

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM121473
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator CHEVRON USA INCORPORATED		7. If Unit or CA Agreement, Name and No.
3a. Address 6301 Deauville Blvd. Midland TX 79706		8. Lease Name and Well No. HH SO 10 15 FED 002 6H 318939
3b. Phone No. (include area code) (432)687-7866		9. API Well No. 32015-44367
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWSW / 314 FSL / 833 FWL / LAT 32.06487 / LONG -104.184264 At proposed prod. zone SESW / 280 FSL / 1590 FWL / LAT 32.035652 / LONG -104.18137		10. Field and Pool, or Exploratory PURPLE SAGE / WOLFCAMP, (GAS)
14. Distance in miles and direction from nearest town or post office* Elev 3270		11. Sec., T. R. M. or Blk. and Survey or Area SEC 3 / T26S / R27E / NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 314 feet	16. No. of acres in lease 1920	12. County or Parish EDDY
17. Spacing Unit dedicated to this well 640	13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, 4300 feet applied for, on this lease, ft.	19. Proposed Depth 9000 feet / 19000 feet	20. BLM/BIA Bond No. on file FED: CA0329
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3270 feet	22. Approximate date work will start* 07/01/2017	23. Estimated duration 120 days

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) Dorian K Fuentes / Ph: (432)687-7631	Date 03/20/2017
Title Permitting Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Bobby Ballard / Ph: (575)234-2235	Date 07/26/2017
Title Natural Resource Specialist		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
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.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 03 2017

RECEIVED

Rel 8-3-17

APD ID: 10400010594

Submission Date: 03/20/2017

Highlight
All Changes

Operator Name: CHEVRON USA INCORPORATED

Federal/Indian APD: FED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400010594

Tie to previous NOS? 10400009619

Submission Date: 03/20/2017

BLM Office: CARLSBAD

User: Dorian K Fuentes

Title: Permitting Specialist

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM121473

Lease Acres: 1920

Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO

Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? NO

Permitting Agent? NO

APD Operator: CHEVRON USA INCORPORATED

Operator letter of designation:
Keep application confidential? NO

Operator Info

Operator Organization Name: CHEVRON USA INCORPORATED

Operator Address: 6301 Deauville Blvd.

Zip: 79706

Operator PO Box:
Operator City: Midland

State: TX

Operator Phone: (432)687-7866

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? EXISTING

Mater Development Plan name: HAYHURST DEVELOPMENT AREA

Well in Master SUPO? NO

Master SUPO name:
Well in Master Drilling Plan? NO

Master Drilling Plan name:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: PURPLE SAGE

Pool Name: WOLFCAMP,
(GAS)

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: HH SONumber: 1H 2H 3H 4H 5H 6H
10 15 FED 002

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town:

Distance to nearest well: 4300 FT

Distance to lease line: 314 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: HH_SO_10_15_FED_002_6H_C_102_05-31-2017.pdf

Well work start Date: 07/01/2017

Duration: 120 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	314	FSL	833	FWL	26S	27E	3	Aliquot SWS W	32.06487	- 104.1842 64	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 121473	327 0	0	0
KOP Leg #1	314	FSL	833	FWL	26S	27E	3	Aliquot SWS W	32.06487	- 104.1842 64	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 121473	327 0	0	0
PPP Leg #1	330	FNL	159 0	FWL	26S	27E	10	Aliquot NENW	32.06306 8	- 104.1818 1	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 121473	- 573 0	180 00	900 0

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	330	FSL	159 0	FWL	26S	27E	15	Aliquot SESW	32.03579	- 104.1813 71	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 121473	- 573 0	180 00	900 0
BHL Leg #1	280	FSL	159 0	FWL	26S	27E	15	Aliquot SESW	32.03565 2	- 104.1813 7	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 121473	- 573 0	190 00	900 0

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
17358	CASTILE	3626	505	505	LIMESTONE, ANHYDRITE, GYPSUM	NONE	No
17345	BELL CANYON	1316	2310	2310	SANDSTONE	NONE	No
17360	LAMAR LS	1231	2395	2395	LIMESTONE	NONE	No
17339	CHERRY CANYON	418	3208	3208	SANDSTONE	NONE	No
18596	BRUSHY CANYON	-824	4450	4450	SANDSTONE	NONE	No
17316	BONE SPRING	-2673	6299	6299	LIMESTONE	NONE	No
17359	BONE SPRING 1ST	-3262	6888	6888	SANDSTONE	NONE	No
17359	BONE SPRING 1ST	-3288	6914	6914	SHALE, SANDSTONE	NONE	No
17371	2ND BONE SPRING CARB	-3995	7621	7621	SANDSTONE	NONE	No
18598	3RD BONE SPRING CARB	-4991	8617	8617	LIMESTONE	NONE	No
17333	WOLFCAMP	-6532	10158	20495	MUDSTONE	NATURAL GAS, OIL	Yes

Section 2 - Blowout Prevention

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Pressure Rating (PSI): 5M

Rating Depth: 10158

Equipment: Will have a minimum of 5000 PSI rig stack for drill out below surface casing. Stack will be treated as specified in the attached requirements.

Requesting Variance? YES

Variance request: Chevron requests a variance to use a CoFlex hose with a metal protective covering that will be utilized between the BOP and Choke manifold and Chevron would also like to request another variance to use a FMC technologies conventional well head which will be run through the rig floor on surface casing. BOPE will be nipples up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days.

Testing Procedure: Test BOP from 250 PSI to 5000 psi in Ram and 250 PSI to 3500 PSI in Annular

Choke Diagram Attachment:

HH_SO_10_15_FED_002_6H_BOP_Choke_03-20-2017.pdf

BOP Diagram Attachment:

HH_SO_10_15_FED_002_6H_BOP_Diagram_03-20-2017.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	450	0	450	-5730	-6180	450	K-55	54.5	STC	5.11	1.82	DRY	2.31	DRY	3.0
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	9015	0	9015	-5730	-14745	9015	L-80	43.5	OTHER	1.32	1.45	DRY	1.84	DRY	1.0
3	PRODUCTION	8.5	5.5	NEW	API	N	0	20495	0	20495	-5730	-26255	20495	P-110	20	OTHER	1.5	1.26	DRY	1.84	DRY	2.0

Casing Attachments

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

HH_SO_10_15_FED_002_6H_9_PT_03-20-2017.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Taperd String Spec:

HH_SO_10_15_FED_002_6H_9_PT_03-20-2017.pdf

Casing Design Assumptions and Worksheet(s):

HH_SO_10_15_FED_002_6H_9.625_TXP_03-20-2017.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Taperd String Spec:

Casing Design Assumptions and Worksheet(s):

HH_SO_10_15_FED_002_6H_P110_TXP_03-20-2017.pdf

Section 4 - Cement

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	450	356	1.33	14.8	6.37	50	C	CLASS C
INTERMEDIATE	Lead	2100	0	1100	213	2.43	11.9	14.21		50:50 POZ: C	CLASS C + ANTIFOAM, EXTENDER, SALT, RETARDER
INTERMEDIATE	Tail		1100	2100	235	1.33	14.8	6.37	0	CLASS C	CLASS C + ANTIFOAM, RETARDER, VISCOSIFIER
INTERMEDIATE	Lead	2100	2100	8015	1524	2.43	11.9	13.76	100	H	50:50 POZ: CLASS H + EXTENDER, ANTIFOAM, RETARDER, SALT, VISCOSIFIER
INTERMEDIATE	Tail		8015	9015	389	1.21	15.6	5.54	50	H	CLASS H + RETARDER, EXTENDER, DISPERSANT
PRODUCTION	Lead		7015	8015	430	1.21	14.5	5.54		H	50:50 POZ: CLASS H + EXTENDER, ANTIFOAM, DISPERSANT, RETARDER
PRODUCTION	Tail		8015	2049 5	3273	1.2	15.6	5.3	50	H	CL H + VISCOSIFIER, ANTIFOAM, DISPERSANT, FLUID LOSS, RETARDER, EXPANDING AGENT

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill. All fluids and cuttings will be disposed of in accordance with NMOCD regulations.

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Describe the mud monitoring system utilized: A mud test shall be performed every 24 hours after mudding up to determine, as applicable density, viscosity, gel strength, filtration, and pH. Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated a PVT, stroke counter, flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume in compliance with Onshore Order #2.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	450	SPUD MUD	9	9.5							
450	9015	OIL-BASED MUD	9	9.5							
9015	20495	OIL-BASED MUD	10	13.5							The mud weights will range depending on the targeted formation. The Wolfcamp A pore pressure will not exceed 9.5 ppg, but due to wellbore stability, the mud program will exceed the pore pressure. To control pressure we are using 13.5 and may end up using heavier mud weight to 14.0.

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Drill stem tests are not planned

The logging program will be as follows:

Type: Mudlogs Logs: 2 man mudlog Interval: Csg to TD Timing: Drillout of Int. Csg Vendor: TBD

Type: LWD Logs: MWD gamma Interval: Int. and Prod. Hole Timing: while drilling Vendor: TBD

List of open and cased hole logs run in the well:

GR,MWD,MUDLOG

Coring operation description for the well:

Conventional whole core samples are not planned; direction survey will be run - will send log(s) when run.

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7131

Anticipated Surface Pressure: 5151

Anticipated Bottom Hole Temperature(F): 150

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

HH_SO_10_15_FED_002_6H_H2S_03-20-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

HH_SO_10_15_FED_002_6H_AC_Report_03-20-2017.pdf

HH_SO_10_15_FED_002_6H_Stand_Report_03-20-2017.pdf

HH_SO_10_15_FED_002_6H_Well_Pad_Layout_03-20-2017.pdf

HH_SO_10_15_FED_002_6H_Well_Plat_03-20-2017.pdf

Other proposed operations facets description:

On the Stand Report attached - the FTP is specified from the directional plan to match the C-102.

Other proposed operations facets attachment:

Other Variance attachment:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

HH_SO_10_15_FED_002_6H_Roads_05-31-2017.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will also repair any pot holes, clear ditches, repair crown; etc. All existing structures on the entire access route such as cattle guards, other range improvements project, culverts, etc. will be properly repaired or replace if they are damaged or have deteriorated beyond practical use. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways. Existing lease roads operated by Chevron will be maintained as needed or upon request (based on historical weather data, CVX expects that maintenance will likely occur four to five times annually). Existing lease roads used by multiple operators will be maintained through road maintenance parameters with all parties. A complete SUPO is attached for this APD.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

HH_SO_10_15_FED_002_6H_New_Roads_03-20-2017.pdf

New road type: LOCAL

Length: 11363.45 Feet **Width (ft.):** 24

Max slope (%): 2 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 24

New road access erosion control: Erosion / Drainage: Drainage control system shall be constructed on the entire length of road by the use of any of the following: ditching and will be graveled as needed for drilling, side hill out-sloping and in-sloping, lead-off ditches, culvert installation, or low water crossings, culverts, and water bars where needed: straw waddles will be used on the down-slope side of new roads where undisturbed grades away from the roadway are 5% or greater.

New road access plan or profile prepared? NO

New road access plan attachment:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: NONE

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 0

Offsite topsoil source description:

Onsite topsoil removal process: NONE NEEDED

Access other construction information: Enclosure fencing will be installed around open cellar to prevent livestock or large wildlife from being trapped after installation. Fencing will remain in place while no activity is present and until back-filling takes place.

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing: CROSSING,CULVERT,OTHER

Drainage Control comments: SEDIMENT TRAPS (HAY BALES SUGGESTED BY BLM) we don't use every time but keep handy.

Road Drainage Control Structures (DCS) description: Ditching will be constructed on both sides of road.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

HH_SO_10_15_FED_002_6H_New_Roads_03-20-2017.pdf

New road type:

Length:

Width (ft.):

Max slope (%):

Max grade (%):

Army Corp of Engineers (ACOE) permit required?

ACOE Permit Number(s):

New road travel width:

New road access erosion control:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

New road access plan or profile prepared?

New road access plan attachment:

Access road engineering design?

Access road engineering design attachment:

Access surfacing type:

Access topsoil source:

Access surfacing type description:

Access onsite topsoil source depth:

Offsite topsoil source description:

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing:

Drainage Control comments:

Road Drainage Control Structures (DCS) description:

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

HH_SO_10_15_FED_002_6H_New_Roads_03-20-2017.pdf

New road type:

Length:

Width (ft.):

Max slope (%):

Max grade (%):

Army Corp of Engineers (ACOE) permit required?

ACOE Permit Number(s):

New road travel width:

New road access erosion control:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

New road access plan or profile prepared?

New road access plan attachment:

Access road engineering design?

Access road engineering design attachment:

Access surfacing type:

Access topsoil source:

Access surfacing type description:

Access onsite topsoil source depth:

Offsite topsoil source description:

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing:

Drainage Control comments:

Road Drainage Control Structures (DCS) description:

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

HH_SO_10_15_FED_002_6H_Radius_Map_03-20-2017.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Estimated Production Facilities description:

Production Facilities description: The existing Chevron-Operated facilities located in the NE corner of Section 10, T26S-R27E where oil and gas sales will take place. o The existing facility is 500 x 700' o Attached Fac Plat was approved for this facility in the MDP SUP Pg. 2

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Production Facilities map:

HH_SO_10_15_FED_002_6H_Fac_Plat_06-01-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING,
SURFACE CASING

Water source type: GW WELL

Describe type:

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: PIPELINE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 716000

Source volume (acre-feet): 92.28746

Source volume (gal): 30072000

Water source and transportation map:

HH_SO_10_15_FED_002_6H_DETAIL_05-31-2017.pdf

Water source comments: private source with ponds located in SW4 Section 9 T26S R27E. A temporary 10" expanding pipe surface transfer line will run along established disturbance corridors, such as along access roads or on top of flowline or pipeline right of way. o water line will run parallel to road and will stay within 10' of access road.

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: CALICHE WILL BE SOURCED FROM A CHEVRON OPERATED NMSLO PIT IN S2 NW4 SECTION 16 T26S R27E OR AN ALTERNATE PRIVATE PIT IN SECTION 13 T24S R27E, EDDY COUNTY NM.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: o Garbage and Trash o Human waste and grey water o Other wastes material i.e. chemicals, salts, frac sand o Drill cutting

Amount of waste: 200 pounds

Waste disposal frequency : Daily

Safe containment description: o collected in a trash container collected for disposal o properly contained and disposed of state approved disposal facility o properly disposed of into steel tanks. All to be properly disposed at a State approved disposal facility.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** STATE

Disposal type description:

Disposal location description: STATE APPROVED FACILITY: o Carlsbad 6601 Hobbs HWY Carlsbad, NM 575-393-1079 o Eunice Sundance Services 5 miles East of Eunice on HWY 18 and Wallach Ln 575-390-0342 o Seminole Permian Disposal 587 US HWY 385 S 432-955-0322

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.)

Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

HH_SO_10_15_FED_002_6H_Rig_Pad_Layout_05-31-2017.pdf

HH_SO_10_15_FED_002_6H_Well_Plat_05-31-2017.pdf

Comments: As referenced on the attached APD SUPO o Exterior well pad dimensions are 545' X 385' o Interior well pad dimensions from point of entry (well head) of the westernmost well are N-210', S-335', E-125', W-260'. The length to the east includes 25' spacing for next well on multi-well pad (four wells). Total disturbance area needed for construction of well pad will be 4.81 acres. o Topsoil placement is on the up-slope edge of each pad (unless otherwise directed by BLM - final placement to be included in APD's SUPO) no higher than 3 feet where interim reclamation is planned to be completed upon completion of well and evaluation of best management practices. o Construction methods: Pads would be constructed by clearing vegetation, salvaging and storing topsoil and leveling the drilling area cut-and-fill techniques where appropriate.

Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

Recontouring attachment:

HH_SO_10_15_FED_002_6H_APD_SUP_05-31-2017.pdf

HH_SO_10_15_FED_002_6H_IR_Plat_06-01-2017.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area. Please reference the master development plan pages 8-9.

Drainage/Erosion control reclamation: The well pad, road, and surrounding area will be cleared of material, trash, and equipment. All surfacing material will be removed and returned to the original mineral pit or recycled to repair for build roads and well pads. Please reference the master development plan pg. 8-9.

Wellpad long term disturbance (acres): 1.5

Wellpad short term disturbance (acres): 4.8

Access road long term disturbance (acres): 0.52

Access road short term disturbance (acres): 0.52

Pipeline long term disturbance (acres): 4.275482

Pipeline short term disturbance (acres): 4.275482

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 6.295482

Total short term disturbance: 9.595482

Reconstruction method: see complete surface use plan attached to this APD Reclaimed pad size: 200 x 325' approximately 1.5 acres

Topsoil redistribution: Topsoil that was spread over the interim reclamation areas will be stockpiled prior to re-contouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation. Please reference the master development plan pages 9.

Soil treatment: After all the disturbed areas have been properly prepared; the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Please reference the master development plan pages 9.

Existing Vegetation at the well pad: mesquite, grass, shrubs

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: mesquite, grass, shrubs

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: mesquite, grass, shrubs

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: mesquite, grass, shrubs

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Seed Type Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Kevin

Last Name: Dickerson

Phone:

Email: lfuh@chevron.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Treat with BLM seed mixture (BLM #2) free of noxious weeds.

Weed treatment plan attachment:

Monitoring plan description: The interim reclamation will be monitored periodically to ensure that vegetation has re-established.

Monitoring plan attachment:

Success standards: As per BLM requirements.

Pit closure description: None

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Section 12 - Other Information

Right of Way needed? YES

Use APD as ROW? YES

ROW Type(s): 287001 ROW – Water Facility, 288100 ROW – O&G Pipeline, Other

ROW Applications

SUPO Additional Information: Should questions arise, please contact Kevin Dickerson @ 432-687-7104

Use a previously conducted onsite? YES

Previous Onsite information: On-site performed by BLM, Mr. Paul Murphy.

Other SUPO Attachment



Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 10 15 FED 002

Well Number: 6H

Other regulatory requirements attachment:

Bond Information

Federal/Indian APD: FED

BLM Bond number: CA0329

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Dorian K Fuentes

Signed on: 03/20/2017

Title: Permitting Specialist

Street Address: 6301 Deauville Blvd

City: Midland

State: TX

Zip: 79706

Phone: (432)687-7631

Email address: djvo@chevron.com

Field Representative

Representative Name:

Street Address:

Operator Name: CHEVRON USA INCORPORATED
Well Name: HH SO 10 15 FED 002

Well Number: 6H

City:

State:

Zip:

Phone:

Email address:

Payment

APD Fee Payment Method: PAY.GOV

pay.gov Tracking ID: 261C40GU

State of New Mexico
Energy, Minerals & Natural Resources Department

Revised August 1, 2011

OIL CONSERVATION DIVISION **NM OIL CONSERVATION**

ARTESIA DISTRICT

District Office

1220 South St. Francis Dr

Santa Fe, NM 87505

AUG 03 2017

☐ AMENDED REPORT

St. A. 18: 18
18 128: 18
District 11
100 Rur. Brazos Road sec. 1874
ne (21.1) 3- 178 763
District 11
1220 S. St. Francis Dr. Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-44367	Pool Code 98220	Pool Name PRUPE SAGE, WOLF CAMP (GAS)
Property Code 318939	Property Name HH SO 10 15 FED 002	Well Number 6H
OGRID No 4323	Operator Name CHIVRON U.S.A. INC	Elevation 3270'

Surface Location

U/I or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	3	26 SOUTH	27 EAST, N.M.P.M.		314'	SOUTH	833'	WEST	EDDY

Bottom Hole Location If Different From Surface

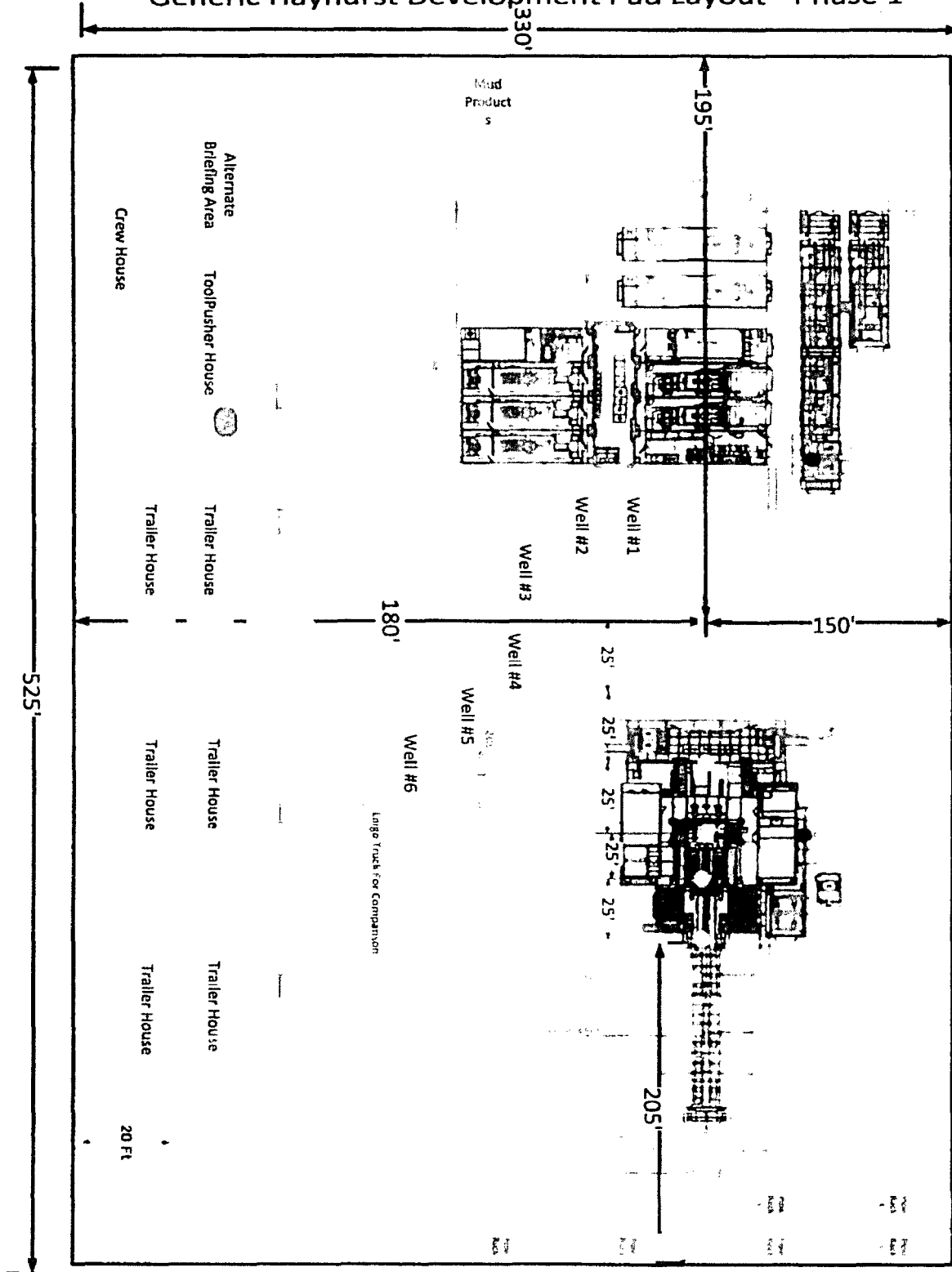
U/I or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	15	26 SOUTH	27 EAST, N.M.P.M.		280'	SOUTH	1590'	WEST	EDDY

Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No
-------------------------------	-----------------	--------------------	----------

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.

FIRST TAKE POINT X= 547.092 NAD 27 Y= 386.658 LAT 32.062946 LONG 104.18131 X= 588.276 NAD83 Y= 386.715 LAT 32.063068 LONG 104.181810 MID POINT X= 547.212 NAD 27 Y= 387.696 LAT 32.049306 LONG 104.180952 X= 588.396 NAD83 Y= 387.753 LAT 32.049428 LONG 104.181444 LAST TAKE POINT X= 547.242 NAD 27 Y= 376.735 LAT 32.035567 LONG 104.180879 X= 588.426 NAD83 Y= 376.792 LAT 32.035790 LONG 104.181371	HH SO 10 15 FED 002 6H WELL X= 546.331 NAD 27 Y= 387.312 LAT 32.064748 LONG 104.18311 X= 587.515 NAD83 Y= 387.369 LAT 32.064870 LONG 104.184264 ELEVATION +3270' NAVD 88 CORNER COORDINATES TABLE (NAD 27) A Y=392447.75 X=545573.63 B Y=387009.20 X=545492.91 C Y=386937.82 X=550774.76 D Y=381711.59 X=545622.05 E Y=381659.95 X=550943.63 F Y=376414.09 X=545653.53 G Y=376383.44 X=550941.76 PROPOSED BOTTOM HOLE LOCATION X= 547.242 NAD 27 Y= 376.685 LAT 32.035530 LONG 104.180879 X= 588.426 NAD83 Y= 376.742 LAT 32.035652 LONG 104.181370	OPERATOR CERTIFICATION I hereby certify that the information furnished is true and correct to the best of my knowledge and belief and that I am not aware of any other working interest or unleased mineral interest in the well including the proposed bottom hole location. I have a right to drill the well at this location pursuant to a contract or other legal authority. Signature: <i>[Signature]</i> Date: 5-23-17 Printed Name: Dorian K. Fuentes E-mail Address: djv@chevron.com 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: 1-6-2017 Signature and Seal of Professional Surveyor: <i>[Signature]</i> Certificate Number: 23006
--	--	--

Generic Hayhurst Development Pad Layout - Phase 1



Location Entrance

Legend

- H2S Monitor
- Flag

H2S Monitor Locations

- Bop/Ceilar
- Rig Floor
- Shaker Skid
- Bell Nipple

Flag Locations

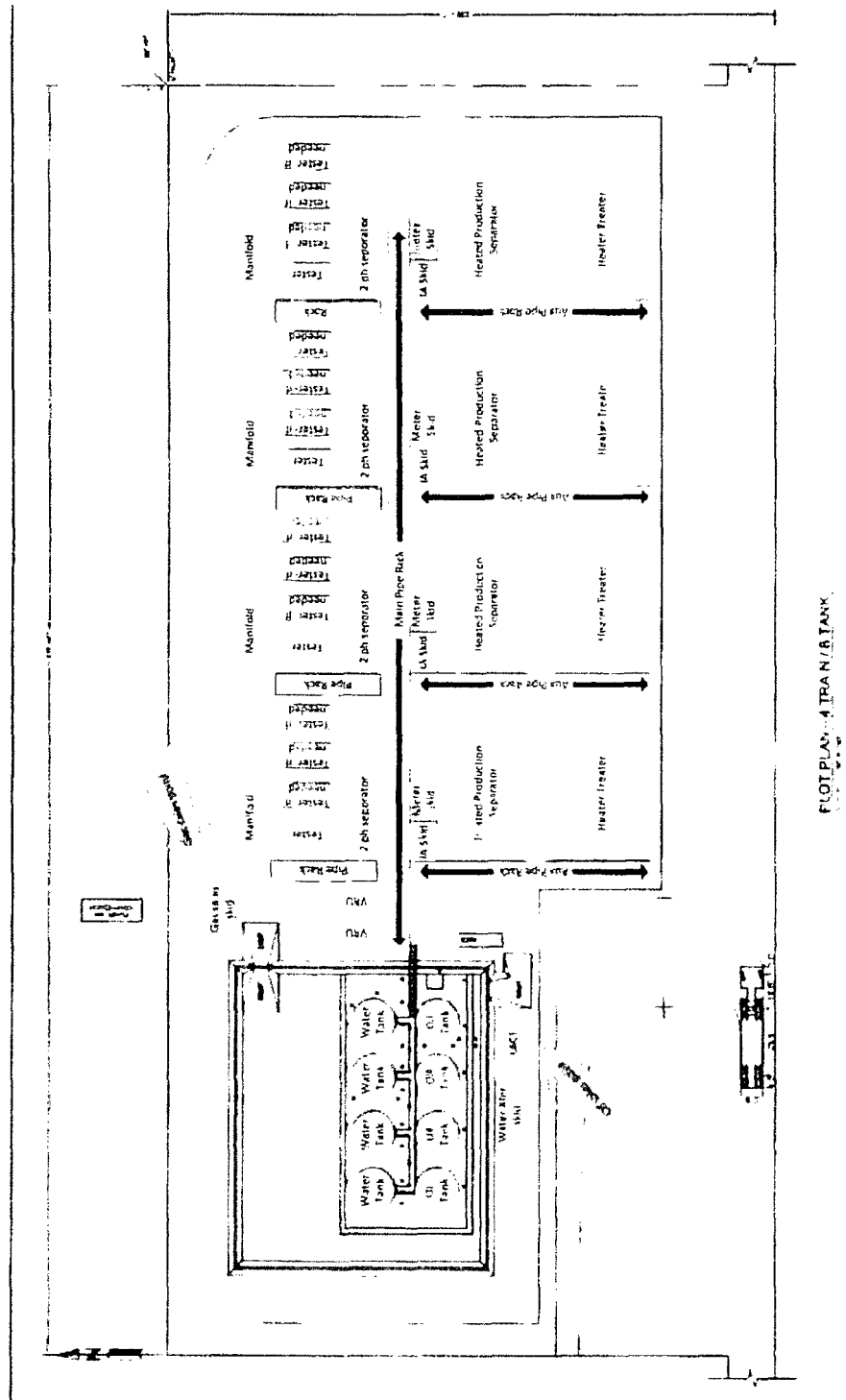
- Sign-In Shack
- Rig Floor
- Dog House

10 Minute Escape Packs

- 1 at Pits
- 1 at Trip Tank
- 1 at Accumulator
- 4 at Rig Floor

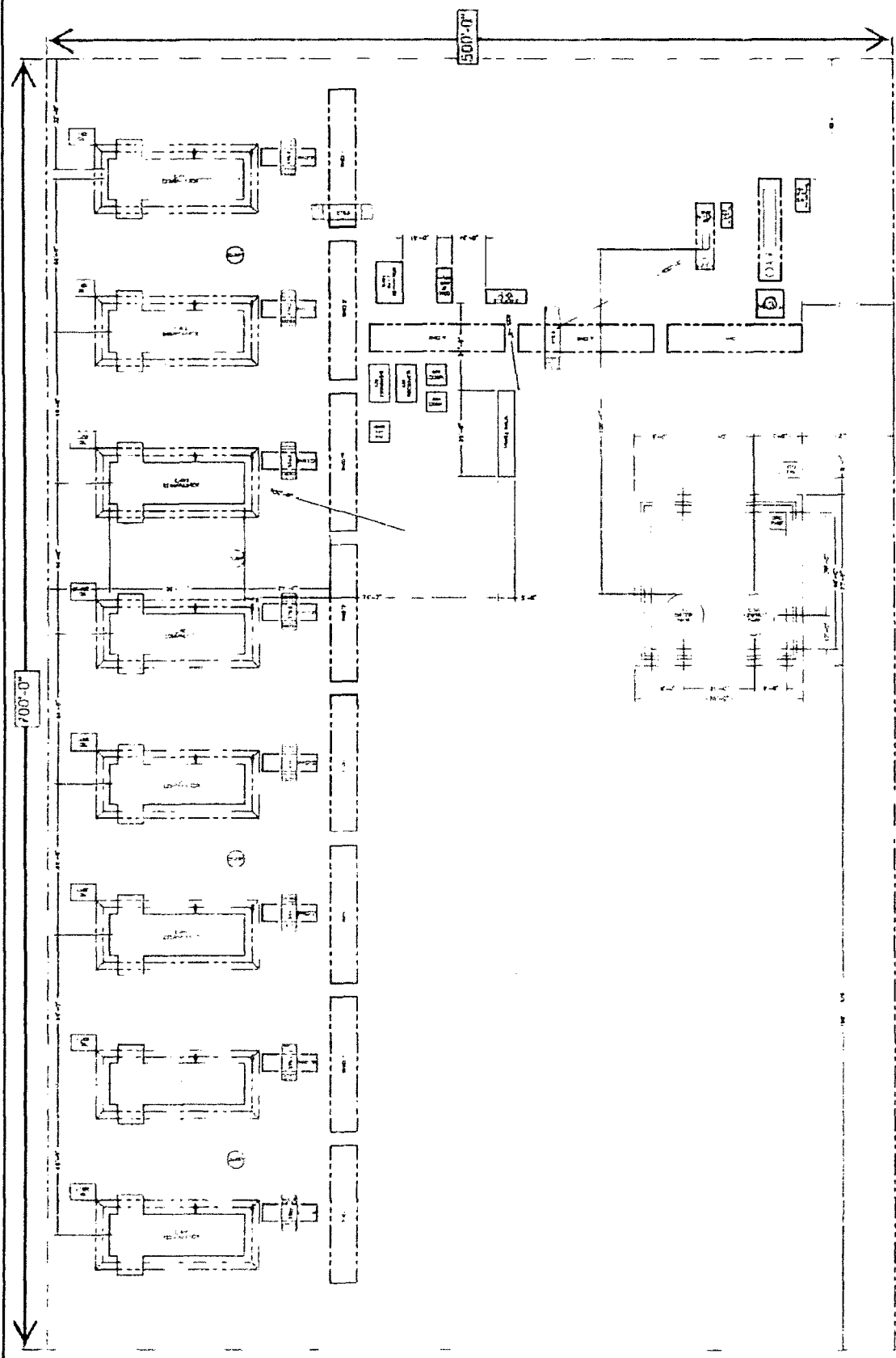
45 Minute Escape Packs

- 2 at Briefing Area
- 2 at Alternate Briefing Area



PLANT LAYOUT - 4 TANK N/A TANK

EXHIBIT 4



COMPRESSOR STATION - 8 COMPRESSOR LAYOUT

Chevron U.S.A. Inc.		STANDARD COMPRESSOR GAS-LIFT STATION	
FOR REVIEW		PLOT PLAN - 8 COMPRESSOR LAYOUT	
LEASE		COMPRESSOR_PLOTPLAN_8TOTAL	

R 27 E

PROPOSED PAD
±4.81 Acres

NW PAD CORNER		NE PAD CORNER		HH SO 10 15 FED NO. 26 WELL	
X=	546 074 NAD 27	X=	546 459 NAD 27	X=	546 331 NAD 27
Y=	387 526	Y=	387 520	Y=	387 312
ELEVATION +3261' NAVD 88		ELEVATION +3272' NAVD 88		LAT 32 06 47 48	
SW PAD CORNER		SE PAD CORNER		LONG 104 18 37 71	
X=	548 066 NAD 27	X=	546 451 NAD 27	X=	587 515 NAD 83
Y=	386 981	Y=	386 975	Y=	387 369
ELEVATION +3279' NAVD 88		ELEVATION +3281' NAVD 88		LAT 32 06 48 70	
				LONG 104 18 42 84	
				ELEVATION +3270' NAVD 88	

Sec. 3

Bureau of Land Management
(Pad - ±4.63 Acres)

Find. 2" Iron Pipe
@ SW Corner of
Section 3

S 87° 16' 22" E 603.33'

Sec. 10

Bureau of Land Management
(Pad - ±0.18 Acres)
(Access - ±0.57 Acres, 1230.76', ±74.59 Rods)

CENTERLINE
PROPOSED
ACCESS ROAD
20' x 1230.76'
74.59 Rods
±0.57 Acres

Existing
±50' Frontier Energy
Pipeline ROW

Whites City Road

Future 30'
Chevron
Flowline ROW

T 26 S

NAD 27 NEW MEXICO EAST ZONE

LEGEND

- Future FL ROW
- Existing PL ROW
- Existing Road
- Section Line
- Find. Monument

Scale: 1" = 200'

200' 0 100' 200'

FENSTERMAKER

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3298
www.fenstermaker.com

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
23006
1-11-2017

Registration No. 23006
Robert L. Lastrapes

SURFACE USE PLAT

Page 1 of 2

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
HH SO 10 15 FED
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR

REVISIONS

PROJ. MGR. GDG

No. DATE:

REVISOR BY

DATE: 01/11/2017

No. DATE:

REVISOR BY

FILENAME: T:\2017\2175119\DWG\HH SO 10 15 FED 26_SUP.dwg

PROPOSED PAD		
COURSE	BEARING	DISTANCE
1	S 89° 08' 26" E	385.01'
2	S 00° 52' 10" W	545.11'
3	N 89° 07' 37" W	385.03'
4	N 00° 52' 18" E	545.02'

CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
5	S 00° 52' 23" W	10.01'
6	S 89° 07' 37" E	1220.75'

DISCLAIMER. At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/EMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues and persons or entities using this information shall do so at their own risk.

NOTE:
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

NOTE:
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call - www.nmdnccall.org.

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge
and belief.

ROBERT L. LASTRAPES
NEW MEXICO
23006
1-17-2017
Professional Surveyor
Registration No. 23006

SURFACE USE PLAT

Page 2 of 2

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 10 15 FED 002
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR

REVISIONS

PROJ. MGR. GDG

No.

DATE:

REVISED BY:

DATE: 01/11/2017

No.

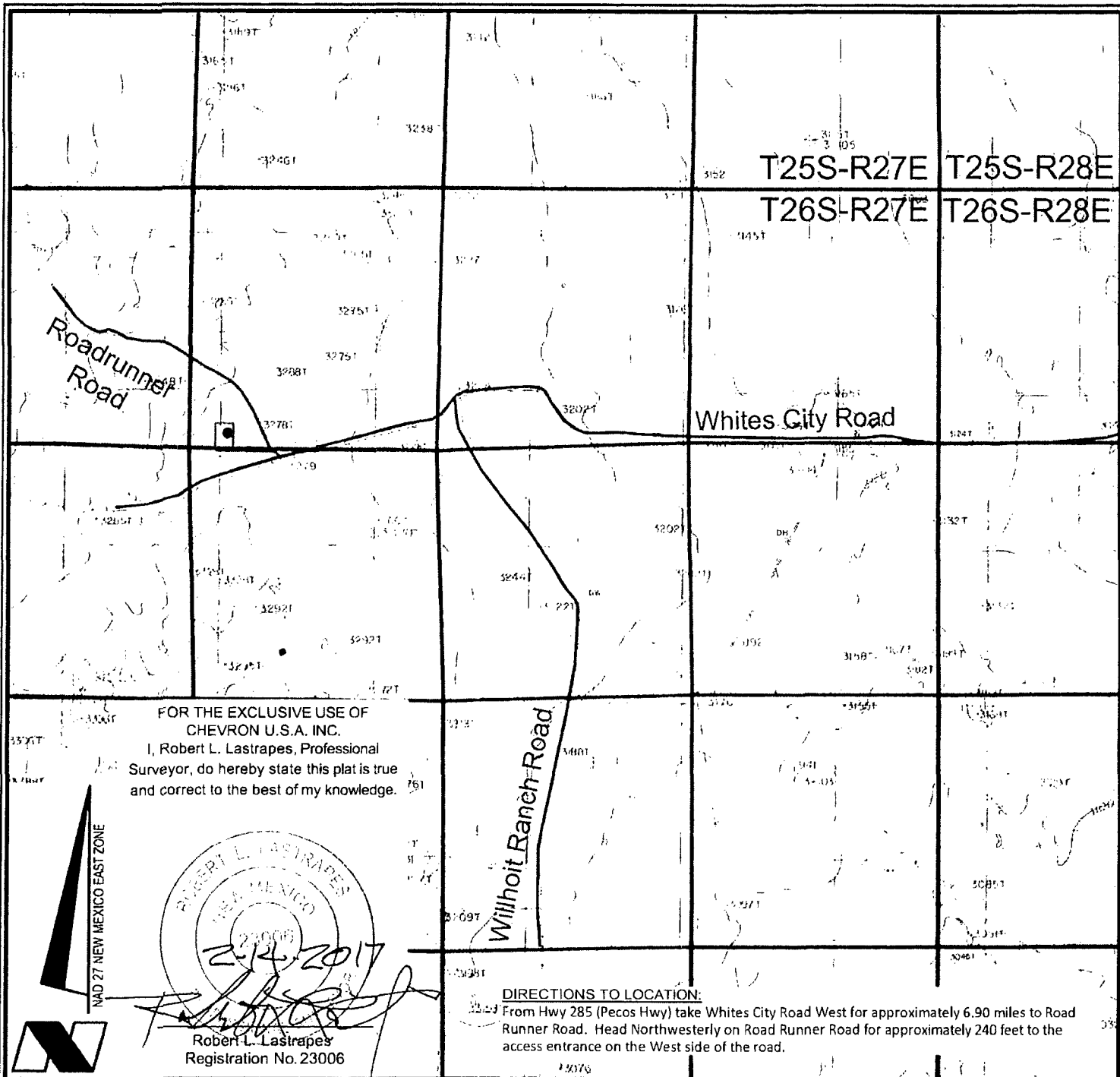
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REVISED BY:

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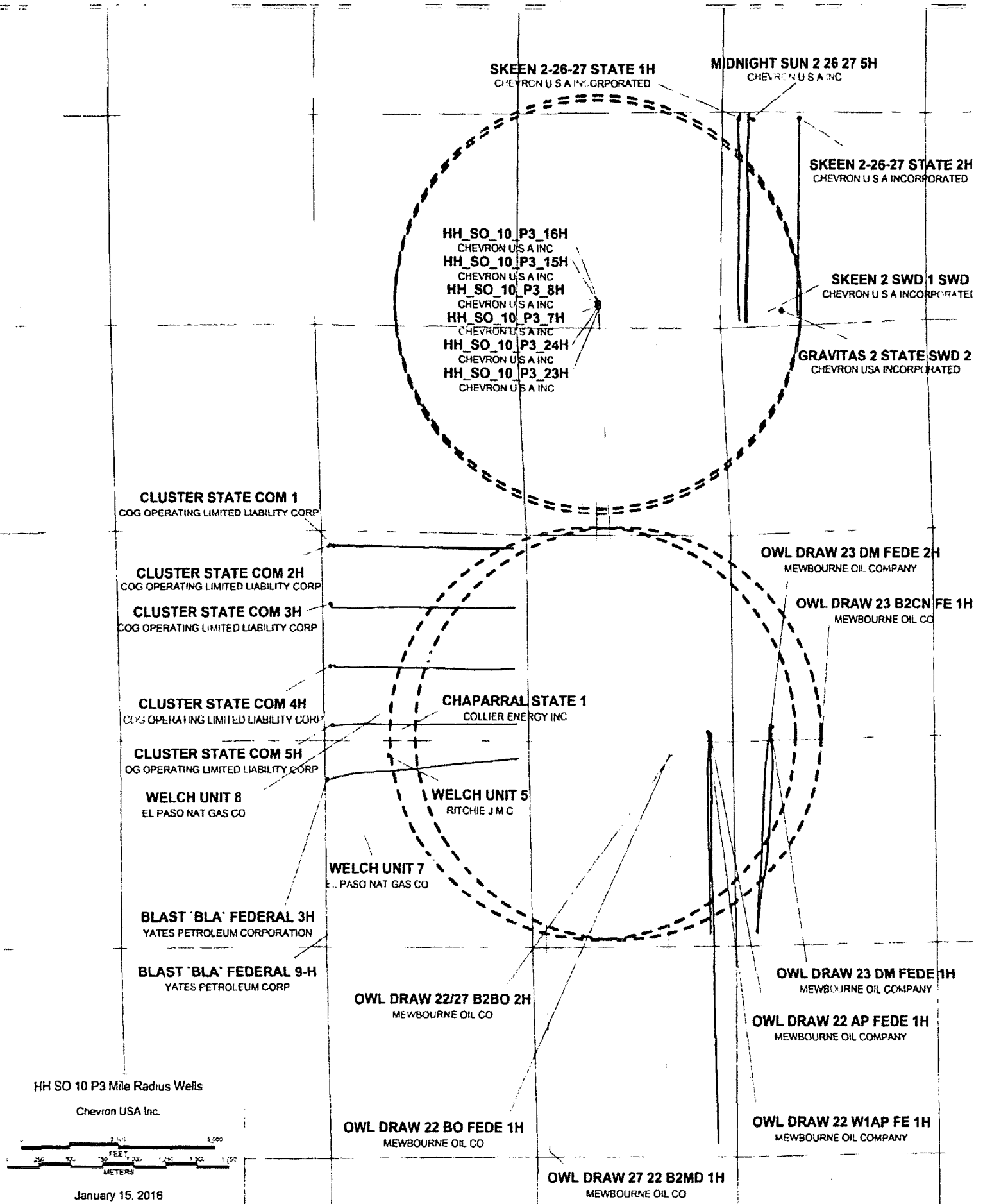


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DRAWN BY: BOR		REVISIONS	
PROJ. MGR.: GDG	No. 1	DATE: 02/13/2017	REVISED BY: TBD
DATE: 01/11/2017	No.	DATE:	REVISED BY:
FILENAME: T\2017\2175119\DWG\HH SO 10 15 FED 002 6H_APD.dwg			



R 27 E

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

1-25-2017
Robert L. Lastrapes
Registration No. 230066

Sec. 3

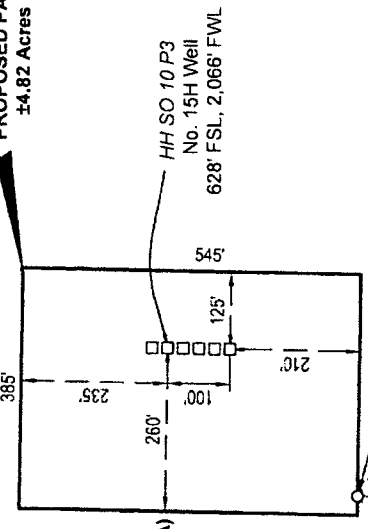
Bureau of Land Management

T 26 S

NW PAD CORNER	NE PAD CORNER	HH SO 10 P3 NO. 15H WELL
X= 547,311 NAD 27 Y= 387,848	X= 547,686 NAD 27 Y= 387,842	X= 547,568 NAD 27 Y= 387,609
ELEVATION +3281' NAVD 88	ELEVATION +3279' NAVD 88	LAT. 32.065559 LONG. 104.179777
SW PAD CORNER	SE PAD CORNER	
X= 547,303 NAD 27 Y= 387,303	X= 547,688 NAD 27 Y= 387,297	X= 588,752 NAD83 Y= 387,666
ELEVATION +3282' NAVD 88	ELEVATION +3276' NAVD 88	LAT. 32.065681 LONG. 104.180269
		ELEVATION +3279' NAVD 88

LEGEND
Section Line
Existing Road
Centerline Access
Found Monument

PROPOSED PAD
±4.82 Acres



CENTERLINE
PROPOSED
ACCESS ROAD (A)
20' x ±234.04'
±14.18 Rods
±0.11 Acres

Road Runner
Road

Elev.
3283.2'

Fnd. 2" Iron Pipe w/
Cap at the SW corner
of Section 3

Sec. 4

S 08° 45' 10" W 159.13'

Whites City Road

NAD 27 NEW MEXICO EAST ZONE

SURFACE USE PLAT PAGE 1 of 4

CHEVRON U.S.A. INC.

PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 15H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

Sec. 10

Bureau of Land Management

Scale: 1" = 300'
0 150' 300'

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

FENSTERMAKER

REVISIONS

DRAWN BY: L.J.G.	No. 1	DATE: 08/30/2016	REVISED BY: BOR
PROJ. MGR.: GDG	No. 2	DATE: 11/04/2016	REVISED BY: BOR
DATE: 12/16/2015			
FILENAME: T:\2015\2153371\DWG\HH SO 10 P3 15H_SUP.dwg			

R 27 E

Whites City Road

Sec. 3

Bureau of Land Management

Sec. 2

State of New Mexico

Sec. 11

Bureau of Land Management

(Proposed Frac Pond- ±1.93 Acres)
(Proposed Frac Pond Outside of
Existing Fence Line- ±0.78 Acres)
(Proposed Fence Line Re-Route-
±628.17', ±38.07 Rods)

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

Sec. 10

Bureau of Land Management
(Proposed Frac Pond- ±13.57 Acres)
(Proposed Frac Pond Outside of
Existing Fence Line- ±0.34 Acres)
(Proposed Fence Line Re-Route-
±109.36', ±6.63 Rods)

Proposed
Fence Line
Re-Route
±737.53'

PROPOSED
FRAC POND
±15.50 Acres

CENTERLINE PROPOSED
ACCESS ROAD (C)
24' x ±126.19'
±7.65 Rods
±0.07 Acres

CENTERLINE PROPOSED
ACCESS ROAD (D)
24' x ±101.00'
±6.12 Rods
±0.06 Acres

PROPOSED 50' x 50'
FRAC PUMP PAD
±0.06 Acres

PROPOSED
CENTRAL TANK
BATTERY
±8.03 Acres

PROPOSED
COMPRESSOR
STATION
±3.44 Acres

CENTERLINE
PROPOSED
ACCESS ROAD (B)
24' x ±989.02'
±120.55 Rods
±1.10 Acres

Scale: 1" = 300'



NAD 27 NEW MEXICO EAST ZONE

LEGEND	
Section Line	---
Existing Road	---
Centerline Access	---
Fence Line	---
Found Monument	●

PAGE 2 of 4

SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 15H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

REVISIONS

DRAWN BY: LJC

PROJ. MGR.: GDG	No. 1	DATE: 08/30/2016	REVISED BY: BOR
DATE: 12/16/2015	No. 2	DATE: 11/04/2016	REVISED BY: BOR

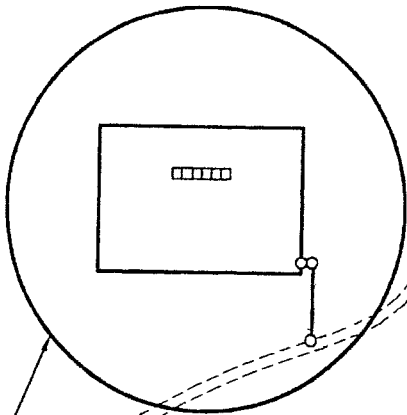
FILENAME: T:\2015\215337\DWG\HH SO 10 P3 15H_RevSUP.dwg

C. H Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com



R 27 E

SEE PAGE
1 OF 4



Sec. 3

Bureau of Land Management

SEE PAGE
2 OF 4

Sec. 2

State of New Mexico

Sec. 10

Bureau of Land Management
(Proposed Frac Pond- ±13.57 Acres)
(Proposed Frac Pond Outside of
Existing Fence Line- ±0.34 Acres)
(Proposed Fence Line Re-Route-
±109.36', ±6.53 Rods)

Sec. 11

Bureau of Land
Management
(Proposed Frac Pond-
±1.93 Acres)
(Proposed Frac Pond
Outside of Existing Fence
Line- ±0.78 Acres)
(Proposed Fence Line
Re-Route- ±628.17',
±35.07 Rods)

NW CTB CORNER		NE CTB CORNER		SW CTB/NW COMPRESSOR CORNER	
X=	549,484	X=	549,984	X=	549,484
Y=	386,534	Y=	386,534	Y=	385,834
ELEVATION +3249' NAVD 88		ELEVATION +3243' NAVD 88		ELEVATION +3255' NAVD 88	
SW COMPRESSOR CORNER		SE COMPRESSOR CORNER		SE CTB/NE COMPRESSOR CORNER	
X=	549,484	X=	549,984	X=	549,984
Y=	385,534	Y=	385,534	Y=	385,834
ELEVATION +3259' NAVD 88		ELEVATION +3252' NAVD 88		ELEVATION +3248' NAVD 88	

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.

I, Robert L. Lastrapes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

LEGEND	
---	Section Line
---	Existing Road
---	Centerline Access
---	Fence Line
●	Found Monument

Scale: 1" = 500'



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SURFACE USE PLAT

PAGE 3 OF 4

CHEVRON U.S.A. INC.

PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 15H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

REVISIONS

DRAWN BY: LUG

REVISOR: BOR

No. 1

DATE: 08/30/2016

REVISOR: BOR

No. 2

DATE: 11/04/2016

FILENAME: T:\2015\15371\DWG\HH SO 10 P3 15H_RevSUP.dwg

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

NOTE:

Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

NOTE:

Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call www.nmonecall.org

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

1-25-2017
Robert L. Lastrapes
Registration No. 23006



C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
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CENTERLINE PROPOSED ACCESS ROAD (A)		
COURSE	BEARING	DISTANCE
1	S 00° 34' 31" W	29.92'
2	N 89° 08' 18" W	204.12'

CENTERLINE PROPOSED ACCESS ROAD (B)		
COURSE	BEARING	DISTANCE
3	N 89° 54' 54" E	139.42'
4	N 00° 05' 06" W	1849.60'

CENTERLINE PROPOSED ACCESS ROAD (C)		
COURSE	BEARING	DISTANCE
5	WEST	126.19'

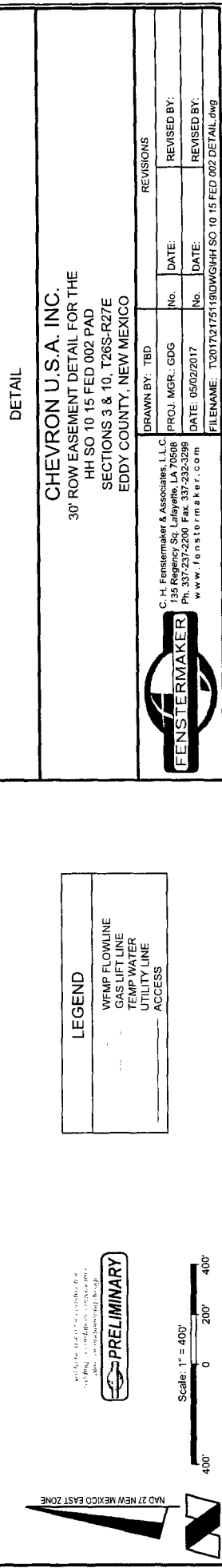
CENTERLINE PROPOSED ACCESS ROAD (D)		
COURSE	BEARING	DISTANCE
6	EAST	101.00'

SURFACE USE PLAT PAGE 4 of 4

CHEVRON U.S.A. INC.
PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 15H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

REVISIONS

DRAWN BY: LJG		REVISIONS	
PROJ MGR.: GDG	No. 1	DATE: 08/30/2016	REVISED BY: BORR
DATE: 12/16/2015	No. 2	DATE: 11/04/2016	REVISED BY: BORR
FILENAME: T:\2015\2153371\DWG\HH SO 10 P3 15H_RevSUP.dwg			



CHEVRON U.S.A. INC.
30' ROW EASEMENT DETAIL FOR THE
HH SO 10 15 FED 002 PAD
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: TBD		REVISIONS	
No.	DATE:	No.	REVIS:
DATE: 05/02/2017		No.	REVIS:

H. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com



LEGEND

WFMP FLOWLINE
GAS LIFT LINE
TEMP WATER
UTILITY LINE
ACCESS

$$M_{\text{eff}}^2 = \frac{1}{2} M_{\text{pl}}^2 \left(1 + \frac{\alpha^2}{2} \right) \approx \frac{1}{2} M_{\text{pl}}^2$$


PRELIMINARY

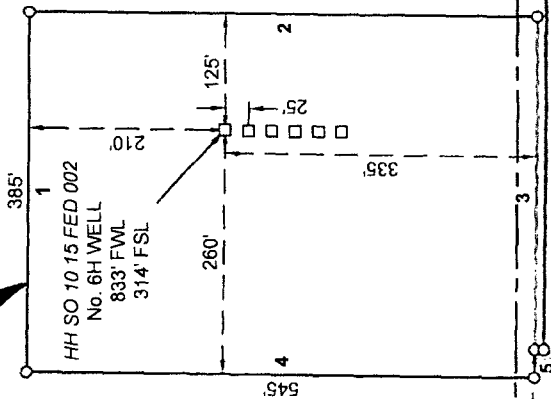
Scale: 1" = 400'



NAD 27 NEW MEXICO EAST ZONE

R 27 E

PROPOSED PAD
±4.81 Acres



End. 2" Iron Pipe
@ SW Corner of
Section 3

S 87° 16' 22" E 603.33'

Sec. 3

Bureau of Land Management
(Pad- ±4.63 Acres)

Sec. 10

Bureau of Land Management
(Pad- ±0.18 Acres)
(Access- ±0.57 Acres, 1230.76', ±74.59 Rods)

LEGEND	
---	Future FL ROW
---	Existing PL ROW
---	Existing Road
---	Section Line
●	End. Monument

Scale: 1" = 200'



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CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional
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and correct to the best of my knowledge.



Robert L. Lastrapes
Registration No. 23006

NW PAD CORNER		NE PAD CORNER		HH SO 10 15 FED 002 NO. 6H WELL	
X=	546.074	NAD 27	X=	546.459	NAD 27
Y=	387.526		Y=	387.520	
ELEVATION +3261' NAVD 88		ELEVATION +3272' NAVD 88		X=	
				Y=	
				LAT.	
				LONG.	
SW PAD CORNER		SE PAD CORNER		HH SO 10 15 FED 002 NO. 6H WELL	
X=	546.066	NAD 27	X=	546.451	NAD 27
Y=	386.981		Y=	386.975	
ELEVATION +3279' NAVD 88		ELEVATION +3281' NAVD 88		X=	
				Y=	
				LAT.	
				LONG.	
				ELEVATION +3270' NAVD 88	

T 26 S

Roadrunner Road
Future 30'
Chevron
Flowline ROW

CENTERLINE
PROPOSED
ACCESS ROAD
20' x 1230.76'
74.54 Rods
±0.57 Acres

Existing
±50' Frontier Energy
Pipeline ROW

Whites City Road

SURFACE USE PLAT

Page 1 of 2

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 10 15 FED 002 NO. 6H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

REVISIONS

DRAWN BY: BOR		REVISIONS	
PROJ MGR.: GDG	No. 1	DATE: 02/13/2017	REVISED BY: TBD
DATE: 01/11/2017	No.	DATE:	REVISED BY:
FILENAME: T20172175119DWGHH SO 10 15 FED 002 6H_SUP.dwg			

R 27 E

**PROPOSED
TEMPORARY
PAD AREA**
±3.32 Acres

**PROPOSED
PERMANENT
PAD AREA**
±1.49 Acres

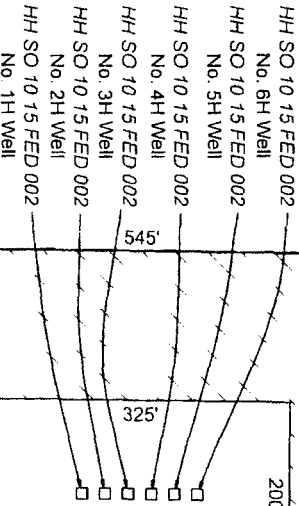
NW PAD CORNER			NE PAD CORNER			HH SO 10 15 FED 002 NO. 1H WELL		
X=	546,074	NAD 27	X=	546,459	NAD 27	X=	546,329	NAD 27
Y=	387,526		Y=	387,520		Y=	387,187	
ELEVATION +3261' NAVD 88			ELEVATION +3272' NAVD 88			LAT 32.064404		
SW PAD CORNER			SE PAD CORNER			LONG. 104.183778		
X=	546,066	NAD 27	X=	546,451	NAD 27	X=	567,513	NAD83
Y=	386,981		Y=	386,975		Y=	387,244	
ELEVATION +3279' NAVD 88			ELEVATION +3281' NAVD 88			LAT 32.064526		
						LONG. 104.184271		
						ELEVATION +3273' NAVD 88		

Bureau of Land Management
(Access: ±0.11 Acres, 237.68' ±14.40 Rods)

Sec. 3

Fnd. 2" Iron Pipe
@ SW Corner of
Section 3

S 87° 16' 22" E 603.33'



Sec. 10

Bureau of Land Management
(Access: ±0.41 Acres, 898.77' ±54.47 Rods)

CENTERLINE
PROPOSED
ACCESS ROAD
20' x 1136.45'
68.87 Rods
±0.52 Acres

Whites City Road

Roadrunner Road

T
26
S

NAD 27 NEW MEXICO EAST ZONE

LEGEND

- Future FL ROW
- Existing PL ROW
- Existing Road
- Section Line
- Fnd. Monument

Scale: 1" = 200'

200' 0 100' 200'



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Robert L. Lastropes
Registration No. 23006

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastropes, Professional
Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

WELL PLAT

Page 1 of 2

CHEVRON U.S.A. INC.
INTERIM RECLAMATION
HH SO 10 15 FED 002
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR

REVISIONS

PROJ. MGR. GDG

No.

DATE:

REVISOR BY:

DATE: MAY 31, 2017

No.

DATE:

REVISOR BY:

FILENAME: T:\2017\2175119\DWG\HH SO 10 15 FED 002 1H_IR.dwg

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed not was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

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Robert L. Lastrapes
Registration No.23006

WELL PLAT

Page 2 of 2

CHEVRON U.S.A. INC.
INTERIM RECLAMATION
HH SO 10 15 FED 002
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY BOR

REVISIONS

PROJ. MGR. GDG

No.

DATE:

REVISED BY:

DATE: MAY 31, 2017

No.

DATE:

REVISED BY:

FILENAME: T:\2017\2175119\DWG\HH SO 10 15 FED 002 1H_IR.dwg



C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax 337-232-3299
www.fenstermaker.com

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Castille		505	
Lamar		2395	
Bell		2310	
Cherry		3208	
Brushy		4450	
Bone Spring/Avalon		6299	
First Bone Spring Sand		6888	
First Bone Spring Shale		6914	
Second Bone Spring Sand		7621	
Harkey Sand		8123	
Third Bone Spring Sand		8617	
Wolfcamp A		9342	
Wolfcamp D		10158	
Lateral TVD Wolfcamp D		10158	20495.03'

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		450
Water	Castille	505
Water	Cherry Canyon	3208
Oil/Gas	Brushy Canyon	4450
Oil/Gas	Bone Spring Limestone	6888
Oil/Gas	First Bone Spring Shale	6914
Oil/Gas	Second Bone Spring Sand	7621
Oil/Gas	Harkey Sand	8123
Oil/Gas	Wolfcamp A	9342
Oil/Gas	Wolfcamp D	10158

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

PLEASE REFERENCE MDP

4. CASING PROGRAM

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	450'	17-1/2"	13-3/8"	54.5 #	K-55	STC	New
Intermediate	0'	9,015'	12-1/4"	9-5/8"	40.0 #	L-80	TXP	New
Production	0'	20495.03'	8-1/2"	0"	20.0 #	P-110	TXP	New

SF Calculations based on the following "Worst Case" casing design:

Surface Casing: 450'

Intermediate Casing: 9015'

Production Casing: 20495.03' MD/10,158' TVD (10,000' VS @ 90.38 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.82	5.11	3.97	2.31
Intermediate	1.45	1.32	1.78	1.84
Production	1.26	1.5	2.43	1.35

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Cement Top	Cement Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Tail	Class C	0'	450'	14.8	1.33	50	356	6.37
Intermediate								
Stage 2 Lead	50:50 Poz: Class C + Antifoam, Extender, Salt, Retarder	0'	1,100'	11.9	2.43	50	213	14.21
Stage 2 Tail	Class C + Antifoam, Retarder, Viscosifier	1,100'	2,100'	14.8	1.33	0	235	6.37
DV TOOL		2,100'						
Stage 1 Lead	50:50 Poz: Class H + Extender, Antifoam, Retarder, Salt, Viscosifier	2,100'	8,015'	11.9	2.43	100	1524	13.76
Stage 1 Tail	Class H + Retarder, Extender, Dispersant	8,015'	9,015'	15.6	1.21	50	389	5.54
Production								
Lead	50:50 Poz: Class H + Extender, Antifoam, Dispersant, , Retarder	7,015'	8,015'	14.5	1.21	100	430	5.54
Tail	Class H + Viscosifier, Antifoam, Dispersant, Fluid Loss, Retarder, Expanding Agent	8,015'	20495.03'	15.6	1.2	50	3273	5.30

ONSHORE ORDER NO. 1
Chevron
HayHurst SO 10 P2 #26H
Eddy County, NM

CONFIDENTIAL -- TIGHT HOLE
DRILLING PLAN
PAGE: 4

6. **MUD PROGRAM**

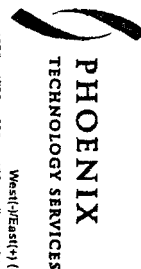
From	To	Type	Weight	F. Vis	Filtrate
0'	450'	Spud Mud	0	0	0
450'	9015'	OBM	9.0 - 9.5	50 -70	5.0 - 10
9015'	20495.03'	OBM	10.0 - 13.5	50 -70	5.0 - 10

7. **TESTING, LOGGING, AND CORING**

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling	TBD

8. **ABNORMAL PRESSURES AND HYDROGEN SULFIDE**

PLEASE REFERENCE MDP



Alignment: East-West
 True North: -0.08
 Magnetic North: 7.34
 Magnetic Field
 Strength: 48058.3 nT
 Dip Angle: 59.82
 Date: 2/1/2017
 Model: HDQM

A diagram showing a particle with mass M and temperature T emitting radiation. The particle is represented by a circle with a cross inside. Three arrows point away from the particle, representing radiation. The arrows are labeled with Δ and Δ at their tips.

```
Map System: US State Plane 1927 (Exam solution)
            ( 3500
            Datum: NAD 1927 (NADCON CONUS)
            Zone Name: New Mexico East 3007
            Location: Omg N 400255 Grid North
            -offset: 32.7 53.09 106.14
            Longitude: 104.11 158880 W
            Grid East: 546330.45
            Grid North: 387311.91
            Scale Factor: 0.00
```

Geometric Mean $\pm$ SD
Sample Size 105
Magnetic Deceleration 42
Average from Horizontal 59.82
Magnetic Field Strength 48056

Convert a Magnetic Direction to a Grid Direction. Add 7.34.
Convert a Magnetic Direction to a True Direction. Add 7.47.
Convert a True Direction to a Grid Direction. Subtract 7.47.
Convert a True Direction to a Grid Direction. Subtract 7.47.

Weight (pounds) (20 uslbm)

700	750	800	850	900	950	1000
						1045

1045

South (1) North (2)

JP - MH 10 Feb 68

10650

FD 0120493.03
4H SC 15 FEB 00.
BHL 4H SC 10 15 FEB 0026
10150

FOC	ST	BL	BSO	90°	950	1000
West(-)/East(+) (50 us/in)						

stt/in)

Burd
H.S.
2800
60
60
1960
S

Month

(+ustn) 100 100 100 100

stf(n)	15C
10 21 20485 03	

LTP - HH SO 10 15 Fed 0026
BHL - HH SO 10 15 Fed 0026

9200 9600 10000 10400 10800 11200 11600



Chevron

Eddy County, NM (NAD27 NME)

HH SO 10 15 Fed

0026

OH

Plan: Plan 1 02-01-17

Standard Planning Report

01 February, 2017





Phoenix Technology Services LP Planning Report



Database: Compass 5000 GCR
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Site: HH SO 10 15 Fed
Well: 0026
Wellbore: OH
Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site HH SO 10 15 Fed

Site Position: Northing: 387,187.00 usft Latitude: 32° 3' 51.85491 N
From: Map Easting: 546,329.00 usft Longitude: 104° 11' 1.60017 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.08

Well 0026

Well Position +N/-S 124.91 usft Northing: 387,311.91 usft Latitude: 32° 3' 53.09106 N
+E/-W 1.49 usft Easting: 546,330.50 usft Longitude: 104° 11' 1.58080 W
Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 3,270.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/1/2017	7.42	59.82	48,056

Design Plan 1 02-01-17

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	175.10

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,061.36	5.23	96.66	2,061.00	1.38	11.83	2.00	2.00	0.00	96.66	
9,626.50	5.23	96.66	9,594.67	-81.35	696.40	0.00	0.00	0.00	0.00	
10,520.68	90.15	178.61	10,158.00	-654.35	761.46	10.00	9.50	9.16	81.97 FTP	HH SO 10 15
15,483.56	90.15	178.61	10,145.00	-5,615.75	881.68	0.00	0.00	0.00	0.00 MP	HH SO 10 15
15,537.44	90.38	179.67	10,144.75	-5,669.63	882.49	2.00	0.42	1.95	77.76	
20,495.03	90.38	179.67	10,112.00	-10,627.02	911.45	0.00	0.00	0.00	0.00 BHL	HH SO 10 15



Phoenix Technology Services LP

Planning Report



Database: Compass 5000 GCR
 Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Site: HH SO 10 15 Fed
 Well: 0026
 Wellbore: OH
 Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,900.00	2.00	96.66	1,899.98	-0.20	1.73	0.35	2.00	2.00	0.00
2,000.00	4.00	96.66	1,999.84	-0.81	6.93	1.40	2.00	2.00	0.00
2,061.36	5.23	96.66	2,061.00	-1.38	11.83	2.39	2.00	2.00	0.00
Hold 5.23° Inc at 96.66° Azm									
2,100.00	5.23	96.66	2,099.48	-1.79	15.33	3.09	0.00	0.00	0.00
2,200.00	5.23	96.66	2,199.06	-2.85	24.38	4.92	0.00	0.00	0.00
2,300.00	5.23	96.66	2,298.65	-3.90	33.43	6.75	0.00	0.00	0.00
2,400.00	5.23	96.66	2,398.23	-4.96	42.48	8.57	0.00	0.00	0.00
2,500.00	5.23	96.66	2,497.81	-6.02	51.53	10.40	0.00	0.00	0.00
2,600.00	5.23	96.66	2,597.40	-7.08	60.57	12.23	0.00	0.00	0.00
2,700.00	5.23	96.66	2,696.98	-8.13	69.62	14.05	0.00	0.00	0.00
2,800.00	5.23	96.66	2,796.57	-9.19	78.67	15.88	0.00	0.00	0.00
2,900.00	5.23	96.66	2,896.15	-10.25	87.72	17.71	0.00	0.00	0.00
3,000.00	5.23	96.66	2,995.73	-11.30	96.77	19.53	0.00	0.00	0.00
3,100.00	5.23	96.66	3,095.32	-12.36	105.82	21.36	0.00	0.00	0.00
3,200.00	5.23	96.66	3,194.90	-13.42	114.87	23.19	0.00	0.00	0.00
3,300.00	5.23	96.66	3,294.49	-14.48	123.92	25.01	0.00	0.00	0.00
3,400.00	5.23	96.66	3,394.07	-15.53	132.97	26.84	0.00	0.00	0.00
3,500.00	5.23	96.66	3,493.65	-16.59	142.02	28.66	0.00	0.00	0.00
3,600.00	5.23	96.66	3,593.24	-17.65	151.06	30.49	0.00	0.00	0.00
3,700.00	5.23	96.66	3,692.82	-18.70	160.11	32.32	0.00	0.00	0.00
3,800.00	5.23	96.66	3,792.41	-19.76	169.16	34.14	0.00	0.00	0.00
3,900.00	5.23	96.66	3,891.99	-20.82	178.21	35.97	0.00	0.00	0.00
4,000.00	5.23	96.66	3,991.58	-21.88	187.26	37.80	0.00	0.00	0.00
4,100.00	5.23	96.66	4,091.16	-22.93	196.31	39.62	0.00	0.00	0.00
4,200.00	5.23	96.66	4,190.74	-23.99	205.36	41.45	0.00	0.00	0.00
4,300.00	5.23	96.66	4,290.33	-25.05	214.41	43.28	0.00	0.00	0.00
4,400.00	5.23	96.66	4,389.91	-26.10	223.46	45.10	0.00	0.00	0.00
4,500.00	5.23	96.66	4,489.50	-27.16	232.50	46.93	0.00	0.00	0.00
4,600.00	5.23	96.66	4,589.08	-28.22	241.55	48.76	0.00	0.00	0.00
4,700.00	5.23	96.66	4,688.66	-29.27	250.60	50.58	0.00	0.00	0.00
4,800.00	5.23	96.66	4,788.25	-30.33	259.65	52.41	0.00	0.00	0.00
4,900.00	5.23	96.66	4,887.83	-31.39	268.70	54.24	0.00	0.00	0.00
5,000.00	5.23	96.66	4,987.42	-32.45	277.75	56.06	0.00	0.00	0.00
5,100.00	5.23	96.66	5,087.00	-33.50	286.80	57.89	0.00	0.00	0.00
5,200.00	5.23	96.66	5,186.59	-34.56	295.85	59.71	0.00	0.00	0.00
5,300.00	5.23	96.66	5,286.17	-35.62	304.90	61.54	0.00	0.00	0.00
5,400.00	5.23	96.66	5,385.75	-36.67	313.95	63.37	0.00	0.00	0.00
5,500.00	5.23	96.66	5,485.34	-37.73	322.99	65.19	0.00	0.00	0.00
5,600.00	5.23	96.66	5,584.92	-38.79	332.04	67.02	0.00	0.00	0.00
5,700.00	5.23	96.66	5,684.51	-39.85	341.09	68.85	0.00	0.00	0.00
5,800.00	5.23	96.66	5,784.09	-40.90	350.14	70.67	0.00	0.00	0.00
5,900.00	5.23	96.66	5,883.67	-41.96	359.19	72.50	0.00	0.00	0.00
6,000.00	5.23	96.66	5,983.26	-43.02	368.24	74.33	0.00	0.00	0.00
6,100.00	5.23	96.66	6,082.84	-44.07	377.29	76.15	0.00	0.00	0.00
6,200.00	5.23	96.66	6,182.43	-45.13	386.34	77.98	0.00	0.00	0.00
6,300.00	5.23	96.66	6,282.01	-46.19	395.39	79.81	0.00	0.00	0.00
6,400.00	5.23	96.66	6,381.59	-47.24	404.43	81.63	0.00	0.00	0.00
6,500.00	5.23	96.66	6,481.18	-48.30	413.48	83.46	0.00	0.00	0.00
6,600.00	5.23	96.66	6,580.76	-49.36	422.53	85.29	0.00	0.00	0.00
6,700.00	5.23	96.66	6,680.35	-50.42	431.58	87.11	0.00	0.00	0.00



Phoenix Technology Services LP Planning Report



Database: Compass 5000 GCR
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Project: Eddy County, NM (NAD27 NME)
Site: HH SO 10 15 Fed
Well: 0026
Wellbore: OH
Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,800.00	5.23	96.66	6,779.93	-51.47	440.63	88.94	0.00	0.00	0.00
6,900.00	5.23	96.66	6,879.52	-52.53	449.68	90.76	0.00	0.00	0.00
7,000.00	5.23	96.66	6,979.10	-53.59	458.73	92.59	0.00	0.00	0.00
7,100.00	5.23	96.66	7,078.68	-54.64	467.78	94.42	0.00	0.00	0.00
7,200.00	5.23	96.66	7,178.27	-55.70	476.83	96.24	0.00	0.00	0.00
7,300.00	5.23	96.66	7,277.85	-56.76	485.88	98.07	0.00	0.00	0.00
7,400.00	5.23	96.66	7,377.44	-57.82	494.92	99.90	0.00	0.00	0.00
7,500.00	5.23	96.66	7,477.02	-58.87	503.97	101.72	0.00	0.00	0.00
7,600.00	5.23	96.66	7,576.60	-59.93	513.02	103.55	0.00	0.00	0.00
7,700.00	5.23	96.66	7,676.19	-60.99	522.07	105.38	0.00	0.00	0.00
7,800.00	5.23	96.66	7,775.77	-62.04	531.12	107.20	0.00	0.00	0.00
7,900.00	5.23	96.66	7,875.36	-63.10	540.17	109.03	0.00	0.00	0.00
8,000.00	5.23	96.66	7,974.94	-64.16	549.22	110.86	0.00	0.00	0.00
8,100.00	5.23	96.66	8,074.52	-65.21	558.27	112.68	0.00	0.00	0.00
8,200.00	5.23	96.66	8,174.11	-66.27	567.32	114.51	0.00	0.00	0.00
8,300.00	5.23	96.66	8,273.69	-67.33	576.36	116.34	0.00	0.00	0.00
8,400.00	5.23	96.66	8,373.28	-68.39	585.41	118.16	0.00	0.00	0.00
8,500.00	5.23	96.66	8,472.86	-69.44	594.46	119.99	0.00	0.00	0.00
8,600.00	5.23	96.66	8,572.45	-70.50	603.51	121.81	0.00	0.00	0.00
8,700.00	5.23	96.66	8,672.03	-71.56	612.56	123.64	0.00	0.00	0.00
8,800.00	5.23	96.66	8,771.61	-72.61	621.61	125.47	0.00	0.00	0.00
8,900.00	5.23	96.66	8,871.20	-73.67	630.66	127.29	0.00	0.00	0.00
9,000.00	5.23	96.66	8,970.78	-74.73	639.71	129.12	0.00	0.00	0.00
9,100.00	5.23	96.66	9,070.37	-75.79	648.76	130.95	0.00	0.00	0.00
9,200.00	5.23	96.66	9,169.95	-76.84	657.81	132.77	0.00	0.00	0.00
9,300.00	5.23	96.66	9,269.53	-77.90	666.85	134.60	0.00	0.00	0.00
9,400.00	5.23	96.66	9,369.12	-78.96	675.90	136.43	0.00	0.00	0.00
9,500.00	5.23	96.66	9,468.70	-80.01	684.95	138.25	0.00	0.00	0.00
9,600.00	5.23	96.66	9,568.29	-81.07	694.00	140.08	0.00	0.00	0.00
9,626.50	5.23	96.66	9,594.67	-81.35	696.40	140.56	0.00	0.00	0.00
Begin 10.00°/100' Build & Turn									
9,700.00	9.59	146.17	9,667.61	-86.83	703.14	146.60	10.00	5.93	67.36
9,800.00	18.78	163.15	9,764.49	-109.22	712.47	169.70	10.00	9.20	16.98
9,900.00	28.52	169.00	9,856.00	-148.16	721.71	209.29	10.00	9.73	5.85
10,000.00	38.38	172.03	9,939.34	-202.47	730.59	264.17	10.00	9.86	3.03
10,100.00	48.29	173.97	10,011.99	-270.51	738.84	332.66	10.00	9.91	1.94
10,200.00	58.23	175.38	10,071.73	-350.20	746.20	412.69	10.00	9.94	1.41
10,300.00	68.18	176.52	10,116.76	-439.13	752.46	501.82	10.00	9.95	1.14
10,400.00	78.13	177.51	10,145.70	-534.59	757.42	597.36	10.00	9.96	0.99
10,500.00	88.09	178.43	10,157.68	-633.68	760.93	696.38	10.00	9.96	0.92
10,520.68	90.15	178.61	10,158.00	-654.35	761.46	717.03	10.00	9.96	0.90
LP, Hold 90.15° Inc at 178.61° Azm - FTP - HH SO 10 15 Fed 0026									
10,600.00	90.15	178.61	10,157.79	733.64	763.38	796.20	0.00	0.00	0.00
10,700.00	90.15	178.61	10,157.53	-833.62	765.80	896.01	0.00	0.00	0.00
10,800.00	90.15	178.61	10,157.27	-933.59	768.23	995.82	0.00	0.00	0.00
10,900.00	90.15	178.61	10,157.01	-1,033.56	770.65	1,095.63	0.00	0.00	0.00
11,000.00	90.15	178.61	10,156.74	-1,133.53	773.07	1,195.44	0.00	0.00	0.00
11,100.00	90.15	178.61	10,156.48	-1,233.50	775.49	1,295.25	0.00	0.00	0.00
11,200.00	90.15	178.61	10,156.22	-1,333.47	777.92	1,395.06	0.00	0.00	0.00
11,300.00	90.15	178.61	10,155.96	-1,433.44	780.34	1,494.88	0.00	0.00	0.00
11,400.00	90.15	178.61	10,155.70	-1,533.41	782.76	1,594.69	0.00	0.00	0.00
11,500.00	90.15	178.61	10,155.43	-1,633.38	785.18	1,694.50	0.00	0.00	0.00
11,600.00	90.15	178.61	10,155.17	-1,733.35	787.60	1,794.31	0.00	0.00	0.00
11,700.00	90.15	178.61	10,154.91	-1,833.32	790.03	1,894.12	0.00	0.00	0.00



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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
11,800.00	90.15	178.61	10,154.65	-1,933.29	792.45	1,993.93	0.00	0.00	0.00
11,900.00	90.15	178.61	10,154.39	-2,033.26	794.87	2,093.75	0.00	0.00	0.00
12,000.00	90.15	178.61	10,154.13	-2,133.23	797.29	2,193.56	0.00	0.00	0.00
12,100.00	90.15	178.61	10,153.86	-2,233.20	799.72	2,293.37	0.00	0.00	0.00
12,200.00	90.15	178.61	10,153.60	-2,333.17	802.14	2,393.18	0.00	0.00	0.00
12,300.00	90.15	178.61	10,153.34	-2,433.14	804.56	2,492.99	0.00	0.00	0.00
12,400.00	90.15	178.61	10,153.08	-2,533.11	806.98	2,592.80	0.00	0.00	0.00
12,500.00	90.15	178.61	10,152.82	-2,633.08	809.40	2,692.62	0.00	0.00	0.00
12,600.00	90.15	178.61	10,152.55	-2,733.05	811.83	2,792.43	0.00	0.00	0.00
12,700.00	90.15	178.61	10,152.29	-2,833.02	814.25	2,892.24	0.00	0.00	0.00
12,800.00	90.15	178.61	10,152.03	-2,932.99	816.67	2,992.05	0.00	0.00	0.00
12,900.00	90.15	178.61	10,151.77	-3,032.96	819.09	3,091.86	0.00	0.00	0.00
13,000.00	90.15	178.61	10,151.51	-3,132.93	821.52	3,191.67	0.00	0.00	0.00
13,100.00	90.15	178.61	10,151.24	-3,232.90	823.94	3,291.49	0.00	0.00	0.00
13,200.00	90.15	178.61	10,150.98	-3,332.87	826.36	3,391.30	0.00	0.00	0.00
13,300.00	90.15	178.61	10,150.72	-3,432.84	828.78	3,491.11	0.00	0.00	0.00
13,400.00	90.15	178.61	10,150.46	-3,532.81	831.21	3,590.92	0.00	0.00	0.00
13,500.00	90.15	178.61	10,150.20	-3,632.78	833.63	3,690.73	0.00	0.00	0.00
13,600.00	90.15	178.61	10,149.93	-3,732.75	836.05	3,790.54	0.00	0.00	0.00
13,700.00	90.15	178.61	10,149.67	-3,832.72	838.47	3,890.36	0.00	0.00	0.00
13,800.00	90.15	178.61	10,149.41	-3,932.69	840.89	3,990.17	0.00	0.00	0.00
13,900.00	90.15	178.61	10,149.15	-4,032.67	843.32	4,089.98	0.00	0.00	0.00
14,000.00	90.15	178.61	10,148.89	-4,132.64	845.74	4,189.79	0.00	0.00	0.00
14,100.00	90.15	178.61	10,148.62	-4,232.61	848.16	4,289.60	0.00	0.00	0.00
14,200.00	90.15	178.61	10,148.36	-4,332.58	850.58	4,389.41	0.00	0.00	0.00
14,300.00	90.15	178.61	10,148.10	-4,432.55	853.01	4,489.23	0.00	0.00	0.00
14,400.00	90.15	178.61	10,147.84	-4,532.52	855.43	4,589.04	0.00	0.00	0.00
14,500.00	90.15	178.61	10,147.58	-4,632.49	857.85	4,688.85	0.00	0.00	0.00
14,600.00	90.15	178.61	10,147.31	-4,732.46	860.27	4,788.66	0.00	0.00	0.00
14,700.00	90.15	178.61	10,147.05	-4,832.43	862.70	4,888.47	0.00	0.00	0.00
14,800.00	90.15	178.61	10,146.79	-4,932.40	865.12	4,988.28	0.00	0.00	0.00
14,900.00	90.15	178.61	10,146.53	-5,032.37	867.54	5,088.10	0.00	0.00	0.00
15,000.00	90.15	178.61	10,146.27	-5,132.34	869.96	5,187.91	0.00	0.00	0.00
15,100.00	90.15	178.61	10,146.00	-5,232.31	872.38	5,287.72	0.00	0.00	0.00
15,200.00	90.15	178.61	10,145.74	-5,332.28	874.81	5,387.53	0.00	0.00	0.00
15,300.00	90.15	178.61	10,145.48	-5,432.25	877.23	5,487.34	0.00	0.00	0.00
15,400.00	90.15	178.61	10,145.22	-5,532.22	879.65	5,587.15	0.00	0.00	0.00
15,483.56	90.15	178.61	10,145.00	-5,615.75	881.68	5,670.55	0.00	0.00	0.00
Begin 2.00°/100' Build & Turn - MP - HH SO 10 15 Fed 0026									
15,500.00	90.22	178.93	10,144.95	-5,632.19	882.03	5,686.96	2.00	0.42	1.95
15,537.44	90.38	179.67	10,144.75	-5,669.63	882.49	5,724.30	2.00	0.42	1.95
Hold 90.38° Inc at 179.67° Azm									
15,600.00	90.38	179.67	10,144.34	-5,732.19	882.85	5,786.66	0.00	0.00	0.00
15,700.00	90.38	179.67	10,143.68	-5,832.18	883.43	5,886.34	0.00	0.00	0.00
15,800.00	90.38	179.67	10,143.02	-5,932.18	884.02	5,986.02	0.00	0.00	0.00
15,900.00	90.38	179.67	10,142.36	-6,032.17	884.60	6,085.70	0.00	0.00	0.00
16,000.00	90.38	179.67	10,141.70	-6,132.17	885.19	6,185.38	0.00	0.00	0.00
16,100.00	90.38	179.67	10,141.04	-6,232.17	885.77	6,285.06	0.00	0.00	0.00
16,200.00	90.38	179.67	10,140.37	-6,332.16	886.36	6,384.74	0.00	0.00	0.00
16,300.00	90.38	179.67	10,139.71	-6,432.16	886.94	6,484.42	0.00	0.00	0.00
16,400.00	90.38	179.67	10,139.05	-6,532.15	887.53	6,584.10	0.00	0.00	0.00
16,500.00	90.38	179.67	10,138.39	-6,632.15	888.11	6,683.78	0.00	0.00	0.00
16,600.00	90.38	179.67	10,137.73	-6,732.15	888.69	6,783.46	0.00	0.00	0.00



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Project: Eddy County, NM (NAD27 NME)
Site: HH SO 10 15 Fed
Well: 0026
Wellbore: OH
Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,700.00	90.38	179.67	10,137.07	-6,832.14	889.28	6,883.14	0.00	0.00	0.00
16,800.00	90.38	179.67	10,136.41	-6,932.14	889.86	6,982.82	0.00	0.00	0.00
16,900.00	90.38	179.67	10,135.75	-7,032.13	890.45	7,082.50	0.00	0.00	0.00
17,000.00	90.38	179.67	10,135.09	-7,132.13	891.03	7,182.18	0.00	0.00	0.00
17,100.00	90.38	179.67	10,134.43	-7,232.13	891.62	7,281.86	0.00	0.00	0.00
17,200.00	90.38	179.67	10,133.77	-7,332.12	892.20	7,381.55	0.00	0.00	0.00
17,300.00	90.38	179.67	10,133.11	-7,432.12	892.78	7,481.23	0.00	0.00	0.00
17,400.00	90.38	179.67	10,132.45	-7,532.12	893.37	7,580.91	0.00	0.00	0.00
17,500.00	90.38	179.67	10,131.79	-7,632.11	893.95	7,680.59	0.00	0.00	0.00
17,600.00	90.38	179.67	10,131.13	-7,732.11	894.54	7,780.27	0.00	0.00	0.00
17,700.00	90.38	179.67	10,130.47	-7,832.10	895.12	7,879.95	0.00	0.00	0.00
17,800.00	90.38	179.67	10,129.80	-7,932.10	895.71	7,979.63	0.00	0.00	0.00
17,900.00	90.38	179.67	10,129.14	-8,032.10	896.29	8,079.31	0.00	0.00	0.00
18,000.00	90.38	179.67	10,128.48	-8,132.09	896.87	8,178.99	0.00	0.00	0.00
18,100.00	90.38	179.67	10,127.82	-8,232.09	897.46	8,278.67	0.00	0.00	0.00
18,200.00	90.38	179.67	10,127.16	-8,332.08	898.04	8,378.35	0.00	0.00	0.00
18,300.00	90.38	179.67	10,126.50	-8,432.08	898.63	8,478.03	0.00	0.00	0.00
18,400.00	90.38	179.67	10,125.84	-8,532.08	899.21	8,577.71	0.00	0.00	0.00
18,500.00	90.38	179.67	10,125.18	-8,632.07	899.80	8,677.39	0.00	0.00	0.00
18,600.00	90.38	179.67	10,124.52	-8,732.07	900.38	8,777.07	0.00	0.00	0.00
18,700.00	90.38	179.67	10,123.86	-8,832.06	900.97	8,876.75	0.00	0.00	0.00
18,800.00	90.38	179.67	10,123.20	-8,932.06	901.55	8,976.43	0.00	0.00	0.00
18,900.00	90.38	179.67	10,122.54	-9,032.06	902.13	9,076.11	0.00	0.00	0.00
19,000.00	90.38	179.67	10,121.88	-9,132.05	902.72	9,175.79	0.00	0.00	0.00
19,100.00	90.38	179.67	10,121.22	-9,232.05	903.30	9,275.47	0.00	0.00	0.00
19,200.00	90.38	179.67	10,120.56	-9,332.05	903.89	9,375.15	0.00	0.00	0.00
19,300.00	90.38	179.67	10,119.89	-9,432.04	904.47	9,474.83	0.00	0.00	0.00
19,400.00	90.38	179.67	10,119.23	-9,532.04	905.06	9,574.51	0.00	0.00	0.00
19,500.00	90.38	179.67	10,118.57	-9,632.03	905.64	9,674.19	0.00	0.00	0.00
19,600.00	90.38	179.67	10,117.91	-9,732.03	906.22	9,773.87	0.00	0.00	0.00
19,700.00	90.38	179.67	10,117.25	-9,832.03	906.81	9,873.55	0.00	0.00	0.00
19,800.00	90.38	179.67	10,116.59	-9,932.02	907.39	9,973.23	0.00	0.00	0.00
19,900.00	90.38	179.67	10,115.93	-10,032.02	907.98	10,072.91	0.00	0.00	0.00
20,000.00	90.38	179.67	10,115.27	-10,132.01	908.56	10,172.59	0.00	0.00	0.00
20,100.00	90.38	179.67	10,114.61	-10,232.01	909.15	10,272.27	0.00	0.00	0.00
20,200.00	90.38	179.67	10,113.95	-10,332.01	909.73	10,371.95	0.00	0.00	0.00
20,300.00	90.38	179.67	10,113.29	-10,432.00	910.31	10,471.63	0.00	0.00	0.00
20,400.00	90.38	179.67	10,112.63	-10,532.00	910.90	10,571.31	0.00	0.00	0.00
LTP - HH SO 10 15 Fed 0026									
20,495.03	90.38	179.67	10,112.00	-10,627.02	911.45	10,666.04	0.00	0.00	0.00
TD at 20495.03 - BHL - HH SO 10 15 Fed 0026									



Phoenix Technology Services LP

Planning Report



Database: Compass 5000 GCR
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Site: HH SO 10 15 Fed
Well: 0026
Wellbore: OH
Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

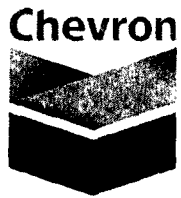
Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL - HH SO 10 15 F - plan hits target center - Point	0.00	0.00	10,112.00	-10,627.02	911.45	376,684.89	547,241.95	32° 2' 7.90681 N 04° 10' 51 16296 W	
LTP - HH SO 10 15 F - plan misses target center by 45.02usft at 20400.00usft MD (10112.63 TVD, -10532.00 N, 910.90 E) - Point	0.00	0.00	10,112.00	-10,577.02	911.16	376,734.89	547,241.65	32° 2' 8.40168 N 04° 10' 51 16559 W	
MP - HH SO 10 15 Fe - plan hits target center - Point	0.00	0.00	10,145.00	-5,615.75	881.68	381,696.16	547,212.17	32° 2' 57.50195 N 04° 10' 51 42677 W	
FTP - HH SO 10 15 F - plan hits target center - Point	0.00	0.00	10,158.00	-654.35	761.46	386,657.56	547,091.96	32° 3' 46.60470 N 04° 10' 52.74241 W	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,800.00	1,800.00	0.00	0.00	KOP, Begin 2.00°/100' Build
2,061.36	2,061.00	1.38	11.83	Hold 5.23° Inc at 96.66° Azm
9,626.50	9,594.67	-81.35	696.40	Begin 10.00°/100' Build & Turn
10,520.68	10,158.00	-654.35	761.46	LP, Hold 90.15° Inc at 178.61° Azm
15,483.56	10,145.00	-5,615.75	881.68	Begin 2.00°/100' Build & Turn
15,537.44	10,144.75	-5,669.63	882.49	Hold 90.38° Inc at 179.67° Azm
20,495.03	10,112.00	-10,627.02	911.45	TD at 20495.03



Chevron

**Eddy County, NM (NAD27 NME)
HH SO 10 15 Fed
0026**

**OH
Plan 1 02-01-17**

Anticollision Report

01 February, 2017





Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Reference	Plan 1 02-01-17				
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria				
Interpolation Method:	MD Interval 100.00usft		Error Model:	ISCWSA	
Depth Range:	Unlimited		Scan Method:	Closest Approach 3D	
Results Limited by:	Maximum center-center distance of 10,000.00 u		Error Surface:	Elliptical Conic	
Warning Levels Evaluated at:	3.00 Sigma		Casing Method:	Not applied	

Survey Tool Program **Date** 2/1/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	20,495.03	Plan 1 02-01-17 (OH)	MWD+HDGM	OWSG Rev.2 MWD + HDGM

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
HH SO 10 15 Fed						
0021 - OH - Plan 1 02-01-17	1,999.44	2,002.53	124.12	103.36	5.979	CC
0021 - OH - Plan 1 02-01-17	2,100.00	2,101.88	125.10	103.30	5.739	ES
0021 - OH - Plan 1 02-01-17	20,495.03	19,557.33	1,574.47	1,172.01	3.912	SF
0022 - OH - Plan 1 02-01-17	2,345.12	2,346.41	99.24	74.89	4.076	CC
0022 - OH - Plan 1 02-01-17	3,300.00	3,300.70	104.79	70.21	3.030	ES
0022 - OH - Plan 1 02-01-17	5,900.00	5,899.08	159.78	97.10	2.549	SF
0023 - OH - Plan 1 02-01-17	2,001.02	2,003.48	73.61	52.83	3.543	CC, ES
0023 - OH - Plan 1 02-01-17	20,495.03	20,266.00	1,317.30	861.75	2.892	SF
0024 - OH - Plan 1 02-01-17	2,120.76	2,122.49	49.38	27.38	2.244	CC
0024 - OH - Plan 1 02-01-17	2,300.00	2,301.50	50.19	26.32	2.103	ES
0024 - OH - Plan 1 02-01-17	20,495.03	20,173.70	525.62	125.22	1.313	Level 3, SF
0025 - OH - Plan 1 02-01-17	1,920.45	1,921.42	24.87	4.92	1.247	Level 2, CC
0025 - OH - Plan 1 02-01-17	2,000.00	2,000.84	25.27	4.48	1.216	Level 2, ES, SF
HH SO 10 P3						
#15H - OH - Plan 2 11-18-16	15,400.00	15,394.16	839.70	570.35	3.118	CC
#15H - OH - Plan 2 11-18-16	20,495.03	20,504.55	840.02	359.75	1.749	ES, SF
#16H - OH - Plan 2 11-18-16	2,629.88	2,539.25	1,235.77	1,208.99	46.146	CC
#16H - OH - Plan 2 11-18-16	20,495.03	20,649.86	1,682.00	1,202.11	3.505	ES, SF
#23H - OH - Plan 2 11-18-16	8,975.69	8,921.97	709.31	614.68	7.496	CC
#23H - OH - Plan 2 11-18-16	9,000.00	8,938.86	709.48	614.62	7.479	ES
#23H - OH - Plan 2 11-18-16	20,495.03	19,476.00	1,162.47	835.20	3.552	SF
#24H - OH - Plan 2 11-18-16	2,619.04	2,527.76	1,212.57	1,185.91	45.487	CC
#24H - OH - Plan 2 11-18-16	2,700.00	2,600.00	1,213.24	1,185.78	44.195	ES
#24H - OH - Plan 2 11-18-16	20,495.03	19,582.15	1,728.55	1,287.53	3.919	SF
#7H - OH - Plan 2 11-18-16	9,612.64	9,578.70	481.89	380.33	4.745	CC
#7H - OH - Plan 2 11-18-16	20,495.03	20,161.81	533.16	122.67	1.299	Level 3, ES, SF
#8H - OH - Plan 2 11-18-16	2,656.93	2,563.81	1,221.66	1,194.63	45.187	CC
#8H - OH - Plan 2 11-18-16	20,495.03	20,242.89	1,288.32	814.14	2.717	ES, SF

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0021 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	3.00	0.00	0.00	0.01	-179.31	-124.91	-1.49	124.92					
100.00	100.00	103.00	100.00	0.19	0.21	-179.31	-124.91	-1.49	124.92	124.51	0.40	309.754		
200.00	200.00	203.00	200.00	0.73	0.75	-179.31	-124.91	-1.49	124.92	123.44	1.48	84.478		
300.00	300.00	303.00	300.00	1.27	1.29	-179.31	-124.91	-1.49	124.92	122.36	2.55	48.909		
400.00	400.00	403.00	400.00	1.81	1.82	-179.31	-124.91	-1.49	124.92	121.29	3.63	34.417		
500.00	500.00	503.00	500.00	2.34	2.36	-179.31	-124.91	-1.49	124.92	120.21	4.70	26.550		
600.00	600.00	603.00	600.00	2.88	2.90	-179.31	-124.91	-1.49	124.92	119.14	5.78	21.611		
700.00	700.00	703.00	700.00	3.42	3.44	-179.31	-124.91	-1.49	124.92	118.06	6.86	18.221		
800.00	800.00	803.00	800.00	3.96	3.97	-179.31	-124.91	-1.49	124.92	116.99	7.93	15.750		
900.00	900.00	903.00	900.00	4.50	4.51	-179.31	-124.91	-1.49	124.92	115.91	9.01	13.870		
1,000.00	1,000.00	1,003.00	1,000.00	5.03	5.05	-179.31	-124.91	-1.49	124.92	114.84	10.08	12.390		
1,100.00	1,100.00	1,103.00	1,100.00	5.57	5.59	-179.31	-124.91	-1.49	124.92	113.76	11.16	11.196		
1,200.00	1,200.00	1,203.00	1,200.00	6.11	6.12	-179.31	-124.91	-1.49	124.92	112.69	12.23	10.212		
1,300.00	1,300.00	1,303.00	1,300.00	6.65	6.66	-179.31	-124.91	-1.49	124.92	111.61	13.31	9.386		
1,400.00	1,400.00	1,403.00	1,400.00	7.18	7.20	-179.31	-124.91	-1.49	124.92	110.53	14.38	8.685		
1,500.00	1,500.00	1,503.00	1,500.00	7.72	7.74	-179.31	-124.91	-1.49	124.92	109.46	15.46	8.081		
1,600.00	1,600.00	1,603.00	1,600.00	8.26	8.28	-179.31	-124.91	-1.49	124.92	108.38	16.53	7.555		
1,700.00	1,700.00	1,703.00	1,700.00	8.80	8.81	-179.31	-124.91	-1.49	124.92	107.31	17.61	7.094		
1,800.00	1,800.00	1,803.02	1,800.02	9.33	9.35	-179.31	-124.91	-1.50	124.92	106.23	18.69	6.685		
1,900.00	1,899.98	1,903.42	1,900.40	9.86	9.88	85.68	-124.66	-3.34	124.56	104.83	19.74	6.311		
1,999.44	1,999.28	2,002.53	1,999.36	10.37	10.39	90.50	-123.96	-8.59	124.12	103.36	20.76	5.979 CC		
2,000.00	1,999.84	2,003.08	1,999.91	10.37	10.40	90.54	-123.95	-8.62	124.12	103.35	20.77	5.977		
2,100.00	2,099.48	2,101.88	2,098.46	10.89	10.91	97.54	-123.02	-15.51	125.10	103.30	21.80	5.739 ES		
2,200.00	2,199.06	2,200.57	2,196.91	11.41	11.43	104.61	-122.10	-22.39	128.11	105.28	22.84	5.610		
2,300.00	2,298.65	2,299.27	2,295.37	11.94	11.95	111.27	-121.17	-29.27	133.02	109.14	23.87	5.572		
2,400.00	2,398.23	2,397.97	2,393.82	12.47	12.48	117.39	-120.25	-36.15	139.62	114.70	24.91	5.604		
2,500.00	2,497.81	2,496.66	2,492.27	13.00	13.00	122.91	-119.32	-43.03	147.68	121.73	25.95	5.691		
2,600.00	2,597.40	2,595.36	2,590.72	13.54	13.53	127.83	-118.40	-49.91	156.98	129.99	26.99	5.816		
2,700.00	2,696.98	2,694.06	2,689.18	14.08	14.06	132.18	-117.47	-56.79	167.32	139.29	28.03	5.969		
2,800.00	2,796.57	2,792.75	2,787.63	14.62	14.59	136.01	-116.55	-63.67	178.51	149.44	29.07	6.141		
2,900.00	2,896.15	2,891.45	2,886.08	15.17	15.13	139.38	-115.62	-70.55	190.40	160.29	30.11	6.323		
3,000.00	2,995.73	2,990.15	2,984.53	15.71	15.66	142.35	-114.70	-77.42	202.88	171.72	31.16	6.512		
3,100.00	3,095.32	3,088.85	3,082.99	16.26	16.19	144.98	-113.77	-84.30	215.83	183.63	32.20	6.703		
3,200.00	3,194.90	3,187.54	3,181.44	16.81	16.73	147.30	-112.85	-91.18	229.18	195.94	33.25	6.893		
3,300.00	3,294.49	3,286.24	3,279.89	17.36	17.27	149.37	-111.92	-98.06	242.87	208.57	34.30	7.082		
3,400.00	3,394.07	3,384.94	3,378.34	17.91	17.80	151.22	-111.00	-104.94	256.83	221.48	35.34	7.266		
3,500.00	3,493.65	3,483.63	3,476.80	18.46	18.34	152.87	-110.07	-111.82	271.03	234.63	36.40	7.447		
3,600.00	3,593.24	3,582.33	3,575.25	19.01	18.88	154.37	-109.15	-118.70	285.43	247.98	37.45	7.622		
3,700.00	3,692.82	3,681.03	3,673.70	19.57	19.42	155.71	-108.22	-125.58	300.00	261.50	38.50	7.792		
3,800.00	3,792.41	3,779.72	3,772.15	20.12	19.96	156.94	-107.30	-132.46	314.72	275.16	39.56	7.956		
3,900.00	3,891.99	3,878.42	3,870.61	20.68	20.50	158.05	-106.37	-139.34	329.57	288.95	40.61	8.115		
4,000.00	3,991.58	3,977.12	3,969.06	21.24	21.04	159.07	-105.45	-146.22	344.53	302.86	41.67	8.268		
4,100.00	4,091.16	4,075.81	4,067.51	21.79	21.58	160.00	-104.52	-153.10	359.58	316.86	42.73	8.416		
4,200.00	4,190.74	4,174.51	4,165.96	22.35	22.12	160.86	-103.60	-159.98	374.73	330.94	43.79	8.558		
4,300.00	4,290.33	4,273.21	4,264.42	22.91	22.67	161.65	-102.67	-166.86	389.95	345.10	44.85	8.695		
4,400.00	4,389.91	4,371.90	4,362.87	23.47	23.21	162.38	-101.75	-173.74	405.23	359.33	45.91	8.827		
4,500.00	4,489.50	4,470.60	4,461.32	24.03	23.75	163.06	-100.82	-180.61	420.58	373.61	46.97	8.955		
4,600.00	4,589.08	4,569.30	4,559.77	24.59	24.29	163.69	-99.89	-187.49	435.98	387.95	48.03	9.077		
4,700.00	4,688.66	4,668.00	4,658.23	25.15	24.84	164.28	-98.97	-194.37	451.43	402.34	49.09	9.196		
4,800.00	4,788.25	4,766.69	4,756.68	25.71	25.38	164.83	-98.04	-201.25	466.92	416.76	50.16	9.310		
4,900.00	4,887.83	4,865.39	4,855.13	26.27	25.92	165.34	-97.12	-208.13	482.45	431.23	51.22	9.419		
5,000.00	4,987.42	4,964.09	4,953.58	26.83	26.47	165.82	-96.19	-215.01	498.02	445.73	52.28	9.525		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0021 - OH - Plan 1 02-01-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (')	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,087.00	5,062.78	5,052.04	27.39	27.01	166.27	-95.27	-221.89	513.62	460.27	53.35	9.628	
5,200.00	5,186.59	5,161.48	5,150.49	27.95	27.56	166.70	-94.34	-228.77	529.24	474.83	54.41	9.726	
5,300.00	5,286.17	5,260.18	5,248.94	28.52	28.10	167.10	-93.42	-235.65	544.90	489.42	55.48	9.822	
5,400.00	5,385.75	5,358.87	5,347.39	29.08	28.65	167.48	-92.49	-242.53	560.58	504.03	56.55	9.914	
5,500.00	5,485.34	5,457.57	5,445.85	29.64	29.19	167.84	-91.57	-249.41	576.28	518.67	57.61	10.003	
5,600.00	5,584.92	5,556.27	5,544.30	30.21	29.74	168.18	-90.64	-256.29	592.01	533.33	58.68	10.089	
5,700.00	5,684.51	5,654.96	5,642.75	30.77	30.28	168.50	-89.72	-263.17	607.75	548.00	59.75	10.172	
5,800.00	5,784.09	5,753.66	5,741.20	31.33	30.83	168.81	-88.79	-270.05	623.51	562.70	60.81	10.253	
5,900.00	5,883.67	5,852.36	5,839.66	31.90	31.37	169.10	-87.87	-276.92	639.29	577.40	61.88	10.331	
6,000.00	5,983.26	5,951.06	5,938.11	32.46	31.92	169.37	-86.94	-283.80	655.08	592.13	62.95	10.406	
6,100.00	6,082.84	6,049.75	6,036.56	33.02	32.46	169.64	-86.02	-290.68	670.89	606.87	64.02	10.479	
6,200.00	6,182.43	6,148.45	6,135.01	33.59	33.01	169.89	-85.09	-297.56	686.70	621.62	65.09	10.550	
6,300.00	6,282.01	6,247.15	6,233.47	34.15	33.56	170.13	-84.17	-304.44	702.54	636.38	66.16	10.619	
6,400.00	6,381.59	6,345.84	6,331.92	34.72	34.10	170.36	-83.24	-311.32	718.38	651.15	67.23	10.686	
6,500.00	6,481.18	6,444.54	6,430.37	35.28	34.65	170.58	-82.32	-318.20	734.23	665.94	68.30	10.751	
6,600.00	6,580.76	6,543.24	6,528.82	35.85	35.19	170.79	-81.39	-325.08	750.10	680.73	69.37	10.814	
6,700.00	6,680.35	6,641.93	6,627.28	36.41	35.74	170.99	-80.47	-331.96	765.97	695.54	70.44	10.875	
6,800.00	6,779.93	6,740.63	6,725.73	36.98	36.29	171.18	-79.54	-338.84	781.86	710.35	71.51	10.934	
6,900.00	6,879.52	6,839.33	6,824.18	37.54	36.83	171.37	-78.62	-345.72	797.75	725.17	72.58	10.992	
7,000.00	6,979.10	6,938.02	6,922.63	38.11	37.38	171.55	-77.69	-352.60	813.65	740.00	73.65	11.048	
7,100.00	7,078.68	7,036.72	7,021.09	38.67	37.93	171.72	-76.77	-359.48	829.55	754.83	74.72	11.102	
7,200.00	7,178.27	7,135.42	7,119.54	39.24	38.48	171.88	-75.84	-366.36	845.46	769.67	75.79	11.155	
7,300.00	7,277.85	7,234.12	7,217.99	39.80	39.02	172.04	-74.92	-373.24	861.38	784.52	76.86	11.207	
7,400.00	7,377.44	7,332.81	7,316.45	40.37	39.57	172.20	-73.99	-380.11	877.31	799.38	77.93	11.257	
7,500.00	7,477.02	7,431.51	7,414.90	40.94	40.12	172.34	-73.06	-386.99	893.24	814.24	79.01	11.306	
7,600.00	7,576.60	7,530.21	7,513.35	41.50	40.66	172.49	-72.14	-393.87	909.18	829.10	80.08	11.354	
7,700.00	7,676.19	7,628.90	7,611.80	42.07	41.21	172.63	-71.21	-400.75	925.12	843.97	81.15	11.400	
7,800.00	7,775.77	7,727.60	7,710.26	42.63	41.76	172.76	-70.29	-407.63	941.07	858.85	82.22	11.445	
7,900.00	7,875.36	7,826.30	7,808.71	43.20	42.30	172.89	-69.36	-414.51	957.02	873.73	83.30	11.490	
8,000.00	7,974.94	7,924.99	7,907.16	43.77	42.85	173.01	-68.44	-421.39	972.98	888.61	84.37	11.533	
8,100.00	8,074.52	8,023.69	8,005.61	44.33	43.40	173.13	-67.51	-428.27	988.94	903.50	85.44	11.575	
8,200.00	8,174.11	8,122.39	8,104.07	44.90	43.95	173.25	-66.59	-435.15	1,004.91	918.40	86.51	11.616	
8,300.00	8,273.69	8,221.08	8,202.52	45.47	44.49	173.36	-65.66	-442.03	1,020.88	933.29	87.59	11.656	
8,400.00	8,373.28	8,319.78	8,300.97	46.03	45.04	173.47	-64.74	-448.91	1,036.85	948.19	88.66	11.695	
8,500.00	8,472.86	8,418.48	8,399.42	46.60	45.59	173.58	-63.81	-455.79	1,052.83	963.10	89.73	11.733	
8,600.00	8,572.45	8,517.18	8,497.88	47.17	46.14	173.68	-62.89	-462.67	1,068.81	978.00	90.81	11.770	
8,700.00	8,672.03	8,615.87	8,596.33	47.73	46.69	173.78	-61.96	-469.55	1,084.79	992.91	91.88	11.806	
8,800.00	8,771.61	8,717.96	8,698.11	48.30	47.24	173.75	-63.47	-476.60	1,100.70	1,007.73	92.97	11.840	
8,900.00	8,871.20	8,820.57	8,798.84	48.87	47.77	172.88	-81.10	-483.19	1,116.22	1,022.19	94.03	11.870	
9,000.00	8,970.78	8,914.73	8,887.21	49.43	48.22	171.31	-112.88	-488.58	1,132.02	1,036.98	95.04	11.911	
9,100.00	9,070.37	8,997.14	8,959.40	50.00	48.57	169.37	-152.25	-492.66	1,149.34	1,053.37	95.97	11.976	
9,200.00	9,169.95	9,067.11	9,015.76	50.57	48.84	167.36	-193.54	-495.59	1,169.49	1,072.65	96.84	12.077	
9,300.00	9,269.53	9,125.61	9,058.76	51.13	49.05	165.45	-233.13	-497.63	1,193.54	1,095.90	97.84	12.223	
9,400.00	9,369.12	9,174.30	9,091.32	51.70	49.22	163.73	-269.28	-499.03	1,222.23	1,123.83	98.41	12.420	
9,500.00	9,468.70	9,214.91	9,116.06	52.27	49.36	162.22	-301.45	-499.97	1,255.96	1,156.83	99.13	12.670	
9,600.00	9,568.29	9,250.00	9,135.56	52.84	49.49	160.86	-330.61	-500.63	1,294.86	1,195.04	99.82	12.972	
9,700.00	9,667.61	9,279.88	9,150.74	53.40	49.59	107.11	-356.34	-501.07	1,337.87	1,237.12	100.75	13.279	
9,800.00	9,764.49	9,313.26	9,166.10	53.95	49.71	84.92	-385.98	-501.42	1,381.38	1,279.82	101.56	13.602	
9,900.00	9,856.00	9,350.00	9,180.97	54.49	49.85	74.33	-419.56	-501.65	1,423.35	1,321.77	101.58	14.012	
10,000.00	9,939.34	9,385.68	9,193.33	54.99	50.00	67.35	-453.02	-501.70	1,462.14	1,361.71	100.43	14.559	
10,100.00	10,011.99	9,423.81	9,204.22	55.47	50.16	62.25	-489.56	-501.58	1,496.37	1,398.29	98.08	15.257	
10,200.00	10,071.73	9,450.00	9,210.28	55.94	50.27	58.64	-515.03	-501.39	1,525.04	1,430.10	94.94	16.063	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0021 - OH - Plan 1 02-01-17												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
10,300.00	10,116.76	9,500.00	9,218.61	56.42	50.50	55.90	-564.31	-500.78	1,546.92	1,455.30	91.62	16.885	
10,400.00	10,145.70	9,550.00	9,222.62	56.93	50.74	54.20	-614.13	-499.86	1,561.78	1,472.79	88.99	17.550	
10,500.00	10,157.68	9,596.85	9,222.91	57.47	50.97	53.45	-660.96	-498.75	1,568.86	1,481.03	87.83	17.862	
10,600.00	10,157.79	9,696.84	9,222.55	58.05	51.53	53.41	-760.92	-496.32	1,569.16	1,480.50	88.66	17.698	
10,700.00	10,157.53	9,796.84	9,222.19	58.69	52.16	53.41	-860.89	-493.89	1,569.21	1,479.44	89.77	17.481	
10,800.00	10,157.27	9,896.84	9,221.83	59.41	52.87	53.41	-960.86	-491.45	1,569.26	1,478.25	91.01	17.242	
10,900.00	10,157.01	9,996.84	9,221.47	60.20	53.66	53.41	-1,060.83	-489.02	1,569.31	1,476.92	92.39	16.985	
11,000.00	10,156.74	10,096.84	9,221.10	61.05	54.52	53.40	-1,160.80	-486.58	1,569.36	1,475.46	93.90	16.713	
11,100.00	10,156.48	10,196.84	9,220.74	61.96	55.46	53.40	-1,260.77	-484.15	1,569.41	1,473.88	95.54	16.428	
11,200.00	10,156.22	10,296.84	9,220.38	62.94	56.45	53.40	-1,360.74	-481.72	1,569.46	1,472.18	97.28	16.133	
11,300.00	10,155.96	10,396.84	9,220.02	63.97	57.52	53.39	-1,460.71	-479.28	1,569.51	1,470.37	99.15	15.830	
11,400.00	10,155.70	10,496.84	9,219.65	65.05	58.64	53.39	-1,560.68	-476.85	1,569.57	1,468.45	101.11	15.523	
11,500.00	10,155.43	10,596.84	9,219.29	66.19	59.82	53.39	-1,660.65	-474.42	1,569.62	1,466.44	103.17	15.213	
11,600.00	10,155.17	10,696.84	9,218.93	67.38	61.05	53.38	-1,760.62	-471.98	1,569.67	1,464.33	105.33	14.902	
11,700.00	10,154.91	10,796.84	9,218.57	68.62	62.34	53.38	-1,860.59	-469.55	1,569.72	1,462.14	107.58	14.592	
11,800.00	10,154.65	10,896.84	9,218.20	69.90	63.67	53.38	-1,960.56	-467.11	1,569.77	1,459.87	109.90	14.283	
11,900.00	10,154.39	10,996.84	9,217.84	71.23	65.05	53.37	-2,060.53	-464.68	1,569.82	1,457.51	112.31	13.978	
12,000.00	10,154.13	11,096.84	9,217.48	72.59	66.46	53.37	-2,160.50	-462.25	1,569.87	1,455.09	114.78	13.677	
12,100.00	10,153.86	11,196.84	9,217.12	73.99	67.92	53.37	-2,260.47	-459.81	1,569.92	1,452.60	117.32	13.381	
12,200.00	10,153.60	11,296.84	9,216.75	75.43	69.42	53.36	-2,360.44	-457.38	1,569.97	1,450.04	119.93	13.091	
12,300.00	10,153.34	11,396.84	9,216.39	76.91	70.95	53.36	-2,460.41	-454.94	1,570.02	1,447.43	122.59	12.807	
12,400.00	10,153.08	11,496.84	9,216.03	78.41	72.51	53.36	-2,560.38	-452.51	1,570.07	1,444.76	125.31	12.529	
12,500.00	10,152.82	11,596.84	9,215.67	79.95	74.10	53.35	-2,660.35	-450.08	1,570.12	1,442.04	128.08	12.259	
12,600.00	10,152.55	11,696.84	9,215.31	81.51	75.72	53.35	-2,760.32	-447.64	1,570.17	1,439.27	130.90	11.995	
12,700.00	10,152.29	11,796.84	9,214.94	83.10	77.37	53.35	-2,860.29	-445.21	1,570.22	1,436.45	133.77	11.738	
12,800.00	10,152.03	11,896.84	9,214.58	84.72	79.04	53.34	-2,960.26	-442.77	1,570.27	1,433.60	136.68	11.489	
12,900.00	10,151.77	11,996.84	9,214.22	86.36	80.74	53.34	-3,060.23	-440.34	1,570.32	1,430.70	139.63	11.247	
13,000.00	10,151.51	12,096.84	9,213.86	88.03	82.46	53.34	-3,160.20	-437.91	1,570.37	1,427.76	142.61	11.012	
13,100.00	10,151.24	12,196.84	9,213.49	89.71	84.20	53.34	-3,260.17	-435.47	1,570.43	1,424.79	145.63	10.784	
13,200.00	10,150.98	12,296.84	9,213.13	91.42	85.96	53.33	-3,360.14	-433.04	1,570.48	1,421.79	148.68	10.562	
13,300.00	10,150.72	12,396.84	9,212.77	93.14	87.73	53.33	-3,460.11	-430.60	1,570.53	1,418.76	151.77	10.348	
13,400.00	10,150.46	12,496.84	9,212.41	94.89	89.53	53.33	-3,560.08	-428.17	1,570.58	1,415.70	154.88	10.141	
13,500.00	10,150.20	12,596.84	9,212.04	96.65	91.34	53.32	-3,660.04	-425.74	1,570.63	1,412.61	158.02	9.939	
13,600.00	10,149.93	12,696.84	9,211.68	98.42	93.16	53.32	-3,760.01	-423.30	1,570.68	1,409.49	161.19	9.744	
13,700.00	10,149.67	12,796.84	9,211.32	100.21	95.00	53.32	-3,859.98	-420.87	1,570.73	1,406.35	164.38	9.556	
13,800.00	10,149.41	12,896.84	9,210.96	102.02	96.86	53.31	-3,959.95	-418.44	1,570.78	1,403.19	167.59	9.373	
13,900.00	10,149.15	12,996.84	9,210.59	103.84	98.72	53.31	-4,059.92	-416.00	1,570.83	1,400.00	170.83	9.195	
14,000.00	10,148.89	13,096.84	9,210.23	105.68	100.60	53.31	-4,159.89	-413.57	1,570.88	1,396.80	174.08	9.024	
14,100.00	10,148.62	13,196.84	9,209.87	107.52	102.49	53.30	-4,259.86	-411.13	1,570.93	1,393.58	177.36	8.858	
14,200.00	10,148.36	13,296.84	9,209.51	109.38	104.39	53.30	-4,359.83	-408.70	1,570.98	1,390.33	180.65	8.696	
14,300.00	10,148.10	13,396.84	9,209.15	111.25	106.30	53.30	-4,459.80	-406.27	1,571.03	1,387.08	183.96	8.540	
14,400.00	10,147.84	13,496.84	9,208.78	113.13	108.22	53.29	-4,559.77	-403.83	1,571.08	1,383.80	187.28	8.389	
14,500.00	10,147.58	13,596.84	9,208.42	115.02	110.15	53.29	-4,659.74	-401.40	1,571.13	1,380.51	190.62	8.242	
14,600.00	10,147.31	13,696.84	9,208.06	116.92	112.09	53.29	-4,759.71	-398.96	1,571.18	1,377.21	193.98	8.100	
14,700.00	10,147.05	13,796.84	9,207.70	118.82	114.04	53.28	-4,859.68	-396.53	1,571.24	1,373.89	197.35	7.962	
14,800.00	10,146.79	13,896.84	9,207.33	120.74	115.99	53.28	-4,959.65	-394.10	1,571.29	1,370.55	200.73	7.828	
14,900.00	10,146.53	13,996.84	9,206.97	122.67	117.95	53.28	-5,059.62	-391.66	1,571.34	1,367.21	204.13	7.698	
15,000.00	10,146.27	14,096.84	9,206.61	124.60	119.92	53.27	-5,159.59	-389.23	1,571.39	1,363.85	207.53	7.572	
15,100.00	10,146.00	14,196.84	9,206.25	126.54	121.90	53.27	-5,259.56	-386.79	1,571.44	1,360.49	210.95	7.449	
15,200.00	10,145.74	14,296.84	9,205.88	128.49	123.88	53.27	-5,359.53	-384.36	1,571.49	1,357.11	214.38	7.330	
15,300.00	10,145.48	14,396.84	9,205.52	130.45	125.87	53.26	-5,459.50	-381.93	1,571.54	1,353.72	217.82	7.215	
15,400.00	10,145.22	14,496.84	9,205.16	132.41	127.86	53.26	-5,559.47	-379.49	1,571.59	1,350.32	221.27	7.103	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0021 - OH - Plan 1 02-01-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDCM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	10,144.95	14,578.29	9,204.82	134.38	129.49	53.26	-5,640.89	-377.75	1,571.93	1,347.55	224.38	7.006	
15,600.00	10,144.34	14,669.99	9,204.15	136.34	131.32	53.27	-5,732.59	-377.17	1,572.13	1,344.51	227.62	6.907	
15,700.00	10,143.68	14,769.99	9,203.41	138.31	133.33	53.27	-5,832.59	-376.58	1,572.18	1,341.10	231.08	6.804	
15,800.00	10,143.02	14,869.99	9,202.67	140.28	135.33	53.26	-5,932.58	-376.00	1,572.23	1,337.67	234.55	6.703	
15,900.00	10,142.36	14,969.99	9,201.93	142.26	137.35	53.26	-6,032.58	-375.41	1,572.27	1,334.24	238.03	6.605	
16,000.00	10,141.70	15,069.99	9,201.19	144.24	139.36	53.26	-6,132.58	-374.83	1,572.32	1,330.81	241.52	6.510	
16,100.00	10,141.04	15,169.99	9,200.45	146.23	141.38	53.26	-6,232.57	-374.24	1,572.37	1,327.36	245.01	6.418	
16,200.00	10,140.37	15,269.99	9,199.71	148.22	143.41	53.26	-6,332.57	-373.66	1,572.42	1,323.91	248.51	6.327	
16,300.00	10,139.71	15,369.99	9,198.97	150.22	145.44	53.25	-6,432.56	-373.08	1,572.46	1,320.45	252.01	6.240	
16,400.00	10,139.05	15,469.99	9,198.23	152.22	147.47	53.25	-6,532.56	-372.49	1,572.51	1,316.98	255.53	6.154	
16,500.00	10,138.39	15,569.99	9,197.49	154.23	149.50	53.25	-6,632.55	-371.91	1,572.56	1,313.51	259.04	6.071	
16,600.00	10,137.73	15,669.99	9,196.75	156.24	151.54	53.25	-6,732.55	-371.32	1,572.61	1,310.04	262.57	5.989	
16,700.00	10,137.07	15,769.99	9,196.01	158.26	153.59	53.24	-6,832.54	-370.74	1,572.65	1,306.55	266.10	5.910	
16,800.00	10,136.41	15,869.99	9,195.27	160.27	155.63	53.24	-6,932.54	-370.15	1,572.70	1,303.07	269.63	5.833	
16,900.00	10,135.75	15,969.99	9,194.53	162.30	157.68	53.24	-7,032.54	-369.57	1,572.75	1,299.58	273.17	5.757	
17,000.00	10,135.09	16,069.99	9,193.79	164.32	159.73	53.24	-7,132.53	-368.99	1,572.79	1,296.08	276.72	5.684	
17,100.00	10,134.43	16,169.99	9,193.05	166.35	161.79	53.23	-7,232.53	-368.40	1,572.84	1,292.58	280.27	5.612	
17,200.00	10,133.77	16,269.99	9,192.31	168.38	163.84	53.23	-7,332.52	-367.82	1,572.89	1,289.07	283.82	5.542	
17,300.00	10,133.11	16,369.99	9,191.57	170.42	165.90	53.23	-7,432.52	-367.23	1,572.94	1,285.56	287.38	5.473	
17,400.00	10,132.45	16,469.99	9,190.83	172.46	167.96	53.23	-7,532.51	-366.65	1,572.98	1,282.05	290.94	5.407	
17,500.00	10,131.79	16,569.99	9,190.09	174.50	170.03	53.23	-7,632.51	-366.06	1,573.03	1,278.53	294.50	5.341	
17,600.00	10,131.13	16,669.99	9,189.36	176.54	172.10	53.22	-7,732.50	-365.48	1,573.08	1,275.01	298.07	5.277	
17,700.00	10,130.47	16,769.99	9,188.62	178.59	174.16	53.22	-7,832.50	-364.90	1,573.13	1,271.48	301.65	5.215	
17,800.00	10,129.80	16,869.99	9,187.88	180.64	176.24	53.22	-7,932.49	-364.31	1,573.17	1,267.95	305.22	5.154	
17,900.00	10,129.14	16,969.99	9,187.14	182.69	178.31	53.22	-8,032.49	-363.73	1,573.22	1,264.42	308.80	5.095	
18,000.00	10,128.48	17,069.99	9,186.40	184.74	180.38	53.21	-8,132.49	-363.14	1,573.27	1,260.88	312.39	5.036	
18,100.00	10,127.82	17,169.99	9,185.66	186.80	182.46	53.21	-8,232.48	-362.56	1,573.32	1,257.34	315.97	4.979	
18,200.00	10,127.16	17,269.99	9,184.92	188.86	184.54	53.21	-8,332.48	-361.97	1,573.36	1,253.80	319.56	4.923	
18,300.00	10,126.50	17,369.99	9,184.18	190.92	186.62	53.21	-8,432.47	-361.39	1,573.41	1,250.25	323.16	4.869	
18,400.00	10,125.84	17,469.99	9,183.44	192.98	188.70	53.21	-8,532.47	-360.81	1,573.46	1,246.71	326.75	4.815	
18,500.00	10,125.18	17,569.99	9,182.70	195.05	190.79	53.20	-8,632.46	-360.22	1,573.50	1,243.15	330.35	4.763	
18,600.00	10,124.52	17,669.99	9,181.96	197.11	192.87	53.20	-8,732.46	-359.64	1,573.55	1,239.60	333.95	4.712	
18,700.00	10,123.86	17,769.99	9,181.22	199.18	194.96	53.20	-8,832.45	-359.05	1,573.60	1,236.04	337.56	4.662	
18,800.00	10,123.20	17,869.99	9,180.48	201.25	197.05	53.20	-8,932.45	-358.47	1,573.65	1,232.49	341.16	4.613	
18,900.00	10,122.54	17,969.99	9,179.74	203.33	199.14	53.19	-9,032.45	-357.89	1,573.69	1,228.92	344.77	4.564	
19,000.00	10,121.88	18,069.99	9,179.00	205.40	201.23	53.19	-9,132.44	-357.30	1,573.74	1,225.36	348.38	4.517	
19,100.00	10,121.22	18,169.99	9,178.26	207.48	203.33	53.19	-9,232.44	-356.72	1,573.79	1,221.80	351.99	4.471	
19,200.00	10,120.56	18,269.99	9,177.52	209.55	205.42	53.19	-9,332.43	-356.13	1,573.84	1,218.23	355.61	4.426	
19,300.00	10,119.89	18,369.99	9,176.78	211.63	207.52	53.18	-9,432.43	-355.55	1,573.88	1,214.66	359.23	4.381	
19,400.00	10,119.23	18,469.99	9,176.04	213.72	209.61	53.18	-9,532.42	-354.96	1,573.93	1,211.09	362.85	4.338	
19,500.00	10,118.57	18,569.99	9,175.30	215.80	211.71	53.18	-9,632.42	-354.38	1,573.98	1,207.51	366.47	4.295	
19,600.00	10,117.91	18,669.99	9,174.56	217.88	213.81	53.18	-9,732.41	-353.80	1,574.03	1,203.94	370.09	4.253	
19,700.00	10,117.25	18,769.99	9,173.82	219.97	215.91	53.18	-9,832.41	-353.21	1,574.07	1,200.36	373.72	4.212	
19,800.00	10,116.59	18,869.99	9,173.08	222.05	218.01	53.17	-9,932.41	-352.63	1,574.12	1,196.78	377.34	4.172	
19,900.00	10,115.93	18,969.99	9,172.34	224.14	220.12	53.17	-10,032.40	-352.04	1,574.17	1,193.20	380.97	4.132	
20,000.00	10,115.27	19,069.99	9,171.60	226.23	222.22	53.17	-10,132.40	-351.46	1,574.22	1,189.61	384.60	4.093	
20,100.00	10,114.61	19,169.99	9,170.87	228.32	224.33	53.17	-10,232.39	-350.87	1,574.26	1,186.03	388.23	4.055	
20,200.00	10,113.95	19,269.99	9,170.13	230.42	226.43	53.16	-10,332.39	-350.29	1,574.31	1,182.44	391.87	4.017	
20,300.00	10,113.29	19,369.99	9,169.39	232.51	228.54	53.16	-10,432.38	-349.71	1,574.36	1,178.85	395.50	3.981	
20,400.00	10,112.63	19,469.99	9,168.65	234.60	230.65	53.16	-10,532.38	-349.12	1,574.41	1,175.27	399.14	3.944	
20,449.20	10,112.30	19,519.19	9,168.28	235.63	231.68	53.16	-10,581.57	-348.83	1,574.43	1,173.50	400.93	3.927	
20,495.03	10,112.00	19,557.33	9,168.00	236.59	232.49	53.16	-10,619.72	-348.61	1,574.47	1,172.01	402.46	3.912 SF	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0022 - OH - Plan 1 02-01-17														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HODGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (")	Distance		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)										
0.00	0.00	2.00	0.00	0.00	0.00	-179.15	-99.99	-1.48	100.00						
100.00	100.00	102.00	100.00	0.19	0.20	-179.15	-99.99	-1.48	100.00			99.60	0.40	251.317	
200.00	200.00	202.00	200.00	0.73	0.74	-179.15	-99.99	-1.48	100.00			98.53	1.47	67.874	
300.00	300.00	302.00	300.00	1.27	1.28	-179.15	-99.99	-1.48	100.00			97.45	2.55	39.235	
400.00	400.00	402.00	400.00	1.81	1.82	-179.15	-99.99	-1.48	100.00			96.38	3.62	27.593	
500.00	500.00	502.00	500.00	2.34	2.36	-179.15	-99.99	-1.48	100.00			95.30	4.70	21.279	
600.00	600.00	602.00	600.00	2.88	2.89	-179.15	-99.99	-1.48	100.00			94.23	5.77	17.316	
700.00	700.00	702.00	700.00	3.42	3.43	-179.15	-99.99	-1.48	100.00			93.15	6.85	14.598	
800.00	800.00	802.00	800.00	3.96	3.97	-179.15	-99.99	-1.48	100.00			92.07	7.93	12.617	
900.00	900.00	902.00	900.00	4.50	4.51	-179.15	-99.99	-1.48	100.00			91.00	9.00	11.110	
1,000.00	1,000.00	1,002.00	1,000.00	5.03	5.04	-179.15	-99.99	-1.48	100.00			89.92	10.08	9.924	
1,100.00	1,100.00	1,102.00	1,100.00	5.57	5.58	-179.15	-99.99	-1.48	100.00			88.85	11.15	8.967	
1,200.00	1,200.00	1,202.00	1,200.00	6.11	6.12	-179.15	-99.99	-1.48	100.00			87.77	12.23	8.178	
1,300.00	1,300.00	1,302.00	1,300.00	6.65	6.66	-179.15	-99.99	-1.48	100.00			86.70	13.30	7.517	
1,400.00	1,400.00	1,402.00	1,400.00	7.18	7.19	-179.15	-99.99	-1.48	100.00			85.62	14.38	6.955	
1,500.00	1,500.00	1,502.00	1,500.00	7.72	7.73	-179.15	-99.99	-1.48	100.00			84.55	15.45	6.471	
1,600.00	1,600.00	1,602.00	1,600.00	8.26	8.27	-179.15	-99.99	-1.48	100.00			83.47	16.53	6.050	
1,700.00	1,700.00	1,702.00	1,700.00	8.80	8.81	-179.15	-99.99	-1.48	100.00			82.40	17.60	5.680	
1,765.99	1,765.99	1,767.99	1,765.99	9.15	9.16	-179.15	-99.99	-1.48	100.00			81.69	18.31	5.460	
1,800.00	1,800.00	1,801.99	1,799.99	9.33	9.35	-179.15	-99.99	-1.48	100.00			81.32	18.68	5.353	
1,900.00	1,899.98	1,901.67	1,899.65	9.86	9.87	84.15	-100.18	0.31	99.99			80.26	19.72	5.069	
2,000.00	1,999.84	2,001.48	1,999.34	10.37	10.38	84.29	-100.71	5.27	99.92			79.17	20.75	4.816	
2,100.00	2,099.48	2,101.44	2,099.13	10.89	10.89	85.93	-101.31	10.83	99.62			77.83	21.78	4.573	
2,200.00	2,199.06	2,201.38	2,198.92	11.41	11.41	87.95	-101.90	16.39	99.37			76.55	22.82	4.354	
2,300.00	2,298.65	2,301.32	2,298.70	11.94	11.94	89.98	-102.49	21.96	99.25			75.38	23.87	4.158	
2,345.12	2,343.58	2,346.41	2,343.72	12.18	12.17	90.89	-102.76	24.47	99.24			74.89	24.35	4.076 CC	
2,400.00	2,398.23	2,401.25	2,398.48	12.47	12.46	92.01	-103.09	27.52	99.26			74.33	24.93	3.982	
2,500.00	2,497.81	2,501.19	2,498.26	13.00	12.99	94.04	-103.68	33.08	99.39			73.40	25.99	3.824	
2,600.00	2,597.40	2,601.13	2,598.04	13.54	13.51	96.06	-104.28	38.64	99.65			72.59	27.05	3.683	
2,700.00	2,696.98	2,701.07	2,697.82	14.08	14.04	98.07	-104.87	44.21	100.03			71.90	28.12	3.557	
2,800.00	2,796.57	2,801.01	2,797.60	14.62	14.57	100.06	-105.47	49.77	100.53			71.33	29.19	3.444	
2,900.00	2,896.15	2,900.94	2,897.38	15.17	15.11	102.03	-106.06	55.33	101.15			70.88	30.27	3.342	
3,000.00	2,995.73	3,000.88	2,997.17	15.71	15.64	103.97	-106.66	60.89	101.89			70.54	31.34	3.251	
3,100.00	3,095.32	3,100.82	3,096.95	16.26	16.18	105.88	-107.25	66.46	102.74			70.32	32.42	3.169	
3,200.00	3,194.90	3,200.76	3,196.73	16.81	16.71	107.76	-107.84	72.02	103.71			70.21	33.50	3.096	
3,300.00	3,294.49	3,300.70	3,296.51	17.36	17.25	109.61	-108.44	77.58	104.79			70.21	34.58	3.030 ES	
3,400.00	3,394.07	3,400.63	3,396.29	17.91	17.78	111.41	-109.03	83.14	105.97			70.31	35.66	2.972	
3,500.00	3,493.65	3,500.57	3,496.07	18.46	18.32	113.17	-109.63	88.71	107.26			70.51	36.74	2.919	
3,600.00	3,593.24	3,600.51	3,595.85	19.01	18.86	114.89	-110.22	94.27	108.64			70.82	37.82	2.872	
3,700.00	3,692.82	3,700.45	3,695.63	19.57	19.40	116.56	-110.82	99.83	110.12			71.21	38.91	2.830	
3,800.00	3,792.41	3,800.38	3,795.42	20.12	19.94	118.19	-111.41	105.39	111.69			71.70	39.99	2.793	
3,900.00	3,891.99	3,900.32	3,895.20	20.68	20.48	119.77	-112.01	110.96	113.35			72.28	41.07	2.760	
4,000.00	3,991.58	4,000.26	3,994.98	21.24	21.02	121.31	-112.60	116.52	115.09			72.94	42.15	2.730	
4,100.00	4,091.16	4,100.20	4,094.76	21.79	21.56	122.80	-113.19	122.08	116.92			73.68	43.23	2.704	
4,200.00	4,190.74	4,200.14	4,194.54	22.35	22.10	124.24	-113.79	127.64	118.82			74.50	44.31	2.681	
4,300.00	4,290.33	4,300.07	4,294.32	22.91	22.65	125.63	-114.38	133.21	120.79			75.39	45.40	2.661	
4,400.00	4,389.91	4,400.01	4,394.10	23.47	23.19	126.98	-114.98	138.77	122.83			76.36	46.48	2.643	
4,500.00	4,489.50	4,499.95	4,493.88	24.03	23.73	128.29	-115.57	144.33	124.94			77.38	47.56	2.627	
4,600.00	4,589.08	4,599.89	4,593.67	24.59	24.28	129.55	-116.17	149.90	127.11			78.47	48.64	2.613	
4,700.00	4,688.66	4,699.83	4,693.45	25.15	24.82	130.77	-116.76	155.46	129.34			79.62	49.72	2.601	
4,800.00	4,788.25	4,799.76	4,793.23	25.71	25.36	131.94	-117.36	161.02	131.63			80.83	50.80	2.591	
4,900.00	4,887.83	4,899.70	4,893.01	26.27	25.91	133.08	-117.95	166.58	133.97			82.09	51.88	2.582	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0022 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,987.42	4,999.64	4,992.79	26.83	26.45	134.18	-118.55	172.15	136.36	83.40	52.96	2.575		
5,100.00	5,087.00	5,099.58	5,092.57	27.39	26.99	135.23	-119.14	177.71	138.80	84.76	54.04	2.569		
5,200.00	5,186.59	5,199.52	5,192.35	27.95	27.54	136.25	-119.73	183.27	141.28	86.17	55.12	2.563		
5,300.00	5,286.17	5,299.45	5,292.13	28.52	28.08	137.24	-120.33	188.83	143.81	87.62	56.20	2.559		
5,400.00	5,385.75	5,399.39	5,391.92	29.08	28.63	138.19	-120.92	194.40	146.38	89.11	57.28	2.556		
5,500.00	5,485.34	5,499.33	5,491.70	29.64	29.17	139.11	-121.52	199.96	148.99	90.63	58.36	2.553		
5,600.00	5,584.92	5,599.27	5,591.48	30.21	29.72	140.00	-122.11	205.52	151.64	92.20	59.44	2.551		
5,700.00	5,684.51	5,699.21	5,691.26	30.77	30.26	140.85	-122.71	211.08	154.32	93.80	60.51	2.550		
5,800.00	5,784.09	5,799.14	5,791.04	31.33	30.81	141.68	-123.30	216.65	157.03	95.44	61.59	2.549		
5,900.00	5,883.67	5,899.08	5,890.82	31.90	31.35	142.48	-123.90	222.21	159.78	97.10	62.67	2.549 SF		
6,000.00	5,983.26	5,999.02	5,990.60	32.46	31.90	143.25	-124.49	227.77	162.55	98.80	63.75	2.550		
6,100.00	6,082.84	6,098.96	6,090.38	33.02	32.45	143.99	-125.08	233.33	165.35	100.52	64.83	2.551		
6,200.00	6,182.43	6,198.90	6,190.17	33.59	32.99	144.72	-125.68	238.90	168.19	102.28	65.91	2.552		
6,300.00	6,282.01	6,298.83	6,289.95	34.15	33.54	145.41	-126.27	244.46	171.04	104.05	66.99	2.553		
6,400.00	6,381.59	6,398.77	6,389.73	34.72	34.08	146.09	-126.87	250.02	173.92	105.85	68.07	2.555		
6,500.00	6,481.18	6,498.71	6,489.51	35.28	34.63	146.74	-127.46	255.58	176.83	107.68	69.15	2.557		
6,600.00	6,580.76	6,598.65	6,589.29	35.85	35.18	147.37	-128.06	261.15	179.75	109.53	70.23	2.560		
6,700.00	6,680.35	6,698.59	6,689.07	36.41	35.72	147.98	-128.65	266.71	182.70	111.39	71.31	2.562		
6,800.00	6,779.93	6,798.52	6,788.85	36.98	36.27	148.57	-129.25	272.27	185.67	113.28	72.39	2.565		
6,900.00	6,879.52	6,898.46	6,888.63	37.54	36.82	149.14	-129.84	277.84	188.65	115.19	73.46	2.568		
7,000.00	6,979.10	6,998.40	6,988.42	38.11	37.36	149.69	-130.44	283.40	191.66	117.11	74.54	2.571		
7,100.00	7,078.68	7,098.34	7,088.20	38.67	37.91	150.23	-131.03	288.96	194.68	119.06	75.62	2.574		
7,200.00	7,178.27	7,198.28	7,187.98	39.24	38.46	150.75	-131.62	294.52	197.72	121.02	76.70	2.578		
7,300.00	7,277.85	7,298.21	7,287.76	39.80	39.00	151.26	-132.22	300.09	200.77	122.99	77.78	2.581		
7,400.00	7,377.44	7,398.15	7,387.54	40.37	39.55	151.75	-132.81	305.65	203.84	124.98	78.86	2.585		
7,500.00	7,477.02	7,498.09	7,487.32	40.94	40.10	152.22	-133.41	311.21	206.93	126.98	79.94	2.588		
7,600.00	7,576.60	7,598.03	7,587.10	41.50	40.65	152.68	-134.00	316.77	210.02	129.00	81.02	2.592		
7,700.00	7,676.19	7,697.96	7,686.88	42.07	41.19	153.13	-134.60	322.34	213.14	131.03	82.10	2.596		
7,800.00	7,775.77	7,797.90	7,786.67	42.63	41.74	153.56	-135.19	327.90	216.26	133.08	83.18	2.600		
7,900.00	7,875.36	7,897.84	7,886.45	43.20	42.29	153.99	-135.79	333.46	219.39	135.13	84.26	2.604		
8,000.00	7,974.94	7,997.78	7,986.23	43.77	42.83	154.40	-136.38	339.02	222.54	137.20	85.34	2.608		
8,100.00	8,074.52	8,097.72	8,086.01	44.33	43.38	154.80	-136.97	344.59	225.70	139.27	86.42	2.612		
8,200.00	8,174.11	8,197.65	8,185.79	44.90	43.93	155.18	-137.57	350.15	228.87	141.36	87.51	2.615		
8,300.00	8,273.69	8,297.59	8,285.57	45.47	44.48	155.56	-138.16	355.71	232.05	143.46	88.59	2.619		
8,400.00	8,373.28	8,397.53	8,385.35	46.03	45.02	155.93	-138.76	361.27	235.24	145.57	89.67	2.623		
8,500.00	8,472.86	8,497.47	8,485.13	46.60	45.57	156.28	-139.35	366.84	238.43	147.69	90.75	2.627		
8,600.00	8,572.45	8,597.41	8,584.92	47.17	46.12	156.63	-139.95	372.40	241.64	149.81	91.83	2.631		
8,700.00	8,672.03	8,697.34	8,684.70	47.73	46.67	156.97	-140.54	377.96	244.86	151.95	92.91	2.635		
8,800.00	8,771.61	8,793.23	8,780.40	48.30	47.19	157.03	-142.27	383.33	248.41	154.44	93.98	2.643		
8,900.00	8,871.20	8,891.46	8,877.45	48.87	47.66	157.62	-143.86	388.48	251.95	156.93	95.07	2.648		
9,000.00	8,970.78	8,994.24	8,976.41	49.43	48.09	157.99	-145.45	393.46	255.55	159.51	96.15	2.653		
9,100.00	9,070.37	9,093.02	9,074.07	50.00	48.47	158.35	-147.04	398.46	259.16	162.10	97.23	2.658		
9,200.00	9,169.95	9,192.00	9,180.86	50.57	48.77	158.71	-148.63	403.46	262.77	164.69	98.31	2.663		
9,300.00	9,269.53	9,291.56	9,279.38	51.13	49.06	159.07	-150.22	408.46	266.38	167.28	99.39	2.668		
9,400.00	9,369.12	9,391.24	9,379.73	51.70	49.29	159.42	-151.81	413.46	270.00	169.87	100.47	2.673		
9,500.00	9,468.70	9,490.00	9,478.41	52.27	49.48	159.78	-153.40	418.46	273.61	172.46	101.55	2.678		
9,600.00	9,568.29	9,589.49	9,577.64	52.84	49.66	160.13	-154.99	423.46	277.22	175.05	102.63	2.683		
9,700.00	9,667.87	9,688.00	9,676.22	53.40	49.82	160.49	-156.58	428.46	280.83	177.64	103.71	2.688		
9,800.00	9,767.46	9,787.00	9,775.37	53.95	49.97	160.85	-158.17	433.46	284.44	180.23	104.79	2.693		
9,900.00	9,867.04	9,886.00	9,875.21	54.49	50.22	161.21	-159.76	438.46	288.05	182.82	105.87	2.698		
10,000.00	9,966.63	9,985.00	9,975.83	54.99	50.37	161.57	-161.35	443.46	291.66	185.41	106.95	2.703		
10,100.00	10,066.21	10,084.00	10,075.93	55.47	50.57	161.93	-162.94	448.46	295.27	188.00	108.03	2.708		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0022 - OH - Plan 1 02-01-17													Offset Site Error:
Survey Program: 0-MWD+HDGM													0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (')	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	10,071.73	9,500.00	9,291.73	55.94	50.76	24.10	-562.22	421.99	870.90	799.07	71.83	12.124	
10,300.00	10,116.76	9,550.00	9,302.75	56.42	51.04	22.63	-610.94	423.79	894.52	832.51	62.01	14.426	
10,400.00	10,145.70	9,584.39	9,307.84	56.93	51.23	21.87	-644.93	424.90	908.16	854.52	53.64	16.931	
10,500.00	10,157.68	9,624.22	9,311.19	57.47	51.46	21.64	-684.59	426.05	911.75	862.88	48.88	18.654	
10,600.00	10,157.79	9,679.91	9,311.84	58.05	51.79	21.66	-740.26	427.44	910.24	861.31	48.93	18.602	
10,700.00	10,157.53	9,779.91	9,311.65	58.69	52.43	21.66	-840.23	429.87	910.17	860.48	49.68	18.320	
10,800.00	10,157.27	9,879.91	9,311.47	59.41	53.15	21.67	-940.20	432.29	910.09	859.53	50.56	17.999	
10,900.00	10,157.01	9,979.91	9,311.29	60.20	53.94	21.67	-1,040.17	434.72	910.01	858.44	51.57	17.646	
11,000.00	10,156.74	10,079.91	9,311.11	61.05	54.80	21.67	-1,140.14	437.15	909.94	857.24	52.70	17.267	
11,100.00	10,156.48	10,179.91	9,310.93	61.96	55.74	21.67	-1,240.11	439.57	909.86	855.92	53.94	16.868	
11,200.00	10,156.22	10,279.91	9,310.75	62.94	56.74	21.67	-1,340.08	442.00	909.79	854.50	55.29	16.456	
11,300.00	10,155.96	10,379.91	9,310.57	63.97	57.80	21.67	-1,440.05	444.42	909.71	852.98	56.73	16.036	
11,400.00	10,155.70	10,479.91	9,310.39	65.05	58.93	21.68	-1,540.02	446.85	909.63	851.37	58.27	15.612	
11,500.00	10,155.43	10,579.91	9,310.20	66.19	60.11	21.68	-1,639.99	449.27	909.56	849.67	59.88	15.189	
11,600.00	10,155.17	10,679.91	9,310.02	67.38	61.34	21.68	-1,739.96	451.70	909.48	847.90	61.58	14.770	
11,700.00	10,154.91	10,779.91	9,309.84	68.62	62.63	21.68	-1,839.94	454.12	909.40	846.06	63.34	14.357	
11,800.00	10,154.65	10,879.91	9,309.66	69.90	63.96	21.68	-1,939.91	456.55	909.33	844.16	65.17	13.952	
11,900.00	10,154.39	10,979.91	9,309.48	71.23	65.34	21.68	-2,039.88	458.97	909.25	842.19	67.06	13.558	
12,000.00	10,154.13	11,079.91	9,309.30	72.59	66.76	21.69	-2,139.85	461.40	909.18	840.17	69.01	13.175	
12,100.00	10,153.86	11,179.91	9,309.12	73.99	68.22	21.69	-2,239.82	463.82	909.10	838.10	71.00	12.804	
12,200.00	10,153.60	11,279.91	9,308.94	75.43	69.71	21.69	-2,339.79	466.25	909.02	835.98	73.04	12.445	
12,300.00	10,153.34	11,379.91	9,308.75	76.91	71.24	21.69	-2,439.76	468.68	908.95	833.82	75.13	12.099	
12,400.00	10,153.08	11,479.91	9,308.57	78.41	72.80	21.69	-2,539.73	471.10	908.87	831.62	77.25	11.765	
12,500.00	10,152.82	11,579.91	9,308.39	79.95	74.40	21.69	-2,639.70	473.53	908.80	829.39	79.41	11.445	
12,600.00	10,152.55	11,679.91	9,308.21	81.51	76.02	21.70	-2,739.67	475.95	908.72	827.12	81.60	11.136	
12,700.00	10,152.29	11,779.91	9,308.03	83.10	77.66	21.70	-2,839.64	478.38	908.64	824.82	83.82	10.840	
12,800.00	10,152.03	11,879.91	9,307.85	84.72	79.34	21.70	-2,939.61	480.80	908.57	822.50	86.07	10.556	
12,900.00	10,151.77	11,979.91	9,307.67	86.36	81.03	21.70	-3,039.58	483.23	908.49	820.14	88.35	10.283	
13,000.00	10,151.51	12,079.91	9,307.48	88.03	82.75	21.70	-3,139.55	485.65	908.42	817.77	90.65	10.021	
13,100.00	10,151.24	12,179.91	9,307.30	89.71	84.49	21.70	-3,239.52	488.08	908.34	815.37	92.97	9.770	
13,200.00	10,150.98	12,279.91	9,307.12	91.42	86.25	21.71	-3,339.49	490.50	908.26	812.95	95.31	9.529	
13,300.00	10,150.72	12,379.91	9,306.94	93.14	88.02	21.71	-3,439.46	492.93	908.19	810.51	97.67	9.298	
13,400.00	10,150.46	12,479.91	9,306.76	94.89	89.82	21.71	-3,539.43	495.36	908.11	808.06	100.05	9.076	
13,500.00	10,150.20	12,579.91	9,306.58	96.65	91.63	21.71	-3,639.40	497.78	908.04	805.58	102.45	8.863	
13,600.00	10,149.93	12,679.91	9,306.40	98.42	93.45	21.71	-3,739.37	500.21	907.96	803.10	104.86	8.659	
13,700.00	10,149.67	12,779.91	9,306.22	100.21	95.29	21.71	-3,839.34	502.63	907.88	800.59	107.29	8.462	
13,800.00	10,149.41	12,879.91	9,306.03	102.02	97.14	21.72	-3,939.31	505.06	907.81	798.08	109.73	8.273	
13,900.00	10,149.15	12,979.91	9,305.85	103.84	99.01	21.72	-4,039.28	507.48	907.73	795.55	112.18	8.092	
14,000.00	10,148.89	13,079.91	9,305.67	105.68	100.89	21.72	-4,139.25	509.91	907.65	793.01	114.64	7.917	
14,100.00	10,148.62	13,179.91	9,305.49	107.52	102.78	21.72	-4,239.22	512.33	907.58	790.46	117.12	7.749	
14,200.00	10,148.36	13,279.91	9,305.31	109.38	104.68	21.72	-4,339.19	514.76	907.50	787.90	119.61	7.587	
14,300.00	10,148.10	13,379.91	9,305.13	111.25	106.59	21.72	-4,439.17	517.18	907.43	785.33	122.10	7.432	
14,400.00	10,147.84	13,479.91	9,304.95	113.13	108.51	21.73	-4,539.14	519.61	907.35	782.75	124.61	7.282	
14,500.00	10,147.58	13,579.91	9,304.77	115.02	110.44	21.73	-4,639.11	522.03	907.27	780.16	127.12	7.137	
14,600.00	10,147.31	13,679.91	9,304.58	116.92	112.37	21.73	-4,739.08	524.46	907.20	777.56	129.64	6.998	
14,700.00	10,147.05	13,779.91	9,304.40	118.82	114.32	21.73	-4,839.05	526.89	907.12	774.95	132.17	6.863	
14,800.00	10,146.79	13,879.91	9,304.22	120.74	116.27	21.73	-4,939.02	529.31	907.05	772.34	134.70	6.734	
14,900.00	10,146.53	13,979.91	9,304.04	122.67	118.24	21.74	-5,038.99	531.74	906.97	769.72	137.25	6.608	
15,000.00	10,146.27	14,079.91	9,303.86	124.60	120.20	21.74	-5,138.96	534.16	906.89	767.10	139.80	6.487	
15,100.00	10,146.00	14,179.91	9,303.68	126.54	122.18	21.74	-5,238.93	536.59	906.82	764.46	142.35	6.370	
15,200.00	10,145.74	14,279.91	9,303.50	128.49	124.16	21.74	-5,338.90	539.01	906.74	761.83	144.91	6.257	
15,300.00	10,145.48	14,379.91	9,303.32	130.45	126.15	21.74	-5,438.87	541.44	906.67	759.18	147.48	6.148	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0022 - OH - Plan 1 02-01-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
15,400.00	10,145.22	14,479.91	9,303.13	132.41	128.14	21.74	-5,538.84	543.86	906.59	756.54	150.05	6.042	
15,484.79	10,144.95	14,562.94	9,302.98	134.08	129.80	21.74	-5,621.85	545.86	906.42	754.26	152.16	5.957	
15,500.00	10,144.95	14,575.75	9,302.94	134.38	130.06	21.75	-5,634.65	546.10	906.55	754.01	152.54	5.943	
15,600.00	10,144.34	14,669.69	9,302.36	136.34	131.93	21.75	-5,728.58	546.83	906.56	751.64	154.92	5.852	
15,700.00	10,143.68	14,769.69	9,301.70	138.31	133.93	21.75	-5,828.58	547.41	906.56	749.06	157.50	5.756	
15,800.00	10,143.02	14,869.69	9,301.04	140.28	135.93	21.75	-5,928.58	548.00	906.56	746.47	160.08	5.663	
15,900.00	10,142.36	14,969.69	9,300.38	142.26	137.94	21.75	-6,028.57	548.58	906.56	743.89	162.67	5.573	
16,000.00	10,141.70	15,069.69	9,299.72	144.24	139.95	21.75	-6,128.57	549.17	906.56	741.30	165.26	5.486	
16,100.00	10,141.04	15,169.69	9,299.06	146.23	141.97	21.75	-6,228.56	549.75	906.56	738.70	167.85	5.401	
16,200.00	10,140.37	15,269.69	9,298.40	148.22	143.99	21.75	-6,328.56	550.34	906.56	736.11	170.45	5.319	
16,300.00	10,139.71	15,369.69	9,297.74	150.22	146.01	21.75	-6,428.56	550.92	906.56	733.51	173.05	5.239	
16,400.00	10,139.05	15,469.69	9,297.08	152.22	148.04	21.75	-6,528.55	551.50	906.56	730.90	175.66	5.161	
16,500.00	10,138.39	15,569.69	9,296.42	154.23	150.07	21.75	-6,628.55	552.09	906.56	728.29	178.27	5.085	
16,600.00	10,137.73	15,669.69	9,295.75	156.24	152.11	21.75	-6,728.54	552.67	906.56	725.68	180.88	5.012	
16,700.00	10,137.07	15,769.69	9,295.09	158.26	154.15	21.75	-6,828.54	553.26	906.56	723.07	183.49	4.941	
16,800.00	10,136.41	15,869.69	9,294.43	160.27	156.19	21.75	-6,928.54	553.84	906.56	720.45	186.11	4.871	
16,900.00	10,135.75	15,969.69	9,293.77	162.30	158.24	21.75	-7,028.53	554.42	906.56	717.84	188.72	4.804	
17,000.00	10,135.09	16,069.69	9,293.11	164.32	160.28	21.75	-7,128.53	555.01	906.56	715.22	191.35	4.738	
17,100.00	10,134.43	16,169.69	9,292.45	166.35	162.33	21.75	-7,228.53	555.59	906.56	712.59	193.97	4.674	
17,200.00	10,133.77	16,269.69	9,291.79	168.38	164.39	21.75	-7,328.52	556.18	906.56	709.97	196.59	4.611	
17,300.00	10,133.11	16,369.69	9,291.13	170.42	166.44	21.75	-7,428.52	556.76	906.56	707.34	199.22	4.550	
17,400.00	10,132.45	16,469.69	9,290.47	172.46	168.50	21.75	-7,528.51	557.35	906.56	704.71	201.85	4.491	
17,500.00	10,131.79	16,569.69	9,289.81	174.50	170.57	21.75	-7,628.51	557.93	906.56	702.08	204.49	4.433	
17,600.00	10,131.13	16,669.69	9,289.15	176.54	172.63	21.75	-7,728.51	558.51	906.56	699.44	207.12	4.377	
17,700.00	10,130.47	16,769.69	9,288.48	178.59	174.70	21.75	-7,828.50	559.10	906.56	696.81	209.76	4.322	
17,800.00	10,129.80	16,869.69	9,287.82	180.64	176.76	21.75	-7,928.50	559.68	906.56	694.17	212.39	4.268	
17,900.00	10,129.14	16,969.69	9,287.16	182.69	178.83	21.75	-8,028.49	560.27	906.56	691.53	215.03	4.216	
18,000.00	10,128.48	17,069.69	9,286.50	184.74	180.91	21.75	-8,128.49	560.85	906.56	688.89	217.67	4.165	
18,100.00	10,127.82	17,169.69	9,285.84	186.80	182.98	21.75	-8,228.49	561.44	906.56	686.25	220.32	4.115	
18,200.00	10,127.16	17,269.69	9,285.18	188.86	185.06	21.75	-8,328.48	562.02	906.56	683.60	222.96	4.066	
18,300.00	10,126.50	17,369.69	9,284.52	190.92	187.14	21.75	-8,428.48	562.60	906.56	680.96	225.61	4.018	
18,400.00	10,125.84	17,469.69	9,283.86	192.98	189.22	21.75	-8,528.47	563.19	906.57	678.31	228.25	3.972	
18,500.00	10,125.18	17,569.69	9,283.20	195.05	191.30	21.75	-8,628.47	563.77	906.57	675.66	230.90	3.926	
18,600.00	10,124.52	17,669.69	9,282.54	197.11	193.38	21.75	-8,728.47	564.36	906.57	673.01	233.55	3.882	
18,700.00	10,123.86	17,769.69	9,281.87	199.18	195.47	21.75	-8,828.46	564.94	906.57	670.36	236.20	3.838	
18,800.00	10,123.20	17,869.69	9,281.21	201.25	197.55	21.75	-8,928.46	565.52	906.57	667.71	238.86	3.795	
18,900.00	10,122.54	17,969.69	9,280.55	203.33	199.64	21.75	-9,028.46	566.11	906.57	665.06	241.51	3.754	
19,000.00	10,121.88	18,069.69	9,279.89	205.40	201.73	21.75	-9,128.45	566.69	906.57	662.40	244.17	3.713	
19,100.00	10,121.22	18,169.69	9,279.23	207.48	203.82	21.75	-9,228.45	567.28	906.57	659.75	246.82	3.673	
19,200.00	10,120.56	18,269.69	9,278.57	209.55	205.91	21.75	-9,328.44	567.86	906.57	657.09	249.48	3.634	
19,300.00	10,119.89	18,369.69	9,277.91	211.63	208.01	21.75	-9,428.44	568.45	906.57	654.43	252.14	3.596	
19,400.00	10,119.23	18,469.69	9,277.25	213.72	210.10	21.75	-9,528.44	569.03	906.57	651.77	254.80	3.558	
19,500.00	10,118.57	18,569.69	9,276.59	215.80	212.20	21.75	-9,628.43	569.61	906.57	649.11	257.46	3.521	
19,600.00	10,117.91	18,669.69	9,275.93	217.88	214.30	21.75	-9,728.43	570.20	906.57	646.45	260.12	3.485	
19,700.00	10,117.25	18,769.69	9,275.27	219.97	216.40	21.75	-9,828.42	570.78	906.57	643.79	262.78	3.450	
19,800.00	10,116.59	18,869.69	9,274.60	222.05	218.50	21.75	-9,928.42	571.37	906.57	641.13	265.44	3.415	
19,900.00	10,115.93	18,969.69	9,273.94	224.14	220.60	21.75	-10,028.42	571.95	906.57	638.46	268.11	3.381	
20,000.00	10,115.27	19,069.69	9,273.28	226.23	222.70	21.75	-10,128.41	572.54	906.57	635.80	270.77	3.348	
20,100.00	10,114.61	19,169.69	9,272.62	228.32	224.80	21.75	-10,228.41	573.12	906.57	633.13	273.44	3.315	
20,200.00	10,113.95	19,269.69	9,271.96	230.42	226.91	21.75	-10,328.40	573.70	906.57	630.46	276.11	3.283	
20,300.00	10,113.29	19,369.69	9,271.30	232.51	229.01	21.75	-10,428.40	574.29	906.57	627.80	278.77	3.252	
20,400.00	10,112.63	19,469.69	9,270.64	234.60	231.12	21.75	-10,528.40	574.87	906.57	625.13	281.44	3.221	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design													HH SO 10 15 Fed - 0022 - OH - Plan 1 02-01-17		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HDGM															Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
20,495.03	10,112.00	19,564.71	9,270.01	236.59	233.12	21.75	-10,623.42	575.43	906.57	622.59	283.98	3.192				



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0023 - OH - Plan 1 02-01-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.00	0.00	0.00	0.00	-179.15	-74.99	-1.11	75.00				
100.00	100.00	102.00	100.00	0.19	0.20	-179.15	-74.99	-1.11	75.00	74.60	0.40	188.487	
200.00	200.00	202.00	200.00	0.73	0.74	-179.15	-74.99	-1.11	75.00	73.53	1.47	50.905	
300.00	300.00	302.00	300.00	1.27	1.28	-179.15	-74.99	-1.11	75.00	72.45	2.55	29.426	
400.00	400.00	402.00	400.00	1.81	1.82	-179.15	-74.99	-1.11	75.00	71.38	3.62	20.694	
500.00	500.00	502.00	500.00	2.34	2.36	-179.15	-74.99	-1.11	75.00	70.30	4.70	15.959	
600.00	600.00	602.00	600.00	2.88	2.89	-179.15	-74.99	-1.11	75.00	69.22	5.77	12.987	
700.00	700.00	702.00	700.00	3.42	3.43	-179.15	-74.99	-1.11	75.00	68.15	6.85	10.948	
800.00	800.00	802.00	800.00	3.96	3.97	-179.15	-74.99	-1.11	75.00	67.07	7.93	9.463	
900.00	900.00	902.00	900.00	4.50	4.51	-179.15	-74.99	-1.11	75.00	66.00	9.00	8.332	
1,000.00	1,000.00	1,002.00	1,000.00	5.03	5.04	-179.15	-74.99	-1.11	75.00	64.92	10.08	7.443	
1,100.00	1,100.00	1,102.00	1,100.00	5.57	5.58	-179.15	-74.99	-1.11	75.00	63.85	11.15	6.725	
1,200.00	1,200.00	1,202.00	1,200.00	6.11	6.12	-179.15	-74.99	-1.11	75.00	62.77	12.23	6.134	
1,300.00	1,300.00	1,302.00	1,300.00	6.65	6.66	-179.15	-74.99	-1.11	75.00	61.70	13.30	5.638	
1,400.00	1,400.00	1,402.00	1,400.00	7.18	7.19	-179.15	-74.99	-1.11	75.00	60.62	14.38	5.216	
1,500.00	1,500.00	1,502.00	1,500.00	7.72	7.73	-179.15	-74.99	-1.11	75.00	59.55	15.45	4.853	
1,600.00	1,600.00	1,602.00	1,600.00	8.26	8.27	-179.15	-74.99	-1.11	75.00	58.47	16.53	4.537	
1,700.00	1,700.00	1,702.00	1,700.00	8.80	8.81	-179.15	-74.99	-1.11	75.00	57.40	17.60	4.260	
1,800.00	1,800.00	1,802.01	1,800.01	9.33	9.35	-179.15	-74.99	-1.11	75.00	56.32	18.68	4.015	
1,900.00	1,899.98	1,902.62	1,900.60	9.86	9.88	86.90	-74.45	-2.87	74.40	54.66	19.74	3.770	
2,000.00	1,999.84	2,002.47	2,000.31	10.37	10.40	95.01	-72.90	-7.94	73.61	52.84	20.77	3.544	
2,001.02	2,000.86	2,003.48	2,001.31	10.38	10.40	95.12	-72.88	-8.01	73.61	52.83	20.78	3.543 CC, ES	
2,100.00	2,099.48	2,101.32	2,098.92	10.89	10.92	106.49	-70.93	-14.38	75.26	53.46	21.80	3.452	
2,200.00	2,199.06	2,200.06	2,197.43	11.41	11.44	117.49	-68.97	-20.80	80.10	57.27	22.83	3.509	
2,300.00	2,298.65	2,298.80	2,295.95	11.94	11.97	126.96	-67.00	-27.23	87.56	63.71	23.86	3.671	
2,400.00	2,398.23	2,397.55	2,394.46	12.47	12.49	134.80	-65.03	-33.65	97.05	72.17	24.88	3.900	
2,500.00	2,497.81	2,496.29	2,492.98	13.00	13.02	141.16	-63.07	-40.08	108.03	82.11	25.91	4.169	
2,600.00	2,597.40	2,595.03	2,591.49	13.54	13.55	146.31	-61.10	-46.51	120.08	93.14	26.95	4.456	
2,700.00	2,696.98	2,693.78	2,690.01	14.08	14.08	150.51	-59.13	-52.93	132.93	104.94	27.98	4.750	
2,800.00	2,796.57	2,792.52	2,788.52	14.62	14.61	153.95	-57.17	-59.36	146.35	117.33	29.02	5.043	
2,900.00	2,896.15	2,891.26	2,887.03	15.17	15.15	156.81	-55.20	-65.78	160.21	130.15	30.06	5.329	
3,000.00	2,995.73	2,990.01	2,985.55	15.71	15.68	159.21	-53.23	-72.21	174.40	143.30	31.11	5.606	
3,100.00	3,095.32	3,088.75	3,084.06	16.26	16.22	161.25	-51.27	-78.64	188.85	156.70	32.15	5.873	
3,200.00	3,194.90	3,187.49	3,182.58	16.81	16.75	163.00	-49.30	-85.06	203.50	170.30	33.20	6.129	
3,300.00	3,294.49	3,286.24	3,281.09	17.36	17.29	164.52	-47.33	-91.49	218.31	184.06	34.25	6.373	
3,400.00	3,394.07	3,384.98	3,379.61	17.91	17.83	165.84	-45.37	-97.91	233.25	197.94	35.31	6.607	
3,500.00	3,493.65	3,483.72	3,478.12	18.46	18.37	167.00	-43.40	-104.34	248.30	211.94	36.36	6.829	
3,600.00	3,593.24	3,582.47	3,576.63	19.01	18.90	168.03	-41.43	-110.77	263.43	226.02	37.41	7.041	
3,700.00	3,692.82	3,681.21	3,675.15	19.57	19.44	168.95	-39.47	-117.19	278.64	240.17	38.47	7.243	
3,800.00	3,792.41	3,779.95	3,773.66	20.12	19.98	169.77	-37.50	-123.62	293.92	254.39	39.53	7.435	
3,900.00	3,891.99	3,878.70	3,872.18	20.68	20.52	170.51	-35.53	-130.04	309.24	268.65	40.59	7.619	
4,000.00	3,991.58	3,977.44	3,970.69	21.24	21.06	171.18	-33.57	-136.47	324.61	282.97	41.65	7.794	
4,100.00	4,091.16	4,076.18	4,069.21	21.79	21.60	171.79	-31.60	-142.90	340.03	297.32	42.71	7.962	
4,200.00	4,190.74	4,174.93	4,167.72	22.35	22.15	172.35	-29.63	-149.32	355.47	311.70	43.77	8.122	
4,300.00	4,290.33	4,273.67	4,266.24	22.91	22.69	172.86	-27.67	-155.75	370.95	326.12	44.83	8.274	
4,400.00	4,389.91	4,372.41	4,364.75	23.47	23.23	173.33	-25.70	-162.17	386.45	340.56	45.89	8.421	
4,500.00	4,489.50	4,471.16	4,463.26	24.03	23.77	173.76	-23.73	-168.60	401.98	355.02	46.96	8.561	
4,600.00	4,589.08	4,569.90	4,561.78	24.59	24.31	174.17	-21.77	-175.03	417.52	369.50	48.02	8.695	
4,700.00	4,688.66	4,668.64	4,660.29	25.15	24.86	174.54	-19.80	-181.45	433.09	384.00	49.09	8.823	
4,800.00	4,788.25	4,767.39	4,758.81	25.71	25.40	174.89	-17.83	-187.88	448.67	398.52	50.15	8.947	
4,900.00	4,887.83	4,866.13	4,857.32	26.27	25.94	175.21	-15.87	-194.30	464.27	413.05	51.22	9.065	
5,000.00	4,987.42	4,964.87	4,955.84	26.83	26.49	175.51	-13.90	-200.73	479.88	427.60	52.28	9.179	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0023 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,087.00	5,063.62	5,054.35	27.39	27.03	175.79	-11.93	-207.16	495.50	442.15	53.35	9.288		
5,200.00	5,186.59	5,162.36	5,152.86	27.95	27.57	176.06	-9.97	-213.58	511.14	456.72	54.41	9.393		
5,300.00	5,286.17	5,261.10	5,251.38	28.52	28.12	176.31	-8.00	-220.01	526.78	471.30	55.48	9.495		
5,400.00	5,385.75	5,359.85	5,349.89	29.08	28.66	176.55	-6.03	-226.43	542.43	485.89	56.55	9.592		
5,500.00	5,485.34	5,458.59	5,448.41	29.64	29.21	176.77	-4.07	-232.86	558.10	500.48	57.62	9.686		
5,600.00	5,584.92	5,557.33	5,546.92	30.21	29.75	176.98	-2.10	-239.29	573.77	515.08	58.69	9.777		
5,700.00	5,684.51	5,656.08	5,645.44	30.77	30.29	177.18	-0.13	-245.71	589.44	529.69	59.75	9.864		
5,800.00	5,784.09	5,754.82	5,743.95	31.33	30.84	177.37	1.83	-252.14	605.13	544.30	60.82	9.949		
5,900.00	5,883.67	5,853.56	5,842.46	31.90	31.38	177.55	3.80	-258.56	620.82	558.92	61.89	10.031		
6,000.00	5,983.26	5,952.31	5,940.98	32.46	31.93	177.72	5.77	-264.99	636.51	573.55	62.96	10.110		
6,100.00	6,082.84	6,051.05	6,039.49	33.02	32.47	177.88	7.73	-271.42	652.21	588.18	64.03	10.186		
6,200.00	6,182.43	6,149.79	6,138.01	33.59	33.02	178.04	9.70	-277.84	667.92	602.82	65.10	10.260		
6,300.00	6,282.01	6,248.54	6,236.52	34.15	33.56	178.18	11.67	-284.27	683.63	617.46	66.17	10.331		
6,400.00	6,381.59	6,347.28	6,335.04	34.72	34.11	178.33	13.63	-290.69	699.34	632.10	67.24	10.400		
6,500.00	6,481.18	6,446.02	6,433.55	35.28	34.65	178.46	15.60	-297.12	715.06	646.75	68.31	10.468		
6,600.00	6,580.76	6,544.76	6,532.07	35.85	35.20	178.59	17.57	-303.55	730.78	661.40	69.38	10.533		
6,700.00	6,680.35	6,643.51	6,630.58	36.41	35.75	178.71	19.53	-309.97	746.51	676.05	70.45	10.596		
6,800.00	6,779.93	6,742.25	6,729.09	36.98	36.29	178.83	21.50	-316.40	762.24	690.71	71.52	10.657		
6,900.00	6,879.52	6,840.99	6,827.61	37.54	36.84	178.94	23.47	-322.82	777.97	705.37	72.60	10.716		
7,000.00	6,979.10	6,939.74	6,926.12	38.11	37.38	179.05	25.43	-329.25	793.70	720.03	73.67	10.774		
7,100.00	7,078.68	7,038.48	7,024.64	38.67	37.93	179.16	27.40	-335.68	809.44	734.70	74.74	10.830		
7,200.00	7,178.27	7,137.22	7,123.15	39.24	38.47	179.26	29.37	-342.10	825.18	749.37	75.81	10.885		
7,300.00	7,277.85	7,235.97	7,221.67	39.80	39.02	179.36	31.33	-348.53	840.92	764.04	76.88	10.938		
7,400.00	7,377.44	7,334.71	7,320.18	40.37	39.57	179.45	33.30	-354.95	856.66	778.71	77.96	10.989		
7,500.00	7,477.02	7,433.45	7,418.69	40.94	40.11	179.54	35.27	-361.38	872.41	793.38	79.03	11.039		
7,600.00	7,576.60	7,532.20	7,517.21	41.50	40.66	179.63	37.23	-367.81	888.16	808.06	80.10	11.088		
7,700.00	7,676.19	7,630.94	7,615.72	42.07	41.20	179.71	39.20	-374.23	903.91	822.74	81.17	11.136		
7,800.00	7,775.77	7,729.68	7,714.24	42.63	41.75	179.79	41.17	-380.66	919.66	837.42	82.25	11.182		
7,900.00	7,875.36	7,828.43	7,812.75	43.20	42.30	179.87	43.13	-387.08	935.42	852.10	83.32	11.227		
8,000.00	7,974.94	7,927.17	7,911.27	43.77	42.84	179.95	45.10	-393.51	951.17	866.78	84.39	11.271		
8,100.00	8,074.52	8,025.91	8,009.78	44.33	43.39	-179.98	47.07	-399.94	966.93	881.46	85.47	11.314		
8,200.00	8,174.11	8,124.66	8,108.30	44.90	43.93	-179.91	49.03	-406.36	982.69	896.15	86.54	11.355		
8,300.00	8,273.69	8,223.40	8,206.81	45.47	44.48	-179.84	51.00	-412.79	998.45	910.84	87.61	11.396		
8,400.00	8,373.28	8,322.14	8,305.32	46.03	45.03	-179.77	52.97	-419.21	1,014.21	925.52	88.69	11.436		
8,500.00	8,472.86	8,420.89	8,403.84	46.60	45.57	-179.71	54.93	-425.64	1,029.97	940.21	89.76	11.475		
8,600.00	8,572.45	8,519.63	8,502.35	47.17	46.12	-179.65	56.90	-432.07	1,045.74	954.90	90.83	11.513		
8,700.00	8,672.03	8,618.37	8,600.87	47.73	46.67	-179.58	58.87	-438.49	1,061.50	969.59	91.91	11.550		
8,800.00	8,771.61	8,717.12	8,699.38	48.30	47.21	-179.53	60.83	-444.92	1,077.27	984.29	92.98	11.586		
8,900.00	8,871.20	8,815.86	8,797.90	48.87	47.76	-179.47	62.80	-451.34	1,093.04	998.98	94.06	11.621		
9,000.00	8,970.78	8,914.60	8,896.41	49.43	48.31	-179.41	64.77	-457.77	1,108.80	1,013.67	95.13	11.656		
9,100.00	9,070.37	9,013.35	8,994.92	50.00	48.85	-179.36	66.73	-464.20	1,124.57	1,028.37	96.20	11.689		
9,200.00	9,169.95	9,112.09	9,093.44	50.57	49.40	-179.31	68.70	-470.62	1,140.34	1,043.07	97.28	11.722		
9,300.00	9,269.53	9,210.83	9,191.95	51.13	49.95	-179.26	70.67	-477.05	1,156.12	1,057.76	98.35	11.755		
9,400.00	9,369.12	9,342.51	9,322.91	51.70	50.64	-179.68	63.13	-485.35	1,170.82	1,071.24	99.58	11.758		
9,500.00	9,468.70	9,474.66	9,449.28	52.27	51.25	178.48	26.21	-492.64	1,182.53	1,081.78	100.75	11.737		
9,600.00	9,568.29	9,586.28	9,547.13	52.84	51.69	175.92	-26.87	-497.70	1,193.12	1,091.33	101.79	11.721		
9,700.00	9,667.61	9,678.64	9,619.13	53.40	52.00	123.24	-84.48	-500.98	1,205.10	1,102.37	102.73	11.731		
9,800.00	9,764.49	9,762.65	9,675.84	53.95	52.23	103.01	-146.31	-503.16	1,219.42	1,115.68	103.75	11.754		
9,900.00	9,856.00	9,841.05	9,720.11	54.49	52.44	94.07	-210.93	-504.48	1,235.29	1,130.52	104.76	11.791		
10,000.00	9,939.34	9,915.41	9,753.62	54.99	52.65	88.19	-277.26	-505.05	1,251.76	1,146.16	105.80	11.854		
10,100.00	10,011.99	9,986.79	9,777.46	55.47	52.89	83.72	-344.49	-504.98	1,267.89	1,161.81	106.08	11.952		
10,200.00	10,071.73	10,050.00	9,791.47	55.94	53.12	80.27	-406.08	-504.40	1,282.84	1,176.69	106.15	12.085		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0023 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,300.00	10,116.76	10,123.36	9,799.14	56.42	53.41	77.37	-478.99	-503.15	1,295.77	1,189.85	105.92	12.234		
10,400.00	10,145.70	10,208.04	9,799.34	56.93	53.78	75.15	-563.63	-501.12	1,305.65	1,200.00	105.65	12.358		
10,500.00	10,157.68	10,307.12	9,798.88	57.47	54.29	74.12	-662.68	-498.71	1,310.06	1,204.11	105.95	12.365		
10,600.00	10,157.79	10,407.12	9,798.42	58.05	54.87	74.08	-762.65	-496.28	1,310.24	1,203.23	107.01	12.244		
10,700.00	10,157.53	10,507.12	9,797.96	58.69	55.53	74.07	-862.62	-493.84	1,310.29	1,202.03	108.26	12.103		
10,800.00	10,157.27	10,607.12	9,797.49	59.41	56.26	74.06	-962.59	-491.41	1,310.33	1,200.67	109.66	11.949		
10,900.00	10,157.01	10,707.12	9,797.03	60.20	57.06	74.05	-1,062.56	-488.98	1,310.37	1,199.17	111.20	11.784		
11,000.00	10,156.74	10,807.12	9,796.57	61.05	57.93	74.05	-1,162.53	-486.54	1,310.42	1,197.53	112.88	11.609		
11,100.00	10,156.48	10,907.12	9,796.10	61.96	58.87	74.04	-1,262.49	-484.11	1,310.46	1,195.77	114.69	11.426		
11,200.00	10,156.22	11,007.12	9,795.64	62.94	59.87	74.03	-1,362.46	-481.68	1,310.51	1,193.88	116.63	11.237		
11,300.00	10,155.96	11,107.12	9,795.18	63.97	60.93	74.02	-1,462.43	-479.24	1,310.55	1,191.87	118.68	11.043		
11,400.00	10,155.70	11,207.12	9,794.72	65.05	62.05	74.01	-1,562.40	-476.81	1,310.59	1,189.75	120.84	10.846		
11,500.00	10,155.43	11,307.12	9,794.25	66.19	63.22	74.00	-1,662.37	-474.37	1,310.64	1,187.53	123.11	10.646		
11,600.00	10,155.17	11,407.12	9,793.79	67.38	64.44	73.99	-1,762.34	-471.94	1,310.68	1,185.20	125.48	10.445		
11,700.00	10,154.91	11,507.12	9,793.33	68.62	65.71	73.99	-1,862.31	-469.51	1,310.73	1,182.78	127.95	10.244		
11,800.00	10,154.65	11,607.12	9,792.86	69.90	67.03	73.98	-1,962.28	-467.07	1,310.77	1,180.27	130.50	10.044		
11,900.00	10,154.39	11,707.12	9,792.40	71.23	68.39	73.97	-2,062.25	-464.64	1,310.82	1,177.67	133.14	9.845		
12,000.00	10,154.13	11,807.12	9,791.94	72.59	69.79	73.96	-2,162.22	-462.20	1,310.86	1,175.00	135.86	9.649		
12,100.00	10,153.86	11,907.12	9,791.47	73.99	71.23	73.95	-2,262.19	-459.77	1,310.90	1,172.25	138.65	9.455		
12,200.00	10,153.60	12,007.12	9,791.01	75.43	72.70	73.94	-2,362.15	-457.34	1,310.95	1,169.43	141.52	9.264		
12,300.00	10,153.34	12,107.12	9,790.55	76.91	74.21	73.93	-2,462.12	-454.90	1,310.99	1,166.55	144.45	9.076		
12,400.00	10,153.08	12,207.12	9,790.09	78.41	75.75	73.93	-2,562.09	-452.47	1,311.04	1,163.60	147.44	8.892		
12,500.00	10,152.82	12,307.12	9,789.62	79.95	77.32	73.92	-2,662.06	-450.03	1,311.08	1,160.60	150.49	8.712		
12,600.00	10,152.55	12,407.12	9,789.16	81.51	78.92	73.91	-2,762.03	-447.60	1,311.13	1,157.54	153.59	8.537		
12,700.00	10,152.29	12,507.12	9,788.70	83.10	80.54	73.90	-2,862.00	-445.17	1,311.17	1,154.42	156.75	8.365		
12,800.00	10,152.03	12,607.12	9,788.23	84.72	82.19	73.89	-2,961.97	-442.73	1,311.22	1,151.27	159.95	8.198		
12,900.00	10,151.77	12,707.11	9,787.77	86.36	83.87	73.88	-3,061.94	-440.30	1,311.26	1,148.06	163.20	8.035		
13,000.00	10,151.51	12,807.11	9,787.31	88.03	85.56	73.87	-3,161.91	-437.86	1,311.30	1,144.81	166.49	7.876		
13,100.00	10,151.24	12,907.11	9,786.85	89.71	87.28	73.87	-3,261.88	-435.43	1,311.35	1,141.52	169.83	7.722		
13,200.00	10,150.98	13,007.11	9,786.38	91.42	89.02	73.86	-3,361.85	-433.00	1,311.39	1,138.20	173.20	7.572		
13,300.00	10,150.72	13,107.11	9,785.92	93.14	90.77	73.85	-3,461.81	-430.56	1,311.44	1,134.83	176.60	7.426		
13,400.00	10,150.46	13,207.11	9,785.46	94.89	92.54	73.84	-3,561.78	-428.13	1,311.48	1,131.44	180.05	7.284		
13,500.00	10,150.20	13,307.11	9,784.99	96.65	94.33	73.83	-3,661.75	-425.70	1,311.53	1,128.01	183.52	7.147		
13,600.00	10,149.93	13,407.11	9,784.53	98.42	96.14	73.82	-3,761.72	-423.26	1,311.57	1,124.55	187.02	7.013		
13,700.00	10,149.67	13,507.11	9,784.07	100.21	97.96	73.81	-3,861.69	-420.83	1,311.62	1,121.07	190.55	6.883		
13,800.00	10,149.41	13,607.11	9,783.60	102.02	99.79	73.81	-3,961.66	-418.39	1,311.66	1,117.55	194.11	6.757		
13,900.00	10,149.15	13,707.11	9,783.14	103.84	101.64	73.80	-4,061.63	-415.96	1,311.71	1,114.01	197.69	6.635		
14,000.00	10,148.89	13,807.11	9,782.68	105.68	103.50	73.79	-4,161.60	-413.53	1,311.75	1,110.45	201.30	6.516		
14,100.00	10,148.62	13,907.11	9,782.22	107.52	105.37	73.78	-4,261.57	-411.09	1,311.80	1,106.87	204.93	6.401		
14,200.00	10,148.36	14,007.11	9,781.75	109.38	107.25	73.77	-4,361.54	-408.66	1,311.84	1,103.26	208.58	6.289		
14,300.00	10,148.10	14,107.11	9,781.29	111.25	109.14	73.76	-4,461.51	-406.22	1,311.89	1,099.63	212.26	6.181		
14,400.00	10,147.84	14,207.11	9,780.83	113.13	111.04	73.75	-4,561.47	-403.79	1,311.93	1,095.99	215.95	6.075		
14,500.00	10,147.58	14,307.11	9,780.36	115.02	112.96	73.75	-4,661.44	-401.36	1,311.98	1,092.32	219.66	5.973		
14,600.00	10,147.31	14,407.11	9,779.90	116.92	114.88	73.74	-4,761.41	-398.92	1,312.02	1,088.64	223.38	5.873		
14,700.00	10,147.05	14,507.11	9,779.44	118.82	116.81	73.73	-4,861.38	-396.49	1,312.07	1,084.94	227.13	5.777		
14,800.00	10,146.79	14,607.11	9,778.97	120.74	118.74	73.72	-4,961.35	-394.05	1,312.11	1,081.23	230.89	5.683		
14,900.00	10,146.53	14,707.11	9,778.51	122.67	120.69	73.71	-5,061.32	-391.62	1,312.16	1,077.50	234.66	5.592		
15,000.00	10,146.27	14,807.11	9,778.05	124.60	122.64	73.70	-5,161.29	-389.19	1,312.20	1,073.75	238.45	5.503		
15,100.00	10,146.00	14,907.11	9,777.59	126.54	124.60	73.69	-5,261.26	-386.75	1,312.25	1,070.00	242.25	5.417		
15,200.00	10,145.74	15,007.11	9,777.12	128.49	126.57	73.69	-5,361.23	-384.32	1,312.29	1,066.23	246.07	5.333		
15,300.00	10,145.48	15,107.11	9,776.66	130.45	128.54	73.68	-5,461.20	-381.89	1,312.34	1,062.45	249.89	5.252		
15,400.00	10,145.22	15,207.11	9,776.20	132.41	130.52	73.67	-5,561.17	-379.45	1,312.38	1,058.65	253.73	5.172		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0023 - OH - Plan 1 02-01-17													Offset Site Error:
Survey Program: 0-MWD+HDGM													Offset Well Error:
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	10,144.95	15,289.00	9,775.75	134.38	132.15	73.66	-5,643.04	-377.72	1,312.78	1,055.58	257.20	5.104	
15,600.00	10,144.34	15,381.97	9,774.87	136.34	133.99	73.66	-5,736.00	-377.14	1,313.05	1,052.23	260.82	5.034	
15,700.00	10,143.68	15,481.97	9,773.91	138.31	135.98	73.64	-5,835.99	-376.55	1,313.13	1,048.46	264.67	4.961	
15,800.00	10,143.02	15,581.97	9,772.95	140.28	137.98	73.63	-5,935.99	-375.97	1,313.22	1,044.69	268.53	4.890	
15,900.00	10,142.36	15,681.97	9,771.99	142.26	139.97	73.62	-6,035.98	-375.39	1,313.30	1,040.90	272.40	4.821	
16,000.00	10,141.70	15,781.97	9,771.03	144.24	141.98	73.61	-6,135.97	-374.80	1,313.39	1,037.11	276.28	4.754	
16,100.00	10,141.04	15,881.97	9,770.07	146.23	143.99	73.59	-6,235.97	-374.22	1,313.47	1,033.31	280.16	4.688	
16,200.00	10,140.37	15,981.97	9,769.11	148.22	146.00	73.58	-6,335.96	-373.63	1,313.56	1,029.50	284.06	4.624	
16,300.00	10,139.71	16,081.97	9,768.15	150.22	148.02	73.57	-6,435.95	-373.05	1,313.64	1,025.68	287.96	4.562	
16,400.00	10,139.05	16,181.97	9,767.19	152.22	150.04	73.56	-6,535.95	-372.47	1,313.73	1,021.86	291.87	4.501	
16,500.00	10,138.39	16,281.97	9,766.23	154.23	152.06	73.54	-6,635.94	-371.88	1,313.81	1,018.03	295.78	4.442	
16,600.00	10,137.73	16,381.97	9,765.27	156.24	154.09	73.53	-6,735.93	-371.30	1,313.90	1,014.19	299.70	4.384	
16,700.00	10,137.07	16,481.97	9,764.31	158.26	156.12	73.52	-6,835.93	-370.71	1,313.98	1,010.35	303.63	4.328	
16,800.00	10,136.41	16,581.97	9,763.35	160.27	158.16	73.51	-6,935.92	-370.13	1,314.07	1,006.50	307.57	4.272	
16,900.00	10,135.75	16,681.96	9,762.39	162.30	160.19	73.49	-7,035.91	-369.55	1,314.15	1,002.64	311.51	4.219	
17,000.00	10,135.09	16,781.96	9,761.43	164.32	162.23	73.48	-7,135.91	-368.96	1,314.24	998.78	315.46	4.166	
17,100.00	10,134.43	16,881.96	9,760.47	166.35	164.28	73.47	-7,235.90	-368.38	1,314.32	994.91	319.41	4.115	
17,200.00	10,133.77	16,981.96	9,759.51	168.38	166.33	73.46	-7,335.89	-367.79	1,314.41	991.04	323.37	4.065	
17,300.00	10,133.11	17,081.96	9,758.55	170.42	168.38	73.44	-7,435.89	-367.21	1,314.49	987.16	327.33	4.016	
17,400.00	10,132.45	17,181.96	9,757.59	172.46	170.43	73.43	-7,535.88	-366.62	1,314.58	983.28	331.30	3.968	
17,500.00	10,131.79	17,281.96	9,756.63	174.50	172.48	73.42	-7,635.87	-366.04	1,314.66	979.39	335.27	3.921	
17,600.00	10,131.13	17,381.96	9,755.67	176.54	174.54	73.41	-7,735.86	-365.46	1,314.75	975.50	339.25	3.875	
17,700.00	10,130.47	17,481.96	9,754.71	178.59	176.60	73.39	-7,835.86	-364.87	1,314.83	971.60	343.23	3.831	
17,800.00	10,129.80	17,581.96	9,753.76	180.64	178.66	73.38	-7,935.85	-364.29	1,314.92	967.70	347.22	3.787	
17,900.00	10,129.14	17,681.96	9,752.80	182.69	180.73	73.37	-8,035.84	-363.70	1,315.01	963.80	351.21	3.744	
18,000.00	10,128.48	17,781.96	9,751.84	184.74	182.79	73.36	-8,135.84	-363.12	1,315.09	959.89	355.20	3.702	
18,100.00	10,127.82	17,881.96	9,750.88	186.80	184.86	73.34	-8,235.83	-362.54	1,315.18	955.98	359.20	3.661	
18,200.00	10,127.16	17,981.96	9,749.92	188.86	186.93	73.33	-8,335.82	-361.95	1,315.26	952.07	363.20	3.621	
18,300.00	10,126.50	18,081.96	9,748.96	190.92	189.01	73.32	-8,435.82	-361.37	1,315.35	948.15	367.20	3.582	
18,400.00	10,125.84	18,181.96	9,748.00	192.98	191.08	73.31	-8,535.81	-360.78	1,315.43	944.23	371.21	3.544	
18,500.00	10,125.18	18,281.96	9,747.04	195.05	193.16	73.29	-8,635.80	-360.20	1,315.52	940.30	375.22	3.506	
18,600.00	10,124.52	18,381.96	9,746.08	197.11	195.24	73.28	-8,735.80	-359.62	1,315.61	936.37	379.23	3.469	
18,700.00	10,123.86	18,481.96	9,745.12	199.18	197.32	73.27	-8,835.79	-359.03	1,315.69	932.44	383.25	3.433	
18,800.00	10,123.20	18,581.96	9,744.16	201.25	199.40	73.26	-8,935.78	-358.45	1,315.78	928.51	387.27	3.398	
18,900.00	10,122.54	18,681.96	9,743.20	203.33	201.48	73.24	-9,035.78	-357.86	1,315.87	924.57	391.29	3.363	
19,000.00	10,121.88	18,781.96	9,742.24	205.40	203.57	73.23	-9,135.77	-357.28	1,315.95	920.63	395.32	3.329	
19,100.00	10,121.22	18,881.95	9,741.28	207.48	205.65	73.22	-9,235.76	-356.70	1,316.04	916.69	399.35	3.295	
19,200.00	10,120.56	18,981.95	9,740.32	209.55	207.74	73.21	-9,335.76	-356.11	1,316.13	912.75	403.38	3.263	
19,300.00	10,119.89	19,081.95	9,739.36	211.63	209.83	73.19	-9,435.75	-355.53	1,316.21	908.80	407.41	3.231	
19,400.00	10,119.23	19,181.95	9,738.40	213.72	211.92	73.18	-9,535.74	-354.94	1,316.30	904.85	411.45	3.199	
19,500.00	10,118.57	19,281.95	9,737.44	215.80	214.01	73.17	-9,635.74	-354.36	1,316.39	900.90	415.48	3.168	
19,600.00	10,117.91	19,381.95	9,736.48	217.88	216.11	73.16	-9,735.73	-353.77	1,316.47	896.95	419.52	3.138	
19,700.00	10,117.25	19,481.95	9,735.52	219.97	218.20	73.14	-9,835.72	-353.19	1,316.56	892.99	423.57	3.108	
19,800.00	10,116.59	19,581.95	9,734.56	222.05	220.30	73.13	-9,935.72	-352.61	1,316.65	889.04	427.61	3.079	
19,900.00	10,115.93	19,681.95	9,733.60	224.14	222.39	73.12	-10,035.71	-352.02	1,316.73	885.08	431.66	3.050	
20,000.00	10,115.27	19,781.95	9,732.64	226.23	224.49	73.11	-10,135.70	-351.44	1,316.82	881.12	435.70	3.022	
20,100.00	10,114.61	19,881.95	9,731.69	228.32	226.59	73.09	-10,235.70	-350.85	1,316.91	877.15	439.75	2.995	
20,200.00	10,113.95	19,981.95	9,730.73	230.42	228.69	73.08	-10,335.69	-350.27	1,316.99	873.19	443.80	2.968	
20,300.00	10,113.29	20,081.95	9,729.77	232.51	230.79	73.07	-10,435.68	-349.69	1,317.08	869.22	447.86	2.941	
20,400.00	10,112.63	20,181.95	9,728.81	234.60	232.90	73.06	-10,535.68	-349.10	1,317.17	865.26	451.91	2.915	
20,446.85	10,112.32	20,228.80	9,728.36	235.58	233.88	73.05	-10,582.52	-348.83	1,317.21	863.40	453.81	2.903	
20,495.03	10,112.00	20,266.00	9,728.00	236.59	234.66	73.05	-10,619.72	-348.61	1,317.30	861.75	455.55	2.892 SF	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
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Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0024 - OH - Plan 1 02-01-17														Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HODGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)										
0.00	0.00	2.00	0.00	0.00	0.00	-179.15			-50.00	-0.74	50.00				
100.00	100.00	102.00	100.00	0.19	0.20	-179.15			-50.00	-0.74	50.00	49.60	0.40	125.660	
200.00	200.00	202.00	200.00	0.73	0.74	-179.15			-50.00	-0.74	50.00	48.53	1.47	33.937	
300.00	300.00	302.00	300.00	1.27	1.28	-179.15			-50.00	-0.74	50.00	47.45	2.55	19.618	
400.00	400.00	402.00	400.00	1.81	1.82	-179.15			-50.00	-0.74	50.00	46.38	3.62	13.796	
500.00	500.00	502.00	500.00	2.34	2.36	-179.15			-50.00	-0.74	50.00	45.30	4.70	10.639	
600.00	600.00	602.00	600.00	2.88	2.89	-179.15			-50.00	-0.74	50.00	44.23	5.77	8.658	
700.00	700.00	702.00	700.00	3.42	3.43	-179.15			-50.00	-0.74	50.00	43.15	6.85	7.299	
800.00	800.00	802.00	800.00	3.96	3.97	-179.15			-50.00	-0.74	50.00	42.07	7.93	6.309	
900.00	900.00	902.00	900.00	4.50	4.51	-179.15			-50.00	-0.74	50.00	41.00	9.00	5.555	
1,000.00	1,000.00	1,002.00	1,000.00	5.03	5.04	-179.15			-50.00	-0.74	50.00	39.92	10.08	4.962	
1,100.00	1,100.00	1,102.00	1,100.00	5.57	5.58	-179.15			-50.00	-0.74	50.00	38.85	11.15	4.484	
1,200.00	1,200.00	1,202.00	1,200.00	6.11	6.12	-179.15			-50.00	-0.74	50.00	37.77	12.23	4.089	
1,300.00	1,300.00	1,302.00	1,300.00	6.65	6.66	-179.15			-50.00	-0.74	50.00	36.70	13.30	3.759	
1,400.00	1,400.00	1,402.00	1,400.00	7.18	7.19	-179.15			-50.00	-0.74	50.00	35.62	14.38	3.477	
1,500.00	1,500.00	1,502.00	1,500.00	7.72	7.73	-179.15			-50.00	-0.74	50.00	34.55	15.45	3.236	
1,600.00	1,600.00	1,602.00	1,600.00	8.26	8.27	-179.15			-50.00	-0.74	50.00	33.47	16.53	3.025	
1,700.00	1,700.00	1,702.00	1,700.00	8.80	8.81	-179.15			-50.00	-0.74	50.00	32.40	17.60	2.840	
1,765.99	1,765.99	1,767.99	1,765.99	9.15	9.16	-179.15			-50.00	-0.74	50.00	31.69	18.31	2.730	
1,800.00	1,800.00	1,802.00	1,800.00	9.33	9.35	-179.15			-50.00	-0.74	50.00	31.32	18.68	2.677	
1,900.00	1,899.98	1,901.88	1,899.86	9.86	9.87	84.10			-50.14	1.06	49.94	30.22	19.73	2.532	
2,000.00	1,999.84	2,001.85	1,999.75	10.37	10.38	85.44			-50.47	5.11	49.69	28.94	20.75	2.395	
2,100.00	2,099.48	2,101.75	2,099.57	10.89	10.90	90.47			-50.80	9.21	49.39	27.61	21.78	2.267	
2,120.76	2,120.15	2,122.49	2,120.28	11.00	11.00	91.67			-50.87	10.06	49.38	27.38	22.00	2.244 CC	
2,200.00	2,199.06	2,201.63	2,199.36	11.41	11.41	96.27			-51.13	13.30	49.54	26.71	22.82	2.170	
2,300.00	2,298.65	2,301.50	2,299.15	11.94	11.93	101.98			-51.46	17.39	50.19	26.32	23.87	2.103 ES	
2,400.00	2,398.23	2,401.38	2,398.94	12.47	12.46	107.49			-51.79	21.48	51.33	26.41	24.91	2.060	
2,500.00	2,497.81	2,501.25	2,498.72	13.00	12.98	112.72			-52.12	25.57	52.92	26.95	25.96	2.038	
2,600.00	2,597.40	2,601.12	2,598.51	13.54	13.50	117.60			-52.45	29.66	54.92	27.90	27.01	2.033	
2,700.00	2,696.98	2,701.00	2,698.30	14.08	14.03	122.11			-52.78	33.75	57.29	29.22	28.07	2.041	
2,800.00	2,796.57	2,800.87	2,798.09	14.62	14.56	126.24			-53.11	37.84	59.99	30.87	29.12	2.060	
2,900.00	2,896.15	2,900.75	2,897.88	15.17	15.09	130.00			-53.44	41.93	62.97	32.80	30.17	2.087	
3,000.00	2,995.73	3,000.62	2,997.67	15.71	15.62	133.41			-53.77	46.02	66.20	34.98	31.23	2.120	
3,100.00	3,095.32	3,100.50	3,097.46	16.26	16.15	136.48			-54.10	50.11	69.65	37.36	32.28	2.157	
3,200.00	3,194.90	3,200.37	3,197.25	16.81	16.68	139.27			-54.43	54.20	73.27	39.93	33.34	2.198	
3,300.00	3,294.49	3,300.24	3,297.04	17.36	17.21	141.78			-54.77	58.29	77.05	42.65	34.40	2.240	
3,400.00	3,394.07	3,400.12	3,396.83	17.91	17.75	144.06			-55.10	62.38	80.96	45.50	35.46	2.283	
3,500.00	3,493.65	3,499.99	3,496.62	18.46	18.28	146.12			-55.43	66.47	84.99	48.47	36.52	2.327	
3,600.00	3,593.24	3,599.87	3,596.41	19.01	18.82	147.99			-55.76	70.56	89.12	51.54	37.58	2.371	
3,700.00	3,692.82	3,699.74	3,696.20	19.57	19.35	149.70			-56.09	74.65	93.34	54.69	38.65	2.415	
3,800.00	3,792.41	3,799.61	3,795.99	20.12	19.89	151.26			-56.42	78.74	97.63	57.92	39.71	2.459	
3,900.00	3,891.99	3,899.49	3,895.78	20.68	20.42	152.69			-56.75	82.84	101.99	61.21	40.78	2.501	
4,000.00	3,991.58	3,999.36	3,995.57	21.24	20.96	153.99			-57.08	86.93	106.41	64.56	41.84	2.543	
4,100.00	4,091.16	4,099.24	4,095.36	21.79	21.49	155.20			-57.41	91.02	110.87	67.96	42.91	2.584	
4,200.00	4,190.74	4,199.11	4,195.15	22.35	22.03	156.31			-57.74	95.11	115.39	71.41	43.98	2.624	
4,300.00	4,290.33	4,298.99	4,294.94	22.91	22.57	157.34			-58.07	99.20	119.94	74.89	45.05	2.663	
4,400.00	4,389.91	4,398.86	4,394.73	23.47	23.11	158.29			-58.40	103.29	124.53	78.41	46.11	2.700	
4,500.00	4,489.50	4,498.73	4,494.52	24.03	23.64	159.17			-58.73	107.38	129.15	81.96	47.18	2.737	
4,600.00	4,589.08	4,598.61	4,594.31	24.59	24.18	159.99			-59.06	111.47	133.79	85.54	48.26	2.773	
4,700.00	4,688.66	4,698.48	4,694.10	25.15	24.72	160.76			-59.39	115.56	138.47	89.14	49.33	2.807	
4,800.00	4,788.25	4,798.36	4,793.89	25.71	25.26	161.47			-59.72	119.65	143.16	92.77	50.40	2.841	
4,900.00	4,887.83	4,898.23	4,893.68	26.27	25.80	162.15			-60.05	123.74	147.88	96.41	51.47	2.873	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0024 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDMG													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,987.42	4,998.10	4,993.47	26.83	26.34	162.77	-60.38	127.83	152.62	100.07	52.54	2.905		
5,100.00	5,087.00	5,097.98	5,093.26	27.39	26.88	163.37	-60.71	131.92	157.37	103.76	53.62	2.935		
5,200.00	5,186.59	5,197.85	5,193.05	27.95	27.41	163.92	-61.05	136.01	162.14	107.45	54.69	2.965		
5,300.00	5,286.17	5,297.73	5,292.84	28.52	27.95	164.45	-61.38	140.10	166.93	111.16	55.77	2.993		
5,400.00	5,385.75	5,397.60	5,392.63	29.08	28.49	164.94	-61.71	144.19	171.73	114.88	56.84	3.021		
5,500.00	5,485.34	5,497.48	5,492.42	29.64	29.03	165.41	-62.04	148.28	176.53	118.62	57.92	3.048		
5,600.00	5,584.92	5,597.35	5,592.21	30.21	29.57	165.86	-62.37	152.37	181.36	122.36	58.99	3.074		
5,700.00	5,684.51	5,697.22	5,692.00	30.77	30.11	166.28	-62.70	156.47	186.19	126.12	60.07	3.100		
5,800.00	5,784.09	5,797.10	5,791.79	31.33	30.65	166.68	-63.03	160.56	191.03	129.88	61.14	3.124		
5,900.00	5,883.67	5,896.97	5,891.58	31.90	31.19	167.06	-63.36	164.65	195.88	133.66	62.22	3.148		
6,000.00	5,983.26	5,996.85	5,991.37	32.46	31.73	167.42	-63.69	168.74	200.73	137.44	63.30	3.171		
6,100.00	6,082.84	6,096.72	6,091.16	33.02	32.27	167.76	-64.02	172.83	205.60	141.23	64.37	3.194		
6,200.00	6,182.43	6,196.59	6,190.95	33.59	32.81	168.09	-64.35	176.92	210.47	145.02	65.45	3.216		
6,300.00	6,282.01	6,296.47	6,290.74	34.15	33.36	168.40	-64.68	181.01	215.35	148.82	66.53	3.237		
6,400.00	6,381.59	6,396.34	6,390.53	34.72	33.90	168.70	-65.01	185.10	220.24	152.63	67.60	3.258		
6,500.00	6,481.18	6,496.22	6,490.32	35.28	34.44	168.99	-65.34	189.19	225.13	156.44	68.68	3.278		
6,600.00	6,580.76	6,596.09	6,590.11	35.85	34.98	169.26	-65.67	193.28	230.02	160.26	69.76	3.297		
6,700.00	6,680.35	6,695.96	6,689.90	36.41	35.52	169.53	-66.00	197.37	234.92	164.08	70.84	3.316		
6,800.00	6,779.93	6,795.84	6,789.69	36.98	36.06	169.78	-66.33	201.46	239.83	167.91	71.92	3.335		
6,900.00	6,879.52	6,895.71	6,889.48	37.54	36.60	170.02	-66.66	205.55	244.74	171.74	73.00	3.353		
7,000.00	6,979.10	6,995.59	6,989.27	38.11	37.14	170.25	-67.00	209.64	249.65	175.58	74.08	3.370		
7,100.00	7,078.68	7,095.46	7,089.06	38.67	37.68	170.48	-67.33	213.73	254.57	179.42	75.15	3.387		
7,200.00	7,178.27	7,195.34	7,188.85	39.24	38.23	170.69	-67.66	217.82	259.49	183.26	76.23	3.404		
7,300.00	7,277.85	7,295.21	7,288.63	39.80	38.77	170.90	-67.99	221.91	264.42	187.11	77.31	3.420		
7,400.00	7,377.44	7,395.08	7,388.42	40.37	39.31	171.10	-68.32	226.00	269.35	190.96	78.39	3.436		
7,500.00	7,477.02	7,494.96	7,488.21	40.94	39.85	171.29	-68.65	230.09	274.28	194.81	79.47	3.451		
7,600.00	7,576.60	7,594.83	7,588.00	41.50	40.39	171.48	-68.98	234.19	279.22	198.66	80.55	3.466		
7,700.00	7,676.19	7,694.71	7,687.79	42.07	40.93	171.65	-69.31	238.28	284.15	202.52	81.63	3.481		
7,800.00	7,775.77	7,794.58	7,787.58	42.63	41.47	171.83	-69.64	242.37	289.09	206.38	82.71	3.495		
7,900.00	7,875.36	7,894.45	7,887.37	43.20	42.02	171.99	-69.97	246.46	294.04	210.25	83.79	3.509		
8,000.00	7,974.94	7,994.33	7,987.16	43.77	42.56	172.16	-70.30	250.55	298.98	214.11	84.87	3.523		
8,100.00	8,074.52	8,094.20	8,086.95	44.33	43.10	172.31	-70.63	254.64	303.93	217.98	85.95	3.536		
8,200.00	8,174.11	8,194.08	8,186.74	44.90	43.64	172.46	-70.96	258.73	308.88	221.85	87.03	3.549		
8,300.00	8,273.69	8,293.95	8,286.53	45.47	44.18	172.61	-71.29	262.82	313.83	225.72	88.11	3.562		
8,400.00	8,373.28	8,393.83	8,386.32	46.03	44.73	172.75	-71.62	266.91	318.79	229.59	89.19	3.574		
8,500.00	8,472.86	8,493.70	8,486.11	46.60	45.27	172.89	-71.95	271.00	323.74	233.47	90.27	3.586		
8,600.00	8,572.45	8,593.57	8,585.90	47.17	45.81	173.02	-72.28	275.09	328.70	237.35	91.36	3.598		
8,700.00	8,672.03	8,693.45	8,685.69	47.73	46.35	173.15	-72.61	279.18	333.66	241.22	92.44	3.610		
8,800.00	8,771.61	8,793.32	8,785.48	48.30	46.89	173.28	-72.94	283.27	338.62	245.10	93.52	3.621		
8,900.00	8,871.20	8,893.20	8,885.27	48.87	47.44	173.40	-73.28	287.36	343.58	248.99	94.60	3.632		
9,000.00	8,970.78	8,993.07	8,985.06	49.43	47.98	173.52	-73.61	291.45	348.55	252.87	95.68	3.643		
9,100.00	9,070.37	9,092.94	9,084.85	50.00	48.52	173.63	-73.94	295.54	353.51	256.75	96.76	3.653		
9,200.00	9,169.95	9,192.82	9,184.64	50.57	49.06	173.75	-74.27	299.63	358.48	260.64	97.84	3.664		
9,300.00	9,269.53	9,292.69	9,284.43	51.13	49.61	173.86	-74.60	303.72	363.45	264.53	98.92	3.674		
9,400.00	9,369.12	9,393.85	9,385.00	51.70	50.14	172.67	-83.22	308.05	368.22	268.20	100.02	3.682		
9,500.00	9,468.70	9,489.61	9,477.40	52.27	50.64	169.09	-107.54	312.42	373.65	272.53	101.12	3.695		
9,600.00	9,568.29	9,575.64	9,555.92	52.84	51.06	164.02	-142.25	316.48	382.64	280.43	102.22	3.744		
9,700.00	9,667.61	9,650.00	9,618.95	53.40	51.41	108.58	-181.45	320.02	397.62	294.25	103.38	3.846		
9,800.00	9,764.49	9,725.24	9,677.01	53.95	51.76	85.77	-229.08	323.55	416.26	311.98	104.28	3.992		
9,900.00	9,856.00	9,800.00	9,728.03	54.49	52.11	74.88	-283.55	326.97	436.49	332.21	104.28	4.186		
10,000.00	9,939.34	9,864.24	9,765.89	54.99	52.41	68.06	-335.34	329.78	456.49	353.47	103.02	4.431		
10,100.00	10,011.99	9,931.36	9,799.00	55.47	52.74	63.04	-393.61	332.56	474.95	374.42	100.53	4.724		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0024 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,200.00	10,071.73	10,000.00	9,825.57	55.94	53.09	59.36	-456.80	335.19	490.80	393.63	97.18	5.051		
10,300.00	10,116.76	10,062.70	9,843.08	56.42	53.42	56.86	-516.93	337.37	503.24	409.66	93.67	5.372		
10,400.00	10,145.70	10,127.46	9,854.17	56.93	53.76	55.26	-580.66	339.38	511.73	420.95	90.78	5.637		
10,500.00	10,157.68	10,195.63	9,858.00	57.47	54.13	54.49	-648.67	341.20	515.95	426.70	89.25	5.781		
10,600.00	10,157.79	10,289.86	9,857.70	58.05	54.67	54.45	-742.87	343.48	516.19	426.30	89.89	5.742		
10,700.00	10,157.53	10,389.86	9,857.37	58.69	55.32	54.45	-842.84	345.91	516.23	425.31	90.92	5.678		
10,800.00	10,157.27	10,489.86	9,857.05	59.41	56.04	54.44	-942.81	348.34	516.26	424.17	92.09	5.606		
10,900.00	10,157.01	10,589.86	9,856.73	60.20	56.84	54.44	-1,042.78	350.76	516.29	422.90	93.39	5.528		
11,000.00	10,156.74	10,689.86	9,856.41	61.05	57.70	54.43	-1,142.75	353.19	516.32	421.49	94.83	5.445		
11,100.00	10,156.48	10,789.86	9,856.09	61.96	58.63	54.42	-1,242.72	355.61	516.35	419.96	96.40	5.356		
11,200.00	10,156.22	10,889.86	9,855.76	62.94	59.63	54.42	-1,342.69	358.04	516.39	418.30	98.08	5.265		
11,300.00	10,155.96	10,989.86	9,855.44	63.97	60.68	54.41	-1,442.66	360.47	516.42	416.53	99.89	5.170		
11,400.00	10,155.70	11,089.86	9,855.12	65.05	61.79	54.41	-1,542.63	362.89	516.45	414.66	101.79	5.073		
11,500.00	10,155.43	11,189.86	9,854.80	66.19	62.96	54.40	-1,642.60	365.32	516.48	412.68	103.81	4.976		
11,600.00	10,155.17	11,289.86	9,854.47	67.38	64.18	54.40	-1,742.57	367.74	516.51	410.60	105.91	4.877		
11,700.00	10,154.91	11,389.86	9,854.15	68.62	65.45	54.39	-1,842.54	370.17	516.55	408.44	108.11	4.778		
11,800.00	10,154.65	11,489.86	9,853.83	69.90	66.76	54.39	-1,942.51	372.60	516.58	406.18	110.39	4.679		
11,900.00	10,154.39	11,589.86	9,853.51	71.23	68.12	54.38	-2,042.48	375.02	516.61	403.85	112.76	4.582		
12,000.00	10,154.13	11,689.86	9,853.18	72.59	69.52	54.37	-2,142.45	377.45	516.64	401.45	115.20	4.485		
12,100.00	10,153.86	11,789.86	9,852.86	73.99	70.96	54.37	-2,242.42	379.88	516.67	398.97	117.71	4.390		
12,200.00	10,153.60	11,889.86	9,852.54	75.43	72.43	54.36	-2,342.39	382.30	516.71	396.43	120.28	4.296		
12,300.00	10,153.34	11,989.86	9,852.22	76.91	73.94	54.36	-2,442.36	384.73	516.74	393.82	122.92	4.204		
12,400.00	10,153.08	12,089.86	9,851.90	78.41	75.48	54.35	-2,542.33	387.15	516.77	391.16	125.61	4.114		
12,500.00	10,152.82	12,189.86	9,851.57	79.95	77.05	54.35	-2,642.30	389.58	516.80	388.44	128.36	4.026		
12,600.00	10,152.55	12,289.86	9,851.25	81.51	78.65	54.34	-2,742.27	392.01	516.83	385.67	131.16	3.940		
12,700.00	10,152.29	12,389.86	9,850.93	83.10	80.27	54.33	-2,842.24	394.43	516.87	382.86	134.01	3.857		
12,800.00	10,152.03	12,489.86	9,850.61	84.72	81.92	54.33	-2,942.21	396.86	516.90	380.00	136.90	3.776		
12,900.00	10,151.77	12,589.86	9,850.28	86.36	83.60	54.32	-3,042.18	399.29	516.93	377.10	139.83	3.697		
13,000.00	10,151.51	12,689.86	9,849.96	88.03	85.29	54.32	-3,142.15	401.71	516.96	374.16	142.81	3.620		
13,100.00	10,151.24	12,789.86	9,849.64	89.71	87.01	54.31	-3,242.12	404.14	516.99	371.18	145.82	3.546		
13,200.00	10,150.98	12,889.86	9,849.32	91.42	88.75	54.31	-3,342.09	406.56	517.03	368.17	148.86	3.473		
13,300.00	10,150.72	12,989.86	9,848.99	93.14	90.50	54.30	-3,442.06	408.99	517.06	365.12	151.94	3.403		
13,400.00	10,150.46	13,089.86	9,848.67	94.89	92.27	54.29	-3,542.03	411.42	517.09	362.05	155.04	3.335		
13,500.00	10,150.20	13,189.86	9,848.35	96.65	94.06	54.29	-3,642.00	413.84	517.12	358.94	158.18	3.269		
13,600.00	10,149.93	13,289.86	9,848.03	98.42	95.87	54.28	-3,741.97	416.27	517.15	355.81	161.34	3.205		
13,700.00	10,149.67	13,389.86	9,847.71	100.21	97.69	54.28	-3,841.94	418.69	517.19	352.66	164.53	3.143		
13,800.00	10,149.41	13,489.86	9,847.38	102.02	99.52	54.27	-3,941.91	421.12	517.22	349.48	167.74	3.083		
13,900.00	10,149.15	13,589.86	9,847.06	103.84	101.37	54.27	-4,041.88	423.55	517.25	346.28	170.97	3.025		
14,000.00	10,148.89	13,689.86	9,846.74	105.68	103.23	54.26	-4,141.85	425.97	517.28	343.05	174.23	2.969		
14,100.00	10,148.62	13,789.86	9,846.42	107.52	105.10	54.25	-4,241.82	428.40	517.32	339.81	177.50	2.914		
14,200.00	10,148.36	13,889.86	9,846.09	109.38	106.98	54.25	-4,341.79	430.83	517.35	336.55	180.80	2.861		
14,300.00	10,148.10	13,989.86	9,845.77	111.25	108.88	54.24	-4,441.76	433.25	517.38	333.27	184.11	2.810		
14,400.00	10,147.84	14,089.86	9,845.45	113.13	110.78	54.24	-4,541.73	435.68	517.41	329.97	187.44	2.760		
14,500.00	10,147.58	14,189.86	9,845.13	115.02	112.69	54.23	-4,641.70	438.10	517.44	326.66	190.79	2.712		
14,600.00	10,147.31	14,289.86	9,844.80	116.92	114.61	54.23	-4,741.67	440.53	517.48	323.33	194.15	2.665		
14,700.00	10,147.05	14,389.86	9,844.48	118.82	116.54	54.22	-4,841.64	442.96	517.51	319.99	197.52	2.620		
14,800.00	10,146.79	14,489.86	9,844.16	120.74	118.48	54.21	-4,941.61	445.38	517.54	316.63	200.91	2.576		
14,900.00	10,146.53	14,589.86	9,843.84	122.67	120.43	54.21	-5,041.58	447.81	517.57	313.26	204.31	2.533		
15,000.00	10,146.27	14,689.86	9,843.52	124.60	122.38	54.20	-5,141.55	450.23	517.60	309.88	207.72	2.492		
15,100.00	10,146.00	14,789.86	9,843.19	126.54	124.35	54.20	-5,241.52	452.66	517.64	306.49	211.15	2.452		
15,200.00	10,145.74	14,889.86	9,842.87	128.49	126.31	54.19	-5,341.49	455.09	517.67	303.08	214.59	2.412		
15,300.00	10,145.48	14,989.86	9,842.55	130.45	128.29	54.19	-5,441.46	457.51	517.70	299.67	218.03	2.374		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design													HH SO 10 15 Fed - 0024 - OH - Plan 1 02-01-17		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
15,400.00	10,145.22	15,089.86	9,842.23	132.41	130.27	54.18	-5,541.43	459.94	517.73	296.24	221.49	2.337				
15,500.00	10,144.95	15,185.49	9,841.88	134.38	132.17	54.18	-5,637.04	462.15	517.85	293.06	224.79	2.304				
15,600.00	10,144.34	15,280.31	9,841.06	136.34	134.04	54.17	-5,731.85	462.86	518.05	290.15	227.90	2.273				
15,700.00	10,143.68	15,380.31	9,840.14	138.31	136.03	54.14	-5,831.84	463.44	518.20	286.87	231.33	2.240				
15,800.00	10,143.02	15,480.31	9,839.22	140.28	138.02	54.12	-5,931.83	464.03	518.35	283.58	234.77	2.208				
15,900.00	10,142.36	15,580.31	9,838.30	142.26	140.02	54.10	-6,031.83	464.61	518.51	280.28	238.22	2.177				
16,000.00	10,141.70	15,680.31	9,837.38	144.24	142.02	54.07	-6,131.82	465.19	518.66	276.98	241.68	2.146				
16,100.00	10,141.04	15,780.31	9,836.46	146.23	144.03	54.05	-6,231.81	465.78	518.81	273.67	245.14	2.116				
16,200.00	10,140.37	15,880.31	9,835.53	148.22	146.04	54.03	-6,331.81	466.36	518.96	270.36	248.61	2.087				
16,300.00	10,139.71	15,980.31	9,834.61	150.22	148.05	54.00	-6,431.80	466.95	519.12	267.04	252.08	2.059				
16,400.00	10,139.05	16,080.31	9,833.69	152.22	150.07	53.98	-6,531.80	467.53	519.27	263.71	255.56	2.032				
16,500.00	10,138.39	16,180.31	9,832.77	154.23	152.09	53.96	-6,631.79	468.11	519.42	260.38	259.04	2.005				
16,600.00	10,137.73	16,280.31	9,831.85	156.24	154.12	53.93	-6,731.78	468.70	519.58	257.05	262.53	1.979				
16,700.00	10,137.07	16,380.31	9,830.93	158.26	156.15	53.91	-6,831.78	469.28	519.73	253.71	266.02	1.954				
16,800.00	10,136.41	16,480.31	9,830.01	160.27	158.18	53.89	-6,931.77	469.87	519.88	250.36	269.52	1.929				
16,900.00	10,135.75	16,580.30	9,829.09	162.30	160.22	53.86	-7,031.76	470.45	520.04	247.02	273.02	1.905				
17,000.00	10,135.09	16,680.30	9,828.17	164.32	162.26	53.84	-7,131.76	471.03	520.19	243.67	276.53	1.881				
17,100.00	10,134.43	16,780.30	9,827.25	166.35	164.30	53.82	-7,231.75	471.62	520.35	240.31	280.04	1.858				
17,200.00	10,133.77	16,880.30	9,826.33	168.38	166.34	53.79	-7,331.74	472.20	520.50	236.95	283.55	1.836				
17,300.00	10,133.11	16,980.30	9,825.40	170.42	168.39	53.77	-7,431.74	472.79	520.65	233.59	287.07	1.814				
17,400.00	10,132.45	17,080.30	9,824.48	172.46	170.44	53.75	-7,531.73	473.37	520.81	230.22	290.58	1.792				
17,500.00	10,131.79	17,180.30	9,823.56	174.50	172.50	53.72	-7,631.73	473.95	520.96	226.86	294.11	1.771				
17,600.00	10,131.13	17,280.30	9,822.64	176.54	174.55	53.70	-7,731.72	474.54	521.12	223.48	297.63	1.751				
17,700.00	10,130.47	17,380.30	9,821.72	178.59	176.61	53.68	-7,831.71	475.12	521.27	220.11	301.16	1.731				
17,800.00	10,129.80	17,480.30	9,820.80	180.64	178.67	53.66	-7,931.71	475.71	521.43	216.73	304.69	1.711				
17,900.00	10,129.14	17,580.30	9,819.88	182.69	180.73	53.63	-8,031.70	476.29	521.58	213.36	308.22	1.692				
18,000.00	10,128.48	17,680.30	9,818.96	184.74	182.80	53.61	-8,131.69	476.87	521.73	209.98	311.76	1.674				
18,100.00	10,127.82	17,780.30	9,818.04	186.80	184.87	53.59	-8,231.69	477.46	521.89	206.59	315.30	1.655				
18,200.00	10,127.16	17,880.30	9,817.12	188.86	186.94	53.56	-8,331.68	478.04	522.04	203.21	318.84	1.637				
18,300.00	10,126.50	17,980.30	9,816.20	190.92	189.01	53.54	-8,431.68	478.63	522.20	199.82	322.38	1.620				
18,400.00	10,125.84	18,080.30	9,815.27	192.98	191.08	53.52	-8,531.67	479.21	522.35	196.43	325.92	1.603				
18,500.00	10,125.18	18,180.30	9,814.35	195.05	193.16	53.49	-8,631.66	479.79	522.51	193.04	329.47	1.586				
18,600.00	10,124.52	18,280.30	9,813.43	197.11	195.23	53.47	-8,731.66	480.38	522.66	189.65	333.01	1.569				
18,700.00	10,123.86	18,380.30	9,812.51	199.18	197.31	53.45	-8,831.65	480.96	522.82	186.26	336.56	1.553				
18,800.00	10,123.20	18,480.30	9,811.59	201.25	199.39	53.43	-8,931.64	481.55	522.97	182.86	340.11	1.538				
18,900.00	10,122.54	18,580.30	9,810.67	203.33	201.48	53.40	-9,031.64	482.13	523.13	179.47	343.66	1.522				
19,000.00	10,121.88	18,680.30	9,809.75	205.40	203.56	53.38	-9,131.63	482.71	523.29	176.07	347.22	1.507				
19,100.00	10,121.22	18,780.30	9,808.83	207.48	205.64	53.36	-9,231.63	483.30	523.44	172.67	350.77	1.492 Level 3				
19,200.00	10,120.56	18,880.30	9,807.91	209.55	207.73	53.33	-9,331.62	483.88	523.60	169.27	354.32	1.478 Level 3				
19,300.00	10,119.89	18,980.30	9,806.99	211.63	209.82	53.31	-9,431.61	484.47	523.75	165.87	357.88	1.463 Level 3				
19,400.00	10,119.23	19,080.30	9,806.07	213.72	211.91	53.29	-9,531.61	485.05	523.91	162.47	361.44	1.450 Level 3				
19,500.00	10,118.57	19,180.30	9,805.15	215.80	214.00	53.27	-9,631.60	485.63	524.06	159.07	364.99	1.436 Level 3				
19,600.00	10,117.91	19,280.30	9,804.22	217.88	216.09	53.24	-9,731.59	486.22	524.22	155.67	368.55	1.422 Level 3				
19,700.00	10,117.25	19,380.30	9,803.30	219.97	218.19	53.22	-9,831.59	486.80	524.38	152.26	372.11	1.409 Level 3				
19,800.00	10,116.59	19,480.30	9,802.38	222.05	220.28	53.20	-9,931.58	487.39	524.53	148.86	375.67	1.396 Level 3				
19,900.00	10,115.93	19,580.29	9,801.46	224.14	222.38	53.18	-10,031.58	487.97	524.69	145.45	379.23	1.384 Level 3				
20,000.00	10,115.27	19,680.29	9,800.54	226.23	224.47	53.15	-10,131.57	488.55	524.84	142.05	382.80	1.371 Level 3				
20,100.00	10,114.61	19,780.29	9,799.62	228.32	226.57	53.13	-10,231.56	489.14	525.00	138.64	386.36	1.359 Level 3				
20,200.00	10,113.95	19,880.29	9,798.70	230.42	228.67	53.11	-10,331.56	489.72	525.16	135.24	389.92	1.347 Level 3				
20,300.00	10,113.29	19,980.29	9,797.78	232.51	230.77	53.08	-10,431.55	490.31	525.31	131.83	393.48	1.335 Level 3				
20,400.00	10,112.63	20,080.29	9,796.86	234.60	232.87	53.06	-10,531.54	490.89	525.47	128.42	397.05	1.323 Level 3				
20,495.03	10,112.00	20,173.70	9,796.00	236.59	234.84	53.04	-10,624.94	491.44	525.62	125.22	400.41	1.313 Level 3, SF				

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
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Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0025 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)				Offset +N/-S (usft)	Offset +E/-W (usft)	
0.00	0.00	1.00	0.00	0.00	0.00	-179.15	25.00							
100.00	100.00	101.00	100.00	0.19	0.20	-179.15	25.00	24.61	0.39	63.689				
200.00	200.00	201.00	200.00	0.73	0.74	-179.15	25.00	23.53	1.47	17.030				
300.00	300.00	301.00	300.00	1.27	1.27	-179.15	25.00	22.46	2.54	9.829				
400.00	400.00	401.00	400.00	1.81	1.81	-179.15	25.00	21.38	3.62	6.908				
500.00	500.00	501.00	500.00	2.34	2.35	-179.15	25.00	20.31	4.69	5.326				
600.00	600.00	601.00	600.00	2.88	2.89	-179.15	25.00	19.23	5.77	4.333				
700.00	700.00	701.00	700.00	3.42	3.43	-179.15	25.00	18.15	6.85	3.652				
800.00	800.00	801.00	800.00	3.96	3.96	-179.15	25.00	17.08	7.92	3.156				
900.00	900.00	901.00	900.00	4.50	4.50	-179.15	25.00	16.00	9.00	2.779				
1,000.00	1,000.00	1,001.00	1,000.00	5.03	5.04	-179.15	25.00	14.93	10.07	2.482				
1,100.00	1,100.00	1,101.00	1,100.00	5.57	5.58	-179.15	25.00	13.85	11.15	2.243				
1,200.00	1,200.00	1,201.00	1,200.00	6.11	6.11	-179.15	25.00	12.78	12.22	2.045				
1,300.00	1,300.00	1,301.00	1,300.00	6.65	6.65	-179.15	25.00	11.70	13.30	1.880				
1,400.00	1,400.00	1,401.00	1,400.00	7.18	7.19	-179.15	25.00	10.63	14.37	1.739				
1,500.00	1,500.00	1,501.00	1,500.00	7.72	7.73	-179.15	25.00	9.55	15.45	1.618				
1,600.00	1,600.00	1,601.00	1,600.00	8.26	8.26	-179.15	25.00	8.48	16.52	1.513				
1,700.00	1,700.00	1,701.00	1,700.00	8.80	8.80	-179.15	25.00	7.40	17.60	1.421 Level 3				
1,800.00	1,800.00	1,801.00	1,800.00	9.33	9.34	-179.15	25.00	6.33	18.67	1.339 Level 3				
1,900.00	1,899.98	1,900.98	1,899.98	9.86	9.88	88.19	25.00	5.15	19.74	1.261 Level 3				
1,920.45	1,920.42	1,921.42	1,920.42	9.96	9.99	90.00	25.00	4.92	19.95	1.247 Level 2, CC				
2,000.00	1,999.84	2,000.84	1,999.84	10.37	10.41	100.11	25.00	4.48	20.78	1.216 Level 2, ES, SF				
2,100.00	2,099.48	2,100.48	2,099.48	10.89	10.95	117.32	25.00	6.20	21.82	1.284 Level 3				
2,200.00	2,199.06	2,200.06	2,199.06	11.41	11.49	131.39	25.00	10.36	22.85	1.453 Level 3				
2,300.00	2,298.65	2,299.65	2,298.65	11.94	12.02	141.25	25.00	15.95	23.89	1.667				
2,400.00	2,398.23	2,399.23	2,398.23	12.47	12.56	148.17	25.00	22.36	24.94	1.897				
2,500.00	2,497.81	2,498.81	2,497.81	13.00	13.09	153.15	25.00	29.27	25.99	2.126				
2,600.00	2,597.40	2,598.40	2,597.40	13.54	13.63	156.87	25.00	36.49	27.04	2.349				
2,700.00	2,696.98	2,697.98	2,696.98	14.08	14.16	159.71	25.00	43.90	28.10	2.562				
2,800.00	2,796.57	2,797.57	2,796.57	14.62	14.70	161.96	25.00	51.45	29.15	2.765				
2,900.00	2,896.15	2,897.15	2,896.15	15.17	15.23	163.77	25.00	59.10	30.22	2.956				
3,000.00	2,995.73	2,996.73	2,995.73	15.71	15.77	165.26	25.00	66.82	31.28	3.137				
3,100.00	3,095.32	3,096.32	3,095.32	16.26	16.30	166.50	25.00	74.60	32.34	3.307				
3,200.00	3,194.90	3,195.90	3,194.90	16.81	16.84	167.55	25.00	82.42	33.40	3.467				
3,300.00	3,294.49	3,295.49	3,294.49	17.36	17.38	168.45	25.00	90.26	34.47	3.619				
3,400.00	3,394.07	3,395.07	3,394.07	17.91	17.91	169.23	25.00	98.14	35.54	3.762				
3,500.00	3,493.65	3,494.65	3,493.65	18.46	18.45	169.92	25.00	106.03	36.60	3.897				
3,600.00	3,593.24	3,594.24	3,593.24	19.01	18.98	170.52	25.00	113.94	37.67	4.025				
3,700.00	3,692.82	3,693.82	3,692.82	19.57	19.52	171.05	25.00	121.87	38.74	4.146				
3,800.00	3,792.41	3,793.41	3,792.41	20.12	20.05	171.53	25.00	129.80	39.81	4.261				
3,900.00	3,891.99	3,892.99	3,891.99	20.68	20.59	171.96	25.00	137.75	40.88	4.370				
4,000.00	3,991.58	3,992.58	3,991.58	21.24	21.12	172.35	25.00	145.71	41.95	4.473				
4,100.00	4,091.16	4,092.16	4,091.16	21.79	21.66	172.71	25.00	153.67	43.02	4.572				
4,200.00	4,190.74	4,191.74	4,190.74	22.35	22.20	173.03	25.00	161.64	44.09	4.666				
4,300.00	4,290.33	4,291.33	4,290.33	22.91	22.73	173.32	25.00	169.61	45.16	4.755				
4,400.00	4,389.91	4,390.91	4,389.91	23.47	23.27	173.59	25.00	177.59	46.24	4.841				
4,500.00	4,489.50	4,490.50	4,489.50	24.03	23.80	173.84	25.00	185.58	47.31	4.923				
4,600.00	4,589.08	4,590.08	4,589.08	24.59	24.34	174.08	25.00	193.56	48.38	5.001				
4,700.00	4,688.66	4,689.66	4,688.66	25.15	24.87	174.29	25.00	201.55	49.46	5.075				
4,800.00	4,788.25	4,789.25	4,788.25	25.71	25.41	174.49	25.00	209.55	50.53	5.147				
4,900.00	4,887.83	4,888.83	4,887.83	26.27	25.94	174.68	25.00	217.54	51.60	5.216				
5,000.00	4,987.42	4,988.42	4,987.42	26.83	26.48	174.85	25.00	225.54	52.68	5.282				

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design													HH SO 10 15 Fed - 0025 - OH - Plan 1 02-01-17		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,087.00	5,088.00	5,087.00	27.39	27.01	175.01	-25.00	-0.37	287.30	233.54	53.75	5.345				
5,200.00	5,186.59	5,187.59	5,186.59	27.95	27.55	175.17	-25.00	-0.37	296.37	241.55	54.83	5.406				
5,300.00	5,286.17	5,287.17	5,286.17	28.52	28.09	175.31	-25.00	-0.37	305.45	249.55	55.90	5.464				
5,400.00	5,385.75	5,386.75	5,385.75	29.08	28.62	175.45	-25.00	-0.37	314.53	257.56	56.98	5.520				
5,500.00	5,485.34	5,486.34	5,485.34	29.64	29.16	175.57	-25.00	-0.37	323.62	265.56	58.05	5.575				
5,600.00	5,584.92	5,585.92	5,584.92	30.21	29.69	175.69	-25.00	-0.37	332.70	273.57	59.13	5.627				
5,700.00	5,684.51	5,685.51	5,684.51	30.77	30.23	175.81	-25.00	-0.37	341.79	281.58	60.20	5.677				
5,800.00	5,784.09	5,785.09	5,784.09	31.33	30.76	175.92	-25.00	-0.37	350.87	289.60	61.28	5.726				
5,900.00	5,883.67	5,884.67	5,883.67	31.90	31.30	176.02	-25.00	-0.37	359.96	297.61	62.35	5.773				
6,000.00	5,983.26	5,984.26	5,983.26	32.46	31.83	176.12	-25.00	-0.37	369.05	305.62	63.43	5.818				
6,100.00	6,082.84	6,083.84	6,082.84	33.02	32.37	176.21	-25.00	-0.37	378.14	313.63	64.51	5.862				
6,200.00	6,182.43	6,183.43	6,182.43	33.59	32.90	176.30	-25.00	-0.37	387.23	321.65	65.58	5.905				
6,300.00	6,282.01	6,283.01	6,282.01	34.15	33.44	176.39	-25.00	-0.37	396.32	329.67	66.66	5.946				
6,400.00	6,381.59	6,382.59	6,381.59	34.72	33.98	176.47	-25.00	-0.37	405.42	337.68	67.74	5.985				
6,500.00	6,481.18	6,482.18	6,481.18	35.28	34.51	176.55	-25.00	-0.37	414.51	345.70	68.81	6.024				
6,600.00	6,580.76	6,581.76	6,580.76	35.85	35.05	176.62	-25.00	-0.37	423.60	353.72	69.89	6.061				
6,700.00	6,680.35	6,681.35	6,680.35	36.41	35.58	176.69	-25.00	-0.37	432.70	361.73	70.97	6.097				
6,800.00	6,779.93	6,780.93	6,779.93	36.98	36.12	176.76	-25.00	-0.37	441.80	369.75	72.04	6.132				
6,900.00	6,879.52	6,880.52	6,879.52	37.54	36.65	176.82	-25.00	-0.37	450.89	377.77	73.12	6.166				
7,000.00	6,979.10	6,980.10	6,979.10	38.11	37.19	176.89	-25.00	-0.37	459.99	385.79	74.20	6.200				
7,100.00	7,078.68	7,079.68	7,078.68	38.67	37.72	176.95	-25.00	-0.37	469.09	393.81	75.27	6.232				
7,200.00	7,178.27	7,179.27	7,178.27	39.24	38.26	177.01	-25.00	-0.37	478.18	401.83	76.35	6.263				
7,300.00	7,277.85	7,278.85	7,277.85	39.80	38.79	177.06	-25.00	-0.37	487.28	409.85	77.43	6.293				
7,400.00	7,377.44	7,378.44	7,377.44	40.37	39.33	177.12	-25.00	-0.37	496.38	417.87	78.51	6.323				
7,500.00	7,477.02	7,478.02	7,477.02	40.94	39.87	177.17	-25.00	-0.37	505.48	425.90	79.58	6.351				
7,600.00	7,576.60	7,577.60	7,576.60	41.50	40.40	177.22	-25.00	-0.37	514.58	433.92	80.66	6.379				
7,700.00	7,676.19	7,677.19	7,676.19	42.07	40.94	177.27	-25.00	-0.37	523.68	441.94	81.74	6.407				
7,800.00	7,775.77	7,776.77	7,775.77	42.63	41.47	177.31	-25.00	-0.37	532.78	449.96	82.82	6.433				
7,900.00	7,875.36	7,876.36	7,875.36	43.20	42.01	177.36	-25.00	-0.37	541.88	457.98	83.90	6.459				
8,000.00	7,974.94	7,975.94	7,974.94	43.77	42.54	177.40	-25.00	-0.37	550.98	466.01	84.97	6.484				
8,100.00	8,074.52	8,075.52	8,074.52	44.33	43.08	177.44	-25.00	-0.37	560.08	474.03	86.05	6.509				
8,200.00	8,174.11	8,175.11	8,174.11	44.90	43.61	177.49	-25.00	-0.37	569.19	482.05	87.13	6.533				
8,300.00	8,273.69	8,274.69	8,273.69	45.47	44.15	177.52	-25.00	-0.37	578.29	490.08	88.21	6.556				
8,400.00	8,373.28	8,364.69	8,363.68	46.03	44.62	177.52	-25.35	-0.88	587.95	498.73	89.22	6.590				
8,500.00	8,472.86	8,450.09	8,449.02	46.60	45.05	177.37	-27.06	-3.41	599.84	509.65	90.20	6.650				
8,600.00	8,572.45	8,544.11	8,542.89	47.17	45.52	177.08	-30.21	-8.03	613.58	522.37	91.20	6.727				
8,700.00	8,672.03	8,643.09	8,641.68	47.73	46.01	176.78	-33.62	-13.03	627.47	535.23	92.24	6.803				
8,800.00	8,771.61	8,742.07	8,740.47	48.30	46.50	176.49	-37.02	-18.03	641.38	548.11	93.27	6.876				
8,900.00	8,871.20	8,841.05	8,839.26	48.87	47.00	176.22	-40.43	-23.03	655.31	561.00	94.31	6.949				
9,000.00	8,970.78	8,940.02	8,938.05	49.43	47.50	175.95	-43.83	-28.02	669.25	573.90	95.34	7.019				
9,100.00	9,070.37	9,039.00	9,036.85	50.00	47.99	175.70	-47.24	-33.02	683.20	586.82	96.38	7.088				
9,200.00	9,169.95	9,137.98	9,135.64	50.57	48.49	175.45	-50.64	-38.02	697.17	599.75	97.42	7.156				
9,300.00	9,269.53	9,236.96	9,234.43	51.13	48.99	175.22	-54.05	-43.02	711.15	612.68	98.46	7.223				
9,400.00	9,369.12	9,335.93	9,333.22	51.70	49.49	175.00	-57.45	-48.02	725.13	625.63	99.50	7.288				
9,500.00	9,468.70	9,434.91	9,432.02	52.27	49.99	174.78	-60.86	-53.02	739.13	638.59	100.55	7.351				
9,600.00	9,568.29	9,533.89	9,530.81	52.84	50.49	174.57	-64.26	-58.02	753.14	651.56	101.59	7.414				
9,700.00	9,667.61	9,632.76	9,629.50	53.40	51.00	124.49	-67.66	-63.02	767.35	664.73	102.62	7.478				
9,800.00	9,764.49	9,736.83	9,733.00	53.95	51.52	107.61	-76.10	-68.14	781.94	678.29	103.66	7.544				
9,900.00	9,856.00	9,846.40	9,838.61	54.49	52.05	101.91	-104.27	-72.89	796.00	691.29	104.71	7.602				
10,000.00	9,939.34	9,959.45	9,939.93	54.99	52.56	99.02	-153.82	-76.90	808.96	703.19	105.77	7.648				
10,100.00	10,011.99	10,075.72	10,031.96	55.47	53.08	97.22	-224.50	-79.93	820.30	713.45	106.85	7.677				
10,200.00	10,071.73	10,194.66	10,109.41	55.94	53.61	95.96	-314.45	-81.74	829.57	721.61	107.96	7.684				

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0025 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor	
10,300.00	10,116.76	10,315.40	10,167.41	56.42	54.17	95.01	-420.10	-82.16	836.37	727.28	109.09	7.667		
10,400.00	10,145.70	10,436.83	10,202.19	56.93	54.75	94.26	-536.20	-81.15	840.46	730.21	110.26	7.623		
10,500.00	10,157.68	10,555.44	10,211.98	57.47	55.32	93.70	-654.18	-78.80	841.72	730.32	111.40	7.556		
10,600.00	10,157.79	10,655.44	10,211.78	58.05	55.87	93.68	-754.15	-76.37	841.73	729.21	112.52	7.481		
10,700.00	10,157.53	10,755.44	10,211.57	58.69	56.48	93.68	-854.12	-73.94	841.73	727.94	113.79	7.397		
10,800.00	10,157.27	10,855.44	10,211.37	59.41	57.17	93.69	-954.09	-71.51	841.73	726.52	115.21	7.306		
10,900.00	10,157.01	10,955.44	10,211.17	60.20	57.93	93.69	-1,054.06	-69.08	841.73	724.96	116.77	7.209		
11,000.00	10,156.74	11,055.44	10,210.97	61.05	58.76	93.69	-1,154.03	-66.65	841.72	723.26	118.46	7.105		
11,100.00	10,156.48	11,155.44	10,210.77	61.96	59.66	93.70	-1,254.00	-64.23	841.72	721.43	120.29	6.997		
11,200.00	10,156.22	11,255.44	10,210.57	62.94	60.63	93.70	-1,353.97	-61.80	841.72	719.47	122.25	6.885		
11,300.00	10,155.96	11,355.44	10,210.37	63.97	61.65	93.71	-1,453.94	-59.37	841.72	717.39	124.33	6.770		
11,400.00	10,155.70	11,455.44	10,210.17	65.05	62.74	93.71	-1,553.91	-56.94	841.72	715.20	126.52	6.653		
11,500.00	10,155.43	11,555.44	10,209.96	66.19	63.88	93.71	-1,653.88	-54.51	841.71	712.90	128.82	6.534		
11,600.00	10,155.17	11,655.44	10,209.76	67.38	65.07	93.72	-1,753.85	-52.08	841.71	710.49	131.22	6.415		
11,700.00	10,154.91	11,755.44	10,209.56	68.62	66.31	93.72	-1,853.82	-49.66	841.71	707.99	133.71	6.295		
11,800.00	10,154.65	11,855.44	10,209.36	69.90	67.59	93.73	-1,953.79	-47.23	841.71	705.40	136.30	6.175		
11,900.00	10,154.39	11,955.44	10,209.16	71.23	68.92	93.73	-2,053.76	-44.80	841.71	702.72	138.98	6.056		
12,000.00	10,154.13	12,055.44	10,208.96	72.59	70.30	93.74	-2,153.73	-42.37	841.70	699.96	141.74	5.938		
12,100.00	10,153.86	12,155.44	10,208.76	73.99	71.71	93.74	-2,253.71	-39.94	841.70	697.13	144.58	5.822		
12,200.00	10,153.60	12,255.44	10,208.55	75.43	73.16	93.74	-2,353.68	-37.51	841.70	694.22	147.48	5.707		
12,300.00	10,153.34	12,355.44	10,208.35	76.91	74.64	93.75	-2,453.65	-35.09	841.70	691.24	150.46	5.594		
12,400.00	10,153.08	12,455.44	10,208.15	78.41	76.16	93.75	-2,553.62	-32.66	841.70	688.19	153.50	5.483		
12,500.00	10,152.82	12,555.44	10,207.95	79.95	77.71	93.76	-2,653.59	-30.23	841.69	685.09	156.60	5.375		
12,600.00	10,152.55	12,655.44	10,207.75	81.51	79.29	93.76	-2,753.56	-27.80	841.69	681.93	159.76	5.268		
12,700.00	10,152.29	12,755.44	10,207.55	83.10	80.89	93.76	-2,853.53	-25.37	841.69	678.71	162.97	5.165		
12,800.00	10,152.03	12,855.44	10,207.35	84.72	82.52	93.77	-2,953.50	-22.95	841.69	675.45	166.24	5.063		
12,900.00	10,151.77	12,955.44	10,207.14	86.36	84.17	93.77	-3,053.47	-20.52	841.69	672.14	169.55	4.964		
13,000.00	10,151.51	13,055.44	10,206.94	88.03	85.85	93.78	-3,153.44	-18.09	841.68	668.78	172.91	4.868		
13,100.00	10,151.24	13,155.44	10,206.74	89.71	87.55	93.78	-3,253.41	-15.66	841.68	665.38	176.30	4.774		
13,200.00	10,150.98	13,255.44	10,206.54	91.42	89.27	93.78	-3,353.38	-13.23	841.68	661.94	179.74	4.683		
13,300.00	10,150.72	13,355.44	10,206.34	93.14	91.01	93.79	-3,453.35	-10.80	841.68	658.46	183.22	4.594		
13,400.00	10,150.46	13,455.44	10,206.14	94.89	92.76	93.79	-3,553.32	-8.38	841.68	654.95	186.73	4.507		
13,500.00	10,150.20	13,555.44	10,205.94	96.65	94.54	93.80	-3,653.29	-5.95	841.67	651.40	190.28	4.423		
13,600.00	10,149.93	13,655.44	10,205.74	98.42	96.33	93.80	-3,753.26	-3.52	841.67	647.82	193.85	4.342		
13,700.00	10,149.67	13,755.44	10,205.53	100.21	98.13	93.81	-3,853.23	-1.09	841.67	644.21	197.46	4.262		
13,800.00	10,149.41	13,855.44	10,205.33	102.02	99.95	93.81	-3,953.20	1.34	841.67	640.57	201.10	4.185		
13,900.00	10,149.15	13,955.44	10,205.13	103.84	101.78	93.81	-4,053.17	3.77	841.67	636.91	204.76	4.111		
14,000.00	10,148.89	14,055.44	10,204.93	105.68	103.63	93.82	-4,153.14	6.19	841.66	633.22	208.45	4.038		
14,100.00	10,148.62	14,155.44	10,204.73	107.52	105.49	93.82	-4,253.11	8.62	841.66	629.50	212.16	3.967		
14,200.00	10,148.36	14,255.44	10,204.53	109.38	107.36	93.83	-4,353.08	11.05	841.66	625.76	215.90	3.898		
14,300.00	10,148.10	14,355.44	10,204.33	111.25	109.24	93.83	-4,453.05	13.48	841.66	622.00	219.65	3.832		
14,400.00	10,147.84	14,455.44	10,204.12	113.13	111.13	93.83	-4,553.02	15.91	841.66	618.22	223.43	3.767		
14,500.00	10,147.58	14,555.44	10,203.92	115.02	113.03	93.84	-4,652.99	18.33	841.65	614.42	227.23	3.704		
14,600.00	10,147.31	14,655.44	10,203.72	116.92	114.94	93.84	-4,752.96	20.76	841.65	610.61	231.05	3.643		
14,700.00	10,147.05	14,755.44	10,203.52	118.82	116.86	93.85	-4,852.93	23.19	841.65	606.77	234.88	3.583		
14,800.00	10,146.79	14,855.44	10,203.32	120.74	118.79	93.85	-4,952.90	25.62	841.65	602.92	238.73	3.526		
14,900.00	10,146.53	14,955.44	10,203.12	122.67	120.73	93.86	-5,052.87	28.05	841.65	599.05	242.60	3.469		
15,000.00	10,146.27	15,055.44	10,202.92	124.60	122.67	93.86	-5,152.84	30.48	841.64	595.16	246.48	3.415		
15,100.00	10,146.00	15,155.44	10,202.71	126.54	124.62	93.86	-5,252.81	32.90	841.64	591.26	250.38	3.361		
15,200.00	10,145.74	15,255.44	10,202.51	128.49	126.58	93.87	-5,352.78	35.33	841.64	587.35	254.29	3.310		
15,300.00	10,145.48	15,355.44	10,202.31	130.45	128.55	93.87	-5,452.75	37.76	841.64	583.43	258.21	3.259		
15,400.00	10,145.22	15,455.44	10,202.11	132.41	130.52	93.88	-5,552.72	40.19	841.64	579.49	262.15	3.211		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0025 - OH - Plan 1 02-01-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,407.58	10,145.20	15,463.01	10,202.10	132.56	130.67	93.88	-5,560.30	40.37	841.64	579.19	262.45	3.207		
15,500.00	10,144.95	15,545.38	10,201.90	134.38	132.29	93.88	-5,642.65	42.16	841.86	576.02	265.84	3.167		
15,600.00	10,144.34	15,640.12	10,201.45	136.34	134.17	93.89	-5,737.38	42.77	842.03	572.51	269.52	3.124		
15,700.00	10,143.68	15,740.12	10,200.97	138.31	136.15	93.90	-5,837.38	43.36	842.04	568.57	273.47	3.079		
15,800.00	10,143.02	15,840.12	10,200.49	140.28	138.13	93.91	-5,937.38	43.95	842.05	564.62	277.43	3.035		
15,900.00	10,142.36	15,940.12	10,200.01	142.26	140.12	93.93	-6,037.38	44.53	842.06	560.66	281.41	2.992		
16,000.00	10,141.70	16,040.12	10,199.53	144.24	142.12	93.94	-6,137.37	45.12	842.07	556.68	285.39	2.951		
16,100.00	10,141.04	16,140.12	10,199.05	146.23	144.12	93.95	-6,237.37	45.71	842.08	552.70	289.38	2.910		
16,200.00	10,140.37	16,240.12	10,198.57	148.22	146.13	93.96	-6,337.37	46.29	842.09	548.71	293.38	2.870		
16,300.00	10,139.71	16,340.12	10,198.09	150.22	148.14	93.98	-6,437.36	46.88	842.10	544.71	297.39	2.832		
16,400.00	10,139.05	16,440.12	10,197.61	152.22	150.15	93.99	-6,537.36	47.46	842.12	540.71	301.41	2.794		
16,500.00	10,138.39	16,540.12	10,197.13	154.23	152.17	94.00	-6,637.36	48.05	842.13	536.69	305.43	2.757		
16,600.00	10,137.73	16,640.12	10,196.65	156.24	154.19	94.01	-6,737.35	48.64	842.14	532.67	309.47	2.721		
16,700.00	10,137.07	16,740.12	10,196.17	158.26	156.21	94.02	-6,837.35	49.22	842.15	528.64	313.51	2.686		
16,800.00	10,136.41	16,840.12	10,195.69	160.27	158.24	94.04	-6,937.35	49.81	842.16	524.60	317.55	2.652		
16,900.00	10,135.75	16,940.12	10,195.21	162.30	160.27	94.05	-7,037.34	50.40	842.17	520.56	321.61	2.619		
17,000.00	10,135.09	17,040.12	10,194.73	164.32	162.31	94.06	-7,137.34	50.98	842.18	516.51	325.67	2.586		
17,100.00	10,134.43	17,140.12	10,194.25	166.35	164.35	94.07	-7,237.34	51.57	842.19	512.46	329.73	2.554		
17,200.00	10,133.77	17,240.12	10,193.77	168.38	166.39	94.09	-7,337.34	52.15	842.20	508.40	333.81	2.523		
17,300.00	10,133.11	17,340.12	10,193.29	170.42	168.43	94.10	-7,437.33	52.74	842.21	504.33	337.89	2.493		
17,400.00	10,132.45	17,440.12	10,192.81	172.46	170.48	94.11	-7,537.33	53.33	842.22	500.26	341.97	2.463		
17,500.00	10,131.79	17,540.12	10,192.33	174.50	172.53	94.12	-7,637.33	53.91	842.24	496.18	346.06	2.434		
17,600.00	10,131.13	17,640.12	10,191.85	176.54	174.58	94.13	-7,737.32	54.50	842.25	492.09	350.15	2.405		
17,700.00	10,130.47	17,740.12	10,191.37	178.59	176.64	94.15	-7,837.32	55.09	842.26	488.01	354.25	2.378		
17,800.00	10,129.80	17,840.12	10,190.89	180.64	178.69	94.16	-7,937.32	55.67	842.27	483.91	358.35	2.350		
17,900.00	10,129.14	17,940.12	10,190.41	182.69	180.75	94.17	-8,037.31	56.26	842.28	479.82	362.46	2.324		
18,000.00	10,128.48	18,040.12	10,189.93	184.74	182.82	94.18	-8,137.31	56.84	842.29	475.72	366.58	2.298		
18,100.00	10,127.82	18,140.12	10,189.45	186.80	184.88	94.20	-8,237.31	57.43	842.30	471.61	370.69	2.272		
18,200.00	10,127.16	18,240.12	10,188.97	188.86	186.95	94.21	-8,337.31	58.02	842.31	467.50	374.81	2.247		
18,300.00	10,126.50	18,340.12	10,188.49	190.92	189.02	94.22	-8,437.30	58.60	842.33	463.39	378.94	2.223		
18,400.00	10,125.84	18,440.12	10,188.01	192.98	191.09	94.23	-8,537.30	59.19	842.34	459.27	383.07	2.199		
18,500.00	10,125.18	18,540.12	10,187.53	195.05	193.16	94.24	-8,637.30	59.77	842.35	455.15	387.20	2.175		
18,600.00	10,124.52	18,640.12	10,187.05	197.11	195.23	94.26	-8,737.29	60.36	842.36	451.02	391.34	2.153		
18,700.00	10,123.86	18,740.12	10,186.57	199.18	197.31	94.27	-8,837.29	60.95	842.37	446.89	395.48	2.130		
18,800.00	10,123.20	18,840.12	10,186.09	201.25	199.39	94.28	-8,937.29	61.53	842.38	442.76	399.62	2.108		
18,900.00	10,122.54	18,940.12	10,185.61	203.33	201.47	94.29	-9,037.28	62.12	842.39	438.63	403.77	2.086		
19,000.00	10,121.88	19,040.12	10,185.13	205.40	203.55	94.31	-9,137.28	62.71	842.41	434.49	407.92	2.065		
19,100.00	10,121.22	19,140.12	10,184.65	207.48	205.63	94.32	-9,237.28	63.29	842.42	430.35	412.07	2.044		
19,200.00	10,120.56	19,240.12	10,184.17	209.55	207.72	94.33	-9,337.28	63.88	842.43	426.20	416.23	2.024		
19,300.00	10,119.89	19,340.12	10,183.69	211.63	209.80	94.34	-9,437.27	64.46	842.44	422.06	420.39	2.004		
19,400.00	10,119.23	19,440.12	10,183.21	213.72	211.89	94.36	-9,537.27	65.05	842.45	417.91	424.55	1.984		
19,500.00	10,118.57	19,540.12	10,182.73	215.80	213.98	94.37	-9,637.27	65.64	842.47	413.75	428.71	1.965		
19,600.00	10,117.91	19,640.12	10,182.25	217.88	216.07	94.38	-9,737.26	66.22	842.48	409.60	432.88	1.946		
19,700.00	10,117.25	19,740.12	10,181.77	219.97	218.16	94.39	-9,837.26	66.81	842.49	405.44	437.05	1.928		
19,800.00	10,116.59	19,840.12	10,181.29	222.05	220.25	94.40	-9,937.26	67.40	842.50	401.28	441.22	1.909		
19,900.00	10,115.93	19,940.12	10,180.81	224.14	222.35	94.42	-10,037.25	67.98	842.51	397.12	445.40	1.892		
20,000.00	10,115.27	20,040.12	10,180.33	226.23	224.44	94.43	-10,137.25	68.57	842.52	392.95	449.57	1.874		
20,100.00	10,114.61	20,140.12	10,179.85	228.32	226.54	94.44	-10,237.25	69.15	842.54	388.79	453.75	1.857		
20,200.00	10,113.95	20,240.12	10,179.37	230.42	228.64	94.45	-10,337.24	69.74	842.55	384.62	457.93	1.840		
20,300.00	10,113.29	20,340.12	10,178.89	232.51	230.73	94.47	-10,437.24	70.33	842.56	380.44	462.12	1.823		
20,400.00	10,112.63	20,440.12	10,178.41	234.60	232.83	94.48	-10,537.24	70.91	842.57	376.27	466.30	1.807		
20,453.59	10,112.27	20,493.71	10,178.15	235.73	233.96	94.48	-10,590.83	71.23	842.58	374.03	468.55	1.798		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 15 Fed - 0025 - OH - Plan 1 02-01-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,495.03	10,112.00	20,525.44	10,178.00	236.59	234.55	94.49	-10,622.56	71.41	842.64	372.64	470.00	1.793	



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #15H - OH - Plan 2 11-18-16													Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	14.00	0.00	0.00	0.03	76.50	297.09	1,237.51	1,272.67				
100.00	100.00	114.00	100.00	0.19	0.26	76.50	297.09	1,237.51	1,272.67	1,272.22	0.45	2,834.538	
200.00	200.00	214.00	200.00	0.73	0.79	76.50	297.09	1,237.51	1,272.67	1,271.14	1.52	834.865	
300.00	300.00	314.00	300.00	1.27	1.33	76.50	297.09	1,237.51	1,272.67	1,270.07	2.60	489.523	
400.00	400.00	414.00	400.00	1.81	1.87	76.50	297.09	1,237.51	1,272.67	1,268.99	3.68	346.283	
500.00	500.00	514.00	500.00	2.34	2.41	76.50	297.09	1,237.51	1,272.67	1,267.92	4.75	267.894	
600.00	600.00	614.00	600.00	2.88	2.94	76.50	297.09	1,237.51	1,272.67	1,266.84	5.83	218.444	
700.00	700.00	714.00	700.00	3.42	3.48	76.50	297.09	1,237.51	1,272.67	1,265.77	6.90	184.405	
800.00	800.00	814.00	800.00	3.96	4.02	76.50	297.09	1,237.51	1,272.67	1,264.69	7.98	159.544	
900.00	900.00	914.00	900.00	4.50	4.56	76.50	297.09	1,237.51	1,272.67	1,263.62	9.05	140.591	
1,000.00	1,000.00	1,014.00	1,000.00	5.03	5.09	76.50	297.09	1,237.51	1,272.67	1,262.54	10.13	125.662	
1,100.00	1,100.00	1,114.00	1,100.00	5.57	5.63	76.50	297.09	1,237.51	1,272.67	1,261.47	11.20	113.599	
1,200.00	1,200.00	1,214.00	1,200.00	6.11	6.17	76.50	297.09	1,237.51	1,272.67	1,260.39	12.28	103.650	
1,300.00	1,300.00	1,314.00	1,300.00	6.65	6.71	76.50	297.09	1,237.51	1,272.67	1,259.31	13.35	95.303	
1,400.00	1,400.00	1,414.00	1,400.00	7.18	7.25	76.50	297.09	1,237.51	1,272.67	1,258.24	14.43	88.200	
1,500.00	1,500.00	1,514.00	1,500.00	7.72	7.78	76.50	297.09	1,237.51	1,272.67	1,257.16	15.50	82.082	
1,600.00	1,600.00	1,614.00	1,600.00	8.26	8.32	76.50	297.09	1,237.51	1,272.67	1,256.09	16.58	76.758	
1,700.00	1,700.00	1,714.00	1,700.00	8.80	8.86	76.50	297.09	1,237.51	1,272.67	1,255.01	17.66	72.083	
1,800.00	1,800.00	1,814.00	1,800.00	9.33	9.40	76.50	297.09	1,237.51	1,272.67	1,253.94	18.73	67.944	
1,900.00	1,899.98	1,913.98	1,899.98	9.86	9.93	-20.20	297.09	1,237.51	1,271.03	1,251.25	19.78	64.251	
2,000.00	1,999.84	2,013.84	1,999.84	10.37	10.47	-20.32	297.09	1,237.51	1,266.12	1,245.32	20.80	60.871	
2,100.00	2,099.48	2,113.48	2,099.48	10.89	11.01	-20.48	297.09	1,237.51	1,258.19	1,236.37	21.82	57.666	
2,200.00	2,199.06	2,213.06	2,199.06	11.41	11.54	-20.63	297.09	1,237.51	1,249.66	1,226.79	22.87	54.647	
2,300.00	2,298.65	2,312.65	2,298.65	11.94	12.08	-20.78	297.09	1,237.51	1,241.13	1,217.21	23.92	51.886	
2,400.00	2,398.23	2,412.23	2,398.23	12.47	12.61	-20.93	297.09	1,237.51	1,232.61	1,207.64	24.98	49.353	
2,500.00	2,497.81	2,509.85	2,495.85	13.00	13.14	-21.08	297.08	1,237.52	1,224.11	1,198.09	26.02	47.044	
2,600.00	2,597.40	2,600.00	2,585.98	13.54	13.60	-21.14	295.80	1,238.68	1,216.47	1,189.46	27.01	45.041	
2,700.00	2,696.98	2,676.37	2,662.26	14.08	13.98	-21.11	293.07	1,241.15	1,210.12	1,182.21	27.91	43.358	
2,800.00	2,796.57	2,759.76	2,745.40	14.62	14.39	-20.97	288.37	1,245.41	1,205.17	1,176.32	28.85	41.772	
2,900.00	2,896.15	2,843.03	2,828.21	15.17	14.81	-20.73	281.89	1,251.28	1,201.59	1,171.80	29.80	40.328	
3,000.00	2,995.73	2,926.06	2,910.50	15.71	15.23	-20.39	273.65	1,258.74	1,199.43	1,168.69	30.74	39.013	
3,100.00	3,095.32	3,011.97	2,995.26	16.26	15.67	-19.93	263.32	1,268.09	1,198.71	1,166.99	31.71	37.798	
3,200.00	3,194.90	3,111.26	3,093.09	16.81	16.19	-19.37	250.73	1,279.50	1,198.55	1,165.79	32.76	36.586	
3,284.95	3,279.50	3,195.61	3,176.19	17.27	16.64	-18.89	240.03	1,289.19	1,198.50	1,164.85	33.66	35.611	
3,300.00	3,294.49	3,210.55	3,190.91	17.36	16.72	-18.80	238.13	1,290.91	1,198.51	1,164.69	33.81	35.443	
3,400.00	3,394.07	3,309.84	3,288.74	17.91	17.25	-18.24	225.54	1,302.32	1,198.58	1,163.71	34.88	34.366	
3,500.00	3,493.65	3,409.13	3,386.56	18.46	17.80	-17.67	212.95	1,313.73	1,198.78	1,162.83	35.95	33.350	
3,600.00	3,593.24	3,508.42	3,484.38	19.01	18.35	-17.11	200.35	1,325.14	1,199.09	1,162.07	37.02	32.391	
3,700.00	3,692.82	3,607.71	3,582.21	19.57	18.90	-16.54	187.76	1,336.54	1,199.52	1,161.42	38.10	31.484	
3,800.00	3,792.41	3,706.99	3,680.03	20.12	19.47	-15.98	175.16	1,347.95	1,200.07	1,160.89	39.18	30.627	
3,900.00	3,891.99	3,806.28	3,777.85	20.68	20.03	-15.42	162.57	1,359.36	1,200.74	1,160.47	40.27	29.816	
4,000.00	3,991.58	3,905.57	3,875.68	21.24	20.60	-14.85	149.98	1,370.77	1,201.52	1,160.16	41.36	29.049	
4,100.00	4,091.16	4,004.86	3,973.50	21.79	21.18	-14.29	137.38	1,382.18	1,202.43	1,159.97	42.46	28.321	
4,200.00	4,190.74	4,104.15	4,071.32	22.35	21.76	-13.73	124.79	1,393.59	1,203.45	1,159.89	43.56	27.630	
4,300.00	4,290.33	4,203.44	4,169.15	22.91	22.34	-13.17	112.19	1,404.99	1,204.58	1,159.93	44.66	26.975	
4,400.00	4,389.91	4,302.73	4,266.97	23.47	22.93	-12.61	99.60	1,416.40	1,205.84	1,160.08	45.76	26.353	
4,500.00	4,489.50	4,402.02	4,364.80	24.03	23.52	-12.05	87.00	1,427.81	1,207.20	1,160.34	46.86	25.761	
4,600.00	4,589.08	4,501.30	4,462.62	24.59	24.11	-11.50	74.41	1,439.22	1,208.69	1,160.72	47.97	25.198	
4,700.00	4,688.66	4,600.59	4,560.44	25.15	24.71	-10.94	61.82	1,450.63	1,210.29	1,161.22	49.07	24.663	
4,800.00	4,788.25	4,699.88	4,658.27	25.71	25.31	-10.39	49.22	1,462.04	1,212.00	1,161.82	50.18	24.152	
4,900.00	4,887.83	4,799.17	4,756.09	26.27	25.91	-9.84	36.63	1,473.44	1,213.83	1,162.54	51.29	23.666	
5,000.00	4,987.42	4,898.46	4,853.91	26.83	26.51	-9.29	24.03	1,484.85	1,215.78	1,163.38	52.40	23.202	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #15H - OH - Plan 2 11-18-16														Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)	Between Ellipses (usft)		
5,100.00	5,087.00	4,997.75	4,951.74	27.39	27.11	-8.74	11.44	1,496.26	1,217.83	1,164.32	53.51	22.759			
5,200.00	5,186.59	5,097.04	5,049.56	27.95	27.72	-8.19	-1.15	1,507.67	1,220.00	1,165.38	54.62	22.335			
5,300.00	5,286.17	5,196.32	5,147.39	28.52	28.33	-7.65	-13.75	1,519.08	1,222.28	1,166.55	55.73	21.931			
5,400.00	5,385.75	5,295.61	5,245.21	29.08	28.94	-7.10	-26.34	1,530.49	1,224.68	1,167.83	56.84	21.544			
5,500.00	5,485.34	5,394.90	5,343.03	29.64	29.55	-6.56	-38.94	1,541.89	1,227.18	1,169.22	57.96	21.174			
5,600.00	5,584.92	5,494.19	5,440.86	30.21	30.16	-6.03	-51.53	1,553.30	1,229.79	1,170.73	59.07	20.820			
5,700.00	5,684.51	5,611.94	5,556.98	30.77	30.88	-5.41	-65.98	1,566.39	1,232.19	1,171.91	60.28	20.440			
5,800.00	5,784.09	5,753.97	5,697.87	31.33	31.71	-4.87	-79.15	1,578.32	1,231.80	1,170.18	61.61	19.992			
5,900.00	5,883.67	5,896.45	5,839.93	31.90	32.50	-4.56	-87.16	1,585.57	1,228.00	1,165.07	62.93	19.515			
6,000.00	5,983.26	6,038.68	5,982.09	32.46	33.24	-4.48	-89.92	1,588.08	1,220.74	1,156.53	64.21	19.013			
6,100.00	6,082.84	6,139.42	6,082.84	33.02	33.73	-4.51	-89.92	1,588.08	1,211.66	1,146.41	65.25	18.589			
6,200.00	6,182.43	6,239.01	6,182.43	33.59	34.22	-4.55	-89.92	1,588.08	1,202.57	1,136.28	66.29	18.141			
6,300.00	6,282.01	6,338.59	6,282.01	34.15	34.71	-4.58	-89.92	1,588.08	1,193.49	1,126.16	67.33	17.726			
6,400.00	6,381.59	6,438.18	6,381.59	34.72	35.20	-4.62	-89.92	1,588.08	1,184.41	1,116.04	68.37	17.323			
6,500.00	6,481.18	6,537.76	6,481.18	35.28	35.70	-4.65	-89.92	1,588.08	1,175.33	1,105.92	69.41	16.932			
6,600.00	6,580.76	6,637.34	6,580.76	35.85	36.19	-4.69	-89.92	1,588.08	1,166.25	1,095.79	70.46	16.552			
6,700.00	6,680.35	6,736.93	6,680.35	36.41	36.69	-4.73	-89.92	1,588.08	1,157.17	1,085.67	71.50	16.183			
6,800.00	6,779.93	6,836.51	6,779.93	36.98	37.18	-4.76	-89.92	1,588.08	1,148.09	1,075.54	72.55	15.825			
6,900.00	6,879.52	6,936.10	6,879.52	37.54	37.68	-4.80	-89.92	1,588.08	1,139.01	1,065.41	73.60	15.476			
7,000.00	6,979.10	7,035.68	6,979.10	38.11	38.18	-4.84	-89.92	1,588.08	1,129.93	1,055.29	74.64	15.137			
7,100.00	7,078.68	7,135.26	7,078.68	38.67	38.68	-4.88	-89.92	1,588.08	1,120.85	1,045.16	75.69	14.808			
7,200.00	7,178.27	7,234.85	7,178.27	39.24	39.18	-4.92	-89.92	1,588.08	1,111.78	1,035.03	76.74	14.487			
7,300.00	7,277.85	7,334.43	7,277.85	39.80	39.68	-4.96	-89.92	1,588.08	1,102.70	1,024.91	77.79	14.175			
7,400.00	7,377.44	7,434.02	7,377.44	40.37	40.18	-5.00	-89.92	1,588.08	1,093.62	1,014.78	78.85	13.870			
7,500.00	7,477.02	7,533.60	7,477.02	40.94	40.69	-5.04	-89.92	1,588.08	1,084.55	1,004.65	79.90	13.574			
7,600.00	7,576.60	7,633.19	7,576.60	41.50	41.19	-5.09	-89.92	1,588.08	1,075.47	994.52	80.95	13.285			
7,700.00	7,676.19	7,732.77	7,676.19	42.07	41.69	-5.13	-89.92	1,588.08	1,066.40	984.39	82.01	13.004			
7,800.00	7,775.77	7,832.35	7,775.77	42.63	42.20	-5.17	-89.92	1,588.08	1,057.32	974.26	83.06	12.730			
7,900.00	7,875.36	7,931.94	7,875.36	43.20	42.71	-5.22	-89.92	1,588.08	1,048.25	964.13	84.12	12.462			
8,000.00	7,974.94	8,031.52	7,974.94	43.77	43.21	-5.26	-89.92	1,588.08	1,039.18	954.01	85.17	12.201			
8,100.00	8,074.52	8,131.11	8,074.52	44.33	43.72	-5.31	-89.92	1,588.08	1,030.11	943.88	86.23	11.946			
8,200.00	8,174.11	8,230.69	8,174.11	44.90	44.23	-5.36	-89.92	1,588.08	1,021.03	933.75	87.29	11.697			
8,300.00	8,273.69	8,330.27	8,273.69	45.47	44.74	-5.41	-89.92	1,588.08	1,011.96	923.62	88.34	11.455			
8,400.00	8,373.28	8,429.86	8,373.28	46.03	45.25	-5.46	-89.92	1,588.08	1,002.89	913.49	89.40	11.218			
8,500.00	8,472.86	8,529.44	8,472.86	46.60	45.76	-5.51	-89.92	1,588.08	993.82	903.36	90.46	10.986			
8,600.00	8,572.45	8,629.03	8,572.45	47.17	46.27	-5.56	-89.92	1,588.08	984.76	893.23	91.52	10.760			
8,700.00	8,672.03	8,728.61	8,672.03	47.73	46.78	-5.61	-89.92	1,588.08	975.69	883.11	92.58	10.539			
8,800.00	8,771.61	8,828.19	8,771.61	48.30	47.29	-5.66	-89.92	1,588.08	966.62	872.98	93.64	10.322			
8,900.00	8,871.20	8,927.78	8,871.20	48.87	47.81	-5.71	-89.92	1,588.08	957.56	862.85	94.70	10.111			
9,000.00	8,970.78	9,027.36	8,970.78	49.43	48.32	-5.77	-89.92	1,588.08	948.49	852.72	95.77	9.904			
9,100.00	9,070.37	9,126.95	9,070.37	50.00	48.83	-5.82	-89.92	1,588.08	939.43	842.60	96.83	9.702			
9,200.00	9,169.95	9,226.53	9,169.95	50.57	49.35	-5.88	-89.92	1,588.08	930.36	832.47	97.89	9.504			
9,300.00	9,269.53	9,326.12	9,269.53	51.13	49.86	-5.94	-89.92	1,588.08	921.30	822.34	98.96	9.310			
9,400.00	9,369.12	9,425.70	9,369.12	51.70	50.37	-6.00	-89.92	1,588.08	912.24	812.22	100.02	9.121			
9,500.00	9,468.70	9,525.28	9,468.70	52.27	50.89	-6.06	-89.92	1,588.08	903.18	802.09	101.08	8.935			
9,600.00	9,568.29	9,624.87	9,568.29	52.84	51.41	-6.12	-89.92	1,588.08	894.12	791.97	102.15	8.753			
9,700.00	9,667.87	9,720.42	9,667.87	53.40	51.90	-6.18	-95.07	1,588.20	885.11	781.90	103.20	8.576			
9,800.00	9,767.46	9,815.18	9,767.46	53.95	52.42	-73.44	-115.44	1,588.69	876.29	771.99	104.30	8.401			
9,900.00	9,867.05	9,910.22	9,867.05	54.49	52.98	-79.78	-150.87	1,589.55	867.92	762.47	105.45	8.230			
10,000.00	9,966.64	9,995.71	9,966.64	54.99	53.55	-83.26	-200.62	1,590.75	860.27	753.63	106.64	8.067			
10,100.00	10,066.23	10,091.80	10,066.23	55.47	54.16	-85.58	-263.60	1,592.27	853.58	745.73	107.85	7.915			
10,200.00	10,165.82	10,188.60	10,165.82	55.94	54.81	-87.27	-338.36	1,594.08	848.05	738.99	109.06	7.776			

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #15H - OH - Plan 2 11-18-16													Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
10,300.00	10,116.76	10,296.21	10,107.33	56.42	55.49	-88.52	-423.09	1,596.12	843.87	733.60	110.27	7.652	
10,400.00	10,145.70	10,394.70	10,140.66	56.93	56.22	-89.42	-515.62	1,598.36	841.17	729.69	111.48	7.545	
10,500.00	10,157.68	10,494.10	10,157.75	57.47	56.97	-90.00	-613.39	1,600.72	840.04	727.36	112.68	7.455	
10,548.09	10,158.87	10,542.25	10,159.88	57.74	57.34	-90.07	-661.46	1,601.88	839.92	726.60	113.31	7.412	
10,600.00	10,157.79	10,594.18	10,159.62	58.05	57.75	-90.12	-713.37	1,603.14	840.00	726.00	114.00	7.368	
10,700.00	10,157.53	10,694.18	10,159.10	58.69	58.60	-90.11	-813.34	1,605.55	839.99	724.49	115.50	7.273	
10,800.00	10,157.27	10,794.18	10,158.57	59.41	59.51	-90.09	-913.31	1,607.96	839.98	722.85	117.14	7.171	
10,900.00	10,157.01	10,894.18	10,158.05	60.20	60.49	-90.07	-1,013.28	1,610.38	839.98	721.06	118.91	7.064	
11,000.00	10,156.74	10,994.17	10,157.53	61.05	61.53	-90.05	-1,113.25	1,612.79	839.97	719.15	120.82	6.952	
11,100.00	10,156.48	11,094.17	10,157.00	61.96	62.63	-90.04	-1,213.22	1,615.21	839.96	717.11	122.86	6.837	
11,200.00	10,156.22	11,194.17	10,156.48	62.94	63.79	-90.02	-1,313.19	1,617.62	839.95	714.94	125.01	6.719	
11,300.00	10,155.96	11,294.17	10,155.95	63.97	65.00	-90.00	-1,413.15	1,620.04	839.95	712.67	127.28	6.599	
11,400.00	10,155.70	11,394.17	10,155.43	65.05	66.26	-89.98	-1,513.12	1,622.45	839.94	710.29	129.65	6.478	
11,500.00	10,155.43	11,494.17	10,154.91	66.19	67.57	-89.96	-1,613.09	1,624.87	839.93	707.80	132.13	6.357	
11,600.00	10,155.17	11,594.17	10,154.38	67.38	68.92	-89.95	-1,713.06	1,627.28	839.92	705.22	134.70	6.235	
11,700.00	10,154.91	11,694.17	10,153.86	68.62	70.32	-89.93	-1,813.03	1,629.70	839.92	702.55	137.36	6.115	
11,800.00	10,154.65	11,794.17	10,153.34	69.90	71.76	-89.91	-1,913.00	1,632.11	839.91	699.79	140.11	5.994	
11,900.00	10,154.39	11,894.17	10,152.81	71.23	73.23	-89.89	-2,012.97	1,634.53	839.90	696.96	142.94	5.876	
12,000.00	10,154.13	11,994.17	10,152.29	72.59	74.75	-89.87	-2,112.94	1,636.94	839.89	694.04	145.85	5.759	
12,100.00	10,153.86	12,094.17	10,151.77	73.99	76.29	-89.86	-2,212.91	1,639.36	839.89	691.06	148.83	5.643	
12,200.00	10,153.60	12,194.17	10,151.24	75.43	77.87	-89.84	-2,312.88	1,641.77	839.88	688.01	151.87	5.530	
12,300.00	10,153.34	12,294.17	10,150.72	76.91	79.47	-89.82	-2,412.85	1,644.18	839.87	684.89	154.98	5.419	
12,400.00	10,153.08	12,394.17	10,150.19	78.41	81.11	-89.80	-2,512.81	1,646.60	839.87	681.71	158.15	5.310	
12,500.00	10,152.82	12,494.17	10,149.67	79.95	82.77	-89.79	-2,612.78	1,649.01	839.86	678.48	161.38	5.204	
12,600.00	10,152.55	12,594.17	10,149.15	81.51	84.45	-89.77	-2,712.75	1,651.43	839.85	675.20	164.66	5.101	
12,700.00	10,152.29	12,694.17	10,148.62	83.10	86.16	-89.75	-2,812.72	1,653.84	839.85	671.86	167.98	5.000	
12,800.00	10,152.03	12,794.17	10,148.10	84.72	87.89	-89.73	-2,912.69	1,656.26	839.84	668.48	171.36	4.901	
12,900.00	10,151.77	12,894.17	10,147.58	86.36	89.64	-89.71	-3,012.66	1,658.67	839.84	665.06	174.78	4.805	
13,000.00	10,151.51	12,994.17	10,147.05	88.03	91.42	-89.70	-3,112.63	1,661.09	839.83	661.59	178.24	4.712	
13,100.00	10,151.24	13,094.17	10,146.53	89.71	93.20	-89.68	-3,212.60	1,663.50	839.82	658.09	181.74	4.621	
13,200.00	10,150.98	13,194.17	10,146.01	91.42	95.01	-89.66	-3,312.57	1,665.92	839.82	654.54	185.27	4.533	
13,300.00	10,150.72	13,294.17	10,145.48	93.14	96.83	-89.64	-3,412.54	1,668.33	839.81	650.97	188.84	4.447	
13,400.00	10,150.46	13,394.17	10,144.96	94.89	98.67	-89.62	-3,512.51	1,670.75	839.80	647.36	192.45	4.364	
13,500.00	10,150.20	13,494.17	10,144.44	96.65	100.52	-89.61	-3,612.48	1,673.16	839.80	643.71	196.09	4.283	
13,600.00	10,149.93	13,594.17	10,143.91	98.42	102.39	-89.59	-3,712.44	1,675.58	839.79	640.04	199.75	4.204	
13,700.00	10,149.67	13,694.17	10,143.39	100.21	104.27	-89.57	-3,812.41	1,677.99	839.79	636.34	203.44	4.128	
13,800.00	10,149.41	13,794.17	10,142.86	102.02	106.16	-89.55	-3,912.38	1,680.41	839.78	632.62	207.16	4.054	
13,900.00	10,149.15	13,894.17	10,142.34	103.84	108.06	-89.54	-4,012.35	1,682.82	839.78	628.87	210.91	3.982	
14,000.00	10,148.89	13,994.16	10,141.82	105.68	109.98	-89.52	-4,112.32	1,685.23	839.77	625.09	214.68	3.912	
14,100.00	10,148.62	14,094.16	10,141.29	107.52	111.90	-89.50	-4,212.29	1,687.65	839.77	621.30	218.47	3.844	
14,200.00	10,148.36	14,194.16	10,140.77	109.38	113.84	-89.48	-4,312.26	1,690.06	839.76	617.48	222.28	3.778	
14,300.00	10,148.10	14,294.16	10,140.25	111.25	115.78	-89.46	-4,412.23	1,692.48	839.76	613.64	226.11	3.714	
14,400.00	10,147.84	14,394.16	10,139.72	113.13	117.74	-89.45	-4,512.20	1,694.89	839.75	609.79	229.96	3.652	
14,500.00	10,147.58	14,494.16	10,139.20	115.02	119.70	-89.43	-4,612.17	1,697.31	839.75	605.91	233.83	3.591	
14,600.00	10,147.31	14,594.16	10,138.68	116.92	121.67	-89.41	-4,712.14	1,699.72	839.74	602.02	237.72	3.532	
14,700.00	10,147.05	14,694.16	10,138.15	118.82	123.65	-89.39	-4,812.10	1,702.14	839.74	598.11	241.62	3.475	
14,800.00	10,146.79	14,794.16	10,137.63	120.74	125.63	-89.37	-4,912.07	1,704.55	839.73	594.19	245.54	3.420	
14,900.00	10,146.53	14,894.16	10,137.10	122.67	127.63	-89.36	-5,012.04	1,706.97	839.73	590.25	249.48	3.366	
15,000.00	10,146.27	14,994.16	10,136.58	124.60	129.63	-89.34	-5,112.01	1,709.38	839.72	586.30	253.43	3.313	
15,100.00	10,146.00	15,094.16	10,136.06	126.54	131.63	-89.32	-5,211.98	1,711.80	839.72	582.33	257.39	3.262	
15,200.00	10,145.74	15,194.16	10,135.53	128.49	133.65	-89.30	-5,311.95	1,714.21	839.71	578.35	261.36	3.213	
15,300.00	10,145.48	15,294.16	10,135.01	130.45	135.66	-89.29	-5,411.92	1,716.63	839.71	574.36	265.35	3.165	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #15H - OH - Plan 2 11-18-16													Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
15,400.00	10,145.22	15,394.16	10,134.49	132.41	137.69	-89.27	-5,511.89	1,719.04	839.70	570.35	269.35	3.118	CC	
15,460.60	10,145.04	15,454.76	10,134.17	133.60	138.92	-89.26	-5,572.47	1,720.50	839.80	568.09	271.72	3.091		
15,500.00	10,144.95	15,494.16	10,133.96	134.38	139.72	-89.25	-5,611.86	1,721.46	839.75	566.49	273.26	3.073		
15,600.00	10,144.34	15,609.53	10,133.36	136.34	142.05	-89.25	-5,727.22	1,722.83	840.07	562.77	277.30	3.029		
15,700.00	10,143.68	15,709.53	10,132.85	138.31	144.07	-89.26	-5,827.21	1,723.41	840.06	558.76	281.30	2.986		
15,800.00	10,143.02	15,809.53	10,132.33	140.28	146.10	-89.27	-5,927.21	1,724.00	840.06	554.74	285.32	2.944		
15,900.00	10,142.36	15,909.53	10,131.81	142.26	148.13	-89.28	-6,027.21	1,724.58	840.06	550.72	289.34	2.903		
16,000.00	10,141.70	16,009.53	10,131.30	144.24	150.16	-89.29	-6,127.20	1,725.17	840.06	546.68	293.38	2.863		
16,100.00	10,141.04	16,109.53	10,130.78	146.23	152.20	-89.30	-6,227.20	1,725.75	840.06	542.64	297.42	2.825		
16,200.00	10,140.37	16,209.53	10,130.26	148.22	154.25	-89.31	-6,327.20	1,726.34	840.06	538.59	301.47	2.787		
16,300.00	10,139.71	16,309.53	10,129.74	150.22	156.29	-89.32	-6,427.20	1,726.92	840.06	534.53	305.53	2.750		
16,400.00	10,139.05	16,409.53	10,129.23	152.22	158.34	-89.33	-6,527.19	1,727.51	840.05	530.46	309.59	2.713		
16,500.00	10,138.39	16,509.53	10,128.71	154.23	160.40	-89.34	-6,627.19	1,728.09	840.05	526.39	313.67	2.678		
16,600.00	10,137.73	16,609.53	10,128.19	156.24	162.46	-89.35	-6,727.19	1,728.68	840.05	522.31	317.75	2.644		
16,700.00	10,137.07	16,709.53	10,127.68	158.26	164.52	-89.36	-6,827.18	1,729.26	840.05	518.22	321.83	2.610		
16,800.00	10,136.41	16,809.53	10,127.16	160.27	166.58	-89.37	-6,927.18	1,729.85	840.05	514.12	325.93	2.577		
16,900.00	10,135.75	16,909.53	10,126.64	162.30	168.65	-89.38	-7,027.18	1,730.43	840.05	510.02	330.03	2.545		
17,000.00	10,135.09	17,009.53	10,126.12	164.32	170.72	-89.39	-7,127.17	1,731.02	840.05	505.91	334.13	2.514		
17,100.00	10,134.43	17,109.53	10,125.61	166.35	172.79	-89.40	-7,227.17	1,731.60	840.04	501.80	338.25	2.484		
17,200.00	10,133.77	17,209.53	10,125.09	168.38	174.87	-89.41	-7,327.17	1,732.18	840.04	497.68	342.36	2.454		
17,300.00	10,133.11	17,309.53	10,124.57	170.42	176.94	-89.42	-7,427.16	1,732.77	840.04	493.55	346.49	2.424		
17,400.00	10,132.45	17,409.53	10,124.06	172.46	179.03	-89.43	-7,527.16	1,733.35	840.04	489.42	350.62	2.396		
17,500.00	10,131.79	17,509.53	10,123.54	174.50	181.11	-89.44	-7,627.16	1,733.94	840.04	485.29	354.75	2.368		
17,600.00	10,131.13	17,609.53	10,123.02	176.54	183.19	-89.45	-7,727.15	1,734.52	840.04	481.15	358.89	2.341		
17,700.00	10,130.47	17,709.53	10,122.50	178.59	185.28	-89.46	-7,827.15	1,735.11	840.04	477.00	363.03	2.314		
17,800.00	10,129.80	17,809.53	10,121.99	180.64	187.37	-89.47	-7,927.15	1,735.69	840.04	472.86	367.18	2.288		
17,900.00	10,129.14	17,909.53	10,121.47	182.69	189.46	-89.48	-8,027.15	1,736.28	840.04	468.70	371.33	2.262		
18,000.00	10,128.48	18,009.53	10,120.95	184.74	191.56	-89.49	-8,127.14	1,736.86	840.04	464.54	375.49	2.237		
18,100.00	10,127.82	18,109.53	10,120.44	186.80	193.65	-89.50	-8,227.14	1,737.45	840.03	460.38	379.65	2.213		
18,200.00	10,127.16	18,209.53	10,119.92	188.86	195.75	-89.51	-8,327.14	1,738.03	840.03	456.22	383.82	2.189		
18,300.00	10,126.50	18,309.53	10,119.40	190.92	197.85	-89.52	-8,427.13	1,738.62	840.03	452.05	387.99	2.165		
18,400.00	10,125.84	18,409.53	10,118.88	192.98	199.95	-89.53	-8,527.13	1,739.20	840.03	447.87	392.16	2.142		
18,500.00	10,125.18	18,509.53	10,118.37	195.05	202.06	-89.54	-8,627.13	1,739.78	840.03	443.69	396.34	2.119		
18,600.00	10,124.52	18,609.53	10,117.85	197.11	204.16	-89.55	-8,727.12	1,740.37	840.03	439.51	400.52	2.097		
18,700.00	10,123.86	18,709.53	10,117.33	199.18	206.27	-89.55	-8,827.12	1,740.95	840.03	435.33	404.70	2.076		
18,800.00	10,123.20	18,809.53	10,116.82	201.25	208.38	-89.56	-8,927.12	1,741.54	840.03	431.14	408.89	2.054		
18,900.00	10,122.54	18,909.53	10,116.30	203.33	210.49	-89.57	-9,027.11	1,742.12	840.03	426.95	413.08	2.034		
19,000.00	10,121.88	19,009.53	10,115.78	205.40	212.60	-89.58	-9,127.11	1,742.71	840.03	422.76	417.27	2.013		
19,100.00	10,121.22	19,109.53	10,115.26	207.48	214.71	-89.59	-9,227.11	1,743.29	840.03	418.56	421.46	1.993		
19,200.00	10,120.56	19,209.53	10,114.75	209.55	216.83	-89.60	-9,327.10	1,743.88	840.03	414.36	425.66	1.973		
19,300.00	10,119.89	19,309.53	10,114.23	211.63	218.95	-89.61	-9,427.10	1,744.46	840.02	410.16	429.87	1.954		
19,400.00	10,119.23	19,409.53	10,113.71	213.72	221.06	-89.62	-9,527.10	1,745.05	840.02	405.95	434.07	1.935		
19,500.00	10,118.57	19,509.53	10,113.20	215.80	223.18	-89.63	-9,627.09	1,745.63	840.02	401.75	438.28	1.917		
19,600.00	10,117.91	19,609.53	10,112.68	217.88	225.30	-89.64	-9,727.09	1,746.22	840.02	397.54	442.49	1.898		
19,700.00	10,117.25	19,709.53	10,112.16	219.97	227.42	-89.65	-9,827.09	1,746.80	840.02	393.32	446.70	1.881		
19,800.00	10,116.59	19,809.53	10,111.65	222.05	229.54	-89.66	-9,927.09	1,747.39	840.02	389.11	450.91	1.863		
19,900.00	10,115.93	19,909.53	10,111.13	224.14	231.67	-89.67	-10,027.08	1,747.97	840.02	384.89	455.13	1.846		
20,000.00	10,115.27	20,009.53	10,110.61	226.23	233.79	-89.68	-10,127.08	1,748.55	840.02	380.67	459.35	1.829		
20,100.00	10,114.61	20,109.53	10,110.09	228.32	235.92	-89.69	-10,227.08	1,749.14	840.02	376.45	463.57	1.812		
20,200.00	10,113.95	20,209.53	10,109.58	230.42	238.04	-89.70	-10,327.07	1,749.72	840.02	372.22	467.80	1.796		
20,300.00	10,113.29	20,309.53	10,109.06	232.51	240.17	-89.71	-10,427.07	1,750.31	840.02	368.00	472.02	1.780		
20,400.00	10,112.63	20,409.53	10,108.54	234.60	242.30	-89.72	-10,527.07	1,750.89	840.02	363.77	476.25	1.764		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #15H - OH - Plan 2 11-18-16													Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
20,495.03	10,112.00	20,504.55	10,108.05	236.59	244.33	-89.73	-10,622.09	1,751.45	840.02	359.75	480.27	1.749 ES, SF	



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #16H - OH - Plan 2 11-18-16													Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HODGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)				Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	
0.00	0.00	14.00	0.00	0.00	0.03	75.41	322.09	1,237.51	1,278.74					
100.00	100.00	114.00	100.00	0.19	0.26	75.41	322.09	1,237.51	1,278.74	0.45	2,848.051			
200.00	200.00	214.00	200.00	0.73	0.79	75.41	322.09	1,237.51	1,277.21	1.52	838.845			
300.00	300.00	314.00	300.00	1.27	1.33	75.41	322.09	1,237.51	1,278.74	2.60	491.856			
400.00	400.00	414.00	400.00	1.81	1.87	75.41	322.09	1,237.51	1,278.74	3.68	347.933			
500.00	500.00	514.00	500.00	2.34	2.41	75.41	322.09	1,237.51	1,278.74	4.75	269.171			
600.00	600.00	614.00	600.00	2.88	2.94	75.41	322.09	1,237.51	1,272.91	5.83	219.485			
700.00	700.00	714.00	700.00	3.42	3.48	75.41	322.09	1,237.51	1,278.74	6.90	185.284			
800.00	800.00	814.00	800.00	3.96	4.02	75.41	322.09	1,237.51	1,270.76	7.98	160.305			
900.00	900.00	914.00	900.00	4.50	4.56	75.41	322.09	1,237.51	1,269.68	9.05	141.261			
1,000.00	1,000.00	1,014.00	1,000.00	5.03	5.09	75.41	322.09	1,237.51	1,278.74	10.13	126.261			
1,100.00	1,100.00	1,114.00	1,100.00	5.57	5.63	75.41	322.09	1,237.51	1,278.74	11.20	114.141			
1,200.00	1,200.00	1,214.00	1,200.00	6.11	6.17	75.41	322.09	1,237.51	1,278.74	12.28	104.144			
1,300.00	1,300.00	1,314.00	1,300.00	6.65	6.71	75.41	322.09	1,237.51	1,278.74	13.35	95.757			
1,400.00	1,400.00	1,414.00	1,400.00	7.18	7.25	75.41	322.09	1,237.51	1,278.74	14.43	88.620			
1,500.00	1,500.00	1,514.00	1,500.00	7.72	7.78	75.41	322.09	1,237.51	1,278.74	15.50	82.474			
1,600.00	1,600.00	1,614.00	1,600.00	8.26	8.32	75.41	322.09	1,237.51	1,278.74	16.58	77.124			
1,700.00	1,700.00	1,714.00	1,700.00	8.80	8.86	75.41	322.09	1,237.51	1,278.74	17.66	72.427			
1,800.00	1,800.00	1,814.00	1,800.00	9.33	9.40	75.41	322.09	1,237.51	1,278.74	18.73	68.268			
1,900.00	1,899.98	1,913.98	1,899.98	9.86	9.93	-21.29	322.09	1,237.51	1,277.11	19.78	64.558			
2,000.00	1,999.84	2,013.84	1,999.84	10.37	10.47	-21.41	322.09	1,237.51	1,272.23	20.80	61.163			
2,100.00	2,099.48	2,113.48	2,099.48	10.89	11.01	-21.59	322.09	1,237.51	1,264.36	21.82	57.946			
2,200.00	2,199.06	2,213.06	2,199.06	11.41	11.54	-21.74	322.09	1,237.51	1,255.89	22.87	54.916			
2,300.00	2,298.65	2,300.00	2,286.00	11.94	12.00	-21.86	321.94	1,237.92	1,247.85	23.84	52.333			
2,400.00	2,398.23	2,369.67	2,355.64	12.47	12.35	-21.92	321.25	1,239.86	1,241.76	24.72	50.242			
2,500.00	2,497.81	2,443.39	2,429.25	13.00	12.73	-21.93	319.91	1,243.65	1,237.78	25.61	48.331			
2,600.00	2,597.40	2,517.20	2,502.81	13.54	13.10	-21.89	317.92	1,249.24	1,235.92	26.51	46.621			
2,629.88	2,627.15	2,539.25	2,524.76	13.70	13.22	-21.87	317.20	1,251.25	1,235.77	26.78	46.146 CC			
2,700.00	2,696.98	2,600.00	2,585.13	14.08	13.53	-21.78	314.94	1,257.63	1,236.22	27.46	45.020			
2,800.00	2,796.57	2,664.66	2,649.21	14.62	13.87	-21.66	312.06	1,265.73	1,238.56	28.32	43.733			
2,900.00	2,896.15	2,738.12	2,721.76	15.17	14.25	-21.47	308.20	1,276.59	1,243.08	29.23	42.526			
3,000.00	2,995.73	2,818.40	2,800.70	15.71	14.69	-21.21	303.31	1,290.35	1,249.66	30.18	41.405			
3,100.00	3,095.32	2,917.88	2,898.41	16.26	15.23	-20.88	297.05	1,307.96	1,256.84	31.24	40.237			
3,200.00	3,194.90	3,017.36	2,996.12	16.81	15.78	-20.55	290.79	1,325.58	1,264.07	32.30	39.138			
3,300.00	3,294.49	3,116.84	3,093.82	17.36	16.35	-20.23	284.53	1,343.19	1,271.34	33.36	38.104			
3,400.00	3,394.07	3,216.32	3,191.53	17.91	16.92	-19.91	278.27	1,360.81	1,278.65	34.44	37.130			
3,500.00	3,493.65	3,315.79	3,289.23	18.46	17.50	-19.59	272.00	1,378.43	1,286.00	35.51	36.211			
3,600.00	3,593.24	3,415.27	3,386.94	19.01	18.08	-19.28	265.74	1,396.04	1,293.38	36.59	35.343			
3,700.00	3,692.82	3,514.75	3,484.65	19.57	18.67	-18.97	259.48	1,413.66	1,300.81	37.68	34.523			
3,800.00	3,792.41	3,614.23	3,582.35	20.12	19.27	-18.67	253.22	1,431.27	1,308.27	38.77	33.747			
3,900.00	3,891.99	3,713.71	3,680.06	20.68	19.87	-18.37	246.96	1,448.89	1,315.77	39.86	33.011			
4,000.00	3,991.58	3,813.19	3,777.76	21.24	20.47	-18.07	240.70	1,466.50	1,323.30	40.95	32.314			
4,100.00	4,091.16	3,912.67	3,875.47	21.79	21.08	-17.77	234.44	1,484.12	1,330.87	42.05	31.652			
4,200.00	4,190.74	4,012.14	3,973.18	22.35	21.69	-17.48	228.18	1,501.74	1,338.48	43.14	31.023			
4,300.00	4,290.33	4,111.62	4,070.88	22.91	22.31	-17.19	221.92	1,519.35	1,346.11	44.24	30.425			
4,400.00	4,389.91	4,211.10	4,168.59	23.47	22.93	-16.91	215.65	1,536.97	1,353.79	45.34	29.856			
4,500.00	4,489.50	4,310.58	4,266.30	24.03	23.55	-16.62	209.39	1,554.58	1,361.49	46.45	29.313			
4,600.00	4,589.08	4,410.06	4,364.00	24.59	24.18	-16.35	203.13	1,572.20	1,369.23	47.55	28.796			
4,700.00	4,688.66	4,509.54	4,461.71	25.15	24.80	-16.07	196.87	1,589.81	1,377.00	48.65	28.302			
4,800.00	4,788.25	4,609.02	4,559.41	25.71	25.43	-15.80	190.61	1,607.43	1,384.80	49.76	27.830			
4,900.00	4,887.83	4,708.50	4,657.12	26.27	26.06	-15.53	184.35	1,625.04	1,392.64	50.87	27.378			
5,000.00	4,987.42	4,807.97	4,754.83	26.83	26.70	-15.26	178.09	1,642.66	1,400.50	51.97	26.947			

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design													HH SO 10 P3 - #16H - OH - Plan 2 11-18-16		Offset Site Error: 0.00 usft	
Survey Program: 0-PHX+MWD+HOGM													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,087.00	4,907.45	4,852.53	27.39	27.33	-15.00	171.83	1,660.28	1,408.39	1,355.31	53.08	26.533				
5,200.00	5,186.59	5,006.93	4,950.24	27.95	27.97	-14.74	165.57	1,677.89	1,416.32	1,362.13	54.19	26.136				
5,300.00	5,286.17	5,106.41	5,047.94	28.52	28.61	-14.48	159.30	1,695.51	1,424.27	1,368.97	55.30	25.756				
5,400.00	5,385.75	5,205.89	5,145.65	29.08	29.24	-14.22	153.04	1,713.12	1,432.25	1,375.84	56.41	25.391				
5,500.00	5,485.34	5,305.37	5,243.36	29.64	29.89	-13.97	146.78	1,730.74	1,440.26	1,382.74	57.52	25.040				
5,600.00	5,584.92	5,404.85	5,341.06	30.21	30.53	-13.72	140.52	1,748.35	1,448.29	1,389.67	58.63	24.703				
5,700.00	5,684.51	5,504.32	5,438.77	30.77	31.17	-13.48	134.26	1,765.97	1,456.36	1,396.62	59.74	24.379				
5,800.00	5,784.09	5,603.80	5,536.48	31.33	31.82	-13.23	128.00	1,783.58	1,464.45	1,403.60	60.85	24.067				
5,900.00	5,883.67	5,703.28	5,634.18	31.90	32.46	-12.99	121.74	1,801.20	1,472.56	1,410.60	61.96	23.766				
6,000.00	5,983.26	5,802.76	5,731.89	32.46	33.11	-12.75	115.48	1,818.82	1,480.70	1,417.63	63.07	23.476				
6,100.00	6,082.84	5,902.24	5,829.59	33.02	33.76	-12.52	109.22	1,836.43	1,488.87	1,424.69	64.18	23.197				
6,200.00	6,182.43	6,001.72	5,927.30	33.59	34.40	-12.28	102.95	1,854.05	1,497.06	1,431.77	65.29	22.928				
6,300.00	6,282.01	6,101.20	6,025.01	34.15	35.05	-12.05	96.69	1,871.66	1,505.28	1,438.87	66.41	22.668				
6,400.00	6,381.59	6,200.68	6,122.71	34.72	35.70	-11.82	90.43	1,889.28	1,513.52	1,446.00	67.52	22.417				
6,500.00	6,481.18	6,300.15	6,220.42	35.28	36.35	-11.60	84.17	1,906.89	1,521.78	1,453.15	68.63	22.174				
6,600.00	6,580.76	6,399.63	6,318.12	35.85	37.01	-11.37	77.91	1,924.51	1,530.07	1,460.33	69.74	21.939				
6,700.00	6,680.35	6,499.11	6,415.83	36.41	37.66	-11.15	71.65	1,942.13	1,538.38	1,467.53	70.85	21.712				
6,800.00	6,779.93	6,598.59	6,513.54	36.98	38.31	-10.93	65.39	1,959.74	1,546.71	1,474.75	71.96	21.493				
6,900.00	6,879.52	6,698.07	6,611.24	37.54	38.96	-10.72	59.13	1,977.36	1,555.07	1,481.99	73.08	21.280				
7,000.00	6,979.10	6,797.55	6,708.95	38.11	39.62	-10.50	52.87	1,994.97	1,563.44	1,489.26	74.19	21.074				
7,100.00	7,078.68	6,897.03	6,806.66	38.67	40.27	-10.29	46.61	2,012.59	1,571.84	1,496.54	75.30	20.874				
7,200.00	7,178.27	6,996.50	6,904.36	39.24	40.93	-10.08	40.34	2,030.20	1,580.26	1,503.85	76.41	20.681				
7,300.00	7,277.85	7,095.98	7,002.07	39.80	41.58	-9.87	34.08	2,047.82	1,588.70	1,511.18	77.52	20.493				
7,400.00	7,377.44	7,195.46	7,099.77	40.37	42.24	-9.67	27.82	2,065.43	1,597.16	1,518.53	78.64	20.311				
7,500.00	7,477.02	7,294.94	7,197.48	40.94	42.90	-9.47	21.56	2,083.05	1,605.65	1,525.90	79.75	20.134				
7,600.00	7,576.60	7,394.42	7,295.19	41.50	43.55	-9.26	15.30	2,100.67	1,614.15	1,533.29	80.86	19.963				
7,700.00	7,676.19	7,493.90	7,392.89	42.07	44.21	-9.07	9.04	2,118.28	1,622.67	1,540.70	81.97	19.796				
7,800.00	7,775.77	7,593.38	7,490.60	42.63	44.87	-8.87	2.78	2,135.90	1,631.21	1,548.13	83.08	19.634				
7,900.00	7,875.36	7,692.86	7,588.30	43.20	45.53	-8.67	-3.48	2,153.51	1,639.77	1,555.57	84.19	19.476				
8,000.00	7,974.94	7,792.33	7,686.01	43.77	46.18	-8.48	-9.74	2,171.13	1,648.34	1,563.04	85.30	19.323				
8,100.00	8,074.52	7,891.81	7,783.72	44.33	46.84	-8.29	-16.01	2,188.74	1,656.94	1,570.52	86.42	19.174				
8,200.00	8,174.11	7,991.29	7,881.42	44.90	47.50	-8.10	-22.27	2,206.36	1,665.55	1,578.03	87.53	19.029				
8,300.00	8,273.69	8,090.77	7,979.13	45.47	48.16	-7.92	-28.53	2,223.98	1,674.18	1,585.55	88.64	18.888				
8,400.00	8,373.28	8,190.25	8,076.84	46.03	48.82	-7.73	-34.79	2,241.59	1,682.83	1,593.08	89.75	18.750				
8,500.00	8,472.86	8,289.73	8,174.54	46.60	49.48	-7.55	-41.05	2,259.21	1,691.50	1,600.64	90.86	18.617				
8,600.00	8,572.45	8,389.21	8,272.25	47.17	50.14	-7.37	-47.31	2,276.82	1,700.18	1,608.21	91.97	18.486				
8,700.00	8,672.03	8,488.68	8,369.95	47.73	50.80	-7.19	-53.57	2,294.44	1,708.88	1,615.80	93.08	18.359				
8,800.00	8,771.61	8,588.16	8,467.66	48.30	51.46	-7.01	-59.83	2,312.05	1,717.60	1,623.41	94.19	18.235				
8,900.00	8,871.20	8,687.64	8,565.37	48.87	52.12	-6.83	-66.09	2,329.67	1,726.33	1,631.03	95.30	18.114				
9,000.00	8,970.78	8,787.12	8,663.07	49.43	52.79	-6.66	-72.36	2,347.28	1,735.08	1,638.67	96.41	17.996				
9,100.00	9,070.37	8,886.60	8,760.78	50.00	53.45	-6.49	-78.62	2,364.90	1,743.85	1,646.32	97.52	17.881				
9,200.00	9,169.95	9,001.27	8,873.43	50.57	54.21	-6.29	-85.79	2,385.09	1,752.58	1,653.86	98.72	17.753				
9,300.00	9,269.53	9,238.73	9,108.55	51.13	55.65	-6.02	-96.77	2,415.96	1,756.60	1,656.02	100.58	17.465				
9,400.00	9,369.12	9,476.51	9,345.90	51.70	56.89	-5.95	-101.18	2,428.39	1,752.78	1,650.40	102.38	17.121				
9,500.00	9,468.70	9,599.32	9,468.70	52.27	57.46	-5.99	-101.28	2,428.65	1,743.83	1,640.30	103.53	16.844				
9,600.00	9,568.29	9,698.90	9,568.29	52.84	57.91	-6.02	-101.28	2,428.65	1,734.77	1,630.21	104.56	16.591				
9,700.00	9,667.61	9,798.23	9,667.61	53.40	58.37	-56.07	-101.28	2,428.65	1,725.57	1,619.92	105.66	16.332				
9,800.00	9,764.49	9,889.51	9,758.58	53.95	58.80	-74.00	-107.55	2,428.80	1,716.35	1,609.58	106.77	16.075				
9,900.00	9,856.00	9,982.52	9,849.06	54.49	59.27	-80.78	-128.67	2,429.31	1,707.73	1,599.81	107.92	15.825				
10,000.00	9,939.34	10,078.27	9,937.36	54.99	59.78	-84.68	-165.37	2,430.20	1,700.01	1,590.95	109.06	15.587				
10,100.00	10,011.99	10,177.14	10,020.82	55.47	60.32	-87.39	-218.14	2,431.47	1,693.46	1,583.28	110.19	15.369				
10,200.00	10,071.73	10,279.51	10,096.35	55.94	60.89	-89.41	-287.01	2,433.12	1,688.29	1,577.03	111.26	15.175				

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #16H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
10,300.00	10,116.76	10,385.66	10,160.45	56.42	61.50	-90.94	-371.42	2,435.16	1,684.63	1,572.35	112.28	15.004	
10,400.00	10,145.70	10,495.76	10,209.31	56.93	62.17	-92.06	-469.86	2,437.53	1,682.56	1,569.28	113.28	14.853	
10,480.15	10,156.68	10,586.80	10,234.89	57.36	62.76	-92.67	-557.12	2,439.63	1,682.06	1,567.96	114.09	14.743	
10,500.00	10,157.68	10,609.73	10,239.12	57.47	62.91	-92.78	-579.63	2,440.17	1,682.09	1,567.79	114.30	14.717	
10,600.00	10,157.79	10,724.23	10,246.87	58.05	63.72	-93.03	-693.68	2,442.92	1,682.37	1,566.75	115.62	14.551	
10,700.00	10,157.53	10,824.23	10,246.34	58.69	64.48	-93.03	-793.65	2,445.32	1,682.34	1,565.27	117.07	14.370	
10,800.00	10,157.27	10,924.23	10,245.82	59.41	65.31	-93.02	-893.62	2,447.73	1,682.31	1,563.64	118.67	14.177	
10,900.00	10,157.01	11,024.23	10,245.29	60.20	66.20	-93.01	-993.58	2,450.14	1,682.28	1,561.88	120.40	13.973	
11,000.00	10,156.74	11,124.23	10,244.77	61.05	67.16	-93.00	-1,093.55	2,452.54	1,682.25	1,559.99	122.26	13.759	
11,100.00	10,156.48	11,224.23	10,244.25	61.96	68.17	-92.99	-1,193.52	2,454.95	1,682.22	1,557.97	124.25	13.539	
11,200.00	10,156.22	11,324.23	10,243.72	62.94	69.24	-92.98	-1,293.49	2,457.36	1,682.19	1,555.83	126.36	13.313	
11,300.00	10,155.96	11,424.23	10,243.20	63.97	70.35	-92.97	-1,393.46	2,459.76	1,682.16	1,553.58	128.58	13.082	
11,400.00	10,155.70	11,524.23	10,242.68	65.05	71.53	-92.96	-1,493.43	2,462.17	1,682.14	1,551.22	130.92	12.849	
11,500.00	10,155.43	11,624.23	10,242.15	66.19	72.74	-92.96	-1,593.40	2,464.58	1,682.11	1,548.76	133.35	12.614	
11,600.00	10,155.17	11,724.23	10,241.63	67.38	74.01	-92.95	-1,693.37	2,466.98	1,682.08	1,546.20	135.88	12.379	
11,700.00	10,154.91	11,824.23	10,241.11	68.62	75.31	-92.94	-1,793.34	2,469.39	1,682.05	1,543.55	138.50	12.145	
11,800.00	10,154.65	11,924.23	10,240.58	69.90	76.66	-92.93	-1,893.31	2,471.80	1,682.02	1,540.81	141.21	11.911	
11,900.00	10,154.39	12,024.23	10,240.06	71.23	78.05	-92.92	-1,993.28	2,474.20	1,681.99	1,537.99	144.00	11.680	
12,000.00	10,154.13	12,124.23	10,239.53	72.59	79.47	-92.91	-2,093.25	2,476.61	1,681.96	1,535.09	146.87	11.452	
12,100.00	10,153.86	12,224.23	10,239.01	73.99	80.93	-92.90	-2,193.22	2,479.02	1,681.93	1,532.13	149.81	11.227	
12,200.00	10,153.60	12,324.23	10,238.49	75.43	82.42	-92.89	-2,293.19	2,481.42	1,681.90	1,529.09	152.82	11.006	
12,300.00	10,153.34	12,424.23	10,237.96	76.91	83.95	-92.88	-2,393.16	2,483.83	1,681.88	1,525.99	155.89	10.789	
12,400.00	10,153.08	12,524.23	10,237.44	78.41	85.50	-92.88	-2,493.12	2,486.24	1,681.85	1,522.82	159.02	10.576	
12,500.00	10,152.82	12,624.23	10,236.92	79.95	87.08	-92.87	-2,593.09	2,488.64	1,681.82	1,519.61	162.21	10.368	
12,600.00	10,152.55	12,724.23	10,236.39	81.51	88.69	-92.86	-2,693.06	2,491.05	1,681.79	1,516.33	165.46	10.164	
12,700.00	10,152.29	12,824.23	10,235.87	83.10	90.32	-92.85	-2,793.03	2,493.46	1,681.76	1,513.01	168.75	9.966	
12,800.00	10,152.03	12,924.23	10,235.35	84.72	91.98	-92.84	-2,893.00	2,495.86	1,681.73	1,509.64	172.10	9.772	
12,900.00	10,151.77	13,024.23	10,234.82	86.36	93.66	-92.83	-2,992.97	2,498.27	1,681.70	1,506.22	175.49	9.583	
13,000.00	10,151.51	13,124.23	10,234.30	88.03	95.36	-92.82	-3,092.94	2,500.68	1,681.68	1,502.76	178.92	9.399	
13,100.00	10,151.24	13,224.23	10,233.78	89.71	97.08	-92.81	-3,192.91	2,503.08	1,681.65	1,499.26	182.39	9.220	
13,200.00	10,150.98	13,324.22	10,233.25	91.42	98.82	-92.80	-3,292.88	2,505.49	1,681.62	1,495.72	185.90	9.046	
13,300.00	10,150.72	13,424.22	10,232.73	93.14	100.57	-92.80	-3,392.85	2,507.90	1,681.59	1,492.15	189.44	8.877	
13,400.00	10,150.46	13,524.22	10,232.20	94.89	102.35	-92.79	-3,492.82	2,510.30	1,681.56	1,488.54	193.02	8.712	
13,500.00	10,150.20	13,624.22	10,231.68	96.65	104.14	-92.78	-3,592.79	2,512.71	1,681.54	1,484.91	196.63	8.552	
13,600.00	10,149.93	13,724.22	10,231.16	98.42	105.95	-92.77	-3,692.76	2,515.12	1,681.51	1,481.24	200.27	8.396	
13,700.00	10,149.67	13,824.22	10,230.63	100.21	107.77	-92.76	-3,792.73	2,517.52	1,681.48	1,477.54	203.94	8.245	
13,800.00	10,149.41	13,924.22	10,230.11	102.02	109.60	-92.75	-3,892.69	2,519.93	1,681.45	1,473.81	207.64	8.098	
13,900.00	10,149.15	14,024.22	10,229.59	103.84	111.45	-92.74	-3,992.66	2,522.34	1,681.42	1,470.06	211.36	7.955	
14,000.00	10,148.89	14,124.22	10,229.06	105.68	113.31	-92.73	-4,092.63	2,524.74	1,681.39	1,466.29	215.11	7.817	
14,100.00	10,148.62	14,224.22	10,228.54	107.52	115.18	-92.72	-4,192.60	2,527.15	1,681.37	1,462.49	218.88	7.682	
14,200.00	10,148.36	14,324.22	10,228.02	109.38	117.07	-92.72	-4,292.57	2,529.56	1,681.34	1,458.67	222.67	7.551	
14,300.00	10,148.10	14,424.22	10,227.49	111.25	118.96	-92.71	-4,392.54	2,531.96	1,681.31	1,454.83	226.48	7.424	
14,400.00	10,147.84	14,524.22	10,226.97	113.13	120.87	-92.70	-4,492.51	2,534.37	1,681.28	1,450.97	230.31	7.300	
14,500.00	10,147.58	14,624.22	10,226.45	115.02	122.79	-92.69	-4,592.48	2,536.78	1,681.26	1,447.09	234.16	7.180	
14,600.00	10,147.31	14,724.22	10,225.92	116.92	124.71	-92.68	-4,692.45	2,539.19	1,681.23	1,443.19	238.03	7.063	
14,700.00	10,147.05	14,824.22	10,225.40	118.82	126.64	-92.67	-4,792.42	2,541.59	1,681.20	1,439.28	241.92	6.949	
14,800.00	10,146.79	14,924.22	10,224.87	120.74	128.59	-92.66	-4,892.39	2,544.00	1,681.17	1,435.35	245.82	6.839	
14,900.00	10,146.53	15,024.22	10,224.35	122.67	130.54	-92.65	-4,992.36	2,546.41	1,681.14	1,431.40	249.74	6.732	
15,000.00	10,146.27	15,124.22	10,223.83	124.60	132.50	-92.64	-5,092.33	2,548.81	1,681.12	1,427.44	253.67	6.627	
15,100.00	10,146.00	15,224.22	10,223.30	126.54	134.46	-92.64	-5,192.30	2,551.22	1,681.09	1,423.47	257.62	6.525	
15,200.00	10,145.74	15,324.22	10,222.78	128.49	136.44	-92.63	-5,292.27	2,553.63	1,681.06	1,419.48	261.58	6.427	
15,300.00	10,145.48	15,424.22	10,222.26	130.45	138.42	-92.62	-5,392.23	2,556.03	1,681.03	1,415.48	265.55	6.330	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #16H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
15,400.00	10,145.22	15,524.22	10,221.73	132.41	140.40	-92.61	-5,492.20	2,558.44	1,681.01	1,411.47	269.54	6.237	
15,463.16	10,145.03	15,587.38	10,221.40	133.65	141.66	-92.60	-5,555.35	2,559.96	1,681.10	1,409.16	271.95	6.182	
15,500.00	10,144.95	15,624.22	10,221.21	134.38	142.40	-92.60	-5,592.17	2,560.85	1,681.03	1,407.68	273.35	6.150	
15,600.00	10,144.34	15,754.84	10,220.52	136.34	144.99	-92.60	-5,722.78	2,562.81	1,681.71	1,404.21	277.50	6.060	
15,700.00	10,143.68	15,854.84	10,220.00	138.31	146.98	-92.60	-5,822.77	2,563.40	1,681.72	1,400.23	281.49	5.974	
15,800.00	10,143.02	15,954.84	10,219.47	140.28	148.97	-92.61	-5,922.77	2,563.98	1,681.73	1,396.24	285.49	5.891	
15,900.00	10,142.36	16,054.84	10,218.94	142.26	150.96	-92.61	-6,022.77	2,564.56	1,681.73	1,392.23	289.50	5.809	
16,000.00	10,141.70	16,154.84	10,218.41	144.24	152.96	-92.61	-6,122.76	2,565.15	1,681.74	1,388.22	293.52	5.730	
16,100.00	10,141.04	16,254.84	10,217.89	146.23	154.97	-92.62	-6,222.76	2,565.73	1,681.74	1,384.20	297.54	5.652	
16,200.00	10,140.37	16,354.84	10,217.36	148.22	156.98	-92.62	-6,322.76	2,566.32	1,681.75	1,380.17	301.58	5.576	
16,300.00	10,139.71	16,454.84	10,216.83	150.22	158.99	-92.63	-6,422.76	2,566.90	1,681.75	1,376.13	305.62	5.503	
16,400.00	10,139.05	16,554.84	10,216.31	152.22	161.01	-92.63	-6,522.75	2,567.48	1,681.76	1,372.09	309.67	5.431	
16,500.00	10,138.39	16,654.84	10,215.78	154.23	163.04	-92.64	-6,622.75	2,568.07	1,681.76	1,368.03	313.73	5.360	
16,600.00	10,137.73	16,754.84	10,215.25	156.24	165.06	-92.64	-6,722.75	2,568.65	1,681.77	1,363.97	317.80	5.292	
16,700.00	10,137.07	16,854.84	10,214.72	158.26	167.10	-92.65	-6,822.74	2,569.23	1,681.78	1,359.90	321.87	5.225	
16,800.00	10,136.41	16,954.84	10,214.20	160.27	169.13	-92.65	-6,922.74	2,569.82	1,681.78	1,355.83	325.95	5.160	
16,900.00	10,135.75	17,054.84	10,213.67	162.30	171.17	-92.66	-7,022.74	2,570.40	1,681.79	1,351.75	330.04	5.096	
17,000.00	10,135.09	17,154.84	10,213.14	164.32	173.21	-92.66	-7,122.73	2,570.99	1,681.79	1,347.66	334.14	5.033	
17,100.00	10,134.43	17,254.84	10,212.62	166.35	175.26	-92.66	-7,222.73	2,571.57	1,681.80	1,343.56	338.23	4.972	
17,200.00	10,133.77	17,354.84	10,212.09	168.38	177.31	-92.67	-7,322.73	2,572.15	1,681.81	1,339.46	342.34	4.913	
17,300.00	10,133.11	17,454.84	10,211.56	170.42	179.36	-92.67	-7,422.72	2,572.74	1,681.81	1,335.36	346.45	4.854	
17,400.00	10,132.45	17,554.84	10,211.04	172.46	181.42	-92.68	-7,522.72	2,573.32	1,681.82	1,331.25	350.57	4.797	
17,500.00	10,131.79	17,654.84	10,210.51	174.50	183.48	-92.68	-7,622.72	2,573.91	1,681.82	1,327.13	354.69	4.742	
17,600.00	10,131.13	17,754.84	10,209.98	176.54	185.54	-92.69	-7,722.71	2,574.49	1,681.83	1,323.01	358.82	4.687	
17,700.00	10,130.47	17,854.84	10,209.45	178.59	187.60	-92.69	-7,822.71	2,575.07	1,681.83	1,318.89	362.95	4.634	
17,800.00	10,129.80	17,954.84	10,208.93	180.64	189.67	-92.70	-7,922.71	2,575.66	1,681.84	1,314.76	367.08	4.582	
17,900.00	10,129.14	18,054.84	10,208.40	182.69	191.74	-92.70	-8,022.70	2,576.24	1,681.85	1,310.62	371.23	4.531	
18,000.00	10,128.48	18,154.84	10,207.87	184.74	193.81	-92.71	-8,122.70	2,576.83	1,681.85	1,306.48	375.37	4.481	
18,100.00	10,127.82	18,254.84	10,207.35	186.80	195.88	-92.71	-8,222.70	2,577.41	1,681.86	1,302.34	379.52	4.432	
18,200.00	10,127.16	18,354.84	10,206.82	188.86	197.96	-92.71	-8,322.69	2,577.99	1,681.86	1,298.19	383.67	4.384	
18,300.00	10,126.50	18,454.84	10,206.29	190.92	200.04	-92.72	-8,422.69	2,578.58	1,681.87	1,294.04	387.83	4.337	
18,400.00	10,125.84	18,554.84	10,205.76	192.98	202.12	-92.72	-8,522.69	2,579.16	1,681.88	1,289.88	391.99	4.291	
18,500.00	10,125.18	18,654.84	10,205.24	195.05	204.21	-92.73	-8,622.69	2,579.74	1,681.88	1,285.72	396.16	4.245	
18,600.00	10,124.52	18,754.84	10,204.71	197.11	206.29	-92.73	-8,722.68	2,580.33	1,681.89	1,281.56	400.33	4.201	
18,700.00	10,123.86	18,854.84	10,204.18	199.18	208.38	-92.74	-8,822.68	2,580.91	1,681.89	1,277.39	404.50	4.158	
18,800.00	10,123.20	18,954.84	10,203.66	201.25	210.47	-92.74	-8,922.68	2,581.50	1,681.90	1,273.22	408.68	4.115	
18,900.00	10,122.54	19,054.84	10,203.13	203.33	212.56	-92.75	-9,022.67	2,582.08	1,681.90	1,269.05	412.86	4.074	
19,000.00	10,121.88	19,154.84	10,202.60	205.40	214.65	-92.75	-9,122.67	2,582.66	1,681.91	1,264.87	417.04	4.033	
19,100.00	10,121.22	19,254.84	10,202.07	207.48	216.75	-92.76	-9,222.67	2,583.25	1,681.92	1,260.69	421.23	3.993	
19,200.00	10,120.56	19,354.84	10,201.55	209.55	218.85	-92.76	-9,322.66	2,583.83	1,681.92	1,256.51	425.41	3.954	
19,300.00	10,119.89	19,454.84	10,201.02	211.63	220.95	-92.76	-9,422.66	2,584.42	1,681.93	1,252.32	429.61	3.915	
19,400.00	10,119.23	19,554.84	10,200.49	213.72	223.05	-92.77	-9,522.66	2,585.00	1,681.93	1,248.13	433.80	3.877	
19,500.00	10,118.57	19,654.84	10,199.97	215.80	225.15	-92.77	-9,622.65	2,585.58	1,681.94	1,243.94	438.00	3.840	
19,600.00	10,117.91	19,754.84	10,199.44	217.88	227.25	-92.78	-9,722.65	2,586.17	1,681.95	1,239.75	442.20	3.804	
19,700.00	10,117.25	19,854.84	10,198.91	219.97	229.36	-92.78	-9,822.65	2,586.75	1,681.95	1,235.55	446.40	3.768	
19,800.00	10,116.59	19,954.84	10,198.39	222.05	231.46	-92.79	-9,922.64	2,587.34	1,681.96	1,231.35	450.61	3.733	
19,900.00	10,115.93	20,054.84	10,197.86	224.14	233.57	-92.79	-10,022.64	2,587.92	1,681.96	1,227.15	454.81	3.698	
20,000.00	10,115.27	20,154.84	10,197.33	226.23	235.68	-92.80	-10,122.64	2,588.50	1,681.97	1,222.95	459.02	3.664	
20,100.00	10,114.61	20,254.84	10,196.80	228.32	237.79	-92.80	-10,222.63	2,589.09	1,681.98	1,218.74	463.24	3.631	
20,200.00	10,113.95	20,354.84	10,196.28	230.42	239.90	-92.81	-10,322.63	2,589.67	1,681.98	1,214.53	467.45	3.598	
20,300.00	10,113.29	20,454.84	10,195.75	232.51	242.02	-92.81	-10,422.63	2,590.25	1,681.99	1,210.32	471.67	3.566	
20,400.00	10,112.63	20,554.84	10,195.22	234.60	244.13	-92.81	-10,522.62	2,590.84	1,682.00	1,206.11	475.89	3.534	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #16H - OH - Plan 2 11-18-16												Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
20,495.03	10,112.00	20,649.86	10,194.72	236.59	246.14	-92.82	-10,617.65	2,591.39	1,682.00	1,202.11	479.90	3.505 ES, SF



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #23H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	13.00	0.00	0.00	0.02	80.94	197.09	1,235.51	1,251.13				
100.00	100.00	113.00	100.00	0.19	0.25	80.94	197.09	1,235.51	1,251.13	1,250.68	0.44	2,820.338	
200.00	200.00	213.00	200.00	0.73	0.79	80.94	197.09	1,235.51	1,251.13	1,249.61	1.52	823.639	
300.00	300.00	313.00	300.00	1.27	1.33	80.94	197.09	1,235.51	1,251.13	1,248.53	2.59	482.234	
400.00	400.00	413.00	400.00	1.81	1.86	80.94	197.09	1,235.51	1,251.13	1,247.46	3.67	340.920	
500.00	500.00	513.00	500.00	2.34	2.40	80.94	197.09	1,235.51	1,251.13	1,246.38	4.75	263.658	
600.00	600.00	613.00	600.00	2.88	2.94	80.94	197.09	1,235.51	1,251.13	1,245.31	5.82	214.945	
700.00	700.00	713.00	700.00	3.42	3.48	80.94	197.09	1,235.51	1,251.13	1,244.23	6.90	181.425	
800.00	800.00	813.00	800.00	3.96	4.01	80.94	197.09	1,235.51	1,251.13	1,243.16	7.97	156.950	
900.00	900.00	913.00	900.00	4.50	4.55	80.94	197.09	1,235.51	1,251.13	1,242.08	9.05	138.293	
1,000.00	1,000.00	1,013.00	1,000.00	5.03	5.09	80.94	197.09	1,235.51	1,251.13	1,241.01	10.12	123.601	
1,100.00	1,100.00	1,113.00	1,100.00	5.57	5.63	80.94	197.09	1,235.51	1,251.13	1,239.93	11.20	111.730	
1,200.00	1,200.00	1,213.00	1,200.00	6.11	6.16	80.94	197.09	1,235.51	1,251.13	1,238.85	12.27	101.940	
1,300.00	1,300.00	1,313.00	1,300.00	6.65	6.70	80.94	197.09	1,235.51	1,251.13	1,237.78	13.35	93.727	
1,400.00	1,400.00	1,413.00	1,400.00	7.18	7.24	80.94	197.09	1,235.51	1,251.13	1,236.70	14.42	86.739	
1,500.00	1,500.00	1,513.00	1,500.00	7.72	7.78	80.94	197.09	1,235.51	1,251.13	1,235.63	15.50	80.721	
1,600.00	1,600.00	1,613.00	1,600.00	8.26	8.32	80.94	197.09	1,235.51	1,251.13	1,234.55	16.57	75.484	
1,700.00	1,700.00	1,713.00	1,700.00	8.80	8.85	80.94	197.09	1,235.51	1,251.13	1,233.48	17.65	70.884	
1,800.00	1,800.00	1,813.00	1,800.00	9.33	9.39	80.94	197.09	1,235.51	1,251.13	1,232.40	18.73	66.814	
1,900.00	1,899.98	1,912.98	1,899.98	9.86	9.93	-15.76	197.09	1,235.51	1,249.45	1,229.67	19.78	63.179	
2,000.00	1,999.84	2,012.84	1,999.84	10.37	10.47	-15.85	197.09	1,235.51	1,244.41	1,223.62	20.79	59.849	
2,100.00	2,099.48	2,112.48	2,099.48	10.89	11.00	-15.98	197.09	1,235.51	1,236.28	1,214.47	21.81	56.686	
2,200.00	2,199.06	2,212.06	2,199.06	11.41	11.54	-16.10	197.09	1,235.51	1,227.52	1,204.66	22.86	53.702	
2,300.00	2,298.65	2,307.40	2,294.39	11.94	12.03	-16.19	196.55	1,235.70	1,218.87	1,195.00	23.87	51.064	
2,400.00	2,398.23	2,400.00	2,386.93	12.47	12.48	-16.14	193.39	1,236.82	1,210.75	1,185.91	24.84	48.746	
2,500.00	2,497.81	2,495.33	2,482.03	13.00	12.95	-15.95	187.19	1,239.01	1,203.20	1,177.38	25.83	46.589	
2,600.00	2,597.40	2,592.30	2,578.65	13.54	13.43	-15.67	179.38	1,241.78	1,195.97	1,169.15	26.83	44.578	
2,700.00	2,696.98	2,691.86	2,677.84	14.08	13.93	-15.39	171.35	1,244.62	1,188.78	1,160.93	27.85	42.682	
2,800.00	2,796.57	2,791.43	2,777.04	14.62	14.43	-15.10	163.32	1,247.46	1,181.61	1,152.73	28.88	40.912	
2,900.00	2,896.15	2,890.99	2,876.24	15.17	14.94	-14.80	155.29	1,250.30	1,174.48	1,144.56	29.92	39.257	
3,000.00	2,995.73	2,990.55	2,975.44	15.71	15.45	-14.51	147.27	1,253.14	1,167.37	1,136.41	30.96	37.708	
3,100.00	3,095.32	3,090.12	3,074.64	16.26	15.97	-14.21	139.24	1,255.99	1,160.30	1,128.30	32.00	36.255	
3,200.00	3,194.90	3,189.68	3,173.83	16.81	16.48	-13.90	131.21	1,258.83	1,153.26	1,120.21	33.05	34.891	
3,300.00	3,294.49	3,289.24	3,273.03	17.36	17.01	-13.59	123.18	1,261.67	1,146.25	1,112.14	34.11	33.607	
3,400.00	3,394.07	3,388.80	3,372.23	17.91	17.53	-13.28	115.16	1,264.51	1,139.28	1,104.11	35.16	32.399	
3,500.00	3,493.65	3,488.37	3,471.43	18.46	18.06	-12.97	107.13	1,267.35	1,132.34	1,096.11	36.22	31.259	
3,600.00	3,593.24	3,587.93	3,570.63	19.01	18.59	-12.65	99.10	1,270.20	1,125.43	1,088.14	37.29	30.183	
3,700.00	3,692.82	3,687.49	3,669.82	19.57	19.12	-12.32	91.07	1,273.04	1,118.56	1,080.21	38.35	29.165	
3,800.00	3,792.41	3,787.05	3,769.02	20.12	19.65	-12.00	83.05	1,275.88	1,111.73	1,072.31	39.42	28.201	
3,900.00	3,891.99	3,886.62	3,868.22	20.68	20.19	-11.66	75.02	1,278.72	1,104.93	1,064.44	40.49	27.288	
4,000.00	3,991.58	3,986.18	3,967.42	21.24	20.72	-11.33	66.99	1,281.56	1,098.17	1,056.61	41.56	26.421	
4,100.00	4,091.16	4,085.74	4,066.62	21.79	21.26	-10.99	58.96	1,284.40	1,091.45	1,048.81	42.64	25.598	
4,200.00	4,190.74	4,185.31	4,165.81	22.35	21.80	-10.65	50.94	1,287.25	1,084.77	1,041.05	43.71	24.815	
4,300.00	4,290.33	4,284.87	4,265.01	22.91	22.34	-10.30	42.91	1,290.09	1,078.12	1,033.33	44.79	24.070	
4,400.00	4,389.91	4,384.43	4,364.21	23.47	22.88	-9.95	34.88	1,292.93	1,071.52	1,025.65	45.87	23.360	
4,500.00	4,489.50	4,483.99	4,463.41	24.03	23.43	-9.59	26.85	1,295.77	1,064.96	1,018.01	46.95	22.683	
4,600.00	4,589.08	4,583.56	4,562.60	24.59	23.97	-9.23	18.83	1,298.61	1,058.44	1,010.41	48.03	22.037	
4,700.00	4,688.66	4,683.12	4,661.80	25.15	24.52	-8.86	10.80	1,301.46	1,051.96	1,002.85	49.11	21.420	
4,800.00	4,788.25	4,782.68	4,761.00	25.71	25.06	-8.49	2.77	1,304.30	1,045.53	995.33	50.20	20.829	
4,900.00	4,887.83	4,882.24	4,860.20	26.27	25.61	-8.12	-5.26	1,307.14	1,039.14	987.86	51.28	20.264	
5,000.00	4,987.42	4,981.81	4,959.40	26.83	26.16	-7.74	-13.28	1,309.98	1,032.79	980.43	52.36	19.723	
5,100.00	5,087.00	5,081.37	5,058.59	27.39	26.71	-7.36	-21.31	1,312.82	1,026.49	973.04	53.45	19.205	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #23H - OH - Plan 2 11-18-16													Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
5,200.00	5,186.59	5,180.93	5,157.79	27.95	27.26	-6.97	-29.34	1,315.66	1,020.24	965.70	54.54	18.708		
5,300.00	5,286.17	5,280.50	5,256.99	28.52	27.81	-6.57	-37.37	1,318.51	1,014.03	958.41	55.62	18.231		
5,400.00	5,385.75	5,380.06	5,356.19	29.08	28.36	-6.18	-45.39	1,321.35	1,007.87	951.17	56.71	17.773		
5,500.00	5,485.34	5,479.62	5,455.39	29.64	28.91	-5.77	-53.42	1,324.19	1,001.77	943.97	57.80	17.332		
5,600.00	5,584.92	5,579.18	5,554.58	30.21	29.46	-5.37	-61.45	1,327.03	995.71	936.82	58.89	16.909		
5,700.00	5,684.51	5,678.75	5,653.78	30.77	30.01	-4.95	-69.48	1,329.87	989.70	929.73	59.97	16.502		
5,800.00	5,784.09	5,779.92	5,754.58	31.33	30.58	-4.53	-77.61	1,332.75	983.74	922.67	61.07	16.108		
5,900.00	5,883.67	5,894.10	5,868.55	31.90	31.20	-4.20	-84.20	1,335.09	976.93	914.69	62.23	15.698		
6,000.00	5,983.26	6,008.30	5,982.71	32.46	31.80	-4.11	-86.50	1,335.90	968.64	905.26	63.38	15.283		
6,100.00	6,082.84	6,108.43	6,082.84	33.02	32.31	-4.15	-86.51	1,335.90	959.56	895.13	64.43	14.894		
6,200.00	6,182.43	6,208.02	6,182.43	33.59	32.81	-4.19	-86.51	1,335.90	950.47	885.00	65.47	14.517		
6,300.00	6,282.01	6,307.60	6,282.01	34.15	33.32	-4.23	-86.51	1,335.90	941.38	874.86	66.52	14.152		
6,400.00	6,381.59	6,407.18	6,381.59	34.72	33.82	-4.27	-86.51	1,335.90	932.30	864.73	67.57	13.798		
6,500.00	6,481.18	6,506.77	6,481.18	35.28	34.33	-4.31	-86.51	1,335.90	923.21	854.60	68.61	13.455		
6,600.00	6,580.76	6,606.35	6,580.76	35.85	34.83	-4.35	-86.51	1,335.90	914.13	844.46	69.66	13.122		
6,700.00	6,680.35	6,705.94	6,680.35	36.41	35.34	-4.40	-86.51	1,335.90	905.04	834.33	70.71	12.799		
6,800.00	6,779.93	6,805.52	6,779.93	36.98	35.85	-4.44	-86.51	1,335.90	895.96	824.19	71.76	12.485		
6,900.00	6,879.52	6,905.10	6,879.52	37.54	36.36	-4.49	-86.51	1,335.90	886.88	814.06	72.82	12.180		
7,000.00	6,979.10	7,004.69	6,979.10	38.11	36.87	-4.53	-86.51	1,335.90	877.79	803.92	73.87	11.883		
7,100.00	7,078.68	7,104.27	7,078.68	38.67	37.38	-4.58	-86.51	1,335.90	868.71	793.79	74.92	11.595		
7,200.00	7,178.27	7,203.86	7,178.27	39.24	37.89	-4.63	-86.51	1,335.90	859.63	783.65	75.98	11.314		
7,300.00	7,277.85	7,303.44	7,277.85	39.80	38.40	-4.68	-86.51	1,335.90	850.55	773.52	77.03	11.041		
7,400.00	7,377.44	7,403.03	7,377.44	40.37	38.91	-4.73	-86.51	1,335.90	841.47	763.38	78.09	10.776		
7,500.00	7,477.02	7,502.61	7,477.02	40.94	39.43	-4.78	-86.51	1,335.90	832.39	753.24	79.15	10.517		
7,600.00	7,576.60	7,602.19	7,576.60	41.50	39.94	-4.83	-86.51	1,335.90	823.31	743.11	80.20	10.265		
7,700.00	7,676.19	7,701.78	7,676.19	42.07	40.46	-4.89	-86.51	1,335.90	814.23	732.97	81.26	10.020		
7,800.00	7,775.77	7,801.36	7,775.77	42.63	40.97	-4.94	-86.51	1,335.90	805.16	722.84	82.32	9.781		
7,900.00	7,875.36	7,900.95	7,875.36	43.20	41.49	-5.00	-86.51	1,335.90	796.08	712.70	83.38	9.548		
8,000.00	7,974.94	8,000.53	7,974.94	43.77	42.00	-5.06	-86.51	1,335.90	787.00	702.56	84.44	9.320		
8,100.00	8,074.52	8,100.11	8,074.52	44.33	42.52	-5.12	-86.51	1,335.90	777.93	692.43	85.50	9.099		
8,200.00	8,174.11	8,199.70	8,174.11	44.90	43.03	-5.18	-86.51	1,335.90	768.85	682.29	86.56	8.882		
8,300.00	8,273.69	8,299.28	8,273.69	45.47	43.55	-5.24	-86.51	1,335.90	759.78	672.16	87.62	8.671		
8,400.00	8,373.28	8,398.87	8,373.28	46.03	44.07	-5.30	-86.51	1,335.90	750.71	662.02	88.69	8.465		
8,500.00	8,472.86	8,498.45	8,472.86	46.60	44.59	-5.37	-86.51	1,335.90	741.64	651.89	89.75	8.264		
8,600.00	8,572.45	8,598.03	8,572.45	47.17	45.11	-5.43	-86.51	1,335.90	732.57	641.76	90.81	8.067		
8,700.00	8,672.03	8,692.74	8,666.92	47.73	45.61	-5.08	-91.72	1,336.03	723.77	631.91	91.85	7.880		
8,800.00	8,771.61	8,782.89	8,754.92	48.30	46.12	-3.61	-110.81	1,336.49	716.10	623.21	92.89	7.709		
8,900.00	8,871.20	8,865.61	8,832.15	48.87	46.60	-1.28	-140.27	1,337.20	710.75	616.86	93.90	7.570		
8,975.69	8,946.57	8,921.97	8,881.96	49.29	46.94	0.83	-166.57	1,337.84	709.31	614.68	94.63	7.496 CC		
9,000.00	8,970.78	8,938.86	8,896.35	49.43	47.05	1.53	-175.40	1,338.05	709.48	614.62	94.86	7.479 ES		
9,100.00	9,070.37	9,000.00	8,946.17	50.00	47.43	4.35	-210.79	1,338.91	714.12	618.36	95.76	7.457		
9,200.00	9,169.95	9,050.00	8,983.91	50.57	47.75	6.94	-243.55	1,339.70	726.21	629.61	96.60	7.518		
9,300.00	9,269.53	9,100.00	9,018.66	51.13	48.09	9.72	-279.47	1,340.57	746.63	649.19	97.44	7.662		
9,400.00	9,369.12	9,150.00	9,050.14	51.70	48.43	12.65	-318.29	1,341.51	775.92	677.64	98.28	7.895		
9,500.00	9,468.70	9,174.33	9,064.20	52.27	48.60	14.11	-338.13	1,341.99	813.60	714.63	98.97	8.221		
9,600.00	9,568.29	9,200.00	9,078.12	52.84	48.77	15.67	-359.69	1,342.51	859.34	759.67	99.66	8.622		
9,700.00	9,667.61	9,229.26	9,092.78	53.40	48.98	-27.88	-385.01	1,343.12	910.45	810.48	99.97	9.107		
9,800.00	9,764.49	9,250.00	9,102.38	53.95	49.13	-38.47	-403.38	1,343.57	960.84	861.71	99.12	9.693		
9,900.00	9,856.00	9,300.00	9,122.74	54.49	49.50	-37.81	-449.02	1,344.67	1,008.10	911.39	96.71	10.424		
10,000.00	9,939.34	9,322.74	9,130.67	54.99	49.67	-36.34	-470.32	1,345.18	1,050.44	957.93	92.50	11.356		
10,100.00	10,011.99	9,350.00	9,139.05	55.47	49.88	-34.51	-496.25	1,345.81	1,086.92	1,000.12	86.80	12.522		
10,200.00	10,071.73	9,400.00	9,151.17	55.94	50.26	-32.65	-544.73	1,346.98	1,116.34	1,036.15	80.19	13.922		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #23H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
10,300.00	10,116.76	9,428.06	9,156.11	56.42	50.48	-31.54	-572.34	1,347.65	1,137.92	1,064.10	73.82	15.415	
10,400.00	10,145.70	9,450.00	9,159.02	56.93	50.65	-30.87	-594.08	1,348.18	1,151.55	1,082.67	68.89	16.716	
10,500.00	10,157.68	9,500.00	9,162.54	57.47	51.04	-30.57	-643.93	1,349.38	1,156.15	1,089.36	66.80	17.309	
10,590.21	10,159.23	9,560.34	9,162.51	57.99	51.52	-30.53	-704.24	1,350.84	1,157.18	1,089.78	67.40	17.169	
10,600.00	10,157.79	9,570.15	9,162.46	58.05	51.60	-30.57	-714.05	1,351.08	1,156.05	1,088.51	67.54	17.116	
10,700.00	10,157.53	9,670.15	9,161.92	58.69	52.47	-30.57	-814.02	1,353.49	1,156.29	1,087.61	68.68	16.836	
10,800.00	10,157.27	9,770.15	9,161.38	59.41	53.41	-30.56	-913.99	1,355.91	1,156.53	1,086.60	69.93	16.539	
10,900.00	10,157.01	9,870.15	9,160.84	60.20	54.43	-30.55	-1,013.96	1,358.33	1,156.77	1,085.49	71.28	16.229	
11,000.00	10,156.74	9,970.14	9,160.30	61.05	55.51	-30.54	-1,113.92	1,360.74	1,157.00	1,084.27	72.73	15.908	
11,100.00	10,156.48	10,070.14	9,159.75	61.96	56.66	-30.54	-1,213.89	1,363.16	1,157.24	1,082.96	74.28	15.580	
11,200.00	10,156.22	10,170.14	9,159.21	62.94	57.87	-30.53	-1,313.86	1,365.58	1,157.48	1,081.57	75.91	15.248	
11,300.00	10,155.96	10,270.14	9,158.67	63.97	59.13	-30.52	-1,413.83	1,368.00	1,157.72	1,080.09	77.63	14.914	
11,400.00	10,155.70	10,370.14	9,158.13	65.05	60.45	-30.51	-1,513.80	1,370.41	1,157.95	1,078.54	79.42	14.581	
11,500.00	10,155.43	10,470.14	9,157.59	66.19	61.82	-30.51	-1,613.77	1,372.83	1,158.19	1,076.91	81.28	14.249	
11,600.00	10,155.17	10,570.14	9,157.05	67.38	63.24	-30.50	-1,713.74	1,375.25	1,158.43	1,075.22	83.21	13.922	
11,700.00	10,154.91	10,670.14	9,156.51	68.62	64.70	-30.49	-1,813.71	1,377.66	1,158.67	1,073.47	85.20	13.599	
11,800.00	10,154.65	10,770.14	9,155.97	69.90	66.20	-30.49	-1,913.68	1,380.08	1,158.91	1,071.65	87.25	13.282	
11,900.00	10,154.39	10,870.14	9,155.43	71.23	67.74	-30.48	-2,013.64	1,382.50	1,159.14	1,069.79	89.35	12.973	
12,000.00	10,154.13	10,970.14	9,154.89	72.59	69.32	-30.47	-2,113.61	1,384.91	1,159.38	1,067.88	91.51	12.670	
12,100.00	10,153.86	11,070.14	9,154.34	73.99	70.93	-30.46	-2,213.58	1,387.33	1,159.62	1,065.92	93.70	12.375	
12,200.00	10,153.60	11,170.14	9,153.80	75.43	72.57	-30.46	-2,313.55	1,389.75	1,159.86	1,063.91	95.95	12.089	
12,300.00	10,153.34	11,270.14	9,153.26	76.91	74.24	-30.45	-2,413.52	1,392.17	1,160.09	1,061.87	98.23	11.810	
12,400.00	10,153.08	11,370.14	9,152.72	78.41	75.94	-30.44	-2,513.49	1,394.58	1,160.33	1,059.79	100.54	11.540	
12,500.00	10,152.82	11,470.14	9,152.18	79.95	77.66	-30.44	-2,613.46	1,397.00	1,160.57	1,057.67	102.90	11.279	
12,600.00	10,152.55	11,570.14	9,151.64	81.51	79.40	-30.43	-2,713.43	1,399.42	1,160.81	1,055.53	105.28	11.026	
12,700.00	10,152.29	11,670.14	9,151.10	83.10	81.17	-30.42	-2,813.40	1,401.83	1,161.05	1,053.35	107.70	10.781	
12,800.00	10,152.03	11,770.14	9,150.56	84.72	82.96	-30.41	-2,913.37	1,404.25	1,161.28	1,051.14	110.14	10.544	
12,900.00	10,151.77	11,870.14	9,150.02	86.36	84.77	-30.41	-3,013.33	1,406.67	1,161.52	1,048.91	112.61	10.314	
13,000.00	10,151.51	11,970.14	9,149.47	88.03	86.59	-30.40	-3,113.30	1,409.08	1,161.76	1,046.66	115.11	10.093	
13,100.00	10,151.24	12,070.14	9,148.93	89.71	88.44	-30.39	-3,213.27	1,411.50	1,162.00	1,044.38	117.62	9.879	
13,200.00	10,150.98	12,170.14	9,148.39	91.42	90.30	-30.38	-3,313.24	1,413.92	1,162.24	1,042.08	120.16	9.672	
13,300.00	10,150.72	12,270.14	9,147.85	93.14	92.17	-30.38	-3,413.21	1,416.34	1,162.48	1,039.76	122.72	9.473	
13,400.00	10,150.46	12,370.14	9,147.31	94.89	94.06	-30.37	-3,513.18	1,418.75	1,162.71	1,037.42	125.30	9.280	
13,500.00	10,150.20	12,470.14	9,146.77	96.65	95.96	-30.36	-3,613.15	1,421.17	1,162.95	1,035.06	127.89	9.093	
13,600.00	10,149.93	12,570.13	9,146.23	98.42	97.88	-30.36	-3,713.12	1,423.59	1,163.19	1,032.69	130.50	8.913	
13,700.00	10,149.67	12,670.13	9,145.69	100.21	99.80	-30.35	-3,813.09	1,426.00	1,163.43	1,030.30	133.13	8.739	
13,800.00	10,149.41	12,770.13	9,145.15	102.02	101.74	-30.34	-3,913.05	1,428.42	1,163.67	1,027.89	135.77	8.571	
13,900.00	10,149.15	12,870.13	9,144.61	103.84	103.69	-30.33	-4,013.02	1,430.84	1,163.90	1,025.48	138.43	8.408	
14,000.00	10,148.89	12,970.13	9,144.06	105.68	105.64	-30.33	-4,112.99	1,433.26	1,164.14	1,023.05	141.10	8.251	
14,100.00	10,148.62	13,070.13	9,143.52	107.52	107.61	-30.32	-4,212.96	1,435.67	1,164.38	1,020.60	143.78	8.099	
14,200.00	10,148.36	13,170.13	9,142.98	109.38	109.59	-30.31	-4,312.93	1,438.09	1,164.62	1,018.15	146.47	7.951	
14,300.00	10,148.10	13,270.13	9,142.44	111.25	111.57	-30.31	-4,412.90	1,440.51	1,164.86	1,015.69	149.17	7.809	
14,400.00	10,147.84	13,370.13	9,141.90	113.13	113.57	-30.30	-4,512.87	1,442.92	1,165.10	1,013.21	151.88	7.671	
14,500.00	10,147.58	13,470.13	9,141.36	115.02	115.57	-30.29	-4,612.84	1,445.34	1,165.33	1,010.73	154.61	7.537	
14,600.00	10,147.31	13,570.13	9,140.82	116.92	117.57	-30.28	-4,712.81	1,447.76	1,165.57	1,008.23	157.34	7.408	
14,700.00	10,147.05	13,670.13	9,140.28	118.82	119.59	-30.28	-4,812.78	1,450.17	1,165.81	1,005.73	160.08	7.283	
14,800.00	10,146.79	13,770.13	9,139.74	120.74	121.61	-30.27	-4,912.74	1,452.59	1,166.05	1,003.22	162.83	7.161	
14,900.00	10,146.53	13,870.13	9,139.19	122.67	123.64	-30.26	-5,012.71	1,455.01	1,166.29	1,000.70	165.59	7.043	
15,000.00	10,146.27	13,970.13	9,138.65	124.60	125.67	-30.26	-5,112.68	1,457.43	1,166.53	998.18	168.35	6.929	
15,100.00	10,146.00	14,070.13	9,138.11	126.54	127.71	-30.25	-5,212.65	1,459.84	1,166.76	995.64	171.12	6.818	
15,200.00	10,145.74	14,170.13	9,137.57	128.49	129.75	-30.24	-5,312.62	1,462.26	1,167.00	993.11	173.90	6.711	
15,300.00	10,145.48	14,270.13	9,137.03	130.45	131.80	-30.23	-5,412.59	1,464.68	1,167.24	990.56	176.68	6.606	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #23H - OH - Plan 2 11-18-16													Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)				Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	
15,400.00	10,145.22	14,370.13	9,136.49	132.41	133.85	-30.23	-5,512.56	1,467.09	1,167.48	988.01	179.47	6.505		
15,500.00	10,144.95	14,470.13	9,135.95	134.38	135.91	-30.22	-5,612.53	1,469.51	1,167.73	985.48	182.26	6.407		
15,600.00	10,144.34	14,580.98	9,135.35	136.34	138.19	-30.23	-5,723.36	1,470.80	1,167.82	982.60	185.23	6.305		
15,700.00	10,143.68	14,680.98	9,134.82	138.31	140.24	-30.23	-5,823.36	1,471.39	1,167.72	979.67	188.05	6.210		
15,800.00	10,143.02	14,780.98	9,134.29	140.28	142.29	-30.24	-5,923.36	1,471.97	1,167.61	976.73	190.88	6.117		
15,900.00	10,142.36	14,880.98	9,133.75	142.26	144.35	-30.24	-6,023.35	1,472.56	1,167.50	973.79	193.71	6.027		
16,000.00	10,141.70	14,980.98	9,133.22	144.24	146.41	-30.24	-6,123.35	1,473.14	1,167.39	970.84	196.55	5.939		
16,100.00	10,141.04	15,080.98	9,132.69	146.23	148.48	-30.25	-6,223.35	1,473.73	1,167.28	967.89	199.39	5.854		
16,200.00	10,140.37	15,180.98	9,132.15	148.22	150.55	-30.25	-6,323.34	1,474.31	1,167.17	964.93	202.24	5.771		
16,300.00	10,139.71	15,280.98	9,131.62	150.22	152.62	-30.25	-6,423.34	1,474.90	1,167.06	961.97	205.09	5.690		
16,400.00	10,139.05	15,380.98	9,131.09	152.22	154.69	-30.26	-6,523.34	1,475.48	1,166.95	959.00	207.95	5.612		
16,500.00	10,138.39	15,480.97	9,130.55	154.23	156.77	-30.26	-6,623.33	1,476.07	1,166.84	956.03	210.81	5.535		
16,600.00	10,137.73	15,580.97	9,130.02	156.24	158.85	-30.26	-6,723.33	1,476.65	1,166.73	953.06	213.67	5.460		
16,700.00	10,137.07	15,680.97	9,129.49	158.26	160.94	-30.27	-6,823.33	1,477.24	1,166.62	950.08	216.54	5.388		
16,800.00	10,136.41	15,780.97	9,128.95	160.27	163.02	-30.27	-6,923.32	1,477.82	1,166.51	947.10	219.41	5.317		
16,900.00	10,135.75	15,880.97	9,128.42	162.30	165.11	-30.27	-7,023.32	1,478.41	1,166.40	944.11	222.29	5.247		
17,000.00	10,135.09	15,980.97	9,127.88	164.32	167.21	-30.28	-7,123.32	1,478.99	1,166.29	941.12	225.17	5.180		
17,100.00	10,134.43	16,080.97	9,127.35	166.35	169.30	-30.28	-7,223.31	1,479.58	1,166.18	938.13	228.05	5.114		
17,200.00	10,133.77	16,180.97	9,126.82	168.38	171.40	-30.28	-7,323.31	1,480.16	1,166.07	935.14	230.93	5.049		
17,300.00	10,133.11	16,280.97	9,126.28	170.42	173.49	-30.29	-7,423.31	1,480.75	1,165.96	932.14	233.82	4.987		
17,400.00	10,132.45	16,380.97	9,125.75	172.46	175.59	-30.29	-7,523.31	1,481.33	1,165.85	929.14	236.71	4.925		
17,500.00	10,131.79	16,480.97	9,125.22	174.50	177.70	-30.29	-7,623.30	1,481.92	1,165.74	926.14	239.61	4.865		
17,600.00	10,131.13	16,580.97	9,124.68	176.54	179.80	-30.29	-7,723.30	1,482.50	1,165.63	923.13	242.51	4.807		
17,700.00	10,130.47	16,680.97	9,124.15	178.59	181.91	-30.30	-7,823.30	1,483.09	1,165.52	920.12	245.41	4.749		
17,800.00	10,129.80	16,780.97	9,123.62	180.64	184.02	-30.30	-7,923.29	1,483.67	1,165.42	917.11	248.31	4.693		
17,900.00	10,129.14	16,880.97	9,123.08	182.69	186.13	-30.30	-8,023.29	1,484.25	1,165.31	914.09	251.21	4.639		
18,000.00	10,128.48	16,980.97	9,122.55	184.74	188.24	-30.31	-8,123.29	1,484.84	1,165.20	911.08	254.12	4.585		
18,100.00	10,127.82	17,080.97	9,122.02	186.80	190.35	-30.31	-8,223.28	1,485.42	1,165.09	908.06	257.03	4.533		
18,200.00	10,127.16	17,180.97	9,121.48	188.86	192.47	-30.31	-8,323.28	1,486.01	1,164.98	905.04	259.94	4.482		
18,300.00	10,126.50	17,280.97	9,120.95	190.92	194.58	-30.32	-8,423.28	1,486.59	1,164.87	902.01	262.85	4.432		
18,400.00	10,125.84	17,380.97	9,120.42	192.98	196.70	-30.32	-8,523.27	1,487.18	1,164.76	898.99	265.77	4.383		
18,500.00	10,125.18	17,480.97	9,119.88	195.05	198.82	-30.32	-8,623.27	1,487.76	1,164.65	895.96	268.69	4.335		
18,600.00	10,124.52	17,580.97	9,119.35	197.11	200.94	-30.33	-8,723.27	1,488.35	1,164.54	892.93	271.61	4.288		
18,700.00	10,123.86	17,680.97	9,118.81	199.18	203.06	-30.33	-8,823.26	1,488.93	1,164.43	889.90	274.53	4.242		
18,800.00	10,123.20	17,780.97	9,118.28	201.25	205.19	-30.33	-8,923.26	1,489.52	1,164.32	886.87	277.46	4.196		
18,900.00	10,122.54	17,880.97	9,117.75	203.33	207.31	-30.34	-9,023.26	1,490.10	1,164.21	883.83	280.38	4.152		
19,000.00	10,121.88	17,980.97	9,117.21	205.40	209.44	-30.34	-9,123.25	1,490.69	1,164.10	880.79	283.31	4.109		
19,100.00	10,121.22	18,080.97	9,116.68	207.48	211.56	-30.34	-9,223.25	1,491.27	1,163.99	877.75	286.24	4.067		
19,200.00	10,120.56	18,180.97	9,116.15	209.55	213.69	-30.35	-9,323.25	1,491.86	1,163.88	874.71	289.17	4.025		
19,300.00	10,119.89	18,280.97	9,115.61	211.63	215.82	-30.35	-9,423.24	1,492.44	1,163.77	871.67	292.10	3.984		
19,400.00	10,119.23	18,380.97	9,115.08	213.72	217.95	-30.35	-9,523.24	1,493.03	1,163.66	868.63	295.04	3.944		
19,500.00	10,118.57	18,480.97	9,114.55	215.80	220.08	-30.36	-9,623.24	1,493.61	1,163.55	865.58	297.97	3.905		
19,600.00	10,117.91	18,580.97	9,114.01	217.88	222.22	-30.36	-9,723.23	1,494.20	1,163.45	862.53	300.91	3.866		
19,700.00	10,117.25	18,680.97	9,113.48	219.97	224.35	-30.36	-9,823.23	1,494.78	1,163.34	859.49	303.85	3.829		
19,800.00	10,116.59	18,780.97	9,112.95	222.05	226.49	-30.36	-9,923.23	1,495.37	1,163.23	856.44	306.79	3.792		
19,900.00	10,115.93	18,880.97	9,112.41	224.14	228.62	-30.37	-10,023.23	1,495.95	1,163.12	853.38	309.73	3.755		
20,000.00	10,115.27	18,980.97	9,111.88	226.23	230.76	-30.37	-10,123.22	1,496.54	1,163.01	850.33	312.68	3.720		
20,100.00	10,114.61	19,080.97	9,111.35	228.32	232.89	-30.37	-10,223.22	1,497.12	1,162.90	847.28	315.62	3.684		
20,200.00	10,113.95	19,180.97	9,110.81	230.42	235.03	-30.38	-10,323.22	1,497.71	1,162.79	844.22	318.57	3.650		
20,300.00	10,113.29	19,280.97	9,110.28	232.51	237.17	-30.38	-10,423.21	1,498.29	1,162.68	841.16	321.51	3.616		
20,400.00	10,112.63	19,380.97	9,109.74	234.60	239.31	-30.38	-10,523.21	1,498.88	1,162.57	838.11	324.46	3.583		
20,495.03	10,112.00	19,476.00	9,109.24	236.59	241.35	-30.39	-10,618.23	1,499.43	1,162.47	835.20	327.27	3.552 SF		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #24H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	14.00	0.00	0.00	0.03	79.82	222.09	1,236.51	1,256.29				
100.00	100.00	114.00	100.00	0.19	0.26	79.82	222.09	1,236.51	1,256.29	1,255.84	0.45	2,798.066	
200.00	200.00	214.00	200.00	0.73	0.79	79.82	222.09	1,236.51	1,256.29	1,254.77	1.52	824.122	
300.00	300.00	314.00	300.00	1.27	1.33	79.82	222.09	1,236.51	1,256.29	1,253.69	2.60	483.224	
400.00	400.00	414.00	400.00	1.81	1.87	79.82	222.09	1,236.51	1,256.29	1,252.62	3.68	341.827	
500.00	500.00	514.00	500.00	2.34	2.41	79.82	222.09	1,236.51	1,256.29	1,251.54	4.75	264.447	
600.00	600.00	614.00	600.00	2.88	2.94	79.82	222.09	1,236.51	1,256.29	1,250.47	5.83	215.633	
700.00	700.00	714.00	700.00	3.42	3.48	79.82	222.09	1,236.51	1,256.29	1,249.39	6.90	182.033	
800.00	800.00	814.00	800.00	3.96	4.02	79.82	222.09	1,236.51	1,256.29	1,248.32	7.98	157.492	
900.00	900.00	914.00	900.00	4.50	4.56	79.82	222.09	1,236.51	1,256.29	1,247.24	9.05	138.782	
1,000.00	1,000.00	1,014.00	1,000.00	5.03	5.09	79.82	222.09	1,236.51	1,256.29	1,246.17	10.13	124.045	
1,100.00	1,100.00	1,114.00	1,100.00	5.57	5.63	79.82	222.09	1,236.51	1,256.29	1,245.09	11.20	112.138	
1,200.00	1,200.00	1,214.00	1,200.00	6.11	6.17	79.82	222.09	1,236.51	1,256.29	1,244.01	12.28	102.316	
1,300.00	1,300.00	1,314.00	1,300.00	6.65	6.71	79.82	222.09	1,236.51	1,256.29	1,242.94	13.35	94.076	
1,400.00	1,400.00	1,414.00	1,400.00	7.18	7.25	79.82	222.09	1,236.51	1,256.29	1,241.86	14.43	87.065	
1,500.00	1,500.00	1,514.00	1,500.00	7.72	7.78	79.82	222.09	1,236.51	1,256.29	1,240.79	15.50	81.026	
1,600.00	1,600.00	1,614.00	1,600.00	8.26	8.32	79.82	222.09	1,236.51	1,256.29	1,239.71	16.58	75.771	
1,700.00	1,700.00	1,714.00	1,700.00	8.80	8.86	79.82	222.09	1,236.51	1,256.29	1,238.64	17.66	71.155	
1,800.00	1,800.00	1,814.00	1,800.00	9.33	9.40	79.82	222.09	1,236.51	1,256.29	1,237.56	18.73	67.070	
1,900.00	1,899.98	1,913.98	1,899.98	9.86	9.93	-16.88	222.09	1,236.51	1,254.62	1,234.84	19.78	63.423	
2,000.00	1,999.84	2,013.84	1,999.84	10.37	10.47	-16.98	222.09	1,236.51	1,249.62	1,228.82	20.80	60.082	
2,100.00	2,099.48	2,113.48	2,099.48	10.89	11.01	-17.12	222.09	1,236.51	1,241.53	1,219.71	21.82	56.910	
2,200.00	2,199.06	2,213.06	2,199.06	11.41	11.54	-17.24	222.09	1,236.51	1,232.82	1,209.96	22.86	53.919	
2,300.00	2,298.65	2,300.00	2,286.00	11.94	12.00	-17.34	221.96	1,236.92	1,224.57	1,200.73	23.84	51.368	
2,400.00	2,398.23	2,368.18	2,354.15	12.47	12.35	-17.39	221.34	1,238.82	1,218.36	1,193.66	24.70	49.322	
2,500.00	2,497.81	2,440.99	2,426.85	13.00	12.71	-17.39	220.12	1,242.56	1,214.39	1,188.80	25.59	47.452	
2,600.00	2,597.40	2,513.88	2,499.51	13.54	13.09	-17.35	218.34	1,248.06	1,212.64	1,186.16	26.49	45.784	
2,619.04	2,616.36	2,527.76	2,513.33	13.64	13.16	-17.34	217.93	1,249.30	1,212.57	1,185.91	26.66	45.487	CC
2,700.00	2,696.98	2,600.00	2,585.13	14.08	13.53	-17.25	215.49	1,256.81	1,213.24	1,185.78	27.45	44.195	ES
2,800.00	2,796.57	2,659.54	2,644.15	14.62	13.84	-17.15	213.06	1,264.30	1,215.87	1,187.58	28.29	42.984	
2,900.00	2,896.15	2,732.12	2,715.85	15.17	14.23	-16.99	209.58	1,275.00	1,220.84	1,191.65	29.19	41.823	
3,000.00	2,995.73	2,804.41	2,786.96	15.71	14.61	-16.79	205.57	1,287.37	1,228.06	1,197.97	30.10	40.804	
3,100.00	3,095.32	2,895.97	2,876.70	16.26	15.11	-16.50	199.95	1,304.66	1,236.97	1,205.86	31.11	39.765	
3,200.00	3,194.90	2,995.34	2,974.07	16.81	15.67	-16.19	193.82	1,323.50	1,246.00	1,213.84	32.16	38.740	
3,300.00	3,294.49	3,094.71	3,071.44	17.36	16.24	-15.89	187.70	1,342.34	1,255.06	1,221.84	33.22	37.775	
3,400.00	3,394.07	3,194.07	3,168.81	17.91	16.81	-15.59	181.58	1,361.18	1,264.16	1,229.87	34.29	36.865	
3,500.00	3,493.65	3,293.44	3,266.18	18.46	17.39	-15.29	175.46	1,380.02	1,273.30	1,237.94	35.36	36.006	
3,600.00	3,593.24	3,392.80	3,363.55	19.01	17.98	-15.00	169.34	1,398.86	1,282.47	1,246.03	36.44	35.194	
3,700.00	3,692.82	3,492.17	3,460.92	19.57	18.58	-14.71	163.22	1,417.70	1,291.67	1,254.15	37.52	34.426	
3,800.00	3,792.41	3,591.54	3,558.29	20.12	19.18	-14.43	157.09	1,436.55	1,300.90	1,262.30	38.60	33.700	
3,900.00	3,891.99	3,690.90	3,655.67	20.68	19.79	-14.15	150.97	1,455.39	1,310.17	1,270.48	39.69	33.011	
4,000.00	3,991.58	3,790.27	3,753.04	21.24	20.41	-13.87	144.85	1,474.23	1,319.46	1,278.69	40.78	32.357	
4,100.00	4,091.16	3,889.63	3,850.41	21.79	21.02	-13.60	138.73	1,493.07	1,328.79	1,286.92	41.87	31.737	
4,200.00	4,190.74	3,989.00	3,947.78	22.35	21.65	-13.33	132.61	1,511.91	1,338.14	1,295.18	42.96	31.147	
4,300.00	4,290.33	4,088.36	4,045.15	22.91	22.27	-13.06	126.49	1,530.75	1,347.53	1,303.47	44.06	30.586	
4,400.00	4,389.91	4,187.73	4,142.52	23.47	22.90	-12.80	120.36	1,549.59	1,356.94	1,311.79	45.15	30.051	
4,500.00	4,489.50	4,287.10	4,239.89	24.03	23.53	-12.54	114.24	1,568.43	1,366.38	1,320.13	46.25	29.542	
4,600.00	4,589.08	4,386.46	4,337.26	24.59	24.17	-12.29	108.12	1,587.27	1,375.85	1,328.50	47.35	29.056	
4,700.00	4,688.66	4,485.83	4,434.63	25.15	24.81	-12.04	102.00	1,606.11	1,385.34	1,336.89	48.45	28.591	
4,800.00	4,788.25	4,585.19	4,532.00	25.71	25.45	-11.79	95.88	1,624.95	1,394.86	1,345.31	49.56	28.148	
4,900.00	4,887.83	4,684.56	4,629.38	26.27	26.09	-11.55	89.76	1,643.79	1,404.41	1,353.75	50.66	27.723	
5,000.00	4,987.42	4,783.93	4,726.75	26.83	26.74	-11.31	83.63	1,662.63	1,413.98	1,362.21	51.76	27.317	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #24H - OH - Plan 2 11-18-16													Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.00	5,087.00	4,883.29	4,824.12	27.39	27.38	-11.07	77.51	1,681.48	1,423.57	1,370.70	52.87	26.927		
5,200.00	5,186.59	4,982.66	4,921.49	27.95	28.03	-10.84	71.39	1,700.32	1,433.19	1,379.22	53.97	26.554		
5,300.00	5,286.17	5,082.02	5,018.86	28.52	28.68	-10.61	65.27	1,719.16	1,442.83	1,387.75	55.08	26.196		
5,400.00	5,385.75	5,181.39	5,116.23	29.08	29.34	-10.38	59.15	1,738.00	1,452.50	1,396.31	56.19	25.852		
5,500.00	5,485.34	5,280.76	5,213.60	29.64	29.99	-10.15	53.02	1,756.84	1,462.19	1,404.89	57.29	25.521		
5,600.00	5,584.92	5,380.12	5,310.97	30.21	30.65	-9.93	46.90	1,775.68	1,471.90	1,413.50	58.40	25.203		
5,700.00	5,684.51	5,479.49	5,408.34	30.77	31.30	-9.71	40.78	1,794.52	1,481.63	1,422.12	59.51	24.898		
5,800.00	5,784.09	5,578.85	5,505.72	31.33	31.96	-9.49	34.66	1,813.36	1,491.38	1,430.76	60.62	24.603		
5,900.00	5,883.67	5,678.22	5,603.09	31.90	32.62	-9.28	28.54	1,832.20	1,501.15	1,439.43	61.73	24.319		
6,000.00	5,983.26	5,777.58	5,700.46	32.46	33.28	-9.07	22.42	1,851.04	1,510.95	1,448.11	62.84	24.046		
6,100.00	6,082.84	5,876.95	5,797.83	33.02	33.94	-8.86	16.29	1,869.88	1,520.76	1,456.82	63.95	23.782		
6,200.00	6,182.43	5,976.32	5,895.20	33.59	34.60	-8.66	10.17	1,888.72	1,530.60	1,465.54	65.06	23.528		
6,300.00	6,282.01	6,075.68	5,992.57	34.15	35.27	-8.45	4.05	1,907.57	1,540.45	1,474.28	66.17	23.282		
6,400.00	6,381.59	6,175.05	6,089.94	34.72	35.93	-8.25	-2.07	1,926.41	1,550.32	1,483.05	67.28	23.044		
6,500.00	6,481.18	6,274.41	6,187.31	35.28	36.60	-8.06	-8.19	1,945.25	1,560.21	1,491.83	68.39	22.815		
6,600.00	6,580.76	6,373.78	6,284.68	35.85	37.26	-7.86	-14.31	1,964.09	1,570.12	1,500.63	69.50	22.593		
6,700.00	6,680.35	6,473.15	6,382.05	36.41	37.93	-7.67	-20.44	1,982.93	1,580.05	1,509.44	70.61	22.378		
6,800.00	6,779.93	6,572.51	6,479.43	36.98	38.60	-7.48	-26.56	2,001.77	1,589.99	1,518.27	71.72	22.170		
6,900.00	6,879.52	6,671.88	6,576.80	37.54	39.27	-7.29	-32.68	2,020.61	1,599.95	1,527.13	72.83	21.969		
7,000.00	6,979.10	6,771.24	6,674.17	38.11	39.93	-7.10	-38.80	2,039.45	1,609.93	1,535.99	73.94	21.773		
7,100.00	7,078.68	6,870.61	6,771.54	38.67	40.60	-6.92	-44.92	2,058.29	1,619.93	1,544.88	75.05	21.584		
7,200.00	7,178.27	6,969.97	6,868.91	39.24	41.27	-6.74	-51.04	2,077.13	1,629.94	1,553.78	76.16	21.401		
7,300.00	7,277.85	7,089.69	6,986.25	39.80	42.08	-6.50	-59.03	2,099.43	1,639.69	1,562.30	77.39	21.187		
7,400.00	7,377.44	7,234.44	7,128.30	40.37	43.03	-6.04	-73.71	2,123.04	1,647.14	1,568.38	78.76	20.914		
7,500.00	7,477.02	7,366.44	7,257.72	40.94	43.87	-5.45	-92.26	2,141.05	1,652.04	1,572.00	80.04	20.639		
7,600.00	7,576.60	7,465.34	7,354.64	41.50	44.49	-4.97	-107.37	2,153.73	1,656.33	1,575.19	81.14	20.412		
7,700.00	7,676.19	7,564.25	7,451.57	42.07	45.11	-4.48	-122.47	2,166.40	1,660.74	1,578.50	82.24	20.193		
7,800.00	7,775.77	7,663.15	7,548.49	42.63	45.73	-4.00	-137.58	2,179.08	1,665.27	1,581.93	83.34	19.981		
7,900.00	7,875.36	7,762.06	7,645.41	43.20	46.36	-3.53	-152.68	2,191.75	1,669.92	1,585.48	84.44	19.776		
8,000.00	7,974.94	7,860.97	7,742.33	43.77	46.99	-3.05	-167.79	2,204.43	1,674.68	1,589.14	85.54	19.577		
8,100.00	8,074.52	7,959.87	7,839.25	44.33	47.62	-2.58	-182.90	2,217.10	1,679.56	1,592.92	86.64	19.384		
8,200.00	8,174.11	8,072.17	7,949.33	44.90	48.33	-2.05	-199.91	2,231.38	1,684.49	1,596.67	87.82	19.181		
8,300.00	8,273.69	8,243.00	8,117.95	45.47	49.35	-1.42	-220.71	2,248.83	1,686.69	1,597.39	89.31	18.887		
8,400.00	8,373.28	8,415.12	8,289.19	46.03	50.30	-1.02	-233.85	2,259.86	1,684.70	1,593.93	90.77	18.560		
8,500.00	8,472.86	8,587.31	8,461.22	46.60	51.15	-0.86	-239.09	2,264.25	1,678.43	1,586.23	92.20	18.204		
8,600.00	8,572.45	8,698.53	8,572.45	47.17	51.66	-0.87	-239.19	2,264.34	1,669.37	1,576.08	93.29	17.894		
8,700.00	8,672.03	8,798.12	8,672.03	47.73	52.11	-0.87	-239.19	2,264.34	1,660.26	1,565.94	94.32	17.602		
8,800.00	8,771.61	8,892.68	8,766.59	48.30	52.55	-0.87	-239.36	2,264.34	1,651.18	1,555.86	95.33	17.321		
8,900.00	8,871.20	8,965.41	8,838.99	48.87	52.90	-0.65	-245.74	2,264.50	1,643.19	1,546.95	96.24	17.075		
9,000.00	8,970.78	9,035.67	8,907.62	49.43	53.27	-0.14	-260.55	2,264.85	1,636.95	1,539.81	97.14	16.852		
9,100.00	9,070.37	9,100.00	8,968.45	50.00	53.62	0.58	-281.38	2,265.35	1,632.80	1,534.79	98.01	16.659		
9,200.00	9,169.95	9,162.10	9,024.60	50.57	53.97	1.50	-307.83	2,265.99	1,631.18	1,532.30	98.88	16.496		
9,206.49	9,176.42	9,165.82	9,027.87	50.60	53.99	1.57	-309.61	2,266.03	1,631.17	1,532.23	98.94	16.487		
9,300.00	9,269.53	9,216.58	9,071.25	51.13	54.29	2.48	-335.92	2,266.66	1,632.57	1,532.86	99.71	16.374		
9,400.00	9,369.12	9,265.07	9,110.37	51.70	54.58	3.47	-364.56	2,267.35	1,637.44	1,536.94	100.50	16.293		
9,500.00	9,468.70	9,300.00	9,136.97	52.27	54.79	4.26	-387.17	2,267.89	1,646.24	1,545.02	101.22	16.264		
9,600.00	9,568.29	9,350.00	9,172.54	52.84	55.10	5.46	-422.28	2,268.74	1,659.17	1,557.15	102.02	16.264		
9,700.00	9,667.61	9,380.56	9,192.73	53.40	55.30	-41.79	-445.22	2,269.29	1,675.34	1,572.71	102.63	16.325		
9,800.00	9,764.49	9,416.88	9,215.08	53.95	55.53	-55.99	-473.82	2,269.97	1,691.34	1,588.32	103.01	16.419		
9,900.00	9,856.00	9,450.00	9,233.85	54.49	55.75	-59.35	-501.09	2,270.63	1,706.10	1,603.08	103.02	16.561		
10,000.00	9,939.34	9,500.00	9,259.12	54.99	56.09	-59.96	-544.21	2,271.66	1,718.83	1,616.14	102.69	16.738		
10,100.00	10,011.99	9,532.08	9,273.32	55.47	56.31	-60.10	-572.96	2,272.35	1,728.81	1,626.79	102.02	16.946		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #24H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	10,071.73	9,571.73	9,288.60	55.94	56.60	-60.00	-609.53	2,273.23	1,735.61	1,634.25	101.36	17.123	
10,300.00	10,116.76	9,600.00	9,297.94	56.42	56.80	-60.06	-636.20	2,273.87	1,738.97	1,637.98	100.99	17.219	
10,400.00	10,145.70	9,650.00	9,311.19	56.93	57.18	-60.30	-684.38	2,275.03	1,738.39	1,636.95	101.44	17.138	
10,500.00	10,157.68	9,700.00	9,320.19	57.47	57.57	-60.89	-733.54	2,276.21	1,734.20	1,631.38	102.82	16.867	
10,600.00	10,157.79	9,732.06	9,323.69	58.05	57.82	-61.13	-765.39	2,276.98	1,728.50	1,624.57	103.93	16.632	
10,700.00	10,157.53	9,781.72	9,325.58	58.69	58.23	-61.19	-814.98	2,278.17	1,726.19	1,621.14	105.05	16.432	
10,731.50	10,157.45	9,791.19	9,325.53	58.92	58.31	-61.19	-824.45	2,278.39	1,726.08	1,620.72	105.36	16.382	
10,800.00	10,157.27	9,859.68	9,325.17	59.41	58.89	-61.18	-892.93	2,280.04	1,726.15	1,619.68	106.47	16.212	
10,900.00	10,157.01	9,959.68	9,324.65	60.20	59.81	-61.17	-992.89	2,282.44	1,726.26	1,618.06	108.20	15.954	
11,000.00	10,156.74	10,059.68	9,324.13	61.05	60.79	-61.16	-1,092.86	2,284.84	1,726.37	1,616.33	110.04	15.688	
11,100.00	10,156.48	10,159.68	9,323.60	61.96	61.83	-61.16	-1,192.83	2,287.24	1,726.48	1,614.48	112.00	15.415	
11,200.00	10,156.22	10,259.68	9,323.08	62.94	62.94	-61.15	-1,292.80	2,289.64	1,726.58	1,612.53	114.06	15.138	
11,300.00	10,155.96	10,359.68	9,322.56	63.97	64.10	-61.14	-1,392.77	2,292.04	1,726.69	1,610.47	116.22	14.857	
11,400.00	10,155.70	10,459.68	9,322.03	65.05	65.31	-61.13	-1,492.74	2,294.44	1,726.80	1,608.32	118.47	14.575	
11,500.00	10,155.43	10,559.68	9,321.51	66.19	66.58	-61.12	-1,592.71	2,296.84	1,726.91	1,606.09	120.82	14.293	
11,600.00	10,155.17	10,659.68	9,320.98	67.38	67.89	-61.12	-1,692.68	2,299.24	1,727.01	1,603.76	123.25	14.012	
11,700.00	10,154.91	10,759.68	9,320.46	68.62	69.25	-61.11	-1,792.65	2,301.64	1,727.12	1,601.36	125.76	13.734	
11,800.00	10,154.65	10,859.68	9,319.94	69.90	70.65	-61.10	-1,892.62	2,304.04	1,727.23	1,598.89	128.34	13.458	
11,900.00	10,154.39	10,959.68	9,319.41	71.23	72.09	-61.09	-1,992.59	2,306.44	1,727.33	1,596.34	130.99	13.187	
12,000.00	10,154.13	11,059.68	9,318.89	72.59	73.57	-61.08	-2,092.56	2,308.84	1,727.44	1,593.73	133.71	12.919	
12,100.00	10,153.86	11,159.68	9,318.37	73.99	75.08	-61.08	-2,192.53	2,311.24	1,727.55	1,591.06	136.49	12.657	
12,200.00	10,153.60	11,259.68	9,317.84	75.43	76.63	-61.07	-2,292.50	2,313.64	1,727.66	1,588.32	139.33	12.400	
12,300.00	10,153.34	11,359.68	9,317.32	76.91	78.21	-61.06	-2,392.47	2,316.05	1,727.76	1,585.54	142.23	12.148	
12,400.00	10,153.08	11,459.68	9,316.80	78.41	79.81	-61.05	-2,492.44	2,318.45	1,727.87	1,582.70	145.17	11.902	
12,500.00	10,152.82	11,559.68	9,316.27	79.95	81.45	-61.05	-2,592.41	2,320.85	1,727.98	1,579.81	148.17	11.662	
12,600.00	10,152.55	11,659.68	9,315.75	81.51	83.11	-61.04	-2,692.38	2,323.25	1,728.09	1,576.88	151.21	11.429	
12,700.00	10,152.29	11,759.68	9,315.22	83.10	84.80	-61.03	-2,792.34	2,325.65	1,728.20	1,573.91	154.29	11.201	
12,800.00	10,152.03	11,859.68	9,314.70	84.72	86.51	-61.02	-2,892.31	2,328.05	1,728.30	1,570.89	157.41	10.980	
12,900.00	10,151.77	11,959.68	9,314.18	86.36	88.24	-61.01	-2,992.28	2,330.45	1,728.41	1,567.84	160.57	10.764	
13,000.00	10,151.51	12,059.68	9,313.65	88.03	89.99	-61.01	-3,092.25	2,332.85	1,728.52	1,564.75	163.77	10.555	
13,100.00	10,151.24	12,159.68	9,313.13	89.71	91.76	-61.00	-3,192.22	2,335.25	1,728.63	1,561.63	167.00	10.351	
13,200.00	10,150.98	12,259.68	9,312.61	91.42	93.55	-60.99	-3,292.19	2,337.65	1,728.73	1,558.48	170.26	10.154	
13,300.00	10,150.72	12,359.68	9,312.08	93.14	95.36	-60.98	-3,392.16	2,340.05	1,728.84	1,555.29	173.55	9.962	
13,400.00	10,150.46	12,459.67	9,311.56	94.89	97.18	-60.97	-3,492.13	2,342.45	1,728.95	1,552.08	176.87	9.775	
13,500.00	10,150.20	12,559.67	9,311.04	96.65	99.02	-60.97	-3,592.10	2,344.85	1,729.06	1,548.84	180.21	9.595	
13,600.00	10,149.93	12,659.67	9,310.51	98.42	100.87	-60.96	-3,692.07	2,347.25	1,729.17	1,545.58	183.58	9.419	
13,700.00	10,149.67	12,759.67	9,309.99	100.21	102.74	-60.95	-3,792.04	2,349.65	1,729.27	1,542.30	186.98	9.249	
13,800.00	10,149.41	12,859.67	9,309.47	102.02	104.62	-60.94	-3,892.01	2,352.05	1,729.38	1,538.99	190.40	9.083	
13,900.00	10,149.15	12,959.67	9,308.94	103.84	106.51	-60.93	-3,991.98	2,354.45	1,729.49	1,535.66	193.83	8.923	
14,000.00	10,148.89	13,059.67	9,308.42	105.68	108.41	-60.93	-4,091.95	2,356.85	1,729.60	1,532.31	197.29	8.767	
14,100.00	10,148.62	13,159.67	9,307.89	107.52	110.33	-60.92	-4,191.92	2,359.25	1,729.71	1,528.94	200.77	8.615	
14,200.00	10,148.36	13,259.67	9,307.37	109.38	112.25	-60.91	-4,291.89	2,361.65	1,729.81	1,525.55	204.26	8.469	
14,300.00	10,148.10	13,359.67	9,306.85	111.25	114.19	-60.90	-4,391.86	2,364.06	1,729.92	1,522.15	207.78	8.326	
14,400.00	10,147.84	13,459.67	9,306.32	113.13	116.13	-60.89	-4,491.83	2,366.46	1,730.03	1,518.73	211.30	8.187	
14,500.00	10,147.58	13,559.67	9,305.80	115.02	118.08	-60.89	-4,591.80	2,368.86	1,730.14	1,515.29	214.85	8.053	
14,600.00	10,147.31	13,659.67	9,305.28	116.92	120.05	-60.88	-4,691.76	2,371.26	1,730.25	1,511.84	218.41	7.922	
14,700.00	10,147.05	13,759.67	9,304.75	118.82	122.02	-60.87	-4,791.73	2,373.66	1,730.36	1,508.38	221.98	7.795	
14,800.00	10,146.79	13,859.67	9,304.23	120.74	123.99	-60.86	-4,891.70	2,376.06	1,730.46	1,504.90	225.57	7.672	
14,900.00	10,146.53	13,959.67	9,303.71	122.67	125.98	-60.85	-4,991.67	2,378.46	1,730.57	1,501.41	229.16	7.552	
15,000.00	10,146.27	14,059.67	9,303.18	124.60	127.97	-60.85	-5,091.64	2,380.86	1,730.68	1,497.91	232.77	7.435	
15,100.00	10,146.00	14,159.67	9,302.66	126.54	129.97	-60.84	-5,191.61	2,383.26	1,730.79	1,494.39	236.39	7.322	
15,200.00	10,145.74	14,259.67	9,302.13	128.49	131.98	-60.83	-5,291.58	2,385.66	1,730.90	1,490.87	240.03	7.211	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #24H - OH - Plan 2 11-18-16													Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
15,300.00	10,145.48	14,359.67	9,301.61	130.45	133.99	-60.82	-5,391.55	2,388.06	1,731.01	1,487.34	243.67	7.104		
15,400.00	10,145.22	14,459.67	9,301.09	132.41	136.00	-60.82	-5,491.52	2,390.46	1,731.12	1,483.79	247.32	6.999		
15,500.00	10,144.95	14,559.67	9,300.56	134.38	138.03	-60.81	-5,591.49	2,392.86	1,731.26	1,480.39	250.87	6.901		
15,600.00	10,144.34	14,687.13	9,299.90	136.34	140.60	-60.82	-5,718.93	2,394.79	1,731.82	1,477.03	254.80	6.797		
15,700.00	10,143.68	14,787.13	9,299.37	138.31	142.61	-60.82	-5,818.93	2,395.37	1,731.75	1,473.28	258.47	6.700		
15,800.00	10,143.02	14,887.13	9,298.85	140.28	144.63	-60.82	-5,918.92	2,395.95	1,731.69	1,469.53	262.16	6.605		
15,900.00	10,142.36	14,987.13	9,298.33	142.26	146.65	-60.83	-6,018.92	2,396.54	1,731.62	1,465.77	265.86	6.513		
16,000.00	10,141.70	15,087.13	9,297.80	144.24	148.68	-60.83	-6,118.92	2,397.12	1,731.55	1,462.00	269.56	6.424		
16,100.00	10,141.04	15,187.13	9,297.28	146.23	150.71	-60.84	-6,218.91	2,397.71	1,731.49	1,458.22	273.27	6.336		
16,200.00	10,140.37	15,287.13	9,296.75	148.22	152.75	-60.84	-6,318.91	2,398.29	1,731.42	1,454.43	276.99	6.251		
16,300.00	10,139.71	15,387.13	9,296.23	150.22	154.79	-60.84	-6,418.91	2,398.87	1,731.35	1,450.64	280.71	6.168		
16,400.00	10,139.05	15,487.13	9,295.71	152.22	156.83	-60.85	-6,518.91	2,399.46	1,731.29	1,446.84	284.44	6.087		
16,500.00	10,138.39	15,587.13	9,295.18	154.23	158.88	-60.85	-6,618.90	2,400.04	1,731.22	1,443.04	288.18	6.007		
16,600.00	10,137.73	15,687.13	9,294.66	156.24	160.93	-60.86	-6,718.90	2,400.63	1,731.15	1,439.22	291.93	5.930		
16,700.00	10,137.07	15,787.13	9,294.13	158.26	162.99	-60.86	-6,818.90	2,401.21	1,731.09	1,435.41	295.68	5.855		
16,800.00	10,136.41	15,887.13	9,293.61	160.27	165.04	-60.86	-6,918.89	2,401.79	1,731.02	1,431.58	299.44	5.781		
16,900.00	10,135.75	15,987.13	9,293.09	162.30	167.11	-60.87	-7,018.89	2,402.38	1,730.95	1,427.75	303.20	5.709		
17,000.00	10,135.09	16,087.13	9,292.56	164.32	169.17	-60.87	-7,118.89	2,402.96	1,730.89	1,423.92	306.97	5.639		
17,100.00	10,134.43	16,187.13	9,292.04	166.35	171.24	-60.88	-7,218.88	2,403.55	1,730.82	1,420.08	310.74	5.570		
17,200.00	10,133.77	16,287.13	9,291.52	168.38	173.31	-60.88	-7,318.88	2,404.13	1,730.75	1,416.23	314.52	5.503		
17,300.00	10,133.11	16,387.13	9,290.99	170.42	175.38	-60.88	-7,418.88	2,404.72	1,730.68	1,412.38	318.30	5.437		
17,400.00	10,132.45	16,487.13	9,290.47	172.46	177.46	-60.89	-7,518.87	2,405.30	1,730.62	1,408.53	322.09	5.373		
17,500.00	10,131.79	16,587.13	9,289.94	174.50	179.54	-60.89	-7,618.87	2,405.88	1,730.55	1,404.67	325.88	5.310		
17,600.00	10,131.13	16,687.13	9,289.42	176.54	181.62	-60.90	-7,718.87	2,406.47	1,730.48	1,400.81	329.68	5.249		
17,700.00	10,130.47	16,787.13	9,288.90	178.59	183.70	-60.90	-7,818.86	2,407.05	1,730.42	1,396.94	333.48	5.189		
17,800.00	10,129.80	16,887.13	9,288.37	180.64	185.78	-60.90	-7,918.86	2,407.64	1,730.35	1,393.07	337.28	5.130		
17,900.00	10,129.14	16,987.13	9,287.85	182.69	187.87	-60.91	-8,018.86	2,408.22	1,730.28	1,389.19	341.09	5.073		
18,000.00	10,128.48	17,087.13	9,287.33	184.74	189.96	-60.91	-8,118.85	2,408.80	1,730.22	1,385.31	344.91	5.016		
18,100.00	10,127.82	17,187.13	9,286.80	186.80	192.05	-60.92	-8,218.85	2,409.39	1,730.15	1,381.43	348.72	4.961		
18,200.00	10,127.16	17,287.13	9,286.28	188.86	194.15	-60.92	-8,318.85	2,409.97	1,730.08	1,377.54	352.54	4.907		
18,300.00	10,126.50	17,387.13	9,285.75	190.92	196.24	-60.92	-8,418.85	2,410.56	1,730.02	1,373.65	356.37	4.855		
18,400.00	10,125.84	17,487.13	9,285.23	192.98	198.34	-60.93	-8,518.84	2,411.14	1,729.95	1,369.75	360.20	4.803		
18,500.00	10,125.18	17,587.13	9,284.71	195.05	200.44	-60.93	-8,618.84	2,411.72	1,729.88	1,365.86	364.03	4.752		
18,600.00	10,124.52	17,687.13	9,284.18	197.11	202.54	-60.93	-8,718.84	2,412.31	1,729.82	1,361.96	367.86	4.702		
18,700.00	10,123.86	17,787.13	9,283.66	199.18	204.65	-60.94	-8,818.83	2,412.89	1,729.75	1,358.05	371.70	4.654		
18,800.00	10,123.20	17,887.13	9,283.13	201.25	206.75	-60.94	-8,918.83	2,413.48	1,729.68	1,354.14	375.54	4.606		
18,900.00	10,122.54	17,987.13	9,282.61	203.33	208.86	-60.95	-9,018.83	2,414.06	1,729.62	1,350.23	379.38	4.559		
19,000.00	10,121.88	18,087.13	9,282.09	205.40	210.97	-60.95	-9,118.82	2,414.64	1,729.55	1,346.32	383.23	4.513		
19,100.00	10,121.22	18,187.13	9,281.56	207.48	213.08	-60.95	-9,218.82	2,415.23	1,729.48	1,342.41	387.08	4.468		
19,200.00	10,120.56	18,287.13	9,281.04	209.55	215.19	-60.96	-9,318.82	2,415.81	1,729.42	1,338.49	390.93	4.424		
19,300.00	10,119.89	18,387.13	9,280.52	211.63	217.30	-60.96	-9,418.81	2,416.40	1,729.35	1,334.57	394.78	4.380		
19,400.00	10,119.23	18,487.13	9,279.99	213.72	219.42	-60.97	-9,518.81	2,416.98	1,729.28	1,330.64	398.64	4.338		
19,500.00	10,118.57	18,587.13	9,279.47	215.80	221.53	-60.97	-9,618.81	2,417.57	1,729.22	1,326.72	402.50	4.296		
19,600.00	10,117.91	18,687.13	9,278.94	217.88	223.65	-60.97	-9,718.80	2,418.15	1,729.15	1,322.79	406.36	4.255		
19,700.00	10,117.25	18,787.13	9,278.42	219.97	225.77	-60.98	-9,818.80	2,418.73	1,729.08	1,318.86	410.23	4.215		
19,800.00	10,116.59	18,887.13	9,277.90	222.05	227.89	-60.98	-9,918.80	2,419.32	1,729.02	1,314.92	414.09	4.175		
19,900.00	10,115.93	18,987.13	9,277.37	224.14	230.01	-60.99	-10,018.79	2,419.90	1,728.95	1,310.99	417.96	4.137		
20,000.00	10,115.27	19,087.13	9,276.85	226.23	232.13	-60.99	-10,118.79	2,420.49	1,728.88	1,307.05	421.83	4.098		
20,100.00	10,114.61	19,187.13	9,276.33	228.32	234.25	-60.99	-10,218.79	2,421.07	1,728.82	1,303.11	425.71	4.061		
20,200.00	10,113.95	19,287.13	9,275.80	230.42	236.38	-61.00	-10,318.78	2,421.65	1,728.75	1,299.17	429.58	4.024		
20,300.00	10,113.29	19,387.13	9,275.28	232.51	238.50	-61.00	-10,418.78	2,422.24	1,728.68	1,295.22	433.46	3.988		
20,400.00	10,112.63	19,487.13	9,274.75	234.60	240.63	-61.01	-10,518.78	2,422.82	1,728.62	1,291.28	437.34	3.953		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #24H - OH - Plan 2 11-18-16												Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
20,495.03	10,112.00	19,582.15	9,274.26	236.59	242.65	-61.01	-10,613.80	2,423.38	1,728.55	1,287.53	441.03	3.919 SF



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #7H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	14.00	0.00	0.00	0.03	78.70	247.09	1,236.51	1,260.95				
100.00	100.00	114.00	100.00	0.19	0.26	78.70	247.09	1,236.51	1,260.95	1,260.50	0.45	2,808.444	
200.00	200.00	214.00	200.00	0.73	0.79	78.70	247.09	1,236.51	1,260.95	1,259.43	1.52	827.179	
300.00	300.00	314.00	300.00	1.27	1.33	78.70	247.09	1,236.51	1,260.95	1,258.35	2.60	485.016	
400.00	400.00	414.00	400.00	1.81	1.87	78.70	247.09	1,236.51	1,260.95	1,257.28	3.68	343.095	
500.00	500.00	514.00	500.00	2.34	2.41	78.70	247.09	1,236.51	1,260.95	1,256.20	4.75	265.428	
600.00	600.00	614.00	600.00	2.88	2.94	78.70	247.09	1,236.51	1,260.95	1,255.13	5.83	216.433	
700.00	700.00	714.00	700.00	3.42	3.48	78.70	247.09	1,236.51	1,260.95	1,254.05	6.90	182.708	
800.00	800.00	814.00	800.00	3.96	4.02	78.70	247.09	1,236.51	1,260.95	1,252.98	7.98	158.076	
900.00	900.00	914.00	900.00	4.50	4.56	78.70	247.09	1,236.51	1,260.95	1,251.90	9.05	139.296	
1,000.00	1,000.00	1,014.00	1,000.00	5.03	5.09	78.70	247.09	1,236.51	1,260.95	1,250.82	10.13	124.505	
1,100.00	1,100.00	1,114.00	1,100.00	5.57	5.63	78.70	247.09	1,236.51	1,260.95	1,249.75	11.20	112.554	
1,200.00	1,200.00	1,214.00	1,200.00	6.11	6.17	78.70	247.09	1,236.51	1,260.95	1,248.67	12.28	102.696	
1,300.00	1,300.00	1,314.00	1,300.00	6.65	6.71	78.70	247.09	1,236.51	1,260.95	1,247.60	13.35	94.425	
1,400.00	1,400.00	1,414.00	1,400.00	7.18	7.25	78.70	247.09	1,236.51	1,260.95	1,246.52	14.43	87.388	
1,500.00	1,500.00	1,514.00	1,500.00	7.72	7.78	78.70	247.09	1,236.51	1,260.95	1,245.45	15.50	81.327	
1,600.00	1,600.00	1,614.00	1,600.00	8.26	8.32	78.70	247.09	1,236.51	1,260.95	1,244.37	16.58	76.052	
1,700.00	1,700.00	1,714.00	1,700.00	8.80	8.86	78.70	247.09	1,236.51	1,260.95	1,243.30	17.66	71.419	
1,800.00	1,800.00	1,814.00	1,800.00	9.33	9.40	78.70	247.09	1,236.51	1,260.95	1,242.22	18.73	67.319	
1,900.00	1,899.98	1,913.98	1,899.98	9.86	9.93	-18.00	247.09	1,236.51	1,259.29	1,239.51	19.78	63.658	
2,000.00	1,999.84	2,013.84	1,999.84	10.37	10.47	-18.10	247.09	1,236.51	1,254.32	1,233.52	20.80	60.307	
2,100.00	2,099.48	2,113.48	2,099.48	10.89	11.01	-18.25	247.09	1,236.51	1,246.28	1,224.46	21.82	57.125	
2,200.00	2,199.06	2,213.06	2,199.06	11.41	11.54	-18.39	247.09	1,236.51	1,237.63	1,214.76	22.87	54.127	
2,300.00	2,298.65	2,354.35	2,340.33	11.94	12.27	-18.54	246.06	1,234.91	1,227.92	1,203.81	24.11	50.932	
2,400.00	2,398.23	2,518.46	2,504.07	12.47	13.09	-18.59	240.25	1,225.96	1,213.25	1,187.80	25.45	47.679	
2,500.00	2,497.81	2,600.00	2,585.19	13.00	13.51	-18.54	235.46	1,219.33	1,195.70	1,169.33	26.37	45.336	
2,600.00	2,597.40	2,687.14	2,671.93	13.54	13.95	-18.40	228.96	1,214.08	1,179.77	1,152.44	27.33	43.172	
2,700.00	2,696.98	2,763.56	2,747.99	14.08	14.33	-18.21	222.09	1,211.32	1,165.80	1,137.57	28.23	41.296	
2,800.00	2,796.57	2,852.42	2,836.37	14.62	14.78	-17.90	213.00	1,209.84	1,153.47	1,124.27	29.20	39.505	
2,900.00	2,896.15	2,951.43	2,934.84	15.17	15.28	-17.55	202.75	1,208.39	1,141.39	1,111.16	30.23	37.762	
3,000.00	2,995.73	3,050.45	3,033.31	15.71	15.79	-17.18	192.49	1,206.94	1,129.35	1,098.09	31.26	36.129	
3,100.00	3,095.32	3,149.46	3,131.78	16.26	16.30	-16.81	182.24	1,205.49	1,117.35	1,085.05	32.30	34.595	
3,200.00	3,194.90	3,248.48	3,230.25	16.81	16.81	-16.44	171.98	1,204.04	1,105.40	1,072.06	33.34	33.153	
3,300.00	3,294.49	3,347.49	3,328.72	17.36	17.33	-16.05	161.73	1,202.59	1,093.51	1,059.11	34.39	31.796	
3,400.00	3,394.07	3,446.51	3,427.20	17.91	17.86	-15.65	151.48	1,201.14	1,081.66	1,046.21	35.44	30.517	
3,500.00	3,493.65	3,545.52	3,525.67	18.46	18.38	-15.25	141.22	1,199.69	1,069.86	1,033.36	36.50	29.309	
3,600.00	3,593.24	3,644.54	3,624.14	19.01	18.91	-14.84	130.97	1,198.24	1,058.12	1,020.55	37.56	28.169	
3,700.00	3,692.82	3,743.55	3,722.61	19.57	19.44	-14.42	120.71	1,196.79	1,046.43	1,007.80	38.63	27.090	
3,800.00	3,792.41	3,842.57	3,821.08	20.12	19.98	-13.99	110.46	1,195.34	1,034.80	995.11	39.70	26.068	
3,900.00	3,891.99	3,941.58	3,919.56	20.68	20.52	-13.55	100.20	1,193.89	1,023.23	982.47	40.77	25.100	
4,000.00	3,991.58	4,040.60	4,018.03	21.24	21.06	-13.09	89.95	1,192.44	1,011.72	969.88	41.84	24.181	
4,100.00	4,091.16	4,139.61	4,116.50	21.79	21.60	-12.63	79.70	1,190.99	1,000.28	957.36	42.92	23.308	
4,200.00	4,190.74	4,238.62	4,214.97	22.35	22.14	-12.16	69.44	1,189.53	988.90	944.90	43.99	22.478	
4,300.00	4,290.33	4,337.64	4,313.44	22.91	22.69	-11.68	59.19	1,188.08	977.59	932.51	45.07	21.688	
4,400.00	4,389.91	4,436.65	4,411.91	23.47	23.23	-11.19	48.93	1,186.63	966.35	920.19	46.16	20.936	
4,500.00	4,489.50	4,535.67	4,510.39	24.03	23.78	-10.68	38.68	1,185.18	955.18	907.94	47.24	20.219	
4,600.00	4,589.08	4,634.68	4,608.86	24.59	24.33	-10.16	28.42	1,183.73	944.09	895.76	48.33	19.535	
4,700.00	4,688.66	4,733.70	4,707.33	25.15	24.88	-9.63	18.17	1,182.28	933.07	883.66	49.42	18.882	
4,800.00	4,788.25	4,832.71	4,805.80	25.71	25.43	-9.09	7.92	1,180.83	922.14	871.64	50.50	18.258	
4,900.00	4,887.83	4,931.73	4,904.27	26.27	25.98	-8.54	-2.34	1,179.38	911.29	859.70	51.60	17.662	
5,000.00	4,987.42	5,030.74	5,002.74	26.83	26.54	-7.97	-12.59	1,177.93	900.53	847.84	52.69	17.092	
5,100.00	5,087.00	5,129.76	5,101.22	27.39	27.09	-7.39	-22.85	1,176.48	889.86	836.08	53.78	16.546	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #7H - OH - Plan 2 11-18-16											Offset Site Error: 0.00 usft		
Survey Program: 0-PHX+MWD+HDGM											Offset Well Error: 0.00 usft		
Reference		Offset		Semi Major Axis			Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)	Separation Factor
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)		Separation (usft)	Factor
5,200.00	5,186.59	5,228.77	5,199.69	27.95	27.65	-6.80	-33.10	1,175.03	879.28	824.40	54.88	16.023	
5,300.00	5,286.17	5,327.79	5,298.16	28.52	28.20	-6.19	-43.36	1,173.58	868.80	812.83	55.97	15.521	
5,400.00	5,385.75	5,426.80	5,396.63	29.08	28.76	-5.56	-53.61	1,172.13	858.42	801.35	57.07	15.041	
5,500.00	5,485.34	5,525.82	5,495.10	29.64	29.32	-4.92	-63.86	1,170.68	848.14	789.97	58.17	14.580	
5,600.00	5,584.92	5,623.35	5,592.15	30.21	29.87	-4.31	-73.52	1,169.31	838.02	778.76	59.26	14.142	
5,700.00	5,684.51	5,720.00	5,688.55	30.77	30.40	-3.89	-80.22	1,168.36	828.27	767.94	60.33	13.729	
5,800.00	5,784.09	5,817.00	5,785.49	31.33	30.92	-3.68	-83.71	1,167.87	818.85	757.46	61.39	13.339	
5,900.00	5,883.67	5,915.19	5,883.67	31.90	31.42	-3.69	-84.24	1,167.80	809.71	747.28	62.43	12.970	
6,000.00	5,983.26	6,014.78	5,983.26	32.46	31.91	-3.73	-84.24	1,167.80	800.62	737.15	63.47	12.614	
6,100.00	6,082.84	6,114.36	6,082.84	33.02	32.42	-3.77	-84.24	1,167.80	791.53	727.02	64.51	12.269	
6,200.00	6,182.43	6,213.95	6,182.43	33.59	32.92	-3.81	-84.24	1,167.80	782.44	716.88	65.56	11.935	
6,300.00	6,282.01	6,313.53	6,282.01	34.15	33.42	-3.86	-84.24	1,167.80	773.35	706.75	66.60	11.612	
6,400.00	6,381.59	6,413.11	6,381.59	34.72	33.92	-3.90	-84.24	1,167.80	764.26	696.61	67.65	11.298	
6,500.00	6,481.18	6,512.70	6,481.18	35.28	34.43	-3.95	-84.24	1,167.80	755.17	686.47	68.69	10.993	
6,600.00	6,580.76	6,612.28	6,580.76	35.85	34.94	-4.00	-84.24	1,167.80	746.08	676.34	69.74	10.698	
6,700.00	6,680.35	6,711.87	6,680.35	36.41	35.44	-4.05	-84.24	1,167.80	736.99	666.20	70.79	10.411	
6,800.00	6,779.93	6,811.45	6,779.93	36.98	35.95	-4.10	-84.24	1,167.80	727.90	656.06	71.84	10.132	
6,900.00	6,879.52	6,911.03	6,879.52	37.54	36.46	-4.15	-84.24	1,167.80	718.82	645.93	72.89	9.862	
7,000.00	6,979.10	7,010.62	6,979.10	38.11	36.97	-4.21	-84.24	1,167.80	709.73	635.79	73.94	9.598	
7,100.00	7,078.68	7,110.20	7,078.68	38.67	37.48	-4.26	-84.24	1,167.80	700.64	625.65	74.99	9.343	
7,200.00	7,178.27	7,209.79	7,178.27	39.24	37.99	-4.32	-84.24	1,167.80	691.56	615.51	76.05	9.094	
7,300.00	7,277.85	7,309.37	7,277.85	39.80	38.50	-4.37	-84.24	1,167.80	682.47	605.37	77.10	8.852	
7,400.00	7,377.44	7,408.95	7,377.44	40.37	39.01	-4.43	-84.24	1,167.80	673.39	595.23	78.16	8.616	
7,500.00	7,477.02	7,508.54	7,477.02	40.94	39.52	-4.49	-84.24	1,167.80	664.31	585.10	79.21	8.386	
7,600.00	7,576.60	7,608.12	7,576.60	41.50	40.04	-4.56	-84.24	1,167.80	655.23	574.96	80.27	8.163	
7,700.00	7,676.19	7,707.71	7,676.19	42.07	40.55	-4.62	-84.24	1,167.80	646.14	564.82	81.33	7.945	
7,800.00	7,775.77	7,807.29	7,775.77	42.63	41.06	-4.69	-84.24	1,167.80	637.06	554.68	82.38	7.733	
7,900.00	7,875.36	7,906.88	7,875.36	43.20	41.58	-4.75	-84.24	1,167.80	627.98	544.54	83.44	7.526	
8,000.00	7,974.94	8,006.46	7,974.94	43.77	42.09	-4.82	-84.24	1,167.80	618.90	534.40	84.50	7.324	
8,100.00	8,074.52	8,106.04	8,074.52	44.33	42.61	-4.90	-84.24	1,167.80	609.83	524.27	85.56	7.128	
8,200.00	8,174.11	8,205.63	8,174.11	44.90	43.13	-4.97	-84.24	1,167.80	600.75	514.13	86.62	6.936	
8,300.00	8,273.69	8,305.21	8,273.69	45.47	43.64	-5.05	-84.24	1,167.80	591.67	503.99	87.68	6.748	
8,400.00	8,373.28	8,404.80	8,373.28	46.03	44.16	-5.12	-84.24	1,167.80	582.60	493.86	88.74	6.565	
8,500.00	8,472.86	8,504.38	8,472.86	46.60	44.68	-5.21	-84.24	1,167.80	573.52	483.72	89.80	6.387	
8,600.00	8,572.45	8,603.96	8,572.45	47.17	45.20	-5.29	-84.24	1,167.80	564.45	473.59	90.86	6.212	
8,700.00	8,672.03	8,703.55	8,672.03	47.73	45.71	-5.38	-84.24	1,167.80	555.38	463.45	91.93	6.042	
8,800.00	8,771.61	8,803.13	8,771.61	48.30	46.23	-5.47	-84.24	1,167.80	546.31	453.32	92.99	5.875	
8,900.00	8,871.20	8,902.72	8,871.20	48.87	46.75	-5.56	-84.24	1,167.80	537.24	443.19	94.05	5.712	
9,000.00	8,970.78	9,002.30	8,970.78	49.43	47.27	-5.65	-84.24	1,167.80	528.17	433.06	95.12	5.553	
9,100.00	9,070.37	9,101.89	9,070.37	50.00	47.79	-5.75	-84.24	1,167.80	519.11	422.93	96.18	5.397	
9,200.00	9,169.95	9,201.47	9,169.95	50.57	48.31	-5.86	-84.24	1,167.80	510.04	412.80	97.25	5.245	
9,300.00	9,269.53	9,300.84	9,269.32	51.13	48.83	-5.96	-84.28	1,167.80	500.98	402.67	98.31	5.096	
9,400.00	9,369.12	9,396.45	9,364.39	51.70	49.34	-5.01	-93.32	1,168.02	492.34	392.98	99.36	4.955	
9,500.00	9,468.70	9,487.05	9,451.91	52.27	49.86	-2.37	-116.34	1,168.57	485.27	384.86	100.42	4.833	
9,600.00	9,568.29	9,569.02	9,527.09	52.84	50.35	1.44	-148.82	1,169.36	481.93	380.48	101.45	4.751	
9,612.64	9,580.88	9,578.70	9,535.65	52.91	50.41	-7.75	-153.36	1,169.47	481.89	380.33	101.56	4.745 CC	
9,700.00	9,667.61	9,642.70	9,590.11	53.40	50.80	-43.41	-186.91	1,170.28	483.98	381.73	102.26	4.733	
9,800.00	9,764.49	9,713.39	9,645.49	53.95	51.25	-55.82	-230.75	1,171.34	489.38	386.78	102.60	4.770	
9,900.00	9,856.00	9,782.02	9,693.70	54.49	51.71	-57.46	-279.52	1,172.52	496.82	394.55	102.26	4.858	
10,000.00	9,939.34	9,850.00	9,735.37	54.99	52.17	-56.72	-333.17	1,173.82	505.11	404.03	101.08	4.997	
10,100.00	10,011.99	9,915.05	9,769.03	55.47	52.63	-55.46	-388.77	1,175.16	513.22	414.07	99.15	5.176	
10,200.00	10,071.73	9,980.16	9,796.19	55.94	53.10	-54.20	-447.89	1,176.59	520.29	423.48	96.81	5.374	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #7H - OH - Plan 2 11-18-16														Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)	Between Ellipses (usft)	
10,300.00	10,116.76	10,050.00	9,817.67	56.42	53.82	-53.14	-514.29	1,178.20	525.70	431.10	94.60	5.557		
10,400.00	10,145.70	10,100.00	9,828.00	56.93	54.00	-52.67	-563.18	1,179.38	528.97	435.77	93.20	5.675		
10,500.00	10,157.68	10,172.86	9,835.34	57.47	54.55	-52.47	-635.59	1,181.13	529.61	436.44	93.16	5.685		
10,569.53	10,159.13	10,228.61	9,835.57	57.87	54.99	-52.38	-691.32	1,182.48	530.09	436.28	93.81	5.651		
10,600.00	10,157.79	10,259.10	9,835.41	58.05	55.23	-52.49	-721.80	1,183.22	529.46	435.18	94.29	5.615		
10,700.00	10,157.53	10,359.10	9,834.89	58.69	56.08	-52.47	-821.77	1,185.64	529.62	434.01	95.61	5.539		
10,800.00	10,157.27	10,459.10	9,834.37	59.41	57.00	-52.45	-921.74	1,188.06	529.78	432.71	97.06	5.458		
10,900.00	10,157.01	10,559.10	9,833.84	60.20	57.99	-52.42	-1,021.71	1,190.48	529.93	431.30	98.63	5.373		
11,000.00	10,156.74	10,659.10	9,833.32	61.05	59.05	-52.40	-1,121.68	1,192.89	530.09	429.77	100.32	5.284		
11,100.00	10,156.48	10,759.09	9,832.80	61.96	60.16	-52.38	-1,221.64	1,195.31	530.25	428.13	102.11	5.193		
11,200.00	10,156.22	10,859.09	9,832.27	62.94	61.34	-52.36	-1,321.61	1,197.73	530.40	426.39	104.01	5.099		
11,300.00	10,155.96	10,959.09	9,831.75	63.97	62.57	-52.33	-1,421.58	1,200.15	530.56	424.56	106.01	5.005		
11,400.00	10,155.70	11,059.09	9,831.23	65.05	63.85	-52.31	-1,521.55	1,202.57	530.72	422.63	108.09	4.910		
11,500.00	10,155.43	11,159.09	9,830.70	66.19	65.18	-52.29	-1,621.52	1,204.99	530.88	420.61	110.26	4.815		
11,600.00	10,155.17	11,259.09	9,830.18	67.38	66.56	-52.26	-1,721.49	1,207.41	531.03	418.51	112.52	4.720		
11,700.00	10,154.91	11,359.09	9,829.65	68.62	67.99	-52.24	-1,821.46	1,209.82	531.19	416.34	114.85	4.625		
11,800.00	10,154.65	11,459.09	9,829.13	69.90	69.45	-52.22	-1,921.43	1,212.24	531.35	414.10	117.25	4.532		
11,900.00	10,154.39	11,559.09	9,828.61	71.23	70.95	-52.20	-2,021.40	1,214.66	531.50	411.79	119.72	4.440		
12,000.00	10,154.13	11,659.09	9,828.08	72.59	72.48	-52.17	-2,121.37	1,217.08	531.66	409.41	122.25	4.349		
12,100.00	10,153.86	11,759.09	9,827.56	73.99	74.05	-52.15	-2,221.33	1,219.50	531.82	406.98	124.84	4.260		
12,200.00	10,153.60	11,859.09	9,827.04	75.43	75.66	-52.13	-2,321.30	1,221.92	531.98	404.49	127.48	4.173		
12,300.00	10,153.34	11,959.09	9,826.51	76.91	77.29	-52.11	-2,421.27	1,224.33	532.13	401.95	130.18	4.088		
12,400.00	10,153.08	12,059.09	9,825.99	78.41	78.95	-52.08	-2,521.24	1,226.75	532.29	399.37	132.93	4.004		
12,500.00	10,152.82	12,159.09	9,825.47	79.95	80.63	-52.06	-2,621.21	1,229.17	532.45	396.73	135.72	3.923		
12,600.00	10,152.55	12,259.09	9,824.94	81.51	82.34	-52.04	-2,721.18	1,231.59	532.61	394.06	138.55	3.844		
12,700.00	10,152.29	12,359.09	9,824.42	83.10	84.07	-52.02	-2,821.15	1,234.01	532.77	391.34	141.43	3.767		
12,800.00	10,152.03	12,459.09	9,823.89	84.72	85.83	-51.99	-2,921.12	1,236.43	532.92	388.59	144.34	3.692		
12,900.00	10,151.77	12,559.09	9,823.37	86.36	87.60	-51.97	-3,021.09	1,238.85	533.08	385.80	147.28	3.619		
13,000.00	10,151.51	12,659.09	9,822.85	88.03	89.39	-51.95	-3,121.06	1,241.26	533.24	382.98	150.26	3.549		
13,100.00	10,151.24	12,759.09	9,822.32	89.71	91.20	-51.93	-3,221.03	1,243.68	533.40	380.13	153.27	3.480		
13,200.00	10,150.98	12,859.09	9,821.80	91.42	93.03	-51.91	-3,320.99	1,246.10	533.56	377.25	156.31	3.413		
13,300.00	10,150.72	12,959.09	9,821.28	93.14	94.87	-51.88	-3,420.96	1,248.52	533.72	374.34	159.38	3.349		
13,400.00	10,150.46	13,059.09	9,820.75	94.89	96.73	-51.86	-3,520.93	1,250.94	533.87	371.41	162.47	3.286		
13,500.00	10,150.20	13,159.09	9,820.23	96.65	98.61	-51.84	-3,620.90	1,253.36	534.03	368.45	165.59	3.225		
13,600.00	10,149.93	13,259.09	9,819.71	98.42	100.49	-51.82	-3,720.87	1,255.78	534.19	365.47	168.72	3.166		
13,700.00	10,149.67	13,359.09	9,819.18	100.21	102.39	-51.79	-3,820.84	1,258.19	534.35	362.47	171.89	3.109		
13,800.00	10,149.41	13,459.09	9,818.66	102.02	104.30	-51.77	-3,920.81	1,260.61	534.51	359.44	175.07	3.053		
13,900.00	10,149.15	13,559.09	9,818.14	103.84	106.22	-51.75	-4,020.78	1,263.03	534.67	356.40	178.26	2.999		
14,000.00	10,148.89	13,659.08	9,817.61	105.68	108.15	-51.73	-4,120.75	1,265.45	534.83	353.35	181.48	2.947		
14,100.00	10,148.62	13,759.08	9,817.09	107.52	110.10	-51.70	-4,220.72	1,267.87	534.99	350.27	184.72	2.896		
14,200.00	10,148.36	13,859.08	9,816.56	109.38	112.05	-51.68	-4,320.68	1,270.29	535.15	347.18	187.97	2.847		
14,300.00	10,148.10	13,959.08	9,816.04	111.25	114.01	-51.66	-4,420.65	1,272.71	535.31	344.07	191.23	2.799		
14,400.00	10,147.84	14,059.08	9,815.52	113.13	115.98	-51.64	-4,520.62	1,275.12	535.47	340.95	194.51	2.753		
14,500.00	10,147.58	14,159.08	9,814.99	115.02	117.96	-51.62	-4,620.59	1,277.54	535.62	337.82	197.80	2.708		
14,600.00	10,147.31	14,259.08	9,814.47	116.92	119.94	-51.59	-4,720.56	1,279.96	535.78	334.68	201.11	2.664		
14,700.00	10,147.05	14,359.08	9,813.95	118.82	121.94	-51.57	-4,820.53	1,282.38	535.94	331.52	204.43	2.622		
14,800.00	10,146.79	14,459.08	9,813.42	120.74	123.94	-51.55	-4,920.50	1,284.80	536.10	328.35	207.75	2.580		
14,900.00	10,146.53	14,559.08	9,812.90	122.67	125.94	-51.53	-5,020.47	1,287.22	536.26	325.17	211.09	2.540		
15,000.00	10,146.27	14,659.08	9,812.38	124.60	127.96	-51.50	-5,120.44	1,289.63	536.42	321.98	214.44	2.501		
15,100.00	10,146.00	14,759.08	9,811.85	126.54	129.98	-51.48	-5,220.41	1,292.05	536.58	318.78	217.80	2.464		
15,200.00	10,145.74	14,859.08	9,811.33	128.49	132.00	-51.46	-5,320.38	1,294.47	536.74	315.57	221.17	2.427		
15,300.00	10,145.48	14,959.08	9,810.80	130.45	134.03	-51.44	-5,420.34	1,296.89	536.90	312.35	224.55	2.391		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #7H - OH - Plan 2 11-18-16														Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)							
15,400.00	10,145.22	15,059.08	9,810.28	132.41	136.07	-51.42	-5,520.31	1,299.31	537.06	309.13	227.93	2.356			
15,500.00	10,144.95	15,159.16	9,809.76	134.38	138.11	-51.40	-5,620.36	1,301.73	537.25	305.95	231.30	2.323			
15,600.00	10,144.34	15,266.78	9,809.19	136.34	140.30	-51.41	-5,727.98	1,302.83	537.33	302.50	234.83	2.288			
15,700.00	10,143.68	15,366.78	9,808.67	138.31	142.34	-51.42	-5,827.97	1,303.42	537.24	298.96	238.29	2.255			
15,800.00	10,143.02	15,466.78	9,808.15	140.28	144.38	-51.43	-5,927.97	1,304.00	537.16	295.40	241.76	2.222			
15,900.00	10,142.36	15,566.78	9,807.63	142.26	146.42	-51.45	-6,027.97	1,304.59	537.07	291.84	245.24	2.190			
16,000.00	10,141.70	15,666.78	9,807.11	144.24	148.47	-51.46	-6,127.97	1,305.17	536.99	288.26	248.72	2.159			
16,100.00	10,141.04	15,766.78	9,806.58	146.23	150.52	-51.47	-6,227.96	1,305.76	536.90	284.69	252.21	2.129			
16,200.00	10,140.37	15,866.78	9,806.06	148.22	152.58	-51.48	-6,327.96	1,306.34	536.81	281.10	255.72	2.099			
16,300.00	10,139.71	15,966.78	9,805.54	150.22	154.64	-51.49	-6,427.96	1,306.93	536.73	277.51	259.22	2.071			
16,400.00	10,139.05	16,066.78	9,805.02	152.22	156.70	-51.50	-6,527.95	1,307.51	536.64	273.91	262.74	2.043			
16,500.00	10,138.39	16,166.78	9,804.49	154.23	158.77	-51.52	-6,627.95	1,308.10	536.56	270.30	266.26	2.015			
16,600.00	10,137.73	16,266.78	9,803.97	156.24	160.83	-51.53	-6,727.95	1,308.68	536.47	266.69	269.78	1.989			
16,700.00	10,137.07	16,366.78	9,803.45	158.26	162.91	-51.54	-6,827.94	1,309.27	536.39	263.07	273.32	1.963			
16,800.00	10,136.41	16,466.78	9,802.93	160.27	164.98	-51.55	-6,927.94	1,309.85	536.30	259.44	276.86	1.937			
16,900.00	10,135.75	16,566.78	9,802.40	162.30	167.06	-51.56	-7,027.94	1,310.43	536.22	255.81	280.40	1.912			
17,000.00	10,135.09	16,666.78	9,801.88	164.32	169.14	-51.57	-7,127.93	1,311.02	536.13	252.18	283.95	1.888			
17,100.00	10,134.43	16,766.78	9,801.36	166.35	171.22	-51.58	-7,227.93	1,311.60	536.04	248.54	287.51	1.864			
17,200.00	10,133.77	16,866.78	9,800.84	168.38	173.31	-51.60	-7,327.93	1,312.19	535.96	244.89	291.07	1.841			
17,300.00	10,133.11	16,966.78	9,800.32	170.42	175.40	-51.61	-7,427.92	1,312.77	535.87	241.24	294.63	1.819			
17,400.00	10,132.45	17,066.78	9,799.79	172.46	177.49	-51.62	-7,527.92	1,313.36	535.79	237.59	298.20	1.797			
17,500.00	10,131.79	17,166.78	9,799.27	174.50	179.58	-51.63	-7,627.92	1,313.94	535.70	233.93	301.78	1.775			
17,600.00	10,131.13	17,266.78	9,798.75	176.54	181.68	-51.64	-7,727.91	1,314.53	535.62	230.26	305.35	1.754			
17,700.00	10,130.47	17,366.78	9,798.23	178.59	183.77	-51.65	-7,827.91	1,315.11	535.53	226.59	308.94	1.733			
17,800.00	10,129.80	17,466.78	9,797.70	180.64	185.87	-51.67	-7,927.91	1,315.70	535.45	222.92	312.53	1.713			
17,900.00	10,129.14	17,566.78	9,797.18	182.69	187.97	-51.68	-8,027.91	1,316.28	535.36	219.24	316.12	1.694			
18,000.00	10,128.48	17,666.78	9,796.66	184.74	190.08	-51.69	-8,127.90	1,316.87	535.28	215.56	319.71	1.674			
18,100.00	10,127.82	17,766.78	9,796.14	186.80	192.18	-51.70	-8,227.90	1,317.45	535.19	211.88	323.31	1.655			
18,200.00	10,127.16	17,866.78	9,795.61	188.86	194.29	-51.71	-8,327.90	1,318.04	535.11	208.19	326.92	1.637			
18,300.00	10,126.50	17,966.78	9,795.09	190.92	196.39	-51.72	-8,427.89	1,318.62	535.02	204.49	330.53	1.619			
18,400.00	10,125.84	18,066.78	9,794.57	192.98	198.50	-51.74	-8,527.89	1,319.21	534.94	200.80	334.14	1.601			
18,500.00	10,125.18	18,166.78	9,794.05	195.05	200.62	-51.75	-8,627.89	1,319.79	534.85	197.10	337.75	1.584			
18,600.00	10,124.52	18,266.78	9,793.53	197.11	202.73	-51.76	-8,727.88	1,320.38	534.76	193.40	341.37	1.567			
18,700.00	10,123.86	18,366.78	9,793.00	199.18	204.84	-51.77	-8,827.88	1,320.96	534.68	189.69	344.99	1.550			
18,800.00	10,123.20	18,466.78	9,792.48	201.25	206.96	-51.78	-8,927.88	1,321.55	534.59	185.98	348.62	1.533			
18,900.00	10,122.54	18,566.78	9,791.96	203.33	209.08	-51.79	-9,027.87	1,322.13	534.51	182.27	352.24	1.517			
19,000.00	10,121.88	18,666.78	9,791.44	205.40	211.19	-51.81	-9,127.87	1,322.72	534.42	178.55	355.88	1.502			
19,100.00	10,121.22	18,766.78	9,790.91	207.48	213.31	-51.82	-9,227.87	1,323.30	534.34	174.83	359.51	1.486 Level 3			
19,200.00	10,120.56	18,866.78	9,790.39	209.55	215.44	-51.83	-9,327.86	1,323.89	534.25	171.11	363.15	1.471 Level 3			
19,300.00	10,119.89	18,966.78	9,789.87	211.63	217.56	-51.84	-9,427.86	1,324.47	534.17	167.38	366.79	1.456 Level 3			
19,400.00	10,119.23	19,066.78	9,789.35	213.72	219.68	-51.85	-9,527.86	1,325.06	534.08	163.66	370.43	1.442 Level 3			
19,500.00	10,118.57	19,166.78	9,788.82	215.80	221.81	-51.87	-9,627.85	1,325.64	534.00	159.93	374.07	1.428 Level 3			
19,600.00	10,117.91	19,266.78	9,788.30	217.88	223.93	-51.88	-9,727.85	1,326.23	533.91	156.19	377.72	1.414 Level 3			
19,700.00	10,117.25	19,366.78	9,787.78	219.97	226.06	-51.89	-9,827.85	1,326.81	533.83	152.46	381.37	1.400 Level 3			
19,800.00	10,116.59	19,466.78	9,787.26	222.05	228.19	-51.90	-9,927.84	1,327.40	533.75	148.72	385.03	1.386 Level 3			
19,900.00	10,115.93	19,566.78	9,786.74	224.14	230.32	-51.91	-10,027.84	1,327.98	533.66	144.98	388.68	1.373 Level 3			
20,000.00	10,115.27	19,666.78	9,786.21	226.23	232.45	-51.92	-10,127.84	1,328.57	533.58	141.23	392.34	1.360 Level 3			
20,100.00	10,114.61	19,766.78	9,785.69	228.32	234.58	-51.94	-10,227.84	1,329.15	533.49	137.49	396.00	1.347 Level 3			
20,200.00	10,113.95	19,866.78	9,785.17	230.42	236.71	-51.95	-10,327.83	1,329.74	533.41	133.74	399.67	1.335 Level 3			
20,300.00	10,113.29	19,966.78	9,784.65	232.51	238.85	-51.96	-10,427.83	1,330.32	533.32	129.99	403.33	1.322 Level 3			
20,400.00	10,112.63	20,066.78	9,784.12	234.60	240.98	-51.97	-10,527.83	1,330.91	533.24	126.23	407.00	1.310 Level 3			
20,495.03	10,112.00	20,161.81	9,783.63	236.59	243.01	-51.98	-10,622.85	1,331.46	533.16	122.67	410.49	1.299 Level 3, ES, SF			

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 10 15 Fed
 Site Error: 0.00 usft
 Reference Well: 0026
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
 TVD Reference: RKB @ 3298.00usft
 MD Reference: RKB @ 3298.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #8H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (')	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	14.00	0.00	0.00	0.03	77.59	272.09	1,236.51	1,266.09				
100.00	100.00	114.00	100.00	0.19	0.26	77.59	272.09	1,236.51	1,266.09	1,265.64	0.45	2,819.884	
200.00	200.00	214.00	200.00	0.73	0.79	77.59	272.09	1,236.51	1,266.09	1,264.56	1.52	830.548	
300.00	300.00	314.00	300.00	1.27	1.33	77.59	272.09	1,236.51	1,266.09	1,263.49	2.60	486.992	
400.00	400.00	414.00	400.00	1.81	1.87	77.59	272.09	1,236.51	1,266.09	1,262.41	3.68	344.492	
500.00	500.00	514.00	500.00	2.34	2.41	77.59	272.09	1,236.51	1,266.09	1,261.34	4.75	266.509	
600.00	600.00	614.00	600.00	2.88	2.94	77.59	272.09	1,236.51	1,266.09	1,260.26	5.83	217.315	
700.00	700.00	714.00	700.00	3.42	3.48	77.59	272.09	1,236.51	1,266.09	1,259.19	6.90	183.452	
800.00	800.00	814.00	800.00	3.96	4.02	77.59	272.09	1,236.51	1,266.09	1,258.11	7.98	158.720	
900.00	900.00	914.00	900.00	4.50	4.56	77.59	272.09	1,236.51	1,266.09	1,257.04	9.05	139.864	
1,000.00	1,000.00	1,014.00	1,000.00	5.03	5.09	77.59	272.09	1,236.51	1,266.09	1,255.96	10.13	125.012	
1,100.00	1,100.00	1,114.00	1,100.00	5.57	5.63	77.59	272.09	1,236.51	1,266.09	1,254.89	11.20	113.012	
1,200.00	1,200.00	1,214.00	1,200.00	6.11	6.17	77.59	272.09	1,236.51	1,266.09	1,253.81	12.28	103.114	
1,300.00	1,300.00	1,314.00	1,300.00	6.65	6.71	77.59	272.09	1,236.51	1,266.09	1,252.73	13.35	94.810	
1,400.00	1,400.00	1,414.00	1,400.00	7.18	7.25	77.59	272.09	1,236.51	1,266.09	1,251.66	14.43	87.744	
1,500.00	1,500.00	1,514.00	1,500.00	7.72	7.78	77.59	272.09	1,236.51	1,266.09	1,250.58	15.50	81.658	
1,600.00	1,600.00	1,614.00	1,600.00	8.26	8.32	77.59	272.09	1,236.51	1,266.09	1,249.51	16.58	76.361	
1,700.00	1,700.00	1,714.00	1,700.00	8.80	8.86	77.59	272.09	1,236.51	1,266.09	1,248.43	17.66	71.710	
1,800.00	1,800.00	1,814.00	1,800.00	9.33	9.40	77.59	272.09	1,236.51	1,266.09	1,247.36	18.73	67.593	
1,900.00	1,899.98	1,913.98	1,899.98	9.86	9.93	-19.11	272.09	1,236.51	1,266.09	1,244.66	19.78	63.918	
2,000.00	1,999.84	2,013.84	1,999.84	10.37	10.47	-19.22	272.09	1,236.51	1,259.50	1,238.70	20.80	60.554	
2,100.00	2,099.48	2,113.48	2,099.48	10.89	11.01	-19.38	272.09	1,236.51	1,251.51	1,229.69	21.82	57.362	
2,200.00	2,199.06	2,213.06	2,199.06	11.41	11.54	-19.52	272.09	1,236.51	1,242.92	1,220.05	22.87	54.355	
2,300.00	2,298.65	2,300.00	2,286.00	11.94	12.00	-19.63	271.90	1,236.90	1,234.74	1,210.90	23.84	51.791	
2,400.00	2,398.23	2,371.48	2,357.44	12.47	12.36	-19.67	270.98	1,238.83	1,228.44	1,203.72	24.72	49.697	
2,500.00	2,497.81	2,446.30	2,432.14	13.00	12.74	-19.66	269.20	1,242.58	1,224.20	1,198.58	25.62	47.789	
2,600.00	2,597.40	2,521.19	2,506.78	13.54	13.12	-19.58	266.58	1,248.09	1,222.00	1,195.48	26.52	46.079	
2,656.93	2,654.09	2,563.81	2,549.18	13.85	13.33	-19.52	264.71	1,252.01	1,221.66	1,194.63	27.04	45.187	CC
2,700.00	2,696.98	2,600.00	2,585.13	14.08	13.52	-19.45	262.91	1,255.78	1,221.86	1,194.42	27.45	44.518	
2,800.00	2,796.57	2,686.36	2,670.76	14.62	13.97	-19.25	258.11	1,265.85	1,223.39	1,194.97	28.42	43.051	
2,900.00	2,896.15	2,786.22	2,769.77	15.17	14.49	-19.01	252.51	1,277.61	1,225.09	1,195.62	29.46	41.581	
3,000.00	2,995.73	2,886.07	2,868.78	15.71	15.02	-18.78	246.91	1,289.36	1,226.81	1,196.29	30.51	40.206	
3,100.00	3,095.32	2,985.93	2,967.78	16.26	15.56	-18.54	241.32	1,301.11	1,228.55	1,196.98	31.57	38.916	
3,200.00	3,194.90	3,085.79	3,066.79	16.81	16.10	-18.31	235.72	1,312.86	1,230.31	1,197.68	32.63	37.706	
3,300.00	3,294.49	3,185.65	3,165.80	17.36	16.64	-18.08	230.12	1,324.61	1,232.10	1,198.40	33.69	36.568	
3,400.00	3,394.07	3,285.51	3,264.80	17.91	17.19	-17.85	224.52	1,336.37	1,233.90	1,199.14	34.76	35.497	
3,500.00	3,493.65	3,385.37	3,363.81	18.46	17.74	-17.61	218.92	1,348.12	1,235.72	1,199.89	35.83	34.487	
3,600.00	3,593.24	3,485.23	3,462.81	19.01	18.30	-17.38	213.32	1,359.87	1,237.57	1,200.66	36.91	33.534	
3,700.00	3,692.82	3,585.08	3,561.82	19.57	18.86	-17.15	207.73	1,371.62	1,239.43	1,201.45	37.98	32.633	
3,800.00	3,792.41	3,684.94	3,660.83	20.12	19.42	-16.92	202.13	1,383.37	1,241.31	1,202.25	39.06	31.780	
3,900.00	3,891.99	3,784.80	3,759.83	20.68	19.98	-16.69	196.53	1,395.13	1,243.22	1,203.08	40.14	30.972	
4,000.00	3,991.58	3,884.66	3,858.84	21.24	20.55	-16.47	190.93	1,406.88	1,245.14	1,203.92	41.22	30.205	
4,100.00	4,091.16	3,984.52	3,957.85	21.79	21.12	-16.24	185.33	1,418.63	1,247.08	1,204.77	42.31	29.477	
4,200.00	4,190.74	4,084.38	4,056.85	22.35	21.69	-16.01	179.73	1,430.38	1,249.04	1,205.65	43.39	28.784	
4,300.00	4,290.33	4,184.24	4,155.86	22.91	22.26	-15.79	174.14	1,442.13	1,251.03	1,206.55	44.48	28.125	
4,400.00	4,389.91	4,284.09	4,254.87	23.47	22.83	-15.56	168.54	1,453.89	1,253.03	1,207.46	45.57	27.498	
4,500.00	4,489.50	4,383.95	4,353.87	24.03	23.41	-15.34	162.94	1,465.64	1,255.05	1,208.39	46.66	26.899	
4,600.00	4,589.08	4,483.81	4,452.88	24.59	23.98	-15.11	157.34	1,477.39	1,257.09	1,209.34	47.75	26.327	
4,700.00	4,688.66	4,583.67	4,551.89	25.15	24.56	-14.89	151.74	1,489.14	1,259.15	1,210.31	48.84	25.781	
4,800.00	4,788.25	4,683.53	4,650.89	25.71	25.14	-14.67	146.14	1,500.89	1,261.23	1,211.29	49.93	25.259	
4,900.00	4,887.83	4,783.39	4,749.90	26.27	25.72	-14.45	140.55	1,512.65	1,263.32	1,212.30	51.03	24.759	
5,000.00	4,987.42	4,883.25	4,848.91	26.83	26.30	-14.23	134.95	1,524.40	1,265.44	1,213.32	52.12	24.280	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design													HH SO 10 P3 - #8H - OH - Plan 2 11-18-16		Offset Site Error: 0.00 usft	
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,087.00	4,983.10	4,947.91	27.39	26.88	-14.01	129.35	1,536.15	1,267.57	1,214.36	53.21	23.820				
5,200.00	5,186.59	5,082.96	5,046.92	27.95	27.46	-13.79	123.75	1,547.90	1,269.73	1,215.42	54.31	23.380				
5,300.00	5,286.17	5,182.82	5,145.93	28.52	28.05	-13.57	118.15	1,559.65	1,271.90	1,216.50	55.40	22.957				
5,400.00	5,385.75	5,282.68	5,244.93	29.08	28.63	-13.35	112.56	1,571.41	1,274.09	1,217.59	56.50	22.550				
5,500.00	5,485.34	5,382.54	5,343.94	29.64	29.22	-13.13	106.96	1,583.16	1,276.30	1,218.70	57.60	22.159				
5,600.00	5,584.92	5,482.40	5,442.94	30.21	29.80	-12.92	101.36	1,594.91	1,278.53	1,219.83	58.69	21.783				
5,700.00	5,684.51	5,582.26	5,541.95	30.77	30.39	-12.70	95.76	1,606.66	1,280.77	1,220.98	59.79	21.421				
5,800.00	5,784.09	5,682.11	5,640.96	31.33	30.98	-12.49	90.16	1,618.41	1,283.03	1,222.15	60.89	21.072				
5,900.00	5,883.67	5,781.97	5,739.96	31.90	31.57	-12.27	84.56	1,630.17	1,285.32	1,223.33	61.98	20.736				
6,000.00	5,983.26	5,881.83	5,838.97	32.46	32.15	-12.06	78.97	1,641.92	1,287.62	1,224.53	63.08	20.412				
6,100.00	6,082.84	5,981.69	5,937.98	33.02	32.74	-11.85	73.37	1,653.67	1,289.93	1,225.75	64.18	20.099				
6,200.00	6,182.43	6,081.55	6,036.98	33.59	33.33	-11.63	67.77	1,665.42	1,292.27	1,226.99	65.28	19.796				
6,300.00	6,282.01	6,181.41	6,135.99	34.15	33.92	-11.42	62.17	1,677.17	1,294.62	1,228.24	66.38	19.504				
6,400.00	6,381.59	6,281.27	6,235.00	34.72	34.51	-11.21	56.57	1,688.93	1,296.99	1,229.52	67.48	19.222				
6,500.00	6,481.18	6,381.12	6,334.00	35.28	35.10	-11.00	50.97	1,700.68	1,299.38	1,230.80	68.57	18.949				
6,600.00	6,580.76	6,480.98	6,433.01	35.85	35.70	-10.80	45.38	1,712.43	1,301.78	1,232.11	69.67	18.684				
6,700.00	6,680.35	6,580.84	6,532.02	36.41	36.29	-10.59	39.78	1,724.18	1,304.20	1,233.43	70.77	18.429				
6,800.00	6,779.93	6,680.70	6,631.02	36.98	36.88	-10.38	34.18	1,735.93	1,306.64	1,234.77	71.87	18.181				
6,900.00	6,879.52	6,780.56	6,730.03	37.54	37.47	-10.17	28.58	1,747.68	1,309.10	1,236.13	72.97	17.941				
7,000.00	6,979.10	6,880.42	6,829.04	38.11	38.07	-9.97	22.98	1,759.44	1,311.57	1,237.51	74.07	17.708				
7,100.00	7,078.68	6,980.28	6,928.04	38.67	38.66	-9.76	17.38	1,771.19	1,314.06	1,238.90	75.17	17.482				
7,200.00	7,178.27	7,080.13	7,027.05	39.24	39.25	-9.56	11.79	1,782.94	1,316.57	1,240.31	76.26	17.263				
7,300.00	7,277.85	7,179.99	7,126.06	39.80	39.85	-9.36	6.19	1,794.69	1,319.09	1,241.73	77.36	17.051				
7,400.00	7,377.44	7,279.85	7,225.06	40.37	40.44	-9.15	0.59	1,806.44	1,321.63	1,243.17	78.46	16.844				
7,500.00	7,477.02	7,379.71	7,324.07	40.94	41.03	-8.95	-5.01	1,818.20	1,324.19	1,244.63	79.56	16.644				
7,600.00	7,576.60	7,479.57	7,423.07	41.50	41.63	-8.75	-10.61	1,829.95	1,326.76	1,246.10	80.66	16.449				
7,700.00	7,676.19	7,579.43	7,522.08	42.07	42.22	-8.55	-16.21	1,841.70	1,329.35	1,247.59	81.76	16.260				
7,800.00	7,775.77	7,679.29	7,621.09	42.63	42.82	-8.35	-21.80	1,853.45	1,331.96	1,249.10	82.86	16.075				
7,900.00	7,875.36	7,779.14	7,720.09	43.20	43.41	-8.15	-27.40	1,865.20	1,334.58	1,250.62	83.95	15.896				
8,000.00	7,974.94	7,879.00	7,819.10	43.77	44.01	-7.96	-33.00	1,876.96	1,337.22	1,252.16	85.05	15.722				
8,100.00	8,074.52	7,978.86	7,918.11	44.33	44.61	-7.76	-38.60	1,888.71	1,339.87	1,253.72	86.15	15.552				
8,200.00	8,174.11	8,078.72	8,017.11	44.90	45.20	-7.56	-44.20	1,900.46	1,342.54	1,255.29	87.25	15.387				
8,300.00	8,273.69	8,178.58	8,116.12	45.47	45.80	-7.37	-49.80	1,912.21	1,345.22	1,256.88	88.35	15.226				
8,400.00	8,373.28	8,278.44	8,215.13	46.03	46.39	-7.17	-55.39	1,923.96	1,347.92	1,258.48	89.45	15.070				
8,500.00	8,472.86	8,378.30	8,314.13	46.60	46.99	-6.98	-60.99	1,935.72	1,350.64	1,260.10	90.55	14.917				
8,600.00	8,572.45	8,478.15	8,413.14	47.17	47.59	-6.78	-66.59	1,947.47	1,353.37	1,261.73	91.64	14.768				
8,700.00	8,672.03	8,578.01	8,512.15	47.73	48.18	-6.59	-72.19	1,959.22	1,356.12	1,263.38	92.74	14.623				
8,800.00	8,771.61	8,677.87	8,611.15	48.30	48.78	-6.40	-77.79	1,970.97	1,358.88	1,265.04	93.84	14.481				
8,900.00	8,871.20	8,777.73	8,710.16	48.87	49.38	-6.21	-83.39	1,982.72	1,361.66	1,266.72	94.94	14.343				
9,000.00	8,970.78	8,930.58	8,862.01	49.43	50.27	-5.96	-90.83	1,998.36	1,363.10	1,266.78	96.32	14.152				
9,100.00	9,070.37	9,106.44	9,037.55	50.00	51.23	-5.86	-95.16	2,007.45	1,359.23	1,261.42	97.81	13.897				
9,200.00	9,169.95	9,238.85	9,169.95	50.57	51.88	-5.89	-95.60	2,008.36	1,350.69	1,251.66	99.02	13.640				
9,300.00	9,269.53	9,338.43	9,269.53	51.13	52.36	-5.93	-95.60	2,008.36	1,341.62	1,241.56	100.07	13.407				
9,400.00	9,369.12	9,434.27	9,365.34	51.70	52.83	-5.90	-97.20	2,008.40	1,332.63	1,231.53	101.09	13.182				
9,500.00	9,468.70	9,523.98	9,453.91	52.27	53.30	-5.34	-110.87	2,008.73	1,324.22	1,222.12	102.10	12.970				
9,600.00	9,568.29	9,607.90	9,533.89	52.84	53.76	-4.28	-136.02	2,009.33	1,316.93	1,213.86	103.07	12.776				
9,700.00	9,667.61	9,685.10	9,603.50	53.40	54.20	-52.58	-169.24	2,010.14	1,311.16	1,207.14	104.02	12.605				
9,800.00	9,764.49	9,759.49	9,665.79	53.95	54.63	-68.45	-209.82	2,011.11	1,308.27	1,201.34	104.94	12.448				
9,900.00	9,856.00	9,831.91	9,720.87	54.49	55.06	-73.27	-256.74	2,012.25	1,302.13	1,196.30	105.82	12.305				
10,000.00	9,939.34	9,900.00	9,766.88	54.99	55.47	-75.38	-306.87	2,013.45	1,298.61	1,191.94	106.67	12.174				
10,100.00	10,011.99	9,972.65	9,809.04	55.47	55.92	-76.43	-365.95	2,014.88	1,295.60	1,188.04	107.55	12.046				
10,200.00	10,071.73	10,041.69	9,841.88	55.94	56.37	-77.07	-426.62	2,016.34	1,293.03	1,184.56	108.47	11.920				

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #8H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
10,300.00	10,116.76	10,110.24	9,867.03	56.42	56.84	-77.50	-490.32	2,017.88	1,290.84	1,181.36	109.48	11.790	
10,400.00	10,145.70	10,178.52	9,884.34	56.93	57.32	-77.84	-556.31	2,019.47	1,289.02	1,178.41	110.60	11.654	
10,500.00	10,157.68	10,250.00	9,893.93	57.47	57.85	-78.14	-627.08	2,021.18	1,287.57	1,175.71	111.86	11.511	
10,589.17	10,159.23	10,314.02	9,895.31	57.98	58.34	-78.17	-691.05	2,022.72	1,287.22	1,174.30	112.92	11.399	
10,600.00	10,157.79	10,324.87	9,895.25	58.05	58.42	-78.23	-701.89	2,022.98	1,287.06	1,173.97	113.09	11.381	
10,700.00	10,157.53	10,424.87	9,894.73	58.69	59.24	-78.22	-801.86	2,025.39	1,287.10	1,172.51	114.59	11.232	
10,800.00	10,157.27	10,524.87	9,894.20	59.41	60.13	-78.21	-901.83	2,027.80	1,287.15	1,170.91	116.23	11.074	
10,900.00	10,157.01	10,624.87	9,893.68	60.20	61.08	-78.20	-1,001.80	2,030.21	1,287.19	1,169.18	118.01	10.908	
11,000.00	10,156.74	10,724.87	9,893.16	61.05	62.09	-78.18	-1,101.77	2,032.62	1,287.23	1,167.32	119.91	10.735	
11,100.00	10,156.48	10,824.87	9,892.63	61.96	63.16	-78.17	-1,201.74	2,035.04	1,287.27	1,165.34	121.94	10.557	
11,200.00	10,156.22	10,924.87	9,892.11	62.94	64.29	-78.16	-1,301.71	2,037.45	1,287.32	1,163.24	124.08	10.375	
11,300.00	10,155.96	11,024.87	9,891.59	63.97	65.47	-78.15	-1,401.68	2,039.86	1,287.36	1,161.03	126.33	10.190	
11,400.00	10,155.70	11,124.87	9,891.06	65.05	66.71	-78.14	-1,501.65	2,042.27	1,287.40	1,158.72	128.69	10.004	
11,500.00	10,155.43	11,224.87	9,890.54	66.19	67.99	-78.13	-1,601.62	2,044.68	1,287.44	1,156.30	131.14	9.817	
11,600.00	10,155.17	11,324.87	9,890.01	67.38	69.32	-78.11	-1,701.59	2,047.09	1,287.49	1,153.80	133.69	9.631	
11,700.00	10,154.91	11,424.87	9,889.49	68.62	70.69	-78.10	-1,801.56	2,049.50	1,287.53	1,151.21	136.32	9.445	
11,800.00	10,154.65	11,524.87	9,888.97	69.90	72.10	-78.09	-1,901.52	2,051.91	1,287.57	1,148.53	139.04	9.260	
11,900.00	10,154.39	11,624.87	9,888.44	71.23	73.55	-78.08	-2,001.49	2,054.32	1,287.61	1,145.78	141.84	9.078	
12,000.00	10,154.13	11,724.87	9,887.92	72.59	75.04	-78.07	-2,101.46	2,056.73	1,287.66	1,142.95	144.71	8.898	
12,100.00	10,153.86	11,824.87	9,887.40	73.99	76.56	-78.06	-2,201.43	2,059.14	1,287.70	1,140.05	147.65	8.721	
12,200.00	10,153.60	11,924.87	9,886.87	75.43	78.11	-78.05	-2,301.40	2,061.55	1,287.74	1,137.09	150.66	8.548	
12,300.00	10,153.34	12,024.87	9,886.35	76.91	79.70	-78.03	-2,401.37	2,063.96	1,287.79	1,134.06	153.72	8.377	
12,400.00	10,153.08	12,124.87	9,885.83	78.41	81.31	-78.02	-2,501.34	2,066.38	1,287.83	1,130.98	156.85	8.211	
12,500.00	10,152.82	12,224.87	9,885.30	79.95	82.95	-78.01	-2,601.31	2,068.79	1,287.87	1,127.85	160.03	8.048	
12,600.00	10,152.55	12,324.86	9,884.78	81.51	84.61	-78.00	-2,701.28	2,071.20	1,287.92	1,124.66	163.26	7.889	
12,700.00	10,152.29	12,424.86	9,884.26	83.10	86.30	-77.99	-2,801.25	2,073.61	1,287.96	1,121.42	166.53	7.734	
12,800.00	10,152.03	12,524.86	9,883.73	84.72	88.01	-77.98	-2,901.22	2,076.02	1,288.00	1,118.14	169.86	7.583	
12,900.00	10,151.77	12,624.86	9,883.21	86.36	89.74	-77.97	-3,001.19	2,078.43	1,288.05	1,114.82	173.22	7.436	
13,000.00	10,151.51	12,724.86	9,882.68	88.03	91.50	-77.95	-3,101.16	2,080.84	1,288.09	1,111.46	176.63	7.293	
13,100.00	10,151.24	12,824.86	9,882.16	89.71	93.27	-77.94	-3,201.12	2,083.25	1,288.13	1,108.06	180.08	7.153	
13,200.00	10,150.98	12,924.86	9,881.64	91.42	95.06	-77.93	-3,301.09	2,085.66	1,288.18	1,104.62	183.56	7.018	
13,300.00	10,150.72	13,024.86	9,881.11	93.14	96.86	-77.92	-3,401.06	2,088.07	1,288.22	1,101.15	187.07	6.886	
13,400.00	10,150.46	13,124.86	9,880.59	94.89	98.69	-77.91	-3,501.03	2,090.48	1,288.26	1,097.64	190.62	6.758	
13,500.00	10,150.20	13,224.86	9,880.07	96.65	100.52	-77.90	-3,601.00	2,092.89	1,288.31	1,094.11	194.19	6.634	
13,600.00	10,149.93	13,324.86	9,879.54	98.42	102.38	-77.88	-3,700.97	2,095.31	1,288.35	1,090.55	197.80	6.513	
13,700.00	10,149.67	13,424.86	9,879.02	100.21	104.24	-77.87	-3,800.94	2,097.72	1,288.39	1,086.96	201.43	6.396	
13,800.00	10,149.41	13,524.86	9,878.50	102.02	106.12	-77.86	-3,900.91	2,100.13	1,288.44	1,083.35	205.09	6.282	
13,900.00	10,149.15	13,624.86	9,877.97	103.84	108.01	-77.85	-4,000.88	2,102.54	1,288.48	1,079.71	208.77	6.172	
14,000.00	10,148.89	13,724.86	9,877.45	105.68	109.91	-77.84	-4,100.85	2,104.95	1,288.53	1,076.05	212.48	6.064	
14,100.00	10,148.62	13,824.86	9,876.93	107.52	111.83	-77.83	-4,200.82	2,107.36	1,288.57	1,072.37	216.20	5.960	
14,200.00	10,148.36	13,924.86	9,876.40	109.38	113.75	-77.82	-4,300.79	2,109.77	1,288.61	1,068.66	219.95	5.859	
14,300.00	10,148.10	14,024.86	9,875.88	111.25	115.68	-77.80	-4,400.76	2,112.18	1,288.66	1,064.94	223.72	5.760	
14,400.00	10,147.84	14,124.86	9,875.35	113.13	117.63	-77.79	-4,500.72	2,114.59	1,288.70	1,061.20	227.50	5.665	
14,500.00	10,147.58	14,224.86	9,874.83	115.02	119.58	-77.78	-4,600.69	2,117.00	1,288.75	1,057.44	231.31	5.572	
14,600.00	10,147.31	14,324.86	9,874.31	116.92	121.54	-77.77	-4,700.66	2,119.41	1,288.79	1,053.67	235.12	5.481	
14,700.00	10,147.05	14,424.86	9,873.78	118.82	123.51	-77.76	-4,800.63	2,121.82	1,288.83	1,049.87	238.96	5.394	
14,800.00	10,146.79	14,524.86	9,873.26	120.74	125.48	-77.75	-4,900.60	2,124.23	1,288.88	1,046.07	242.81	5.308	
14,900.00	10,146.53	14,624.86	9,872.74	122.67	127.46	-77.74	-5,000.57	2,126.65	1,288.92	1,042.25	246.68	5.225	
15,000.00	10,146.27	14,724.86	9,872.21	124.60	129.46	-77.72	-5,100.54	2,129.06	1,288.97	1,038.41	250.55	5.144	
15,100.00	10,146.00	14,824.86	9,871.69	126.54	131.45	-77.71	-5,200.51	2,131.47	1,289.01	1,034.57	254.45	5.066	
15,200.00	10,145.74	14,924.86	9,871.17	128.49	133.46	-77.70	-5,300.48	2,133.88	1,289.06	1,030.71	258.35	4.990	
15,300.00	10,145.48	15,024.86	9,870.64	130.45	135.47	-77.69	-5,400.45	2,136.29	1,289.10	1,026.83	262.27	4.915	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #8H - OH - Plan 2 11-18-16												Offset Site Error:	0.00 usft
Survey Program: 0-PHX+MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.00	10,145.22	15,124.86	9,870.12	132.41	137.48	-77.68	-5,500.42	2,138.70	1,289.15	1,022.95	266.20	4.843	
15,448.20	10,145.08	15,173.05	9,869.87	133.36	138.45	-77.67	-5,548.60	2,139.86	1,289.23	1,021.20	268.03	4.810	
15,500.00	10,144.95	15,224.85	9,869.59	134.38	139.50	-77.67	-5,600.39	2,141.11	1,289.23	1,019.23	270.00	4.775	
15,600.00	10,144.34	15,347.87	9,868.95	136.34	141.98	-77.67	-5,723.38	2,142.81	1,289.74	1,015.65	274.09	4.706	
15,700.00	10,143.68	15,447.87	9,868.43	138.31	144.00	-77.68	-5,823.38	2,143.40	1,289.71	1,011.67	278.04	4.639	
15,800.00	10,143.02	15,547.87	9,867.90	140.28	146.01	-77.68	-5,923.37	2,143.98	1,289.68	1,007.69	281.99	4.573	
15,900.00	10,142.36	15,647.87	9,867.38	142.26	148.03	-77.69	-6,023.37	2,144.56	1,289.65	1,003.69	285.96	4.510	
16,000.00	10,141.70	15,747.87	9,866.86	144.24	150.06	-77.69	-6,123.37	2,145.15	1,289.62	999.69	289.93	4.448	
16,100.00	10,141.04	15,847.87	9,866.33	146.23	152.09	-77.70	-6,223.37	2,145.73	1,289.59	995.68	293.91	4.388	
16,200.00	10,140.37	15,947.87	9,865.81	148.22	154.13	-77.71	-6,323.36	2,146.32	1,289.56	991.66	297.90	4.329	
16,300.00	10,139.71	16,047.87	9,865.29	150.22	156.17	-77.71	-6,423.36	2,146.90	1,289.53	987.63	301.90	4.271	
16,400.00	10,139.05	16,147.87	9,864.76	152.22	158.21	-77.72	-6,523.36	2,147.49	1,289.50	983.59	305.91	4.215	
16,500.00	10,138.39	16,247.87	9,864.24	154.23	160.26	-77.72	-6,623.35	2,148.07	1,289.47	979.55	309.92	4.161	
16,600.00	10,137.73	16,347.87	9,863.72	156.24	162.31	-77.73	-6,723.35	2,148.65	1,289.44	975.50	313.94	4.107	
16,700.00	10,137.07	16,447.87	9,863.19	158.26	164.36	-77.74	-6,823.35	2,149.24	1,289.41	971.44	317.97	4.055	
16,800.00	10,136.41	16,547.87	9,862.67	160.27	166.42	-77.74	-6,923.34	2,149.82	1,289.38	967.38	322.01	4.004	
16,900.00	10,135.75	16,647.87	9,862.14	162.30	168.48	-77.75	-7,023.34	2,150.41	1,289.36	963.31	326.05	3.955	
17,000.00	10,135.09	16,747.87	9,861.62	164.32	170.54	-77.75	-7,123.34	2,150.99	1,289.33	959.23	330.09	3.906	
17,100.00	10,134.43	16,847.87	9,861.10	166.35	172.61	-77.76	-7,223.33	2,151.58	1,289.30	955.15	334.15	3.858	
17,200.00	10,133.77	16,947.87	9,860.57	168.38	174.68	-77.77	-7,323.33	2,152.16	1,289.27	951.06	338.21	3.812	
17,300.00	10,133.11	17,047.87	9,860.05	170.42	176.75	-77.77	-7,423.33	2,152.75	1,289.24	946.97	342.27	3.767	
17,400.00	10,132.45	17,147.87	9,859.53	172.46	178.83	-77.78	-7,523.32	2,153.33	1,289.21	942.87	346.34	3.722	
17,500.00	10,131.79	17,247.87	9,859.00	174.50	180.91	-77.78	-7,623.32	2,153.91	1,289.18	938.77	350.41	3.679	
17,600.00	10,131.13	17,347.87	9,858.48	176.54	182.99	-77.79	-7,723.32	2,154.50	1,289.15	934.66	354.49	3.637	
17,700.00	10,130.47	17,447.87	9,857.96	178.59	185.07	-77.80	-7,823.31	2,155.08	1,289.12	930.55	358.58	3.595	
17,800.00	10,129.80	17,547.87	9,857.43	180.64	187.15	-77.80	-7,923.31	2,155.67	1,289.09	926.43	362.66	3.555	
17,900.00	10,129.14	17,647.87	9,856.91	182.69	189.24	-77.81	-8,023.31	2,156.25	1,289.07	922.31	366.76	3.515	
18,000.00	10,128.48	17,747.86	9,856.39	184.74	191.33	-77.81	-8,123.30	2,156.84	1,289.04	918.18	370.86	3.476	
18,100.00	10,127.82	17,847.86	9,855.86	186.80	193.42	-77.82	-8,223.30	2,157.42	1,289.01	914.05	374.96	3.438	
18,200.00	10,127.16	17,947.86	9,855.34	188.86	195.51	-77.83	-8,323.30	2,158.00	1,288.98	909.92	379.06	3.400	
18,300.00	10,126.50	18,047.86	9,854.81	190.92	197.61	-77.83	-8,423.30	2,158.59	1,288.95	905.78	383.17	3.364	
18,400.00	10,125.84	18,147.86	9,854.29	192.98	199.71	-77.84	-8,523.29	2,159.17	1,288.92	901.63	387.29	3.328	
18,500.00	10,125.18	18,247.86	9,853.77	195.05	201.81	-77.84	-8,623.29	2,159.76	1,288.89	897.49	391.40	3.293	
18,600.00	10,124.52	18,347.86	9,853.24	197.11	203.91	-77.85	-8,723.29	2,160.34	1,288.86	893.34	395.52	3.259	
18,700.00	10,123.86	18,447.86	9,852.72	199.18	206.01	-77.86	-8,823.28	2,160.93	1,288.83	889.19	399.65	3.225	
18,800.00	10,123.20	18,547.86	9,852.20	201.25	208.11	-77.86	-8,923.28	2,161.51	1,288.81	885.03	403.78	3.192	
18,900.00	10,122.54	18,647.86	9,851.67	203.33	210.22	-77.87	-9,023.28	2,162.09	1,288.78	880.87	407.91	3.159	
19,000.00	10,121.88	18,747.86	9,851.15	205.40	212.33	-77.87	-9,123.27	2,162.68	1,288.75	876.71	412.04	3.128	
19,100.00	10,121.22	18,847.86	9,850.63	207.48	214.44	-77.88	-9,223.27	2,163.26	1,288.72	872.54	416.18	3.097	
19,200.00	10,120.56	18,947.86	9,850.10	209.55	216.55	-77.89	-9,323.27	2,163.85	1,288.69	868.37	420.32	3.066	
19,300.00	10,119.89	19,047.86	9,849.58	211.63	218.66	-77.89	-9,423.26	2,164.43	1,288.66	864.20	424.46	3.036	
19,400.00	10,119.23	19,147.86	9,849.06	213.72	220.77	-77.90	-9,523.26	2,165.02	1,288.63	860.02	428.61	3.007	
19,500.00	10,118.57	19,247.86	9,848.53	215.80	222.89	-77.90	-9,623.26	2,165.60	1,288.60	855.85	432.76	2.978	
19,600.00	10,117.91	19,347.86	9,848.01	217.88	225.00	-77.91	-9,723.25	2,166.18	1,288.58	851.67	436.91	2.949	
19,700.00	10,117.25	19,447.86	9,847.48	219.97	227.12	-77.92	-9,823.25	2,166.77	1,288.55	847.48	441.06	2.921	
19,800.00	10,116.59	19,547.86	9,846.96	222.05	229.24	-77.92	-9,923.25	2,167.35	1,288.52	843.30	445.22	2.894	
19,900.00	10,115.93	19,647.86	9,846.44	224.14	231.36	-77.93	-10,023.24	2,167.94	1,288.49	839.11	449.38	2.867	
20,000.00	10,115.27	19,747.86	9,845.91	226.23	233.48	-77.93	-10,123.24	2,168.52	1,288.46	834.92	453.54	2.841	
20,100.00	10,114.61	19,847.86	9,845.39	228.32	235.60	-77.94	-10,223.24	2,169.11	1,288.43	830.73	457.71	2.815	
20,200.00	10,113.95	19,947.86	9,844.87	230.42	237.73	-77.94	-10,323.24	2,169.69	1,288.40	826.53	461.87	2.790	
20,300.00	10,113.29	20,047.86	9,844.34	232.51	239.85	-77.95	-10,423.23	2,170.27	1,288.37	822.33	466.04	2.765	
20,400.00	10,112.63	20,147.86	9,843.82	234.60	241.98	-77.96	-10,523.23	2,170.86	1,288.35	818.14	470.21	2.740	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Offset Design HH SO 10 P3 - #8H - OH - Plan 2 11-18-16													Offset Site Error: 0.00 usft
Survey Program: 0-PHX+MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
20,495.03	10,112.00	20,242.89	9,843.32	236.59	244.00	-77.96	-10,618.25	2,171.41	1,288.32	814.14	474.18	2.717 ES, SF	



Phoenix Technology Services LP

Anticollision Report



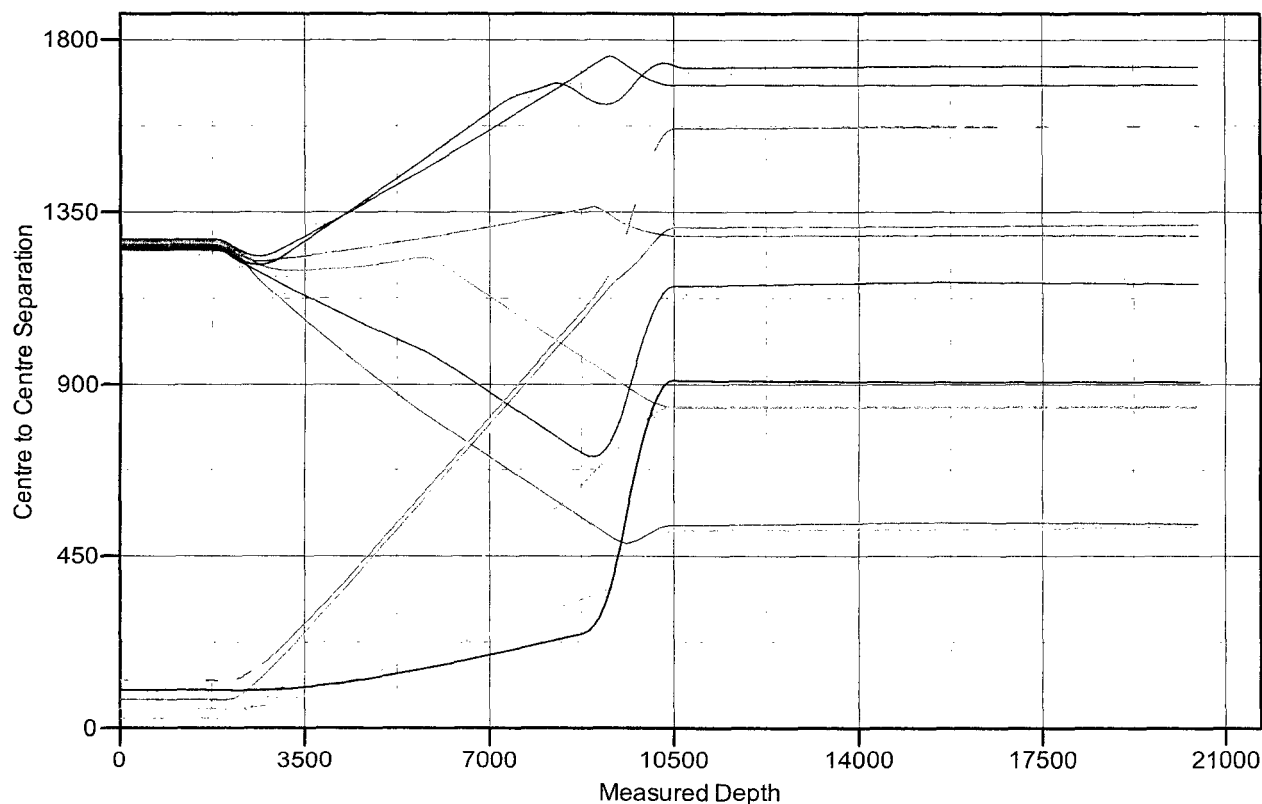
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Reference Depths are relative to RKB @ 3298.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.00000 W

Coordinates are relative to: 0026
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.08°

Ladder Plot



LEGEND

- | | | |
|--------------------------------|--------------------------------|--------------------------------|
| ◆ #7H, OH, Plan 2 11-18-16 V0 | ▲ #15H, OH, Plan 2 11-18-16 V0 | △ 0024, OH, Plan 1 02-01-17 V0 |
| ■ #23H, OH, Plan 2 11-18-16 V0 | ◆ #24H, OH, Plan 2 11-18-16 V0 | ◆ 0023, OH, Plan 1 02-01-17 V0 |
| ● #8H, OH, Plan 2 11-18-16 V0 | ◆ 0025, OH, Plan 1 02-01-17 V0 | ■ 0022, OH, Plan 1 02-01-17 V0 |
| ✕ #16H, OH, Plan 2 11-18-16 V0 | ○ 0021, OH, Plan 1 02-01-17 V0 | |



Phoenix Technology Services LP

Anticollision Report



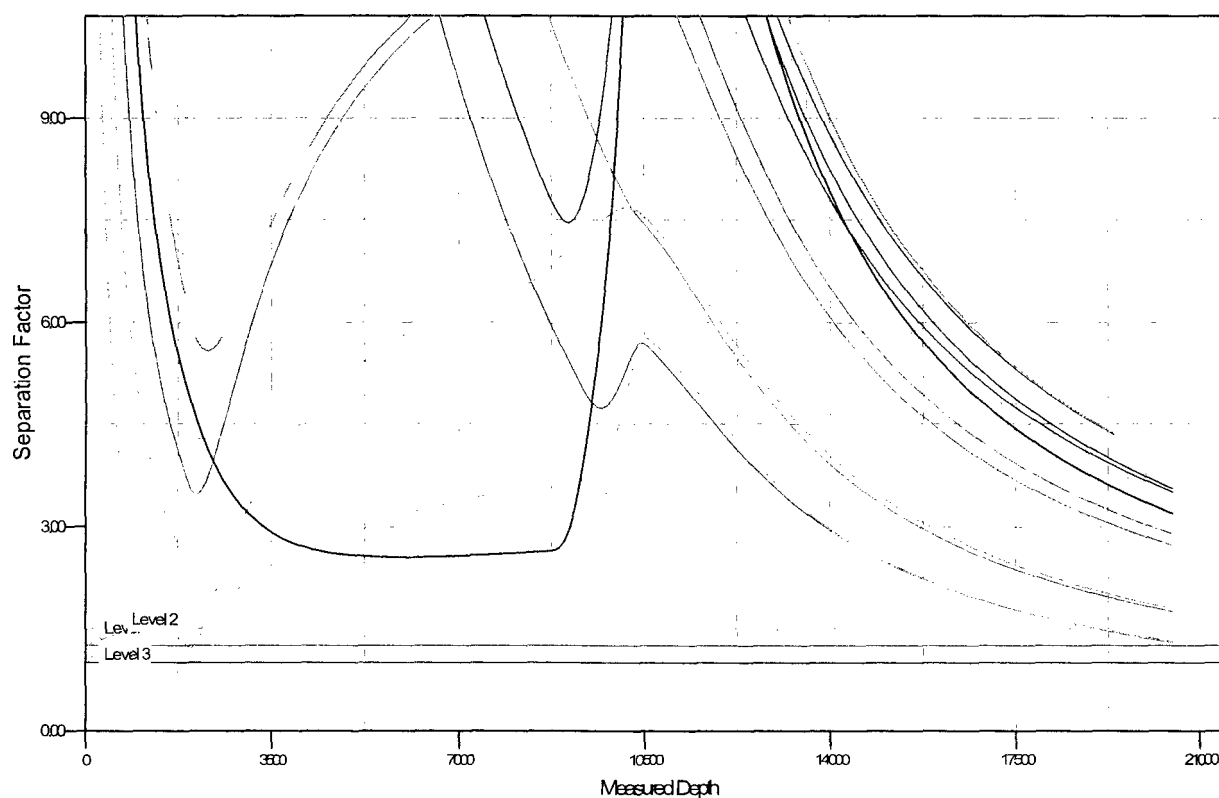
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 10 15 Fed
Site Error: 0.00 usft
Reference Well: 0026
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 02-01-17

Local Co-ordinate Reference: Well 0026
TVD Reference: RKB @ 3298.00usft
MD Reference: RKB @ 3298.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

Reference Depths are relative to RKB @ 3298.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.00000 W

Coordinates are relative to: 0026
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.08°

Separation Factor Plot



LEGEND

- | | | |
|--------------------------------|--------------------------------|--------------------------------|
| ◆ #7H, OH, Plan 2 11-18-16 V0 | ▲ #15H, OH, Plan 2 11-18-16 V0 | △ 0024, OH, Plan 1 02-01-17 V0 |
| ■ #23H, OH, Plan 2 11-18-16 V0 | ◆ #24H, OH, Plan 2 11-18-16 V0 | ◆ 0023, OH, Plan 1 02-01-17 V0 |
| ● #8H, OH, Plan 2 11-18-16 V0 | ◆ 0025, OH, Plan 1 02-01-17 V0 | ■ 0022, OH, Plan 1 02-01-17 V0 |
| ✱ #16H, OH, Plan 2 11-18-16 V0 | △ 0021, OH, Plan 1 02-01-17 V0 | |

CHOKE MANIFOLD SCHEMATIC

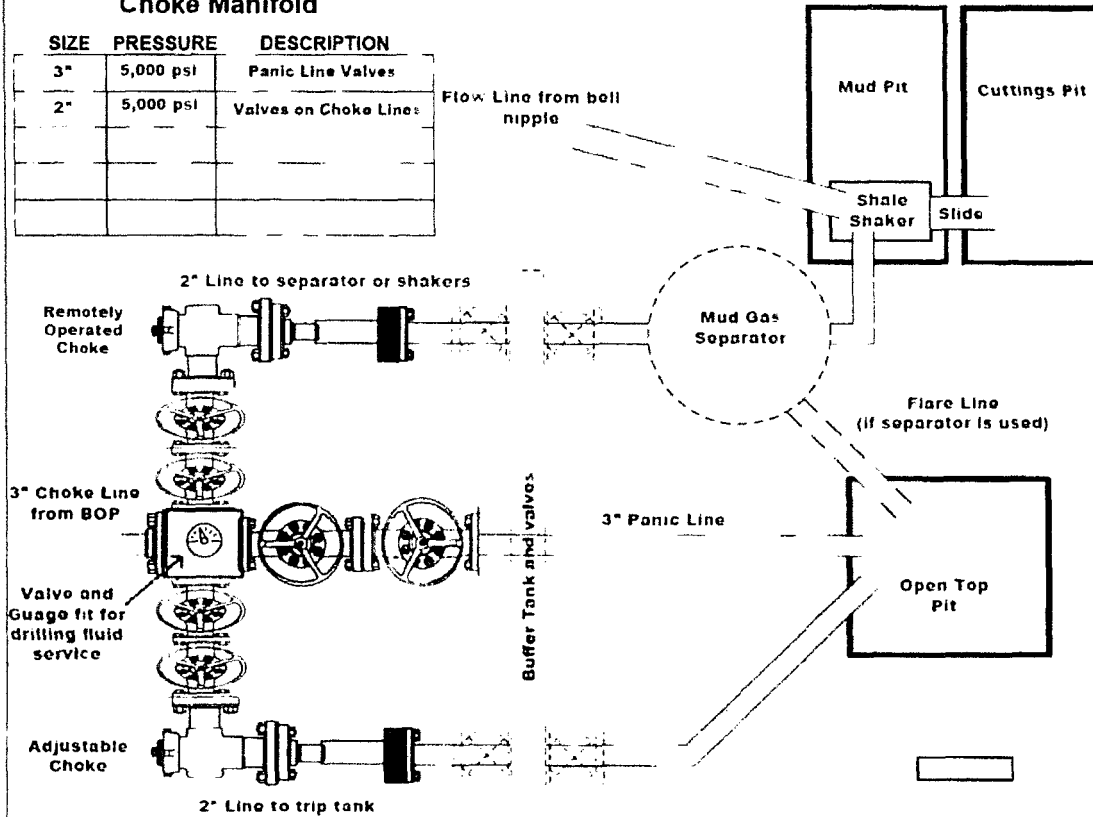
Minimum Requirements

OPERATION : Bone Spring wells/ Intermediate section SWD

Minimum System Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.
- ☐ Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.
- ☐ Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.
- ☐ The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tress, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.
- ☐ All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.
- ☐ All manual valves will have hand wheels installed.
- ☐ If used, flare system will have effective method for ignition
- ☐ All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)
- ☐ If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer:

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

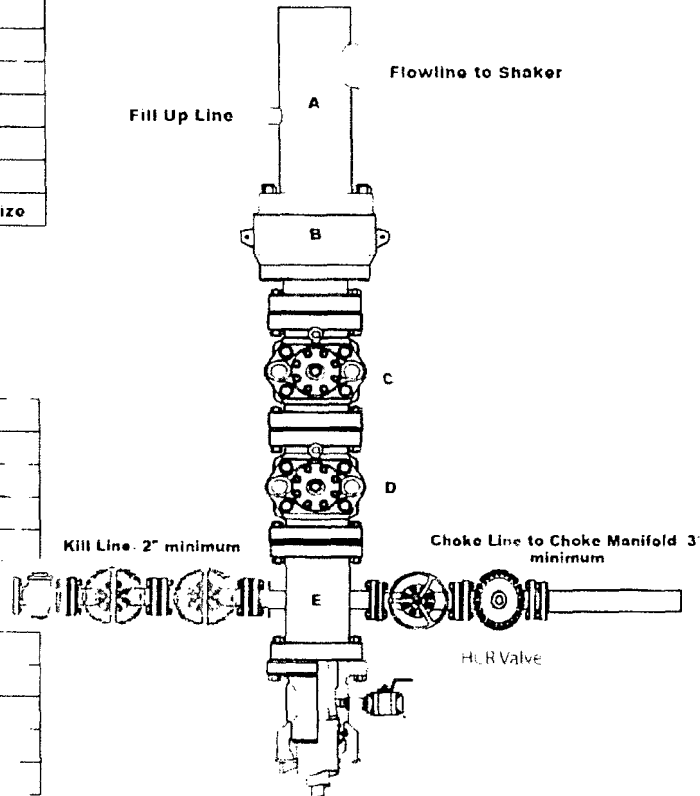
OPERATION : Bone Spring wells/ Intermediate section SWD

Minimum System Pressure Rating : 5,000 psi

	SIZE	PRESSURE	DESCRIPTION
A		N A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA	As required for each hole size		

Kill Line			
SIZE	PRESSURE	DESCRIPTION	
2"	5,000 psi	Gate Valve	
2"	5,000 psi	Gate Valve	
2"	5,000 psi	Check Valve	

Choke Line			
SIZE	PRESSURE	DESCRIPTION	
3"	5,000 psi	Gate Valve	
3"	5,000 psi	H.C.R Valve	



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.
- ☐ All valves on the kill line and choke line will be full opening and will allow straight through flow.
- ☐ The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and reduce vibration.
- ☐ Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.
- ☐ A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.
- ☐ Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer:

Wellname: _____

Representative: _____

Date: _____

Diagram A

For the latest performance data, always visit our website: www.tenaris.com

February 08 2017



Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

Size: 9.625 in.
Wall: 0.435 in.
Weight: 43.50 lbs/ft
Grade: L80.1
Min. Wall Thickness: 87.5 %

PIPE BODY DATA			
GEOMETRY			
Nominal OD	9.625 in.	Nominal Weight	43.50 lbs/ft
Nominal ID	8.755 in.	Wall Thickness	0.435 in.
Plain End Weight	42.73 lbs/ft	Standard Drift Diameter	8.599 in.
		Special Drift Diameter	N/A
PERFORMANCE			
Body Yield Strength	1005 x 1000 lbs	Internal Yield	6330 psi
Collapse	3810 psi	SMYS	80000 psi
TENARISXP® BTC CONNECTION DATA			
GEOMETRY			
Connection OD	10.625 in.	Coupling Length	10.825 in.
Critical Section Area	12.559 sq. in.	Threads per in.	5.00
		Connection ID	8.743 in.
		Make-Up Loss	4.891 in.
PERFORMANCE			
Tension Efficiency	100 %	Joint Yield Strength	1005 x 1000 lbs
Structural Compression Efficiency	100 %	Structural Compression Strength	1005 x 1000 lbs
External Pressure Capacity	3810 psi	Internal Pressure Capacity ⁽¹⁾	6330 psi
		Structural Bending ⁽²⁾	38 °/100 ft
ESTIMATED MAKE-UP TORQUES ⁽³⁾			
Minimum	20240 ft-lbs	Optimum	22490 ft-lbs
		Maximum	24740 ft-lbs
OPERATIONAL LIMIT TORQUES			
Operating Torque	ASK	Yield Torque	45900 ft-lbs

BLANKING DIMENSIONS

Blanking Dimensions

- (1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.
- (2) Structural rating, pure bending to yield (i.e no other loads applied)
- (3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.
- For additional information, please contact us at contact-tenarishydril@tenaris.com

For the latest performance data, always visit our website: www.tenaris.com

July 07 2015



Connection: TenarisXP™ BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

Size: 5.500 in.
Wall: 0.361 in.
Weight: 20.00 lbs/ft
Grade: P110
Min. Wall Thickness: 87.5 %

PIPE BODY DATA			
GEOMETRY			
Nominal OD	5.500 in.	Nominal Weight	20.00 lbs/ft
Nominal ID	4.778 in.	Wall Thickness	0.361 in.
Plain End Weight	19.83 lbs/ft	Standard Drift Diameter	4.653 in.
		Special Drift Diameter	N/A
PERFORMANCE			
Body Yield Strength	641 x 1000 lbs	Internal Yield	12630 psi
Collapse	11100 psi	SMYS	110000 psi
TENARISXP™ BTC CONNECTION DATA			
GEOMETRY			
Connection OD	6.100 in.	Coupling Length	9.450 in.
Critical Section Area	5.828 sq in.	Threads per in.	5.00
		Connection ID	4.766 in.
		Make-Up Loss	4.204 in.
PERFORMANCE			
Tension Efficiency	100 %	Joint Yield Strength	641 x 1000 lbs
Structural Compression Efficiency	100 %	Structural Compression Strength	641 x 1000 lbs
External Pressure Capacity	11100 psi	Internal Pressure Capacity ⁽¹⁾	12630 psi
		Structural Bending ⁽²⁾	92 °/100 ft
ESTIMATED MAKE-UP TORQUES ⁽³⁾			
Minimum	11270 ft-lbs	Optimum	12520 ft-lbs
		Maximum	13770 ft-lbs
OPERATIONAL LIMIT TORQUES			
Operating Torque	21500 ft-lbs	Yield Torque	23900 ft-lbs

BLANKING DIMENSIONS

Blanking Dimensions

- (1)** Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.
- (2)** Structural rating, pure bending to yield (i.e no other loads applied)
- (3)** Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed. For additional information, please contact us at contact-tenarishydril@tenaris.com



H₂S Preparedness and Contingency Plan Summary

Hayhurst Eddy County, New Mexico

Training

MCBU Drilling and Completions H₂S training requirements are intended to define the minimum level of training required for employees, contractors and visitors to enter or perform work at MCBU Drilling and Completions locations that have known concentrations of H₂S.

Awareness Level

Employees and visitors to MCBU Drilling and Completions locations that have known concentrations of H₂S, who are not required to perform work in H₂S areas, will be provided with an awareness level of H₂S training prior to entering any H₂S areas. At a minimum, awareness level training will include:

1. Physical and chemical properties of H₂S
2. Health hazards of H₂S
3. Personal protective equipment
4. Information regarding potential sources of H₂S
5. Alarms and emergency evacuation procedures

Awareness level training will be developed and conducted by personnel who are qualified either by specific training, educational experience and/or work-related background

Advanced Level H₂S Training

Employees and contractors required to work in areas that may contain H₂S will be provided with Advanced Level H₂S training prior to initial assignment. In addition to the Awareness Level requirements, Advanced Level H₂S training will include:

1. H₂S safe work practice procedures;
2. Emergency contingency plan procedures;
3. Methods to detect the presence or release of H₂S (e.g., alarms, monitoring equipment), including hands-on training with direct reading and personal monitoring H₂S equipment.
4. Basic overview of respiratory protective equipment suitable for use in H₂S environments. Note: Employees who work at sites that participate in the Chevron Respirator User program will require separate respirator training as required by the MCBU Respiratory Protection Program;
5. Basic overview of emergency rescue techniques, first aid, CPR and medical evaluation procedures. Employees who may be required to perform "standby" duties are required to receive additional first aid and CPR training, which is not covered in the Advanced Level H₂S training;
6. Proficiency examination covering all course material

Advanced H₂S training courses will be instructed by personnel who have successfully completed an appropriate H₂S train-the-trainer development course (ANSI/ASSE Z390.1-2006) or who possess significant past experience through educational or work-related background



H₂S Preparedness and Contingency Plan Summary

H₂S Training & Certification

All employees and visitors will be issued an H₂S training certification card (or certificate) upon successful completion of the appropriate H₂S training course. Personnel working in an H₂S environment will carry a current H₂S training certification card as proof of having received the proper training on their person at all times.

Briefing Area

A minimum of two briefing areas will be established in locations that at least one area will be upwind from the well at all times. Upon recognition of an emergency situation, all personnel should assemble at the designated upwind briefing areas for instructions.

H₂S Equipment

Respiratory Protection

- a) Six 30 minute SCBAs – 2 at each briefing area and 2 in the Safety Trailer.
- b) Eight 5 minute EBAs – 5 in the dog house at the rig floor, 1 at the accumulator, 1 at the shale shakers and 1 at the mud pits.

Visual Warning System

- a) One color code sign, displaying all possible conditions, will be placed at the entrance to the location with a flag displaying the current condition.
- b) Two windsocks will be on location, one on the dog house and one on the Drill Site Manager's Trailer.

H₂S Detection and Monitoring System

- a) H₂S monitoring system (sensor head, warning light and siren) placed throughout rig.
 - Drilling Rig Locations: at a minimum, in the area of the Shale shaker, rig floor, and bell nipple.
 - Workover Rig Locations: at a minimum, in the area of the Cellar, rig floor and circulating tanks or shale shaker.



H₂S Preparedness and Contingency Plan Summary

Well Control Equipment

- a) Flare Line 150' from wellhead with igniter.
- b) Choke manifold with a remotely operated choke.
- c) Mud / gas separator

Mud Program

In the event of drilling, completions, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater the following shall be considered:

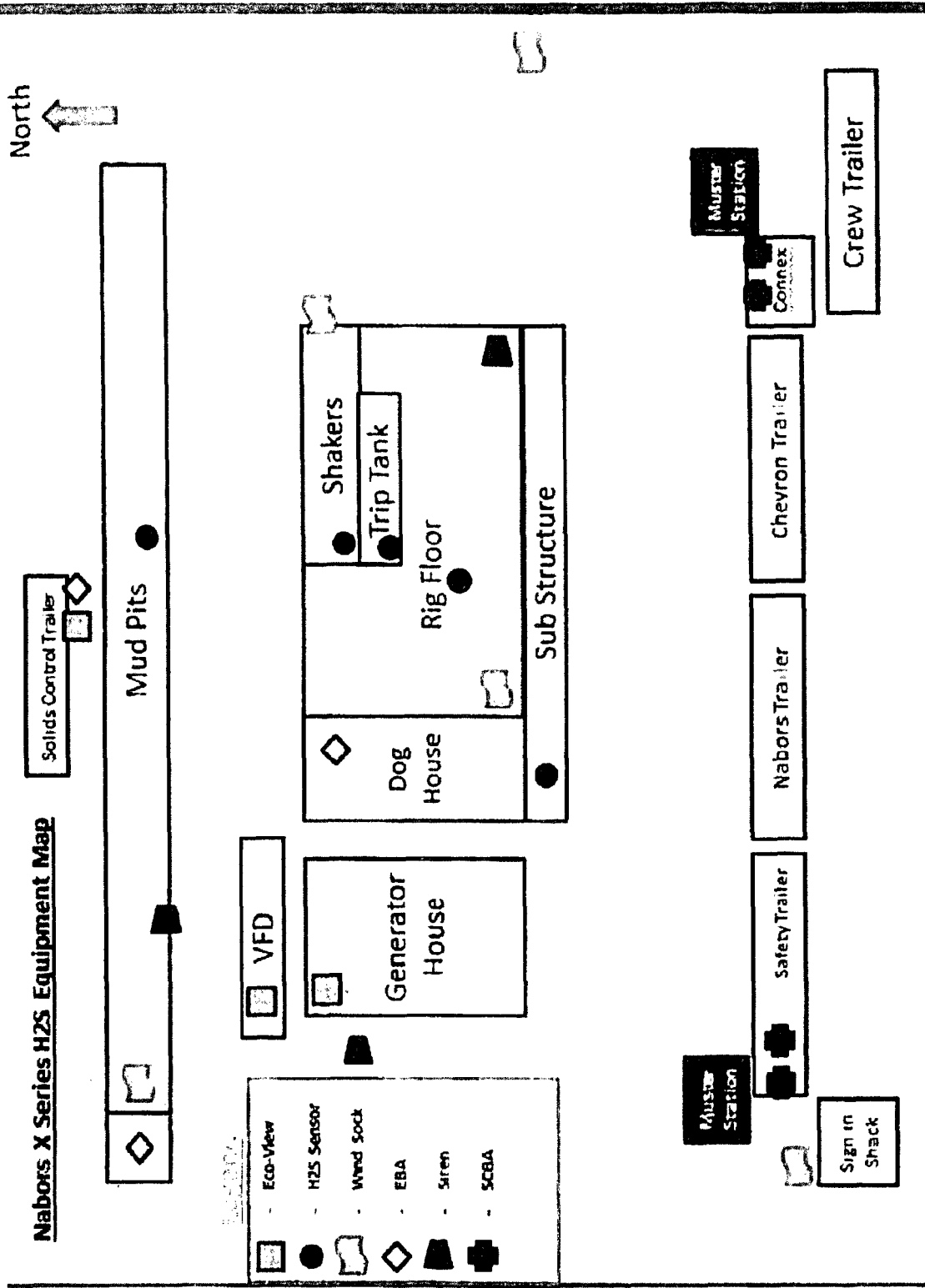
- 1. Use of a degasser
- 2. Use of a zinc based mud treatment
- 3. Increasing mud weight

Public Safety - Emergency Assistance

<u>Agency</u>	<u>Telephone Number</u>
Eddy County Sheriff's Department	575-887-7551
Fire Department:	
Carlsbad	575-885-3125
Artesia	575-746-5050
Carlsbad Medical Center	575-887-4100
Eddy County Emergency Management	575-628-5450
Poison Control Center	800-222-1222



H₂S Preparedness and Contingency Plan Summary



APD Surface Use Plan of Operations

This Surface Use Plan of Operations has been developed in accordance with the HDA Master Development Plan

HDA Master Development Plan Reference Table

The contents referenced below apply to all HDA APD's

Existing Roads	Exhibit 1, MDP SUPO Page 1
Construction Materials	MDP SUPO Page 6
Methods for Handling Waste	MDP SUPO Page 6
Reclamation Objectives	MDP SUPO Page 6-8
Final Surface Reclamation	MDP SUPO Page 6-8

Driving Directions

- Driving Directions – From Malaga, New Mexico. The location is approximately 11.5 miles from the nearest town, which is Malaga, New Mexico. From Malaga, proceed South on Highway 285 approximately 11.5 miles and turn right (West) onto White City Rd and go approximately 6.8 miles on White City Road until the road reaches an intersection with Roadrunner Rd. Turn right onto this and travel 100 yards, then the access road and well location is on the right.

New or Reconstructed Access Roads – (MDP SUPO Pg. 1)

- There will be 1,136.45' of new road construction for this proposal (.52 acres)
- Ditches: See MDP
- Culverts: See MDP
- Road Cuts: See MDP

Location of Existing Wells

- 1-Mile radius map is attached

CHEVRON U.S.A. INC.

HH SO 10 15 FED 002 6H

NMNM 121473

SECTION 3, T26S, R27E (Off Lease SHL) SECTION 15, T26S, R27E

SHL 314' FSL & 833' FWL

BHL 280' FSL & 1590' FWL

Facilities and Pipelines: Existing Production Facilities (see map in Appendix A)

- **Facilities:** Existing production facilities located in the NE corner of Sec. 10, T26S-R27E where oil and gas sales will take place.
 - The existing facility is 500' X 700'
 - Gas compression will occur within the proposed facility boundaries
 - Gas purchaser pipeline is in place at the tank battery.
 - Open top tanks or open containments will be netted.
 - Open vent exhaust stacks will be modified to prevent birds or bats from entering, discourage perching, roosting, and nesting.
 - Facilities will have a secondary containment 1.5 times the holding capacity of largest storage tank.
 - All above ground structures will be painted non-reflective shale green for blending with surrounding environment.
 - The permanent water disposal system will be determined prior to construction of any water transfer pipeline. Until permanent water takeaway is available, produced water will be hauled off location in trucks.

Notification will be provided to BLM upon site selection and survey – plats (including SWD well information) will be provided.
- **Pipelines:** See Detail
 - Pipelines Include:
 - 4,583' of Flowlines carrying production (buried)
 - 4,600' Gas Lift Line carrying pressurized gas (buried)
 - 4,608' Temporary Water line carrying fresh water (surface)
 - A ROW will be applied for through the State and BLM. (30' wide, 3.2 acres)
 - All construction activity will be confined to the approved ROW.
 - Pipeline will run parallel to the road and will stay within approved ROW.

Location and Types of Water Supply (see map in Appendix A)

- Existing ponds in Section 9 & 10, T26S-R27E will be utilized for fresh water or recycled water.
- Fresh water will be obtained from a private water source.

CHEVRON U.S.A. INC.

HH SO 10 15 FED 002 6H

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SECTION 3, T26S, R27E (Off Lease SHL) SECTION 15, T26S, R27E
SHL 314' FSL & 833' FWL BHL 280' FSL & 1590' FWL

Waste Management (see also Appendix A, p. 6)

- Caliche will be sourced from a Chevron operated NMSLO pit in S2 NW4 Section 16 T26S R27E, or an alternate private pit in Section 13, T24S R27E in Eddy County, NM.

Methods for Handling Waste

- Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.
- Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.
- The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

Well Site Layout

- Surveyor Plat
 - Exterior well pad dimensions are 545' x 385'
 - Interior well pad dimensions from point of entry (well head) of the well are N-210', S-335', E-125', W-260'. Total disturbance area needed for construction of well pad will be approximately 4.81 acres
 - Topsoil placement is on the west where interim reclamation is planned to be completed upon completion of well and evaluation of best management practices.
 - Cut and fill: will be minimal.
- Rig Layout (see diagram)

Plans for Surface Reclamation (see Appendix A, p. 6)

Interim Reclamation Procedures

- Reclaimed pad size: 200' x 325' (approximately 1.5 acres)
- Reclaimed pad layout, topsoil location & erosion control features

CHEVRON U.S.A. INC.

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NMNM 121473

SECTION 3, T26S, R27E (Off Lease SHL) SECTION 15, T26S, R27E
SHL 314' FSL & 833' FWL BHL 280' FSL & 1590' FWL

Surface Ownership

- BLM Surface
 - Surface Tenant – Forehand Ranches, Inc.
- **Nearest Post Office:** Malaga Post Office; 11.4 Miles north

Other Information

- On-site performed by BLM NRS: Paul Murphy 1/6/2017
- Cultural report attached: Yes Participating Agreement attached: N/A

Chevron Representatives

Primary point of contact:

Jennifer Van Curen

Jennifer.VanCuren@arcadis-us.com

M- 432-270-8753

CHEVRON U.S.A. INC.

HH SO 10 15 FED 002 6H

NMMN 121473

SECTION 3, T26S, R27E (Off Lease SHL)

SHL 314' FSL & 833' FWL

SECTION 15, T26S, R27E

BHL 280' FSL & 1590' FWL

Chevron Functional Contacts

Project Manager Name: Justin Freeman Address: 1400 Smith Street Houston, TX 77002 Phone: 713-372-2151 Email: FreemJ@chevron.com	Utility Engineer Name: Roderick Milligan Address: 1400 Smith Street Houston, TX 77002 Phone: (281) 413-9794 Email: RoderickMilligan@chevron.com
Surface Land Representative Name: Kevin Dickerson Address: 6301 Deauville BLVD Midland TX 79706 Phone: (432) 687-7104 Email: Kevin.Dickerson@chevron.com	Facility Lead Name: Angel Bermea Address: 6301 Deauville BLVD Midland TX 79706 Phone: 432-770-7564 Email: Angel.Bermea@chevron.com
Geologist Name: Frank Karmanocky Address: 6301 Deauville BLVD Midland TX 79706 Phone: 432-687-7361 Email: FKarmanocky@chevron.com	Regulatory Specialist Dorian K. Fuentes Address: 6301 Deauville BLVD Midland TX 79706 Office: (432) 687-7631 Email: djvo@chevron.com

PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA Inc.
LEASE NO.:	NMNM121473
WELL NAME & NO.:	6H-HH SO 10 15 Fed 002
SURFACE HOLE FOOTAGE:	314'/S & 833'/W
BOTTOM HOLE FOOTAGE:	280'/S & 1590'/W
LOCATION:	Section 3, T.26 S., R.27 E., NMPM
COUNTY:	Eddy County, New Mexico

Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

1. Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately 450 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that

string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

TMAK 07232017

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as

well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

3. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
4. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
5. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - f. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Chevron USA Inc.
LEASE NO.:	NMNM121473
WELL NAME & NO.:	6H-HH SO 10 15 Fed 002
SURFACE HOLE FOOTAGE:	314'/S & 833'/W
BOTTOM HOLE FOOTAGE	280'/S & 1590'/W
LOCATION:	Section 3, T.26 S., R.27 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☒ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/Karst
 - Watershed
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
- ☒ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst

**** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.**

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Watershed

Due to the location of the HH SO 10 15 Fed 002 Pad within the top of an existing drainage, the pad reduction and reclamation will be on the North and West sides of the pad as agreed upon during the onsite performed on January 19, 2017. Reducing the pad

on these two sides will help prevent increase in erosion and sediments deposits within the watershed.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which

creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

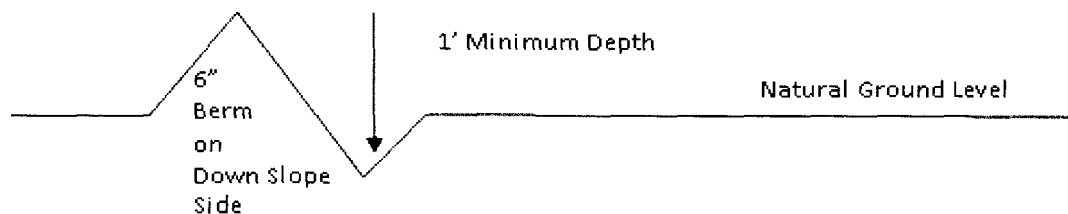
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

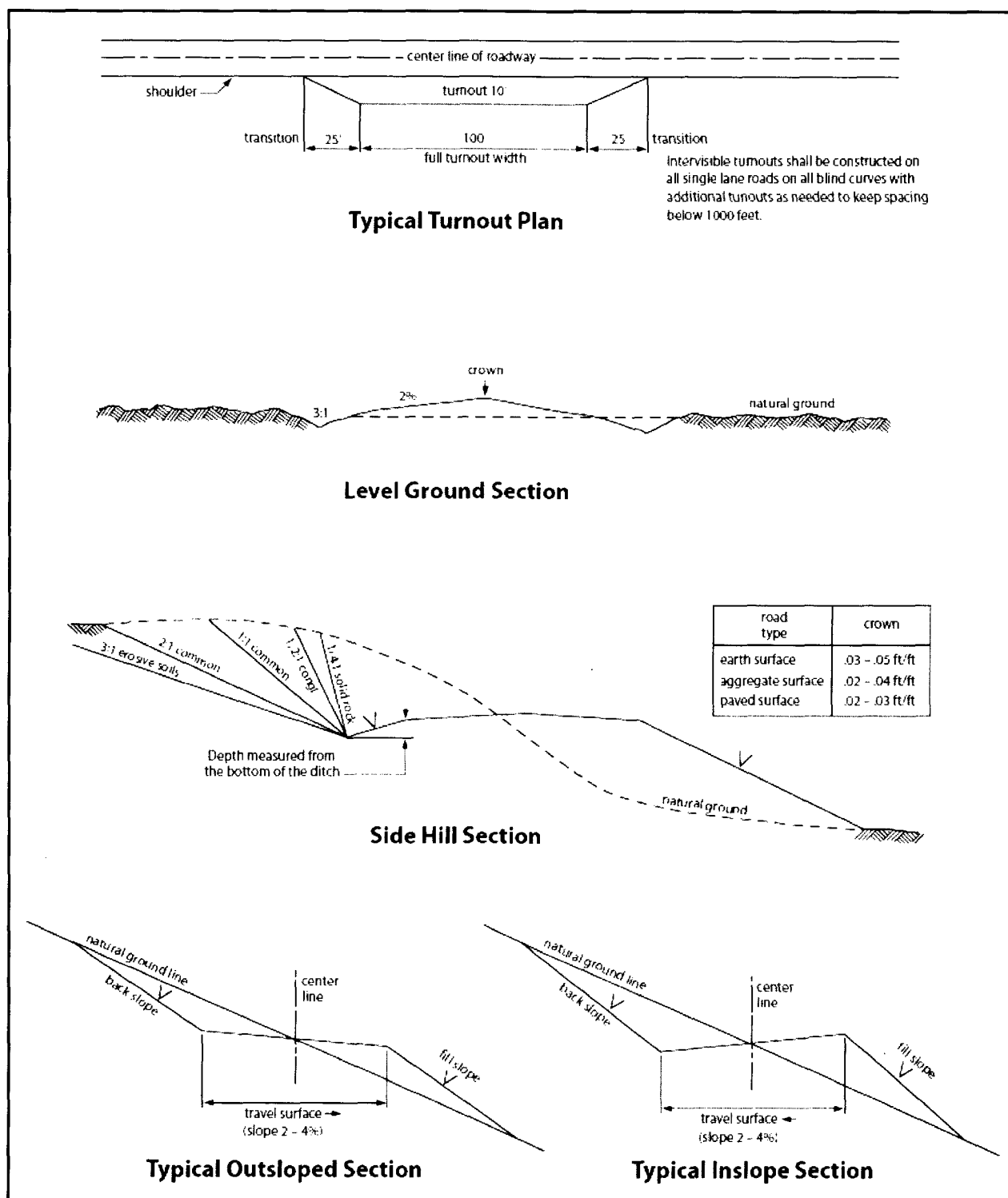


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing
 - (2) Earth-disturbing and earth-moving work
 - (3) Blasting
 - (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

STANDARD STIPULATIONS FOR BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of

the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be

segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

☒ seed mixture 1	☐ seed mixture 3
☐ seed mixture 2	☐ seed mixture 4
☐ seed mixture 2/LPC	☐ Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

Due to the location of the HH SO 10 15 Fed 002 Pad within the top of an existing drainage, the pad reduction and reclamation will be on the North and West sides of the pad as agreed upon during the onsite performed on January 19, 2017. Reducing the pad on these two sides will help prevent increase in erosion and sediments deposits within the watershed.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 1 for Loamy Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed