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,178.89	4,173.39	5.49	760.663		
7,000.00	5,281.57	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,129.95	4,124.45	5.49	751.755		
7,100.00	5,279.92	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,082.87	4,077.38	5.49	743.186		
7,200.00	5,278.27	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,037.73	4,032.23	5.49	734.969		
7,300.00	5,276.62	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,994.58	3,989.08	5.49	727.114		
7,400.00	5,274.96	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,953.48	3,947.99	5.49	719.634		
7,500.00	5,273.31	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,914.51	3,909.02	5.49	712.540		
7,600.00	5,271.66	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,877.73	3,872.24	5.49	705.845		
7,700.00	5,270.01	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,843.20	3,837.70	5.49	699.559		
7,800.00	5,268.35	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,810.98	3,805.48	5.49	693.694		
7,900.00	5,266.70	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,781.13	3,775.64	5.49	688.261		
8,000.00	5,265.05	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,753.71	3,748.21	5.49	683.270		
8,100.00	5,263.40	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,728.77	3,723.27	5.49	678.730		
8,200.00	5,261.74	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,706.36	3,700.86	5.49	674.651		
8,300.00	5,260.09	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,686.53	3,681.03	5.49	671.041		
8,400.00	5,258.44	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,669.31	3,663.82	5.49	667.908		
8,500.00	5,256.79	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,654.76	3,649.26	5.49	665.258		
8,600.00	5,255.13	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,642.89	3,637.39	5.49	663.098		
8,700.00	5,253.48	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,633.73	3,628.24	5.49	661.431		
8,800.00	5,251.83	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,627.31	3,621.82	5.49	660.263		
8,900.00	5,250.18	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,623.64	3,618.15	5.49	659.595		
8,983.08	5,248.80	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,622.69	3,617.20	5.49	659.421		
9,000.00	5,248.52	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,622.73	3,617.24	5.49	659.428		
9,100.00	5,246.87	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,624.58	3,619.08	5.49	659.765		
9,200.00	5,245.22	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,629.18	3,623.68	5.49	660.602		
9,300.00	5,243.57	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,636.53	3,631.03	5.49	661.940		
9,400.00	5,241.91	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,646.60	3,641.11	5.49	663.774		
9,500.00	5,240.26	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,659.38	3,653.89	5.49	666.100		
9,600.00	5,238.61	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,674.84	3,669.35	5.49	668.915		
9,700.00	5,236.96	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,692.95	3,687.45	5.49	672.210		
9,800.00	5,235.30	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,713.66	3,708.16	5.49	675.979		

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 574 - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 1677-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
9,900.00	5,233.65	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,736.93	3,731.43	5.49	680.215	
10,000.00	5,232.00	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,762.71	3,757.22	5.49	684.909	
10,100.00	5,230.34	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,790.96	3,785.47	5.49	690.051	
10,200.00	5,228.69	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,821.62	3,816.13	5.49	695.632	
10,300.00	5,227.04	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,854.63	3,849.14	5.49	701.640	
10,400.00	5,225.39	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,889.93	3,884.44	5.49	708.066	
10,500.00	5,223.73	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,927.46	3,921.97	5.49	714.897	
10,600.00	5,222.08	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	3,967.15	3,961.66	5.49	722.123	
10,700.00	5,220.43	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,008.95	4,003.46	5.49	729.731	
10,800.00	5,218.78	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,052.79	4,047.29	5.49	737.710	
10,900.00	5,217.12	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,098.59	4,093.10	5.49	746.048	
11,000.00	5,215.47	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,146.31	4,140.81	5.49	754.733	
11,100.00	5,213.82	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,195.86	4,190.37	5.49	763.753	
11,200.00	5,212.17	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,247.19	4,241.70	5.49	773.096	
11,300.00	5,210.51	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,300.23	4,294.74	5.49	782.751	
11,400.00	5,208.86	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,354.93	4,349.43	5.49	792.707	
11,500.00	5,207.21	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,411.21	4,405.72	5.49	802.952	
11,600.00	5,205.56	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,469.02	4,463.53	5.49	813.475	
11,700.00	5,203.90	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,528.31	4,522.81	5.49	824.266	
11,800.00	5,202.25	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,589.00	4,583.51	5.49	835.314	
11,900.00	5,200.60	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,651.06	4,645.56	5.49	846.610	
12,000.00	5,198.95	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,714.41	4,708.92	5.49	858.143	
12,100.00	5,197.29	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,779.03	4,773.53	5.49	869.904	
12,200.00	5,195.64	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,844.84	4,839.35	5.49	881.883	
12,300.00	5,193.99	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,911.81	4,906.31	5.49	894.073	
12,400.00	5,192.34	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	4,979.88	4,974.39	5.49	906.465	
12,500.00	5,190.68	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,049.02	5,043.53	5.49	919.050	
12,600.00	5,189.03	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,119.18	5,113.69	5.49	931.820	
12,700.00	5,187.38	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,190.32	5,184.82	5.49	944.769	
12,800.00	5,185.73	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,262.39	5,256.90	5.49	957.889	
12,900.00	5,184.07	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,335.37	5,329.88	5.49	971.172	
13,000.00	5,182.42	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,409.21	5,403.72	5.49	984.613	
13,100.00	5,180.77	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,483.88	5,478.39	5.49	998.205	
13,200.00	5,179.12	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,559.34	5,553.85	5.49	1,011.942	
13,300.00	5,177.46	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,635.57	5,630.08	5.49	1,025.817	
13,400.00	5,175.81	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,712.54	5,707.04	5.49	1,039.826	
13,500.00	5,174.16	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,790.20	5,784.71	5.49	1,053.964	
13,600.00	5,172.51	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,868.55	5,863.05	5.49	1,068.224	
13,700.00	5,170.85	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	5,947.54	5,942.05	5.49	1,082.603	
13,800.00	5,169.20	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,027.16	6,021.66	5.49	1,097.095	
13,900.00	5,167.55	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,107.37	6,101.88	5.49	1,111.697	
14,000.00	5,165.90	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,188.17	6,182.67	5.49	1,126.403	
14,100.00	5,164.24	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,269.51	6,264.02	5.49	1,141.210	
14,200.00	5,162.59	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,351.39	6,345.90	5.49	1,156.114	
14,300.00	5,160.94	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,433.78	6,428.29	5.49	1,171.111	
14,400.00	5,159.29	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,516.67	6,511.17	5.49	1,186.198	
14,500.00	5,157.63	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,600.02	6,594.53	5.49	1,201.371	
14,600.00	5,155.98	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,683.84	6,678.34	5.49	1,216.628	
14,700.00	5,154.33	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,768.09	6,762.60	5.49	1,231.964	
14,800.00	5,152.67	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,852.77	6,847.28	5.49	1,247.378	
14,900.00	5,151.02	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	-3,157.84	6,937.86	6,932.36	5.49	1,262.866	

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



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - GCU 574 - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 1677-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth			Toolface	+N/-S	Centres	Ellipses	Separation	Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)			
14,961.86	5,150.00	1,677.00	1,675.04	0.00	33.54	9.38	-297.73	6,990.69	6,985.20	5.49	1,272.483		



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 253 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	47.72	0.00	0.00	0.84	-113.22	-1,618.78	-3,773.37	4,105.94					
100.00	100.00	147.72	100.00	0.00	3.67	-113.22	-1,618.78	-3,773.37	4,105.94	4,102.27	3.67	1,119.090		
200.00	200.00	247.72	200.00	0.00	7.67	-113.22	-1,618.78	-3,773.37	4,105.94	4,098.27	7.67	535.395		
300.00	300.00	347.72	300.00	0.00	11.67	-113.22	-1,618.78	-3,773.37	4,105.94	4,094.27	11.67	351.867		
400.00	400.00	447.72	400.00	0.00	15.67	-113.22	-1,618.78	-3,773.37	4,105.94	4,090.27	15.67	262.042		
500.00	500.00	547.72	500.00	0.00	19.67	-113.22	-1,618.78	-3,773.37	4,105.94	4,086.27	19.67	208.752		
600.00	600.00	647.72	600.00	0.00	23.67	88.54	-1,618.78	-3,773.37	4,105.93	4,082.26	23.67	173.474		
700.00	699.93	747.65	699.93	0.00	27.67	88.59	-1,618.78	-3,773.37	4,105.84	4,078.18	27.67	148.406		
800.00	799.68	847.40	799.68	0.00	31.66	88.69	-1,618.78	-3,773.37	4,105.68	4,074.02	31.66	129.696		
900.00	899.13	946.85	899.13	0.00	35.63	88.84	-1,618.78	-3,773.37	4,105.45	4,069.82	35.63	115.211		
1,000.00	998.15	1,045.87	998.15	0.00	39.59	89.04	-1,618.78	-3,773.37	4,105.19	4,065.60	39.59	103.680		
1,100.00	1,096.63	1,144.35	1,096.63	0.00	43.53	89.28	-1,618.78	-3,773.37	4,104.93	4,061.40	43.53	94.293		
1,200.00	1,194.44	1,242.16	1,194.44	0.00	47.45	89.57	-1,618.78	-3,773.37	4,104.72	4,057.27	47.45	86.513		
1,300.00	1,291.46	1,339.18	1,291.46	0.00	51.33	89.90	-1,618.78	-3,773.37	4,104.61	4,053.28	51.33	79.969		
1,328.20	1,318.66	1,366.38	1,318.66	0.00	52.42	90.00	-1,618.78	-3,773.37	4,104.60	4,052.18	52.42	78.309		
1,400.00	1,387.58	1,435.30	1,387.58	0.00	55.17	90.27	-1,618.78	-3,773.37	4,104.65	4,049.48	55.17	74.397		
1,500.00	1,462.68	1,530.40	1,462.68	0.00	58.98	90.67	-1,618.78	-3,773.37	4,104.92	4,045.94	58.98	69.603		
1,600.00	1,576.65	1,624.37	1,576.65	0.00	62.73	91.11	-1,618.78	-3,773.37	4,105.48	4,042.75	62.73	65.443		
1,700.00	1,669.40	1,717.12	1,669.40	0.00	66.44	91.58	-1,618.78	-3,773.37	4,106.43	4,039.99	66.44	61.805		
1,800.00	1,761.79	1,809.51	1,761.79	0.00	70.14	92.07	-1,618.78	-3,773.37	4,107.75	4,037.62	70.14	58.570		
1,900.00	1,854.18	1,901.90	1,854.18	0.00	73.84	92.57	-1,618.78	-3,773.37	4,109.43	4,035.60	73.84	55.664		
2,000.00	1,946.57	1,994.29	1,946.57	0.00	77.53	93.06	-1,618.78	-3,773.37	4,111.46	4,033.94	77.53	53.040		
2,100.00	2,038.96	2,086.68	2,038.96	0.00	81.23	93.55	-1,618.78	-3,773.37	4,113.84	4,032.64	81.20	50.660		
2,200.00	2,131.34	2,179.06	2,131.34	0.00	84.92	94.04	-1,618.78	-3,773.37	4,116.59	4,031.69	84.89	48.492		
2,300.00	2,223.73	2,271.45	2,223.73	0.00	88.62	94.53	-1,618.78	-3,773.37	4,119.68	4,031.10	88.58	46.509		
2,400.00	2,316.12	2,363.84	2,316.12	0.00	92.31	95.02	-1,618.78	-3,773.37	4,123.13	4,030.87	92.26	44.689		
2,500.00	2,408.51	2,456.23	2,408.51	0.00	96.01	95.51	-1,618.78	-3,773.37	4,126.93	4,030.98	95.94	43.014		
2,600.00	2,500.90	2,548.62	2,500.90	0.00	99.70	96.00	-1,618.78	-3,773.37	4,131.08	4,031.45	99.63	41.466		
2,700.00	2,593.28	2,641.00	2,593.28	0.00	103.40	96.49	-1,618.78	-3,773.37	4,135.58	4,032.28	103.30	40.033		
2,800.00	2,685.67	2,733.39	2,685.67	0.00	107.10	96.98	-1,618.78	-3,773.37	4,140.43	4,033.45	106.98	38.703		
2,900.00	2,778.06	2,825.78	2,778.06	0.00	110.79	97.46	-1,618.78	-3,773.37	4,145.63	4,034.97	110.65	37.465		
3,000.00	2,870.45	2,918.17	2,870.45	0.00	114.49	97.95	-1,618.78	-3,773.37	4,151.17	4,036.84	114.33	36.310		
3,100.00	2,962.84	3,010.56	2,962.84	0.00	118.18	98.43	-1,618.78	-3,773.37	4,157.06	4,039.06	118.00	35.230		
3,200.00	3,055.22	3,102.94	3,055.22	0.00	121.88	98.91	-1,618.78	-3,773.37	4,163.29	4,041.63	121.66	34.220		
3,300.00	3,147.61	3,195.33	3,147.61	0.00	125.57	99.39	-1,618.78	-3,773.37	4,169.87	4,044.54	125.33	33.272		
3,400.00	3,240.00	3,287.72	3,240.00	0.00	129.27	99.87	-1,618.78	-3,773.37	4,176.78	4,047.79	128.99	32.381		
3,500.00	3,332.39	3,380.11	3,332.39	0.00	132.96	100.35	-1,618.78	-3,773.37	4,184.03	4,051.38	132.65	31.542		
3,600.00	3,424.78	3,472.50	3,424.78	0.00	136.66	100.83	-1,618.78	-3,773.37	4,191.62	4,055.32	136.31	30.751		
3,700.00	3,517.16	3,564.88	3,517.16	0.00	140.36	101.30	-1,618.78	-3,773.37	4,199.55	4,059.59	139.96	30.005		
3,800.00	3,609.56	3,657.28	3,609.56	0.00	144.05	101.79	-1,618.78	-3,773.37	4,207.80	4,064.18	143.62	29.299		
3,900.00	3,702.71	3,750.43	3,702.71	0.00	147.78	102.40	-1,618.78	-3,773.37	4,215.95	4,068.58	147.37	28.609		
4,000.00	3,797.08	3,844.80	3,797.08	0.00	151.55	102.97	-1,618.78	-3,773.37	4,223.62	4,072.45	151.18	27.939		
4,100.00	3,892.55	3,940.27	3,892.55	0.00	155.37	103.48	-1,618.78	-3,773.37	4,230.73	4,075.70	155.04	27.288		
4,200.00	3,989.00	4,036.72	3,989.00	0.00	159.23	103.94	-1,618.78	-3,773.37	4,237.21	4,078.27	158.95	26.658		
4,300.00	4,086.30	4,134.02	4,086.30	0.00	163.12	104.35	-1,618.78	-3,773.37	4,242.98	4,080.09	162.89	26.048		
4,400.00	4,184.36	4,232.08	4,184.36	0.00	167.04	104.70	-1,618.78	-3,773.37	4,248.00	4,081.12	166.87	25.457		
4,500.00	4,283.03	4,330.75	4,283.03	0.00	170.99	104.99	-1,618.78	-3,773.37	4,252.19	4,081.32	170.87	24.885		
4,600.00	4,382.22	4,429.94	4,382.22	0.00	174.96	105.22	-1,618.78	-3,773.37	4,255.53	4,080.65	174.88	24.333		
4,700.00	4,481.78	4,529.50	4,481.78	0.00	178.94	105.38	-1,618.78	-3,773.37	4,257.99	4,079.08	178.90	23.800		
4,800.00	4,581.61	4,629.33	4,581.61	0.00	182.93	105.49	-1,618.78	-3,773.37	4,259.53	4,078.60	182.92	23.286		
4,900.00	4,681.58	4,729.30	4,681.58	0.00	186.93	105.53	-1,618.78	-3,773.37	4,260.14	4,073.21	186.93	22.790		

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



Anticollision Report



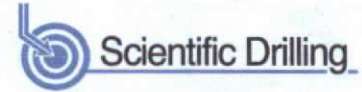
Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 253 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance									
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	Warning		
5,000.00	4,781.27	4,828.99	4,781.27	0.00	190.92	-10.57	-1,618.78	-3,773.37	4,254.04	4,065.12	188.92	22.518			
5,100.00	4,878.41	4,926.13	4,878.41	0.00	194.81	-11.07	-1,618.78	-3,773.37	4,231.20	4,046.03	185.18	22.850			
5,200.00	4,970.04	5,017.76	4,970.04	0.00	198.47	-12.03	-1,618.78	-3,773.37	4,192.14	4,016.52	175.62	23.871			
5,300.00	5,053.37	5,101.09	5,053.37	0.00	201.80	-13.63	-1,618.78	-3,773.37	4,138.05	3,977.25	160.79	25.735			
5,400.00	5,125.88	5,173.60	5,125.88	0.00	204.70	-16.24	-1,618.78	-3,773.37	4,070.59	3,928.21	142.38	28.589			
5,500.00	5,185.36	5,233.08	5,185.36	0.00	207.08	-20.64	-1,618.78	-3,773.37	3,991.85	3,866.90	124.96	31.946			
5,600.00	5,235.09	5,282.81	5,235.09	0.00	209.07	-23.55	-1,618.78	-3,773.37	3,906.78	3,784.96	121.82	32.071			
5,700.00	5,273.40	5,321.12	5,273.40	0.00	210.60	-34.41	-1,618.78	-3,773.37	3,816.41	3,686.35	130.05	29.345			
5,800.00	5,295.11	5,342.83	5,295.11	0.00	211.47	-58.22	-1,618.78	-3,773.37	3,720.99	3,540.63	180.36	20.631			
5,900.00	5,299.75	5,347.47	5,299.75	0.00	211.66	-94.33	-1,618.78	-3,773.37	3,623.44	3,412.39	211.05	17.168			
6,000.00	5,298.10	5,345.82	5,298.10	0.00	211.59	-94.21	-1,618.78	-3,773.37	3,525.82	3,314.80	211.02	16.708			
6,100.00	5,296.45	5,344.17	5,296.45	0.00	211.53	-94.09	-1,618.78	-3,773.37	3,428.33	3,217.34	210.99	16.249			
6,200.00	5,294.79	5,342.51	5,294.79	0.00	211.46	-93.97	-1,618.78	-3,773.37	3,330.99	3,120.04	210.95	15.790			
6,300.00	5,293.14	5,340.86	5,293.14	0.00	211.39	-93.84	-1,618.78	-3,773.37	3,233.81	3,022.89	210.92	15.332			
6,400.00	5,291.49	5,339.21	5,291.49	0.00	211.33	-93.72	-1,618.78	-3,773.37	3,136.81	2,925.93	210.88	14.875			
6,500.00	5,289.84	5,337.56	5,289.84	0.00	211.26	-93.60	-1,618.78	-3,773.37	3,040.00	2,829.16	210.85	14.418			
6,600.00	5,288.18	5,335.90	5,288.18	0.00	211.20	-93.48	-1,618.78	-3,773.37	2,943.41	2,732.60	210.81	13.963			
6,700.00	5,286.53	5,334.25	5,286.53	0.00	211.13	-93.36	-1,618.78	-3,773.37	2,847.05	2,636.28	210.77	13.508			
6,800.00	5,284.88	5,332.60	5,284.88	0.00	211.06	-93.23	-1,618.78	-3,773.37	2,750.94	2,540.21	210.73	13.054			
6,900.00	5,283.23	5,330.95	5,283.23	0.00	211.00	-93.11	-1,618.78	-3,773.37	2,655.13	2,444.44	210.69	12.602			
7,000.00	5,281.57	5,329.29	5,281.57	0.00	210.93	-92.99	-1,618.78	-3,773.37	2,559.63	2,348.98	210.65	12.151			
7,100.00	5,279.92	5,327.64	5,279.92	0.00	210.87	-92.87	-1,618.78	-3,773.37	2,464.49	2,253.89	210.60	11.702			
7,200.00	5,278.27	5,325.99	5,278.27	0.00	210.80	-92.74	-1,618.78	-3,773.37	2,369.75	2,159.19	210.56	11.255			
7,300.00	5,276.62	5,324.34	5,276.62	0.00	210.73	-92.62	-1,618.78	-3,773.37	2,275.45	2,064.94	210.51	10.809			
7,400.00	5,274.96	5,322.68	5,274.96	0.00	210.67	-92.50	-1,618.78	-3,773.37	2,181.67	1,971.20	210.47	10.366			
7,500.00	5,273.31	5,321.03	5,273.31	0.00	210.60	-92.38	-1,618.78	-3,773.37	2,088.45	1,878.03	210.42	9.925			
7,600.00	5,271.66	5,319.38	5,271.66	0.00	210.54	-92.26	-1,618.78	-3,773.37	1,995.90	1,785.53	210.37	9.487			
7,700.00	5,270.01	5,317.73	5,270.01	0.00	210.47	-92.13	-1,618.78	-3,773.37	1,904.10	1,693.77	210.32	9.053			
7,800.00	5,268.35	5,316.07	5,268.35	0.00	210.40	-92.01	-1,618.78	-3,773.37	1,813.16	1,602.89	210.27	8.623			
7,900.00	5,266.70	5,314.42	5,266.70	0.00	210.34	-91.89	-1,618.78	-3,773.37	1,723.22	1,513.00	210.22	8.197			
8,000.00	5,265.05	5,312.77	5,265.05	0.00	210.27	-91.77	-1,618.78	-3,773.37	1,634.46	1,424.29	210.17	7.777			
8,100.00	5,263.40	5,311.12	5,263.40	0.00	210.20	-91.64	-1,618.78	-3,773.37	1,547.06	1,336.94	210.12	7.363			
8,200.00	5,261.74	5,309.46	5,261.74	0.00	210.14	-91.52	-1,618.78	-3,773.37	1,461.28	1,251.21	210.06	6.956			
8,300.00	5,260.09	5,307.81	5,260.09	0.00	210.07	-91.40	-1,618.78	-3,773.37	1,377.42	1,167.40	210.01	6.559			
8,400.00	5,258.44	5,306.16	5,258.44	0.00	210.01	-91.28	-1,618.78	-3,773.37	1,295.84	1,085.89	209.95	6.172			
8,500.00	5,256.79	5,304.51	5,256.79	0.00	209.94	-91.15	-1,618.78	-3,773.37	1,217.01	1,007.12	209.90	5.798			
8,600.00	5,255.13	5,302.85	5,255.13	0.00	209.87	-91.03	-1,618.78	-3,773.37	1,141.51	931.67	209.84	5.440			
8,700.00	5,253.48	5,301.20	5,253.48	0.00	209.81	-90.91	-1,618.78	-3,773.37	1,070.03	860.24	209.78	5.101			
8,800.00	5,251.83	5,299.55	5,251.83	0.00	209.74	-90.79	-1,618.78	-3,773.37	1,003.43	793.70	209.72	4.785			
8,900.00	5,250.18	5,297.90	5,250.18	0.00	209.68	-90.66	-1,618.78	-3,773.37	942.74	733.08	209.66	4.496			
9,000.00	5,248.52	5,296.24	5,248.52	0.00	209.61	-90.54	-1,618.78	-3,773.37	889.19	679.59	209.60	4.242			
9,100.00	5,246.87	5,294.59	5,246.87	0.00	209.54	-90.42	-1,618.78	-3,773.37	844.13	634.59	209.54	4.029			
9,200.00	5,245.22	5,292.94	5,245.22	0.00	209.48	-90.29	-1,618.78	-3,773.37	808.97	599.50	209.47	3.862			
9,300.00	5,243.57	5,291.29	5,243.57	0.00	209.41	-90.17	-1,618.78	-3,773.37	785.06	575.65	209.41	3.749			
9,400.00	5,241.91	5,289.63	5,241.91	0.00	209.35	-90.05	-1,618.78	-3,773.37	773.43	564.08	209.35	3.695			
9,440.65	5,241.24	5,288.96	5,241.24	0.00	209.32	-90.00	-1,618.78	-3,773.37	772.36	563.04	209.32	3.690 CC, ES, SF			
9,500.00	5,240.26	5,287.98	5,240.26	0.00	209.28	-89.93	-1,618.78	-3,773.37	774.64	565.36	209.28	3.701			
9,600.00	5,238.61	5,286.33	5,238.61	0.00	209.21	-89.80	-1,618.78	-3,773.37	788.62	579.41	209.21	3.769			
9,700.00	5,236.96	5,284.68	5,236.96	0.00	209.15	-89.68	-1,618.78	-3,773.37	814.73	605.58	209.14	3.896			
9,800.00	5,235.30	5,283.02	5,235.30	0.00	209.08	-89.56	-1,618.78	-3,773.37	851.84	642.77	209.07	4.074			

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 253 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,900.00	5,233.65	5,281.37	5,233.65	0.00	209.01	-89.44	-1,618.78	-3,773.37	898.60	689.59	209.00	4.299		
10,000.00	5,232.00	5,279.72	5,232.00	0.00	208.95	-89.31	-1,618.78	-3,773.37	953.58	744.65	208.93	4.564		
10,100.00	5,230.34	5,278.06	5,230.34	0.00	208.88	-89.19	-1,618.78	-3,773.37	1,015.46	806.60	208.86	4.862		
10,200.00	5,228.69	5,276.41	5,228.69	0.00	208.82	-89.07	-1,618.78	-3,773.37	1,083.05	874.26	208.79	5.187		
10,300.00	5,227.04	5,274.76	5,227.04	0.00	208.75	-88.95	-1,618.78	-3,773.37	1,155.34	946.63	208.72	5.535		
10,400.00	5,225.39	5,273.11	5,225.39	0.00	208.68	-88.82	-1,618.78	-3,773.37	1,231.52	1,022.88	208.64	5.903		
10,500.00	5,223.73	5,271.45	5,223.73	0.00	208.62	-88.70	-1,618.78	-3,773.37	1,310.90	1,102.33	208.56	6.285		
10,600.00	5,222.08	5,269.80	5,222.08	0.00	208.55	-88.58	-1,618.78	-3,773.37	1,392.93	1,184.44	208.49	6.681		
10,700.00	5,220.43	5,268.15	5,220.43	0.00	208.49	-88.46	-1,618.78	-3,773.37	1,477.18	1,268.77	208.41	7.088		
10,800.00	5,218.78	5,266.50	5,218.78	0.00	208.42	-88.33	-1,618.78	-3,773.37	1,563.28	1,354.95	208.33	7.504		
10,900.00	5,217.12	5,264.84	5,217.12	0.00	208.35	-88.21	-1,618.78	-3,773.37	1,650.95	1,442.70	208.25	7.928		
11,000.00	5,215.47	5,263.19	5,215.47	0.00	208.29	-88.09	-1,618.78	-3,773.37	1,739.95	1,531.78	208.17	8.358		
11,100.00	5,213.82	5,261.54	5,213.82	0.00	208.22	-87.97	-1,618.78	-3,773.37	1,830.09	1,622.00	208.09	8.795		
11,200.00	5,212.17	5,259.89	5,212.17	0.00	208.16	-87.84	-1,618.78	-3,773.37	1,921.20	1,713.19	208.01	9.236		
11,300.00	5,210.51	5,258.23	5,210.51	0.00	208.09	-87.72	-1,618.78	-3,773.37	2,013.15	1,805.22	207.93	9.682		
11,400.00	5,208.86	5,256.58	5,208.86	0.00	208.02	-87.60	-1,618.78	-3,773.37	2,105.83	1,897.99	207.84	10.132		
11,500.00	5,207.21	5,254.93	5,207.21	0.00	207.96	-87.48	-1,618.78	-3,773.37	2,199.16	1,991.40	207.76	10.585		
11,600.00	5,205.56	5,253.28	5,205.56	0.00	207.89	-87.36	-1,618.78	-3,773.37	2,293.04	2,085.37	207.67	11.042		
11,700.00	5,203.90	5,251.62	5,203.90	0.00	207.82	-87.23	-1,618.78	-3,773.37	2,387.42	2,179.84	207.58	11.501		
11,800.00	5,202.25	5,249.97	5,202.25	0.00	207.76	-87.11	-1,618.78	-3,773.37	2,482.24	2,274.75	207.49	11.963		
11,900.00	5,200.60	5,248.32	5,200.60	0.00	207.69	-86.99	-1,618.78	-3,773.37	2,577.46	2,370.05	207.41	12.427		
12,000.00	5,198.95	5,246.67	5,198.95	0.00	207.63	-86.87	-1,618.78	-3,773.37	2,673.01	2,465.70	207.32	12.893		
12,100.00	5,197.29	5,245.01	5,197.29	0.00	207.56	-86.74	-1,618.78	-3,773.37	2,768.89	2,561.66	207.23	13.362		
12,200.00	5,195.64	5,243.36	5,195.64	0.00	207.49	-86.62	-1,618.78	-3,773.37	2,865.04	2,657.91	207.13	13.832		
12,300.00	5,193.99	5,241.71	5,193.99	0.00	207.43	-86.50	-1,618.78	-3,773.37	2,961.45	2,754.41	207.04	14.304		
12,400.00	5,192.34	5,240.06	5,192.34	0.00	207.36	-86.38	-1,618.78	-3,773.37	3,058.08	2,851.14	206.95	14.777		
12,500.00	5,190.68	5,238.40	5,190.68	0.00	207.30	-86.26	-1,618.78	-3,773.37	3,154.93	2,948.08	206.85	15.252		
12,600.00	5,189.03	5,236.75	5,189.03	0.00	207.23	-86.13	-1,618.78	-3,773.37	3,251.97	3,045.21	206.76	15.728		
12,700.00	5,187.38	5,235.10	5,187.38	0.00	207.16	-86.01	-1,618.78	-3,773.37	3,349.18	3,142.51	206.66	16.206		
12,800.00	5,185.73	5,233.45	5,185.73	0.00	207.10	-85.89	-1,618.78	-3,773.37	3,446.54	3,239.98	206.57	16.685		
12,900.00	5,184.07	5,231.79	5,184.07	0.00	207.03	-85.77	-1,618.78	-3,773.37	3,544.06	3,337.59	206.47	17.165		
13,000.00	5,182.42	5,230.14	5,182.42	0.00	206.97	-85.65	-1,618.78	-3,773.37	3,641.71	3,435.34	206.37	17.647		
13,100.00	5,180.77	5,228.49	5,180.77	0.00	206.90	-85.52	-1,618.78	-3,773.37	3,739.48	3,533.21	206.27	18.129		
13,200.00	5,179.12	5,226.84	5,179.12	0.00	206.83	-85.40	-1,618.78	-3,773.37	3,837.37	3,631.20	206.17	18.613		
13,300.00	5,177.46	5,225.18	5,177.46	0.00	206.77	-85.28	-1,618.78	-3,773.37	3,935.36	3,729.29	206.07	19.098		
13,400.00	5,175.81	5,223.53	5,175.81	0.00	206.70	-85.16	-1,618.78	-3,773.37	4,033.45	3,827.48	205.96	19.583		
13,500.00	5,174.16	5,221.88	5,174.16	0.00	206.64	-85.04	-1,618.78	-3,773.37	4,131.63	3,925.77	205.86	20.070		
13,600.00	5,172.51	5,220.23	5,172.51	0.00	206.57	-84.92	-1,618.78	-3,773.37	4,229.89	4,024.14	205.76	20.558		
13,700.00	5,170.85	5,218.57	5,170.85	0.00	206.50	-84.79	-1,618.78	-3,773.37	4,328.24	4,122.58	205.65	21.046		
13,800.00	5,169.20	5,216.92	5,169.20	0.00	206.44	-84.67	-1,618.78	-3,773.37	4,426.65	4,221.11	205.55	21.536		
13,900.00	5,167.55	5,215.27	5,167.55	0.00	206.37	-84.55	-1,618.78	-3,773.37	4,525.14	4,319.70	205.44	22.027		
14,000.00	5,165.90	5,213.62	5,165.90	0.00	206.30	-84.43	-1,618.78	-3,773.37	4,623.69	4,418.36	205.33	22.518		
14,100.00	5,164.24	5,211.96	5,164.24	0.00	206.24	-84.31	-1,618.78	-3,773.37	4,722.30	4,517.08	205.22	23.011		
14,200.00	5,162.59	5,210.31	5,162.59	0.00	206.17	-84.19	-1,618.78	-3,773.37	4,820.97	4,615.86	205.11	23.504		
14,300.00	5,160.94	5,208.66	5,160.94	0.00	206.11	-84.07	-1,618.78	-3,773.37	4,919.69	4,714.69	205.00	23.998		
14,400.00	5,159.29	5,207.01	5,159.29	0.00	206.04	-83.94	-1,618.78	-3,773.37	5,018.46	4,813.57	204.89	24.493		
14,500.00	5,157.63	5,205.35	5,157.63	0.00	205.97	-83.82	-1,618.78	-3,773.37	5,117.28	4,912.50	204.78	24.989		
14,600.00	5,155.98	5,203.70	5,155.98	0.00	205.91	-83.70	-1,618.78	-3,773.37	5,216.14	5,011.48	204.67	25.486		
14,700.00	5,154.33	5,202.05	5,154.33	0.00	205.84	-83.58	-1,618.78	-3,773.37	5,315.05	5,110.49	204.55	25.984		
14,800.00	5,152.67	5,200.39	5,152.67	0.00	205.78	-83.46	-1,618.78	-3,773.37	5,413.99	5,209.55	204.44	26.482		
14,900.00	5,151.02	5,198.74	5,151.02	0.00	205.71	-83.34	-1,618.78	-3,773.37	5,512.97	5,308.65	204.32	26.982		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 253 - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
14,961.86	5,150.00	5,197.72	5,150.00	0.00	205.67	-83.26	-1,618.78	-3,773.37	5,574.22	5,369.97	204.25	27.291	



Anticollision Report



Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 258 - OH - OH														Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)							
0.00	0.00	87.72	0.00	0.00	1.54	-101.77	-1,378.87	-6,615.15	6,757.33						
100.00	100.00	187.72	100.00	0.00	5.27	-101.77	-1,378.87	-6,615.15	6,757.33	6,752.06	5.27	1,282.469			
200.00	200.00	287.72	200.00	0.00	9.27	-101.77	-1,378.87	-6,615.15	6,757.33	6,748.06	9.27	729.025			
300.00	300.00	387.72	300.00	0.00	13.27	-101.77	-1,378.87	-6,615.15	6,757.33	6,744.06	13.27	509.257			
400.00	400.00	487.72	400.00	0.00	17.27	-101.77	-1,378.87	-6,615.15	6,757.33	6,740.06	17.27	391.298			
500.00	500.00	587.72	500.00	0.00	21.27	-101.77	-1,378.87	-6,615.15	6,757.33	6,736.06	21.27	317.708			
527.79	527.79	615.51	527.79	0.00	22.38	99.98	-1,378.87	-6,615.15	6,757.34	6,734.96	22.38	301.930			
600.00	600.00	687.72	600.00	0.00	25.27	99.98	-1,378.87	-6,615.15	6,757.41	6,732.14	25.27	267.421			
700.00	699.93	787.65	699.93	0.00	29.27	100.00	-1,378.87	-6,615.15	6,758.01	6,728.75	29.27	230.924			
800.00	799.68	887.40	799.68	0.00	33.26	100.03	-1,378.87	-6,615.15	6,759.23	6,725.98	33.25	203.270			
900.00	899.13	986.85	899.13	0.00	37.23	100.08	-1,378.87	-6,615.15	6,761.07	6,723.84	37.23	181.623			
1,000.00	998.15	1,085.87	998.15	0.00	41.19	100.15	-1,378.87	-6,615.15	6,763.53	6,722.35	41.18	164.245			
1,100.00	1,096.63	1,184.35	1,096.63	0.00	45.13	100.23	-1,378.87	-6,615.15	6,766.65	6,721.54	45.11	150.009			
1,200.00	1,194.44	1,282.16	1,194.44	0.00	49.05	100.33	-1,378.87	-6,615.15	6,770.44	6,721.44	49.01	138.154			
1,300.00	1,291.46	1,379.18	1,291.46	0.00	52.93	100.43	-1,378.87	-6,615.15	6,774.93	6,722.06	52.87	128.145			
1,400.00	1,387.58	1,475.30	1,387.58	0.00	56.77	100.55	-1,378.87	-6,615.15	6,780.15	6,723.45	56.69	119.598			
1,500.00	1,482.68	1,570.40	1,482.68	0.00	60.58	100.68	-1,378.87	-6,615.15	6,786.12	6,725.65	60.47	112.230			
1,600.00	1,576.65	1,664.37	1,576.65	0.00	64.33	100.81	-1,378.87	-6,615.15	6,792.89	6,728.70	64.19	105.826			
1,700.00	1,669.40	1,757.12	1,669.40	0.00	68.04	100.99	-1,378.87	-6,615.15	6,800.48	6,732.61	67.86	100.208			
1,800.00	1,761.79	1,849.51	1,761.79	0.00	71.74	101.28	-1,378.87	-6,615.15	6,808.45	6,736.91	71.54	95.171			
1,900.00	1,854.18	1,941.90	1,854.18	0.00	75.44	101.57	-1,378.87	-6,615.15	6,816.63	6,741.42	75.21	90.630			
2,000.00	1,946.57	2,034.29	1,946.57	0.00	79.13	101.87	-1,378.87	-6,615.15	6,825.01	6,746.13	78.89	86.517			
2,100.00	2,038.96	2,126.68	2,038.96	0.00	82.83	102.16	-1,378.87	-6,615.15	6,833.60	6,751.04	82.56	82.773			
2,200.00	2,131.34	2,219.06	2,131.34	0.00	86.52	102.45	-1,378.87	-6,615.15	6,842.39	6,756.16	86.23	79.352			
2,300.00	2,223.73	2,311.45	2,223.73	0.00	90.22	102.74	-1,378.87	-6,615.15	6,851.38	6,761.49	89.90	76.214			
2,400.00	2,316.12	2,403.84	2,316.12	0.00	93.91	103.03	-1,378.87	-6,615.15	6,860.58	6,767.02	93.56	73.325			
2,500.00	2,408.51	2,496.23	2,408.51	0.00	97.61	103.31	-1,378.87	-6,615.15	6,869.98	6,772.75	97.23	70.657			
2,600.00	2,500.90	2,588.62	2,500.90	0.00	101.30	103.60	-1,378.87	-6,615.15	6,879.57	6,778.68	100.89	68.186			
2,700.00	2,593.28	2,681.00	2,593.28	0.00	105.00	103.89	-1,378.87	-6,615.15	6,889.37	6,784.81	104.56	65.891			
2,800.00	2,685.67	2,773.39	2,685.67	0.00	108.70	104.18	-1,378.87	-6,615.15	6,899.36	6,791.14	108.22	63.755			
2,900.00	2,778.06	2,865.78	2,778.06	0.00	112.39	104.46	-1,378.87	-6,615.15	6,909.55	6,797.67	111.88	61.760			
3,000.00	2,870.45	2,958.17	2,870.45	0.00	116.09	104.75	-1,378.87	-6,615.15	6,919.94	6,804.40	115.53	59.895			
3,100.00	2,962.84	3,050.56	2,962.84	0.00	119.78	105.03	-1,378.87	-6,615.15	6,930.52	6,811.33	119.19	58.146			
3,200.00	3,055.22	3,142.94	3,055.22	0.00	123.48	105.31	-1,378.87	-6,615.15	6,941.30	6,818.46	122.85	56.504			
3,300.00	3,147.61	3,235.33	3,147.61	0.00	127.17	105.60	-1,378.87	-6,615.15	6,952.27	6,825.78	126.50	54.959			
3,400.00	3,240.00	3,327.72	3,240.00	0.00	130.87	105.88	-1,378.87	-6,615.15	6,963.44	6,833.29	130.15	53.503			
3,500.00	3,332.39	3,420.11	3,332.39	0.00	134.56	106.16	-1,378.87	-6,615.15	6,974.80	6,841.00	133.80	52.129			
3,600.00	3,424.78	3,512.50	3,424.78	0.00	138.26	106.44	-1,378.87	-6,615.15	6,986.34	6,848.90	137.45	50.830			
3,700.00	3,517.16	3,604.88	3,517.16	0.00	141.96	106.72	-1,378.87	-6,615.15	6,998.08	6,856.99	141.09	49.599			
3,800.00	3,609.56	3,697.28	3,609.56	0.00	145.65	107.02	-1,378.87	-6,615.15	7,010.01	6,865.26	144.75	48.429			
3,900.00	3,702.71	3,790.43	3,702.71	0.00	149.38	107.51	-1,378.87	-6,615.15	7,021.51	6,872.95	148.56	47.264			
4,000.00	3,797.08	3,884.80	3,797.08	0.00	153.15	107.96	-1,378.87	-6,615.15	7,032.12	6,879.69	152.43	46.133			
4,100.00	3,892.55	3,980.27	3,892.55	0.00	156.97	108.36	-1,378.87	-6,615.15	7,041.79	6,885.43	156.36	45.037			
4,200.00	3,989.00	4,076.72	3,989.00	0.00	160.83	108.72	-1,378.87	-6,615.15	7,050.46	6,890.14	160.32	43.977			
4,300.00	4,086.30	4,174.02	4,086.30	0.00	164.72	109.04	-1,378.87	-6,615.15	7,058.10	6,893.77	164.32	42.953			
4,400.00	4,184.36	4,272.08	4,184.36	0.00	168.64	109.31	-1,378.87	-6,615.15	7,064.65	6,896.31	168.35	41.965			
4,500.00	4,283.03	4,370.75	4,283.03	0.00	172.59	109.54	-1,378.87	-6,615.15	7,070.10	6,897.71	172.39	41.013			
4,600.00	4,382.22	4,469.94	4,382.22	0.00	176.56	109.71	-1,378.87	-6,615.15	7,074.40	6,897.97	176.44	40.096			
4,700.00	4,481.78	4,569.50	4,481.78	0.00	180.54	109.84	-1,378.87	-6,615.15	7,077.55	6,897.07	180.48	39.215			
4,800.00	4,581.61	4,669.33	4,581.61	0.00	184.53	109.93	-1,378.87	-6,615.15	7,079.52	6,895.00	184.52	38.368			
4,900.00	4,681.58	4,769.30	4,681.58	0.00	188.53	109.96	-1,378.87	-6,615.15	7,080.30	6,891.76	188.53	37.555			

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



Anticollision Report



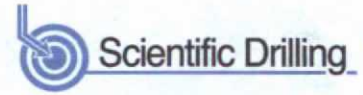
Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 258 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN													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	4,781.27	4,868.99	4,781.27	0.00	192.52	-6.09	-1,378.87	-6,615.15	7,074.13	6,883.68	190.46	37.143		
5,100.00	4,878.41	4,966.13	4,878.41	0.00	196.41	-6.37	-1,378.87	-6,615.15	7,051.04	6,864.59	186.44	37.819		
5,200.00	4,970.04	5,057.76	4,970.04	0.00	200.07	-6.90	-1,378.87	-6,615.15	7,011.52	6,835.23	176.29	39.773		
5,300.00	5,053.37	5,141.09	5,053.37	0.00	203.40	-7.80	-1,378.87	-6,615.15	6,956.79	6,796.56	160.23	43.418		
5,400.00	5,125.88	5,213.60	5,125.88	0.00	206.30	-9.28	-1,378.87	-6,615.15	6,888.50	6,749.41	139.09	49.525		
5,500.00	5,185.36	5,273.08	5,185.36	0.00	208.68	-11.83	-1,378.87	-6,615.15	6,808.75	6,693.62	115.13	59.139		
5,600.00	5,235.09	5,322.81	5,235.09	0.00	210.67	-13.50	-1,378.87	-6,615.15	6,722.52	6,615.76	106.76	62.966		
5,700.00	5,273.40	5,361.12	5,273.40	0.00	212.20	-20.48	-1,378.87	-6,615.15	6,630.86	6,535.43	95.43	69.485		
5,800.00	5,295.11	5,382.83	5,295.11	0.00	213.07	-41.02	-1,378.87	-6,615.15	6,533.99	6,392.57	141.42	46.202		
5,900.00	5,299.75	5,387.47	5,299.75	0.00	213.26	-98.10	-1,378.87	-6,615.15	6,434.87	6,223.74	211.13	30.478		
6,000.00	5,298.10	5,385.82	5,298.10	0.00	213.19	-97.97	-1,378.87	-6,615.15	6,335.56	6,124.43	211.13	30.007		
6,100.00	5,296.45	5,384.17	5,296.45	0.00	213.13	-97.85	-1,378.87	-6,615.15	6,236.28	6,025.15	211.13	29.537		
6,200.00	5,294.79	5,382.51	5,294.79	0.00	213.06	-97.72	-1,378.87	-6,615.15	6,137.01	5,925.88	211.13	29.068		
6,300.00	5,293.14	5,380.86	5,293.14	0.00	212.99	-97.60	-1,378.87	-6,615.15	6,037.77	5,826.65	211.13	28.598		
6,400.00	5,291.49	5,379.21	5,291.49	0.00	212.93	-97.47	-1,378.87	-6,615.15	5,938.56	5,727.44	211.12	28.129		
6,500.00	5,289.84	5,377.56	5,289.84	0.00	212.86	-97.35	-1,378.87	-6,615.15	5,839.37	5,628.25	211.12	27.660		
6,600.00	5,288.18	5,375.90	5,288.18	0.00	212.80	-97.22	-1,378.87	-6,615.15	5,740.21	5,529.10	211.11	27.191		
6,700.00	5,286.53	5,374.25	5,286.53	0.00	212.73	-97.10	-1,378.87	-6,615.15	5,641.08	5,429.98	211.10	26.722		
6,800.00	5,284.88	5,372.60	5,284.88	0.00	212.66	-96.97	-1,378.87	-6,615.15	5,541.98	5,330.88	211.09	26.254		
6,900.00	5,283.23	5,370.95	5,283.23	0.00	212.60	-96.84	-1,378.87	-6,615.15	5,442.91	5,231.82	211.08	25.786		
7,000.00	5,281.57	5,369.29	5,281.57	0.00	212.53	-96.72	-1,378.87	-6,615.15	5,343.87	5,132.80	211.07	25.318		
7,100.00	5,279.92	5,367.64	5,279.92	0.00	212.47	-96.59	-1,378.87	-6,615.15	5,244.87	5,033.81	211.06	24.850		
7,200.00	5,278.27	5,365.99	5,278.27	0.00	212.40	-96.47	-1,378.87	-6,615.15	5,145.91	4,934.86	211.05	24.383		
7,300.00	5,276.62	5,364.34	5,276.62	0.00	212.33	-96.34	-1,378.87	-6,615.15	5,046.99	4,835.96	211.03	23.915		
7,400.00	5,274.96	5,362.68	5,274.96	0.00	212.27	-96.22	-1,378.87	-6,615.15	4,948.12	4,737.10	211.02	23.449		
7,500.00	5,273.31	5,361.03	5,273.31	0.00	212.20	-96.09	-1,378.87	-6,615.15	4,849.29	4,638.28	211.00	22.982		
7,600.00	5,271.66	5,359.38	5,271.66	0.00	212.14	-95.96	-1,378.87	-6,615.15	4,750.50	4,539.51	210.99	22.516		
7,700.00	5,270.01	5,357.73	5,270.01	0.00	212.07	-95.84	-1,378.87	-6,615.15	4,651.77	4,440.80	210.97	22.049		
7,800.00	5,268.35	5,356.07	5,268.35	0.00	212.00	-95.71	-1,378.87	-6,615.15	4,553.09	4,342.14	210.95	21.584		
7,900.00	5,266.70	5,354.42	5,266.70	0.00	211.94	-95.58	-1,378.87	-6,615.15	4,454.48	4,243.54	210.93	21.118		
8,000.00	5,265.05	5,352.77	5,265.05	0.00	211.87	-95.46	-1,378.87	-6,615.15	4,355.92	4,145.01	210.91	20.653		
8,100.00	5,263.40	5,351.12	5,263.40	0.00	211.80	-95.33	-1,378.87	-6,615.15	4,257.43	4,046.54	210.89	20.188		
8,200.00	5,261.74	5,349.46	5,261.74	0.00	211.74	-95.21	-1,378.87	-6,615.15	4,159.01	3,948.15	210.87	19.723		
8,300.00	5,260.09	5,347.81	5,260.09	0.00	211.67	-95.08	-1,378.87	-6,615.15	4,060.67	3,849.83	210.84	19.259		
8,400.00	5,258.44	5,346.16	5,258.44	0.00	211.61	-94.95	-1,378.87	-6,615.15	3,962.41	3,751.59	210.82	18.796		
8,500.00	5,256.79	5,344.51	5,256.79	0.00	211.54	-94.83	-1,378.87	-6,615.15	3,864.24	3,653.45	210.79	18.332		
8,600.00	5,255.13	5,342.85	5,255.13	0.00	211.47	-94.70	-1,378.87	-6,615.15	3,766.17	3,555.40	210.76	17.869		
8,700.00	5,253.48	5,341.20	5,253.48	0.00	211.41	-94.57	-1,378.87	-6,615.15	3,668.19	3,457.46	210.74	17.407		
8,800.00	5,251.83	5,339.55	5,251.83	0.00	211.34	-94.45	-1,378.87	-6,615.15	3,570.33	3,359.63	210.71	16.945		
8,900.00	5,250.18	5,337.90	5,250.18	0.00	211.28	-94.32	-1,378.87	-6,615.15	3,472.59	3,261.92	210.68	16.483		
9,000.00	5,248.52	5,336.24	5,248.52	0.00	211.21	-94.19	-1,378.87	-6,615.15	3,374.99	3,164.34	210.65	16.022		
9,100.00	5,246.87	5,334.59	5,246.87	0.00	211.14	-94.06	-1,378.87	-6,615.15	3,277.52	3,066.91	210.61	15.562		
9,200.00	5,245.22	5,332.94	5,245.22	0.00	211.08	-93.94	-1,378.87	-6,615.15	3,180.22	2,969.64	210.58	15.102		
9,300.00	5,243.57	5,331.29	5,243.57	0.00	211.01	-93.81	-1,378.87	-6,615.15	3,083.08	2,872.54	210.55	14.643		
9,400.00	5,241.91	5,329.63	5,241.91	0.00	210.95	-93.68	-1,378.87	-6,615.15	2,986.13	2,775.62	210.51	14.185		
9,500.00	5,240.26	5,327.98	5,240.26	0.00	210.88	-93.56	-1,378.87	-6,615.15	2,889.39	2,678.92	210.47	13.728		
9,600.00	5,238.61	5,326.33	5,238.61	0.00	210.81	-93.43	-1,378.87	-6,615.15	2,792.88	2,582.45	210.44	13.272		
9,700.00	5,236.96	5,324.68	5,236.96	0.00	210.75	-93.30	-1,378.87	-6,615.15	2,696.62	2,486.23	210.40	12.817		
9,800.00	5,235.30	5,323.02	5,235.30	0.00	210.68	-93.18	-1,378.87	-6,615.15	2,600.65	2,390.29	210.36	12.363		
9,900.00	5,233.65	5,321.37	5,233.65	0.00	210.61	-93.05	-1,378.87	-6,615.15	2,504.98	2,294.67	210.32	11.911		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 258 - OH - OH													Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN													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		
10,000.00	5,232.00	5,319.72	5,232.00	0.00	210.55	-92.92	-1,378.87	-6,615.15	2,409.67	2,199.39	210.28	11.460		
10,100.00	5,230.34	5,318.06	5,230.34	0.00	210.48	-92.79	-1,378.87	-6,615.15	2,314.75	2,104.52	210.23	11.010		
10,200.00	5,228.69	5,316.41	5,228.69	0.00	210.42	-92.67	-1,378.87	-6,615.15	2,220.28	2,010.09	210.19	10.563		
10,300.00	5,227.04	5,314.76	5,227.04	0.00	210.35	-92.54	-1,378.87	-6,615.15	2,126.31	1,916.17	210.14	10.118		
10,400.00	5,225.39	5,313.11	5,225.39	0.00	210.28	-92.41	-1,378.87	-6,615.15	2,032.91	1,822.82	210.10	9.676		
10,500.00	5,223.73	5,311.45	5,223.73	0.00	210.22	-92.29	-1,378.87	-6,615.15	1,940.18	1,730.13	210.05	9.237		
10,600.00	5,222.08	5,309.80	5,222.08	0.00	210.15	-92.16	-1,378.87	-6,615.15	1,848.20	1,638.19	210.00	8.801		
10,700.00	5,220.43	5,308.15	5,220.43	0.00	210.09	-92.03	-1,378.87	-6,615.15	1,757.09	1,547.13	209.95	8.369		
10,800.00	5,218.78	5,306.50	5,218.78	0.00	210.02	-91.90	-1,378.87	-6,615.15	1,667.00	1,457.10	209.90	7.942		
10,900.00	5,217.12	5,304.84	5,217.12	0.00	209.95	-91.78	-1,378.87	-6,615.15	1,578.10	1,368.25	209.85	7.520		
11,000.00	5,215.47	5,303.19	5,215.47	0.00	209.89	-91.65	-1,378.87	-6,615.15	1,490.61	1,280.81	209.80	7.105		
11,100.00	5,213.82	5,301.54	5,213.82	0.00	209.82	-91.52	-1,378.87	-6,615.15	1,404.79	1,195.04	209.75	6.698		
11,200.00	5,212.17	5,299.89	5,212.17	0.00	209.76	-91.39	-1,378.87	-6,615.15	1,320.96	1,111.27	209.69	6.299		
11,300.00	5,210.51	5,298.23	5,210.51	0.00	209.69	-91.27	-1,378.87	-6,615.15	1,239.54	1,029.90	209.64	5.913		
11,400.00	5,208.86	5,296.58	5,208.86	0.00	209.62	-91.14	-1,378.87	-6,615.15	1,161.01	951.43	209.58	5.540		
11,500.00	5,207.21	5,294.93	5,207.21	0.00	209.56	-91.01	-1,378.87	-6,615.15	1,086.02	876.49	209.52	5.183		
11,600.00	5,205.56	5,293.28	5,205.56	0.00	209.49	-90.88	-1,378.87	-6,615.15	1,015.34	805.88	209.47	4.847		
11,700.00	5,203.90	5,291.62	5,203.90	0.00	209.42	-90.76	-1,378.87	-6,615.15	949.95	740.54	209.41	4.536		
11,800.00	5,202.25	5,289.97	5,202.25	0.00	209.36	-90.63	-1,378.87	-6,615.15	891.00	681.65	209.35	4.256		
11,900.00	5,200.60	5,288.32	5,200.60	0.00	209.29	-90.50	-1,378.87	-6,615.15	839.85	630.56	209.28	4.013		
12,000.00	5,198.95	5,286.67	5,198.95	0.00	209.23	-90.37	-1,378.87	-6,615.15	798.00	588.78	209.22	3.814		
12,100.00	5,197.29	5,285.01	5,197.29	0.00	209.16	-90.25	-1,378.87	-6,615.15	766.98	557.82	209.16	3.667		
12,200.00	5,195.64	5,283.36	5,195.64	0.00	209.09	-90.12	-1,378.87	-6,615.15	748.14	539.05	209.09	3.578		
12,292.78	5,194.11	5,281.83	5,194.11	0.00	209.03	-90.00	-1,378.87	-6,615.15	742.37	533.33	209.03	3.551	CC, ES, SF	
12,300.00	5,193.99	5,281.71	5,193.99	0.00	209.03	-89.99	-1,378.87	-6,615.15	742.40	533.37	209.03	3.552		
12,400.00	5,192.34	5,280.06	5,192.34	0.00	208.96	-89.86	-1,378.87	-6,615.15	750.07	541.11	208.96	3.589		
12,500.00	5,190.68	5,278.40	5,190.68	0.00	208.90	-89.74	-1,378.87	-6,615.15	770.74	561.84	208.89	3.690		
12,600.00	5,189.03	5,276.75	5,189.03	0.00	208.83	-89.61	-1,378.87	-6,615.15	803.41	594.58	208.83	3.847		
12,700.00	5,187.38	5,275.10	5,187.38	0.00	208.76	-89.48	-1,378.87	-6,615.15	846.69	637.94	208.76	4.056		
12,800.00	5,185.73	5,273.45	5,185.73	0.00	208.70	-89.35	-1,378.87	-6,615.15	899.06	690.38	208.68	4.308		
12,900.00	5,184.07	5,271.79	5,184.07	0.00	208.63	-89.23	-1,378.87	-6,615.15	959.02	750.41	208.61	4.597		
13,000.00	5,182.42	5,270.14	5,182.42	0.00	208.57	-89.10	-1,378.87	-6,615.15	1,025.25	816.71	208.54	4.916		
13,100.00	5,180.77	5,268.49	5,180.77	0.00	208.50	-88.97	-1,378.87	-6,615.15	1,096.60	888.14	208.47	5.260		
13,200.00	5,179.12	5,266.84	5,179.12	0.00	208.43	-88.84	-1,378.87	-6,615.15	1,172.15	963.76	208.39	5.625		
13,300.00	5,177.46	5,265.18	5,177.46	0.00	208.37	-88.72	-1,378.87	-6,615.15	1,251.13	1,042.81	208.32	6.006		
13,400.00	5,175.81	5,263.53	5,175.81	0.00	208.30	-88.59	-1,378.87	-6,615.15	1,332.93	1,124.70	208.24	6.401		
13,500.00	5,174.16	5,261.88	5,174.16	0.00	208.24	-88.46	-1,378.87	-6,615.15	1,417.07	1,208.91	208.16	6.808		
13,600.00	5,172.51	5,260.23	5,172.51	0.00	208.17	-88.33	-1,378.87	-6,615.15	1,503.15	1,295.07	208.08	7.224		
13,700.00	5,170.85	5,258.57	5,170.85	0.00	208.10	-88.21	-1,378.87	-6,615.15	1,590.86	1,382.86	208.00	7.648		
13,800.00	5,169.20	5,256.92	5,169.20	0.00	208.04	-88.08	-1,378.87	-6,615.15	1,679.94	1,472.02	207.92	8.080		
13,900.00	5,167.55	5,255.27	5,167.55	0.00	207.97	-87.95	-1,378.87	-6,615.15	1,770.19	1,562.35	207.84	8.517		
14,000.00	5,165.90	5,253.62	5,165.90	0.00	207.90	-87.82	-1,378.87	-6,615.15	1,861.43	1,653.67	207.75	8.960		
14,100.00	5,164.24	5,251.96	5,164.24	0.00	207.84	-87.70	-1,378.87	-6,615.15	1,953.53	1,745.86	207.67	9.407		
14,200.00	5,162.59	5,250.31	5,162.59	0.00	207.77	-87.57	-1,378.87	-6,615.15	2,046.36	1,838.78	207.59	9.858		
14,300.00	5,160.94	5,248.66	5,160.94	0.00	207.71	-87.44	-1,378.87	-6,615.15	2,139.85	1,932.35	207.50	10.313		
14,400.00	5,159.29	5,247.01	5,159.29	0.00	207.64	-87.31	-1,378.87	-6,615.15	2,233.89	2,026.48	207.41	10.770		
14,500.00	5,157.63	5,245.35	5,157.63	0.00	207.57	-87.19	-1,378.87	-6,615.15	2,328.43	2,121.11	207.32	11.231		
14,600.00	5,155.98	5,243.70	5,155.98	0.00	207.51	-87.06	-1,378.87	-6,615.15	2,423.41	2,216.18	207.24	11.694		
14,700.00	5,154.33	5,242.05	5,154.33	0.00	207.44	-86.93	-1,378.87	-6,615.15	2,518.78	2,311.63	207.15	12.159		
14,800.00	5,152.67	5,240.39	5,152.67	0.00	207.38	-86.81	-1,378.87	-6,615.15	2,614.49	2,407.43	207.05	12.627		
14,900.00	5,151.02	5,238.74	5,151.02	0.00	207.31	-86.68	-1,378.87	-6,615.15	2,710.51	2,503.55	206.96	13.097		

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 GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design GCU 599 Pad - Pre-Ongard Well 258 - OH - OH												Offset Site Error:	0.00 ft
Survey Program: 100-UNKNOWN												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
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	Warning
14,961.86	5,150.00	5,237.72	5,150.00	0.00	207.27	-86.60	-1,378.87	-6,615.15	2,770.05	2,563.14	206.90	13.388	

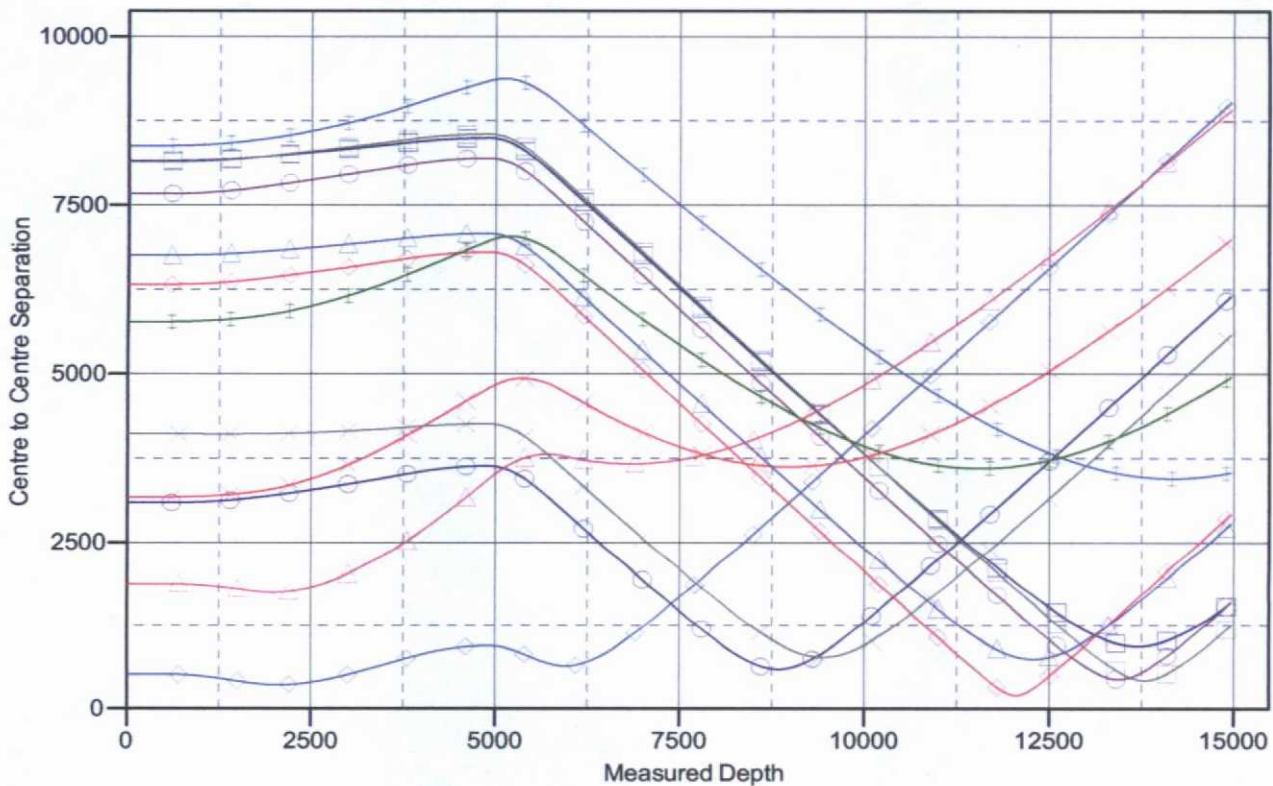


Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 5586.28' & RKB 11' @ 5597.28ft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.833334

Coordinates are relative to: GCU 599 Com 1
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: -0.12°

Ladder Plot



LEGEND

Amoco 501, OH, OH V0	GCU 243-FT, OH, OH V0	GCU 416-FT, OH, OH V0
GCU 168-DK, OH, OH V0	GCU 251, OH, OH V0	GCU 574, OH, OH V0
GCU 168E-GP, OH, OH V0	GCU 298-PC, OH, OH V0	Pre-Ongard Well 253, OH, OH V0
GCU 242, OH, OH V0	GCU 336, OH, OH V0	Pre-Ongard Well 258, OH, OH V0

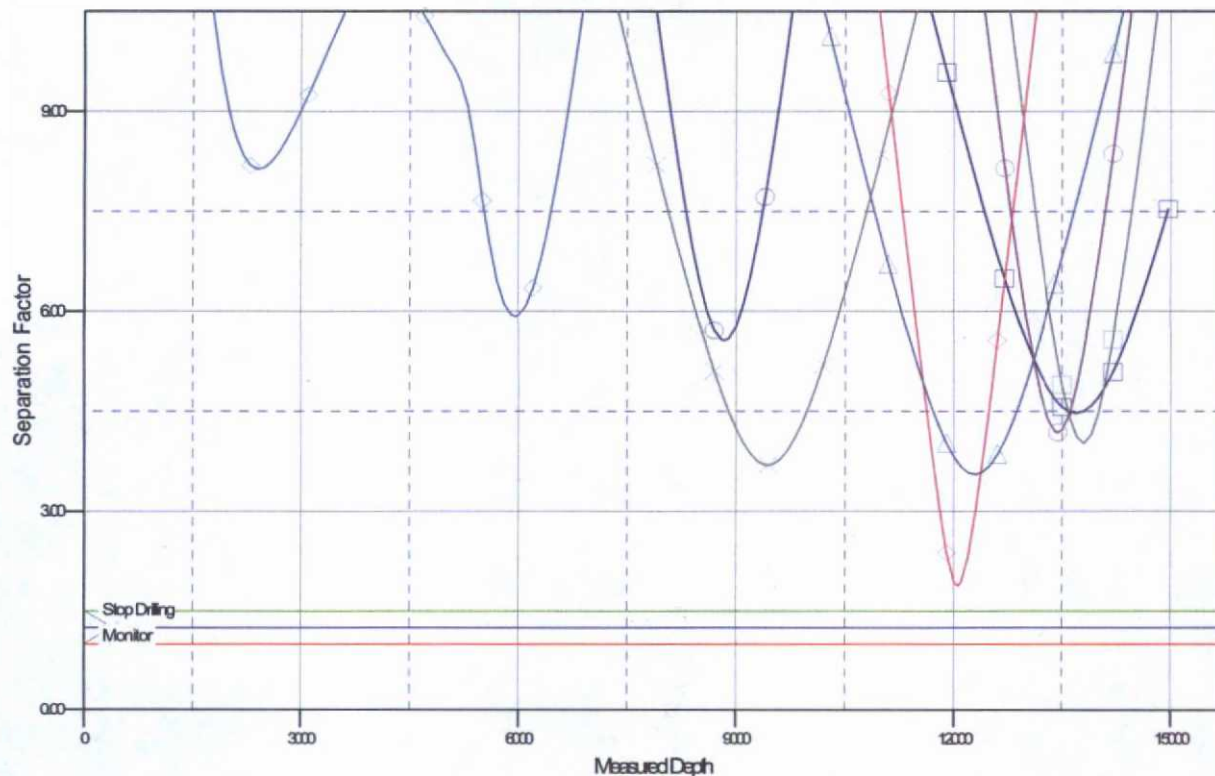


Company:	B.P.	Local Co-ordinate Reference:	Well GCU 599 Com 1
Project:	San Juan County, NM NAD83	TVD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Reference Site:	GCU 599 Pad	MD Reference:	GL 5586.28' & RKB 11' @ 5597.28ft (Aztec 507)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	GCU 599 Com 1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral 1	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GL 5586.28' & RKB 11' @ 5597.28ft (A)
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

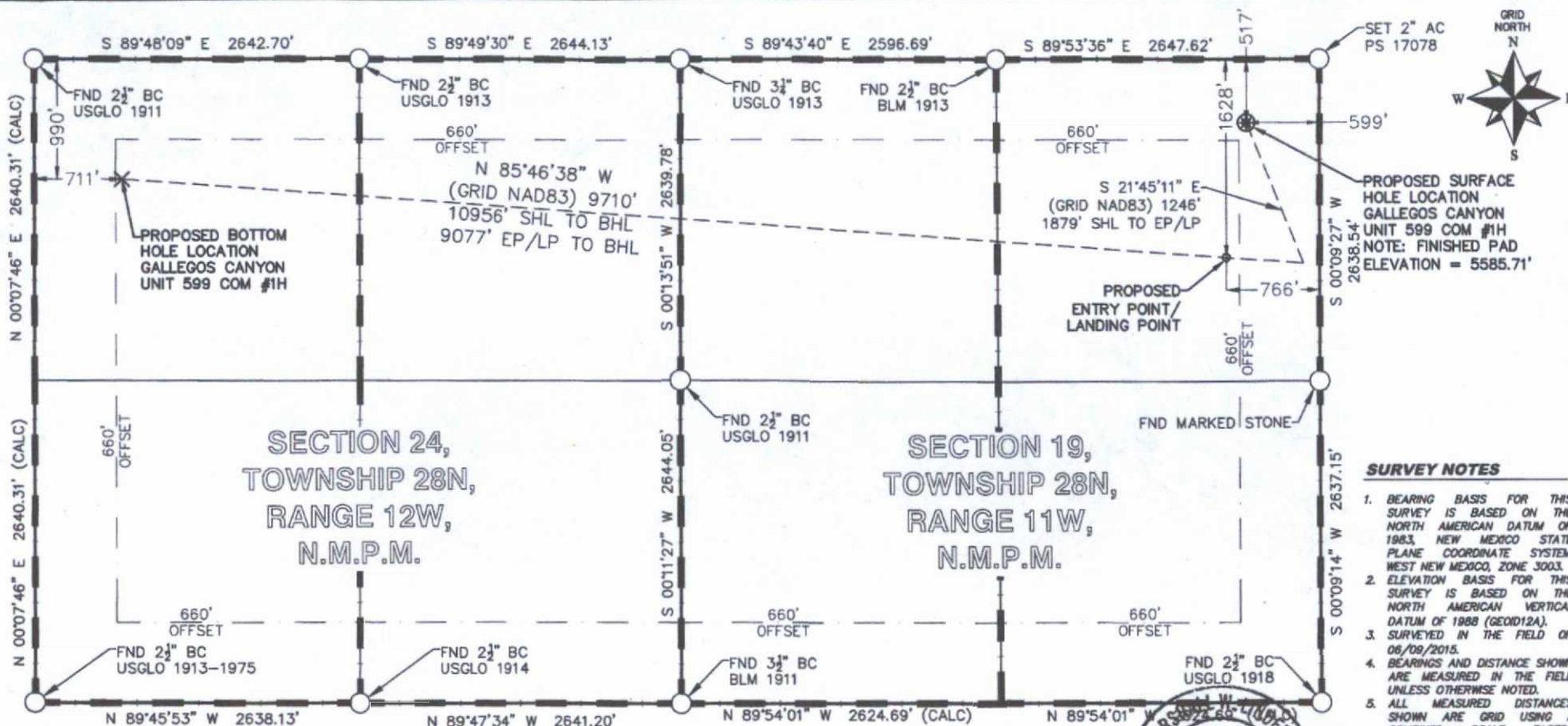
Coordinates are relative to: GCU 599 Com 1
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: -0.12"

Separation Factor Plot



LEGEND

Amoco 501, OH, OH V0	GCU 243-FT, OH, OH V0	GCU 416-FT, OH, OH V0
GCU 168-DK, OH, OH V0	GCU 251, OH, OH V0	GCU 574, OH, OH V0
GCU 168E-GP, OH, OH V0	GCU 298-PC, OH, OH V0	Pre-Ongard Well 253, OH, OH V0
GCU 242, OH, OH V0	GCU 336, OH, OH V0	Pre-Ongard Well 258, OH, OH V0



SURVEY NOTES

1. BEARING BASIS FOR THIS SURVEY IS BASED ON THE NORTH AMERICAN DATUM OF 1983, NEW MEXICO STATE PLANE COORDINATE SYSTEM, WEST NEW MEXICO, ZONE 3003.
2. ELEVATION BASIS FOR THIS SURVEY IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (GEOID12A).
3. SURVEYED IN THE FIELD ON 06/09/2015.
4. BEARINGS AND DISTANCE SHOWN ARE MEASURED IN THE FIELD UNLESS OTHERWISE NOTED.
5. ALL MEASURED DISTANCES SHOWN ARE GRID USING A COMBINED SCALE FACTOR 0.99964551.

GCU 599 COM #1H	NMWS NAD'83	NAD'83	TIES
PROPOSED SURFACE HOLE LOCATION (SHL)	N (Y) = 2,057,259.93' E (X) = 2,652,995.00'	LAT. = 36.65352492°N LON. = 108.03821214°W	FNL = 517' FEL = 599'
PROPOSED ENTRY POINT (EPY) LANDING POINT (LP)	N (Y) = 2,056,149.61' E (X) = 2,652,824.88'	LAT. = 36.65047400°N LON. = 108.03878400°W	FNL = 1628' FEL = 766'
PROPOSED BOTTOM HOLE LOCATION (BHL)	N (Y) = 2,056,817.93' E (X) = 2,653,773.06'	LAT. = 36.65225258°N LON. = 108.06964722°W	FNL = 990' FWL = 711'

0 500 1000 2000

GRAPHIC SCALE IN FEET

LEGEND

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

SURVEYOR'S CERTIFICATE

I, MARSHALL LINDEEN, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF NEW MEXICO, DO 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.

DRAWN BY: CFW/RLM CHECKED BY: MWL SCALE: 1"=1000' DATE: 08/03/2015 SHEET: 1 OF 1 REVISION:

BP AMERICA
PRODUCTION COMPANY
US LOWER 48 ONSHORE

WELL LOCATION PLAT

GALLEGOS CANYON UNIT 599 COM #1H
PART OF
SECTION 19, TOWNSHIP 28N, RANGE 11W &
SECTION 24, TOWNSHIP 28N, RANGE 12W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

Introduction

The following surface use plan of operations (SUPO) will be followed and carried out once the APD is approved by the BLM Farmington Field Office. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soil storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

A. Existing Roads

1. The proposed location is on undisturbed surface. Access to the location will utilize existing roads and a 105 foot proposed access road. Section B, below, discusses the proposed access road and improvements to existing roads. Exhibit 1 shows existing roads and the proposed access road relative to the Bloomfield, NM. The Road Maintenance Plan is located in Appendix A.
2. Location access: from the intersection of County Road 5500 and Country Road 5190 (3.8 miles SW of Bloomfield, NM), head south on an unnamed road (Lat: 36.67549, Long: -108.03768; NAD 83). Continue south on the dirt road for 1.6 miles. At 1.6 miles turn southwest. In 200 feet is an arroyo. Cross the arroyo. The proposed access road is 300 feet past the arroyo on the west side of the road.
3. The operator will improve or maintain the existing road back to the SW turn at 1.6 miles (see Exhibit 1 & 2) in accordance with the BLM Gold Book Standards and BLM 9113-1 (Roads Design Handbook) and BLM 9113-2 (Roads Inventory and Condition Assessment Guidance and Instructions Handbook).
4. The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. Dust control will be implemented when dust plumes become larger than normal road use conditions or when directed by the BLM Authorized Officer.

B. New or Reconstructed Roads

A new access road is proposed to access the location and is discussed below. Exhibit 2 shows the location of proposed access road relative to the well pad.

1. The proposed access road is 105 feet in length.
2. Maximum width will be a 30-foot overall right-of-way with a 14 foot road running surface. During drilling and subsequent operations, all equipment and vehicles will be confined to the 14-foot driving surface. The backslope of the driving surface will be revegetated. The proposed access road right-of-way will create an additional 0.07 acres (105' x 30') of new surface disturbance.
3. The maximum grade for the road improvements will not exceed 3 percent.
4. A low water crossing will be located near the mid-point of the proposed access road. No culverts are necessary for road improvements.
5. Construction materials and methods – see Item F.1. in this document.
6. The proposed access road will be designed, constructed, and maintained as a resource road in accordance with the BLM Gold Book Standards, BLM Handbook 9113-1 (Roads Design), and



Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 24, 2004

By: John Thompson (Wolsh E&P)

