

Carlsbad Field Office

Oil and Gas

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. NMNM118108	
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 8 5 FED 003 2H 322146	
3b. Phone No. (include area code) (432)687-7866		9. API Well No. 30-015-45116	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface NENW / 604 FNL / 2308 FWL / LAT 32.048103 / LONG -104.213421 At proposed prod. zone NENW / 280 FNL / 2178 FWL / LAT 32.078243 / LONG -104.213944		10. Field and Pool, or Exploratory PURPLE SAGE / WOLFCAMP, (GAS)	
11. Sec., T. R. M. or Blk. and Survey or Area SEC 17 / T26S / R27E / NMP		12. County or Parish EDDY	
13. State NM		14. Distance in miles and direction from nearest town or post office* 1 miles	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330 feet		16. No. of acres in lease 1120	
17. Spacing Unit dedicated to this well 640		18. Distance from proposed location* to nearest well, drilling, completed, 2403 feet applied for, on this lease, ft.	
19. Proposed Depth 9200 feet / 19417 feet		20. BLM/BIA Bond No. on file FED: CA0329	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 0 feet		22. Approximate date work will start* 11/01/2017	
23. Estimated duration 130 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:

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

25. Signature (Electronic Submission)	Name (Printed/Typed) Laura Becerra / Ph: (432)687-7665	Date 07/12/2017
Title Permitting Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 07/13/2018
Title Assistant Field Manager Lands & Minerals CARLSBAD		

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
Approval Date: 07/13/2018

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 17 2018

RECEIVED

Rev 7-17-18

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

1. SHL: NENW / 604 FNL / 2308 FWL / TWSP: 26S / RANGE: 27E / SECTION: 17 / LAT: 32.048103 / LONG: -104.213421 (TVD: 0 feet, MD: 0 feet)
PPP: SESW / 330 FSL / 2178 FWL / TWSP: 26S / RANGE: 27E / SECTION: 8 / LAT: 32.050672 / LONG: -104.213878 (TVD: 9200 feet, MD: 19417 feet)
BHL: NENW / 280 FNL / 2178 FWL / TWSP: 26S / RANGE: 27E / SECTION: 5 / LAT: 32.078243 / LONG: -104.213944 (TVD: 9200 feet, MD: 19417 feet)

BLM Point of Contact

Name: Judith Yeager

Title: Legal Instruments Examiner

Phone: 5752345936

Email: jyeager@blm.gov

Approval Date: 07/13/2018

(Form 3160-3, page 3)

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

Approval Date: 07/13/2018

(Form 3160-3, page 4)

JUL 17 2018

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

RECEIVED

OPERATOR'S NAME:	Chevron USA Incorporated
LEASE NO.:	NMNM100549
WELL NAME & NO.:	HH SO 8 5 Fed 003 1H
SURFACE HOLE FOOTAGE:	629'/N & 2308'/W
BOTTOM HOLE FOOTAGE:	280'/N & 2178'/E
LOCATION:	Section 17, T.26 S., R.27 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☐ Medium	☒ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

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.

Operator shall filled 1/3rd casing with fluid while running intermediate casing to maintain collapse safety factor.

- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is: Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job. **Additional cement maybe required. Excess calculates to 9%.**
- b. Second stage above DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement maybe required. Excess calculates to 22%.**
- ❖ In High 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**.

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

1. 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.
2. 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.
3. The record of the drilling rate along with the GR/N well log (one log per well pad is acceptable) 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. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
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. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
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

1. 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.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. 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.
3. 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. 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.
 - e. 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, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
- 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. 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.
- f. 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. This test shall be performed prior to the test at full stack pressure.
- g. 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.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS.071218

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System

Pressure Rating : 5,000 psi

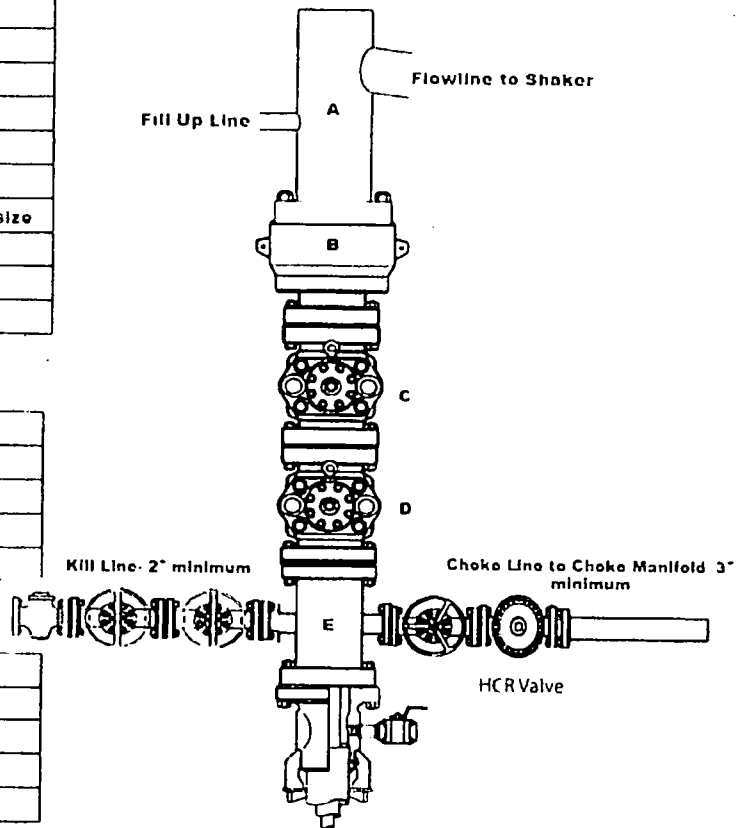
SIZE	PRESSURE	DESCRIPTION
A	N/A	Bell Nipple
B	13 5/8"	5,000 psi Annular
C	13 5/8"	5,000 psi Pipe Ram
D	13 5/8"	5,000 psi Blind Ram
E	13 5/8"	5,000 psi Mud Cross
F		
DSA	As required for each hole size	
C-Sec		
B-Sec	13-5/8" 5K x 11" 5K	
A-Sec	13-3/8" SOW x 13-5/8" 5K	

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	HCR 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 tools, 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: _____

Approval Date: 07/13/2018

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

- ☐ Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

- ☐ Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well.
- ☐ Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservoir capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.
- ☐ Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.
- ☐ Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.
- ☐ With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.
- ☐ Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used).
- ☐ Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.
- ☐ Record accumulator tests in drilling reports and IADC sheet.

BOPE Test Checklist

The following item must be checked off prior to beginning test

- ☐ BLM will be given at least 4 hour notice prior to beginning BOPE testing
- ☐ Valve on casing head below test plug will be open
- ☐ Test will be performed using clear water.

The following item must be performed during the BOPE testing and then checked off

- ☐ BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.
- ☐ Test plug will be used
- ☐ Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).
- ☐ Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).
- ☐ Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s).
- ☐ Each pressure test will be held for 10 minutes with no allowable leak off.
- ☐ Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing
- ☐ Record BOP tests and pressures in drilling reports and IADC sheet

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

Approval Date: 07/13/2018

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 17 2018

RECEIVED

OPERATOR'S NAME:	Chevron USA Incorporated
LEASE NO.:	NMNM118108
WELL NAME & NO.:	HH SO 8 5 Fed 003 2H
SURFACE HOLE FOOTAGE:	604'/N & 2308'/W
BOTTOM HOLE FOOTAGE	280'/N & 2178'/W
LOCATION:	Section 17, 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 Conditions of Approval for APDs

****** 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:

1. The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
2. The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
3. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
4. The topsoil stockpile shall be located outside the bermed well pad.
5. Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
6. No storm drains, tubing or openings shall be placed in the berm.
7. 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.
8. 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.
9. 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.)
10. Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

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, or equivalent, 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 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

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

Tank battery locations 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 or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, siting valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

VI. CONSTRUCTION

• 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.

• 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.

- **CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

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

- **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.

- **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.

- **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.)

- **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

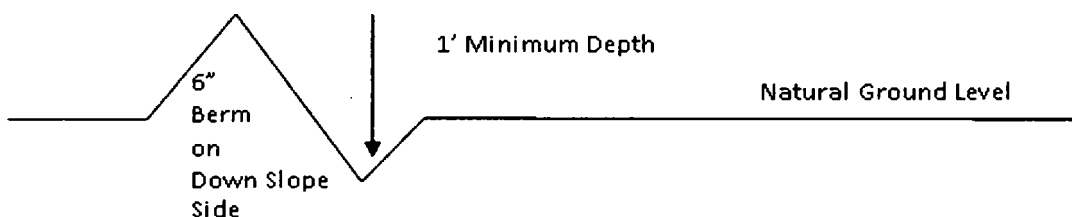
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

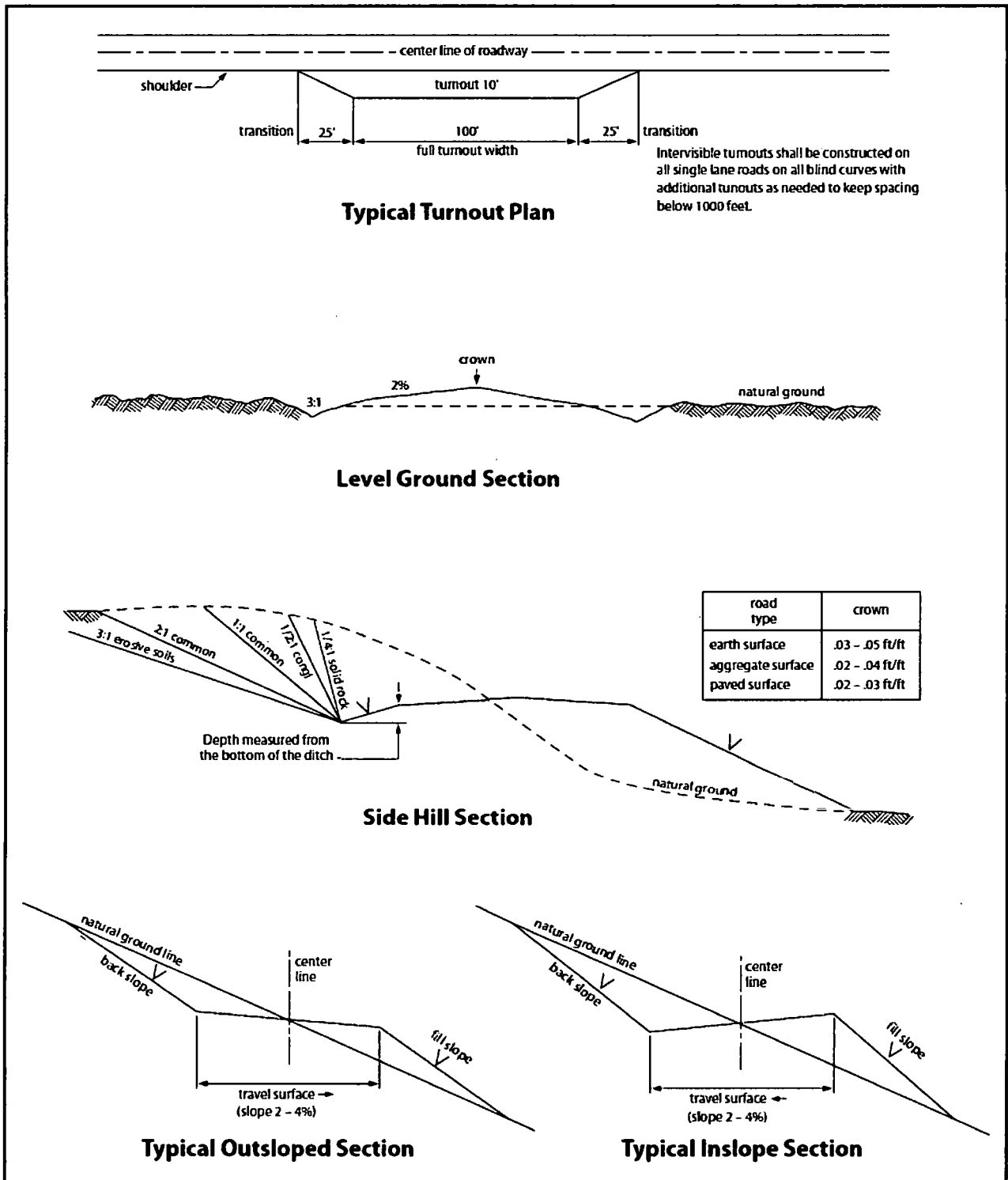


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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:

- Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- 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;
- 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:

1. 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.*)
2. 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.)

3. 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:

1. 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.
2. 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.

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



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

07/16/2018

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: Laura Becerra

Signed on: 06/27/2017

Title: Permitting Specialist

Street Address: 6301 Deauville Blvd., S2211

City: Midland

State: TX

Zip: 79706

Phone: (432)687-7665

Email address: LBecerra@Chevron.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Application Data Report

07/16/2018

APD ID: 10400014947

Submission Date: 07/12/2017

Operator Name: CHEVRON USA INCORPORATED

highlighted data
reflects the most
recent changes

Well Name: HH SO 8 5 FED 003

Well Number: 2H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400014947

Tie to previous NOS? 10400009706

Submission Date: 07/12/2017

BLM Office: CARLSBAD

User: Laura Becerra

Title: Permitting Specialist

Federal/Indian APD: FED

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

Lease number: NMNM118108

Lease Acres: 1120

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:

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

Master Development Plan name: HAYHURST DEVELOPMENT
AREA

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: HH SO 8 5 FED 003

Well Number: 2H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: PURPLE SAGE

Pool Name: WOLFCAMP,
(GAS)

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,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 SO **Number:** 1H 2H 3H 4H 5H 6H
8 5 FED 003

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: 1 Miles

Distance to nearest well: 2403 FT

Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: HH_SO_8_5_FED_003_2H_C_102_06-27-2017.pdf

Well work start Date: 11/01/2017

Duration: 130 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	604	FNL	230 8	FWL	26S	27E	17	Aliquot NENW 3	32.04810 3	- 104.2134 21	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 100549	0	0	0
KOP Leg #1	604	FNL	230 8	FEL	26S	27E	7	Aliquot NENW 3	32.04810 3	- 104.2134 21	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 100549	0	0	0
PPP Leg #1	330	FSL	217 8	FWL	26S	27E	8	Aliquot SESW 2	32.05067 2	- 104.2138 78	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 118108	- 920 0	194 17	920 0

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

	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	FNL	217 8	FWL	26S	27E	5	Aliquot NENW 6	32.07810 6	- 104.2139 45	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 118108	- 920 0	194 17	920 0
BHL Leg #1	280	FNL	217 8	FWL	26S	27E	5	Aliquot NENW 3	32.07824 3	- 104.2139 44	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 118108	- 920 0	194 17	920 0

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

Choke Diagram Attachment:

HH_SO_8_5_FED_003_2H_Choke_Diagram_06-27-2017.pdf

BOP Diagram Attachment:

10K_UHS_Wellhead_schematics_20180713063654.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	-5827	-6277	450	K-55	54.5	STC	5.11	1.82	DRY	3.97	DRY	2.31
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	9015	0	9015	-5827	-14842	9015	L-80	43.5	OTHER - TXP	1.34	2.9	DRY	2.22	DRY	1.79
3	PRODUCTION	8.5	5.5	NEW	API	N	0	19417	0	19417	-5827	-24546	19417	P-110	20	OTHER - TXP	1.66	1.26	DRY	1.31	DRY	2.54

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_2H_9_pt_plan_06-27-2017.pdf

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

Casing Attachments

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

HH_SO_8_5_FED_003_2H_9.625_TXP_06-27-2017.pdf

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_2H_9.625_TXP_06-27-2017.pdf

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_2H_P110_TXP_06-27-2017.pdf

Section 4 - Cement

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	1.33	50	C	Class C

INTERMEDIATE	Lead	2100	0	1100	213	2.43	11.9	14.21	50	C	50/50 Poz Class C + Antifoam, Extender, Salt, Retarder
INTERMEDIATE	Tail		1100	2100	235	1.33	14.8	6.37	0	C	Class C + Antifoam, Retarder, Viscosifier
INTERMEDIATE	Lead	2100	2100	8015	838	2.43	11.9	13.76	10	H	50/50 Poz Class H + Extender, Antifoam,

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											Retarder, Salt, Viscosifier
INTERMEDIATE	Tail		8015	9015	285	1.21	15.6	5.54	10	H	Class H + Retarder, Extender, Dispersant
PRODUCTION	Lead		7015	8015	237	1.21	14.5	5.54	10	H	50/50 Poz: Class H + Extender, Antifoam, Dispersant, Retarder
PRODUCTION	Tail		8015	1941 7	3258	1.2	15.6	5.3	10	H	Class 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.

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, dilution, 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	8.3	8.7							
450	9015	OIL-BASED MUD	9	9.5							

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

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
9015	1941 7	OIL-BASED MUD	10	13							The mud weight 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 13.0 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

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

Type: LWD Logs: MWD Gamma Interval: Int. & Prod. Hole Timing: While drilling Vendor: TBD

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

GR,MWD

Coring operation description for the well:

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

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6219

Anticipated Surface Pressure: 4239

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:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

HH_SO_8_5_FED_003_2H_H2S_06-27-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

HH_SO_8_5_FED_003_2H_Drilling_Plan_06-27-2017.pdf

HH_SO_8_5_FED_003_2H_Rig_Layout_06-27-2017.pdf

HH_SO_8_5_FED_003_2H_AC_Report_06-27-2017.pdf

Other proposed operations facets description:

The FTP on the Drilling plan attached reflects the FTP on the C-102.

Other proposed operations facets attachment:

Other Variance attachment:

CHOKE MANIFOLD SCHEMATIC

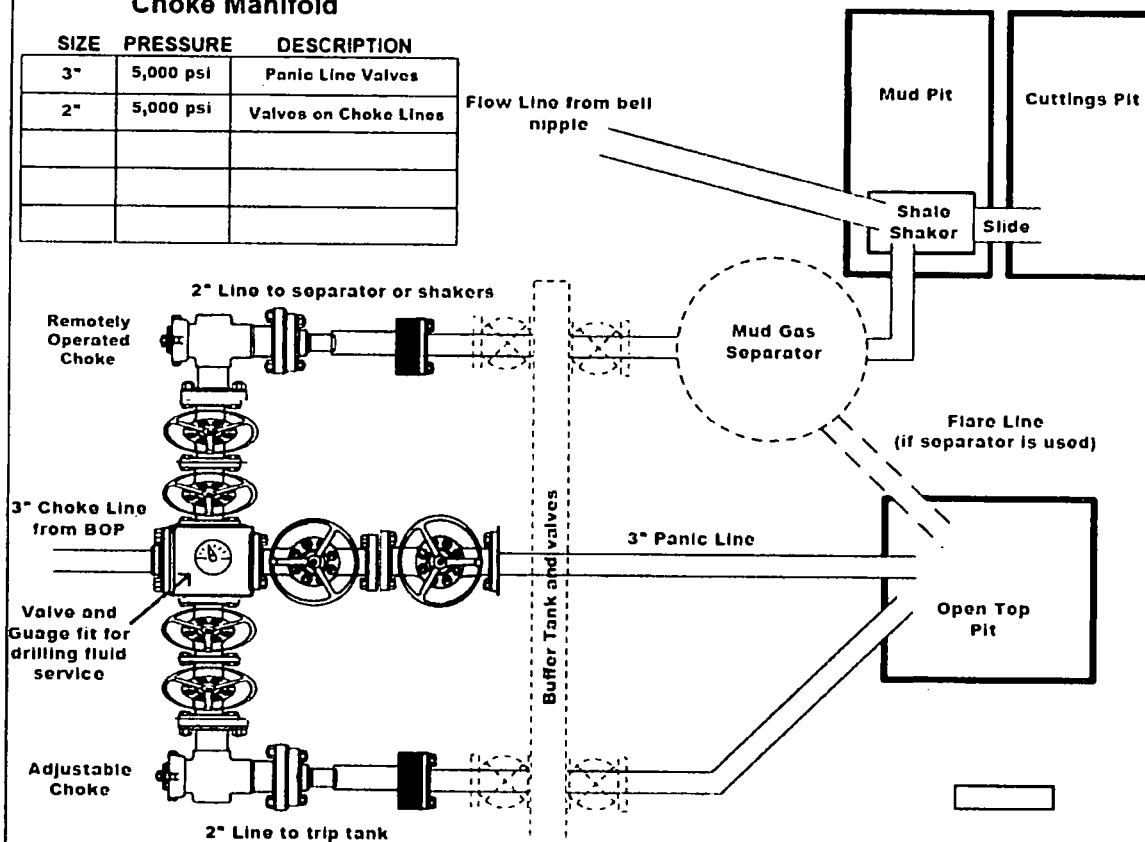
Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

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 items must be verified and checked off prior to pressure testing of BOP equipment.

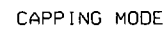
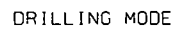
- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum 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 toe blocks or are targeted with running tools, 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: _____



6650 PSI UH-S
CHEVRON
20 X 13 3/8 X 9 5/8 X 5 1/2

[illegible]

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

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Ceniza		505	
Lower		2395	
Bell		2310	
Cherry		3208	
Bushy		4450	
Bone Spring Avian		6299	
First Bone Spring Sand		6888	
First Bone Spring Shale		6914	
Second Bone Spring Sand		7821	
Harvey Sand		8123	
Third Bone Spring Sand		8617	
Wellbore A		9200	
Lateral TVD Wellbore A		9200	1947558

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	Ceniza	505
Water	Cherry Canyon	3208
Oil/Gas	Bushy Canyon	4450
Oil/Gas	Bone Spring Limestone	6888
Oil/Gas	First Bone Spring Shale	6914
Oil/Gas	Second Bone Spring Sand	7821
Oil/Gas	Harvey Sand	8123
Oil/Gas	Wellbore A	9200

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

3. BOP EQUIPMENT

We have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stacks will be tested as specified in the attached testing requirements. Chevron requests a variance to use a Coflex hose with a metal protective covering that will be utilized between the BOP and Choke manifold. Please refer to the testing and specification documents.

Chevron requests a variance to use a FMC Technologies UH-2 Mudbowl wethead, which will be run through the rig floor on surface casing. BOP will be nipped up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. This field report from FMC Technologies and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wethead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

Chevron
Hayhurst SO 8 P3 2H
Eddy County, NM

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	S1C	New
Intermediate	0'	8,015'	12-1/4"	9.5"	43.5 #	L-80	TXP	New
Production	0'	8,123.33'	8-1/2"	5-1/2"	29.0 #	P-110	TXP	New

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

Surface Casing: 450'

Intermediate Casing: 8,015'

Production Casing	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.82	5.11	3.87	2.31
Intermediate	2.8	1.34	1.78	2.22
Production	1.29	1.68	2.24	1.21

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

Burst Design	Surf	Int	Prod
Pressure Test: Surface, Int, Prod Csg	X	X	X
P external Water			
P internal: Test psi + next section nearest mud in csg			
Displace to Gas: Surf Csg	X		
P external Water			
P internal: Dry Gas from Next Csg Point			
Frac at Shoe: Gas to Surf: Int Csg		X	
P external Water			
P internal: Dry Gas, 15 psig Frac Gradient			
Simulation (Frac) Pressure- Prod Csg			X
P external Water			
P internal: Max. psi adjacent to cemented section fluid			
Tubing leak- Prod Csg (cooler at KOP)			X
P external Water			
P internal: Leak just below surf. 8.7 psig cooler fluid			
Collapse Design			
Full Evacuation	X	X	X
P external Water gradient in cement, mud above TOC			
P internal: zone			
Cementing: Surf, Int, Prod Csg	X	X	X
P external Wet cement			
P internal: water			
Tension Design	X	X	X
100% In service			

Chevron
Hayhurst SO 8 P3 2H
Eddy County, NM

5. CEMENTING PROGRAM

Slurry	Type	Cement Top	Cement Bottom	Weight	Yield	%Excess	Sacks	Water
Surface	Class C	0'	450'	14.8	1.33	100%	10.8	5.37
Intermediate	50/50 Poz: Class C + Antifoam, Extender, Salt, Retarder	0'	1,100'	11.9	2.43	70%	9.6	14.21
	Class C + Antifoam, Retarder, Viscosifier	1,100'	2,100'	14.8	1.33	100%	10.8	5.37
Production	50/50 Poz: Class C + Extender, Antifoam, Retarder, Salt, Viscosifier	2,100'	8,015'	11.9	2.43	70%	9.6	13.76
	Class H + Retarder, Extender, Dispersant	8,015'	8,015'	15.6	1.21	100%	9.6	5.54
Production	50/50 Poz: Class C + Extender, Antifoam, Dispersant, Retarder	7,015'	8,015'	14.5	1.21	70%	9.6	5.54
	Class H + Viscosifier, Antifoam, Dispersant, Fluid Loss, Retarder, Expanding Agent	8,015'	19,417'	15.6	1.2	70%	9.6	5.30

Chevron
Hayhurst SO 8 P3 2H
Eddy County, NM

6. MUD PROGRAM

From	To	Type	Weight	F. Vls	Fibrate
0'	450'	Spud Mud	8.3-8.7	32-34	NC-NC
450'	8,015'	OBM	8.0-9.5	50-70	5.0-10
8,015'	19,417'	OBM	10.0-13.0	50-70	5.0-10

7. TESTING, LOGGING, AND CORING

TYPE	Loc	Interval	Temp	Vendor
Mudlogs	2 min mudlog	Int Csg to TD	Drift of Int Csg	TBD
MWD	MWD Gamma	Int. and Prod. Hole	Whole Drilling	TBD

8. ABNORMAL PRESSURE AND HYDROGEN SULFIDE

PLEASE REFERENCE MDP

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	Standard Drift Diameter	4.653 in.
Nominal ID	4.778 in.	Wall Thickness	0.361 in.	Special Drift Diameter	N/A
Plain End Weight	19.83 lbs/ft				
PERFORMANCE					
Body Yield Strength	641 x 1000 lbs	Internal Yield	12630 psi	SMYS	110000 psi
Collapse	11100 psi				
TENARISXP™ BTC CONNECTION DATA					
GEOMETRY					
Connection OD	6.100 in.	Coupling Length	9.450 in.	Connection ID	4.766 in.
Critical Section Area	5.828 sq. in.	Threads per in.	5.00	Make-Up Loss	4.204 in.
PERFORMANCE					
Tension Efficiency	100 %	Joint Yield Strength	641 x 1000 lbs	Internal Pressure Capacity ⁽¹⁾	12630 psi
Structural Compression Efficiency	100 %	Structural Compression Strength	641 x 1000 lbs	Structural Bending ⁽²⁾	92 °/100 ft
External Pressure Capacity	11100 psi				
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

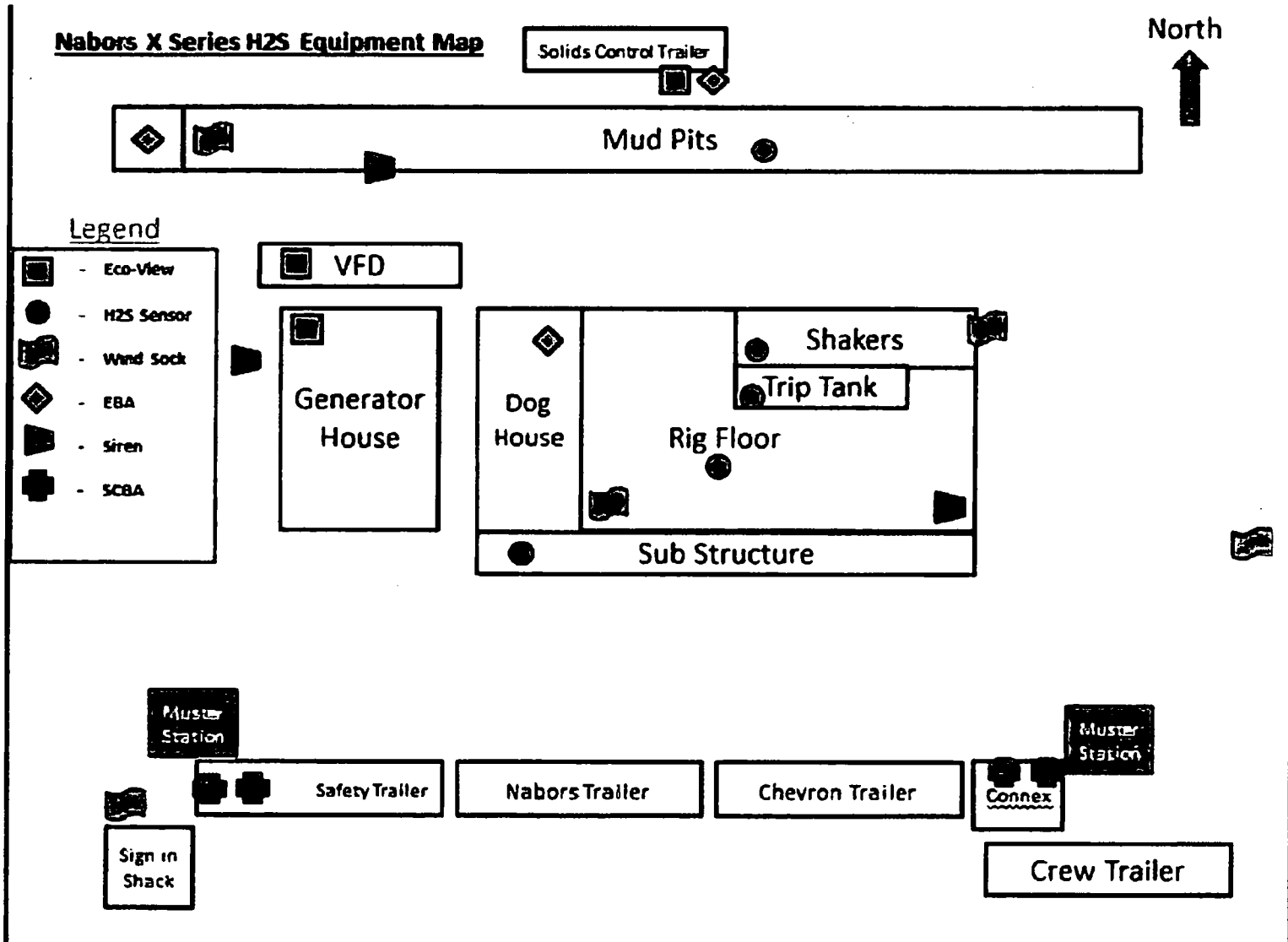
Public Safety - Emergency Assistance

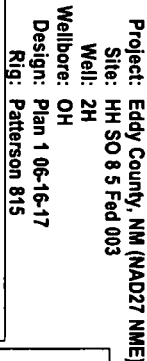
<u>Agency</u>	<u>Telephone Number</u>
Eddy County Sheriff's Department	575-887-7551
Fire Department:	
Carlsbad	575-885-3125
Artesia	575-746-5050
Carlsbad Medical Center	575-887-4100
Eddy County Emergency Management	575-628-5450
Poison Control Center	800-222-1222

H₂S Preparedness and Contingency Plan Summary



Nabors X Series H₂S Equipment Map





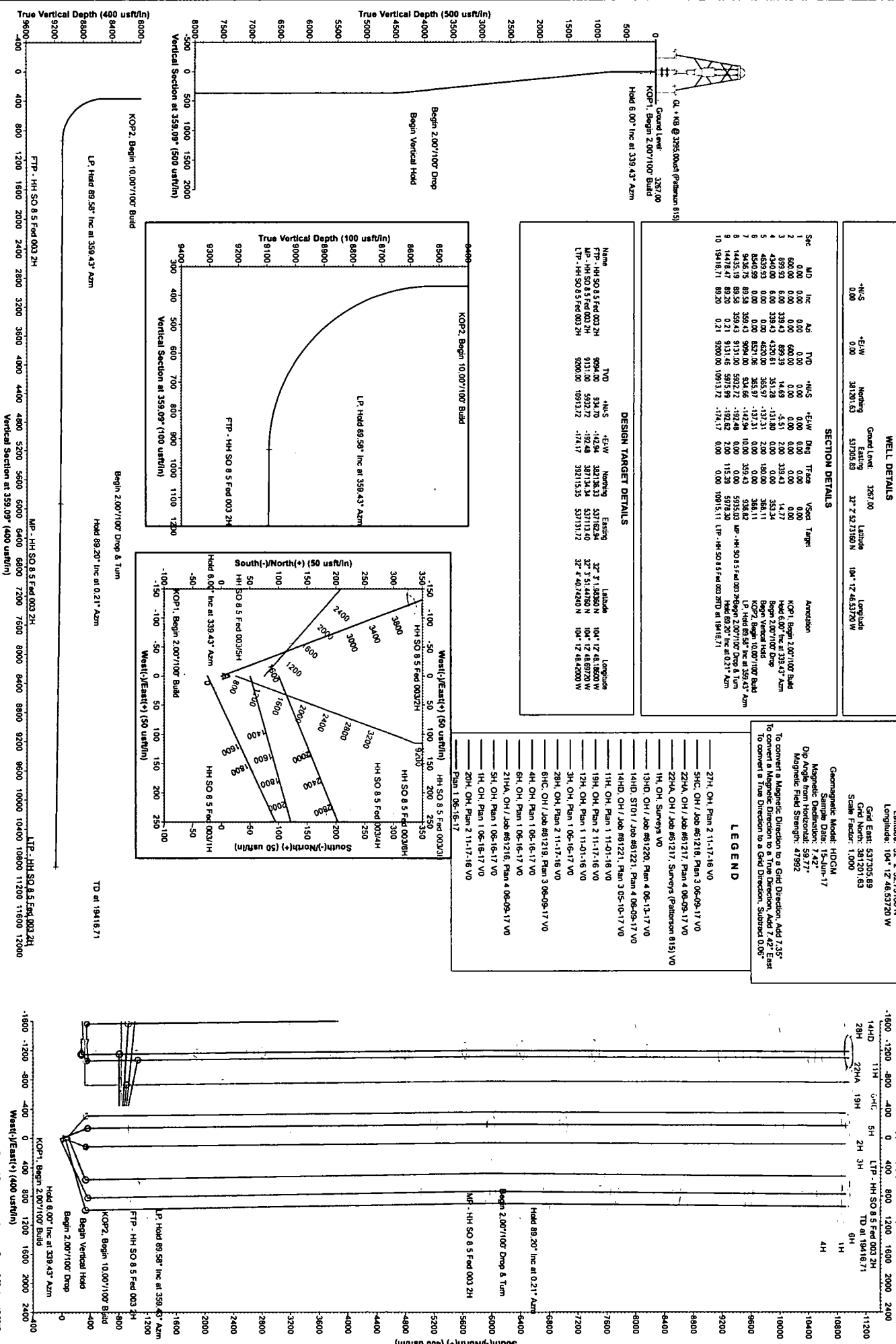
PHOENIX
TECHNOLOGY SERVICES



A diagram of a compass rose with a circle and a vertical line. Two arrows point upwards from the center, labeled 'T' and 'G'. Two other arrows point downwards from the center, labeled 'A' and 'M'. The diagram illustrates the relationship between true north, magnetic north, and the magnetic field.

Azimuths to Grid North
True North: -2.06°
Magnetic North: 7.35°

Magnetic Field
Strength: 48.2 mT
Dip Angle: 58.77°
Data: 6/15/2017
Model: HDOGM





NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 17 2018

RECEIVED

Chevron

Eddy County, NM (NAD27 NME)

HH SO 8 5 Fed 003

2H

OH

Plan: Plan 1 06-16-17

Standard Planning Report

16 June, 2017





Phoenix Technology Services LP

Planning Report



Database: Compass 5000 GCR
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Site: HH SO 8 5 Fed 003
Well: 2H
Wellbore: OH
Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 5 Fed 003			
Site Position:		Northing:	381,176.89 usft	Latitude:	32° 2' 52.48680 N
From:	Lat/Long	Easting:	537,305.60 usft	Longitude:	104° 12' 46.54080 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.06 °

Well	2H					
Well Position	+N/-S	24.74 usft	Northing:	381,201.63 usft	Latitude:	32° 2' 52.73160 N
	+E/-W	0.28 usft	Easting:	537,305.89 usft	Longitude:	104° 12' 46.53720 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,267.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/15/2017	7.42	59.77	47,992

Design	Plan 1 06-16-17			
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	359.09

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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
899.93	6.00	339.43	899.39	14.69	-5.51	2.00	2.00	0.00	339.43	
4,340.00	6.00	339.43	4,320.61	351.28	-131.80	0.00	0.00	0.00	0.00	
4,639.93	0.00	0.00	4,620.00	365.97	-137.31	2.00	-2.00	0.00	180.00	
8,540.99	0.00	0.00	8,521.06	365.97	-137.31	0.00	0.00	0.00	0.00	
9,436.75	89.58	359.43	9,094.00	934.66	-142.94	10.00	10.00	0.00	359.43	
14,435.19	89.58	359.43	9,131.00	5,932.72	-192.48	0.00	0.00	0.00	0.00	MP - HH SO 8 5 Fe
14,478.47	89.20	0.21	9,131.46	5,975.99	-192.62	2.00	-0.86	1.81	115.39	
19,416.71	89.20	0.21	9,200.00	10,913.72	-174.17	0.00	0.00	0.00	0.00	LTP - HH SO 8 5 Fe



Phoenix Technology Services LP

Planning Report



Database: Compass 5000 GCR
 Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Site: HH SO 8 5 Fed 003
 Well: 2H
 Wellbore: OH
 Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP1, Begin 2.00°/100' Build									
700.00	2.00	339.43	699.98	1.63	-0.61	1.64	2.00	2.00	0.00
800.00	4.00	339.43	799.84	6.53	-2.45	6.57	2.00	2.00	0.00
899.93	6.00	339.43	899.39	14.69	-5.51	14.77	2.00	2.00	0.00
Hold 6.00° Inc at 339.43° Azm									
900.00	6.00	339.43	899.45	14.69	-5.51	14.78	0.00	0.00	0.00
1,000.00	6.00	339.43	998.90	24.48	-9.18	24.62	0.00	0.00	0.00
1,100.00	6.00	339.43	1,098.36	34.26	-12.85	34.46	0.00	0.00	0.00
1,200.00	6.00	339.43	1,197.81	44.05	-16.53	44.31	0.00	0.00	0.00
1,300.00	6.00	339.43	1,297.26	53.83	-20.20	54.15	0.00	0.00	0.00
1,400.00	6.00	339.43	1,396.71	63.62	-23.87	63.99	0.00	0.00	0.00
1,500.00	6.00	339.43	1,496.17	73.40	-27.54	73.83	0.00	0.00	0.00
1,600.00	6.00	339.43	1,595.62	83.19	-31.21	83.67	0.00	0.00	0.00
1,700.00	6.00	339.43	1,695.07	92.97	-34.88	93.51	0.00	0.00	0.00
1,800.00	6.00	339.43	1,794.52	102.75	-38.55	103.36	0.00	0.00	0.00
1,900.00	6.00	339.43	1,893.98	112.54	-42.22	113.20	0.00	0.00	0.00
2,000.00	6.00	339.43	1,993.43	122.32	-45.89	123.04	0.00	0.00	0.00
2,100.00	6.00	339.43	2,092.88	132.11	-49.57	132.88	0.00	0.00	0.00
2,200.00	6.00	339.43	2,192.33	141.89	-53.24	142.72	0.00	0.00	0.00
2,300.00	6.00	339.43	2,291.79	151.68	-56.91	152.57	0.00	0.00	0.00
2,400.00	6.00	339.43	2,391.24	161.46	-60.58	162.41	0.00	0.00	0.00
2,500.00	6.00	339.43	2,490.69	171.25	-64.25	172.25	0.00	0.00	0.00
2,600.00	6.00	339.43	2,590.14	181.03	-67.92	182.09	0.00	0.00	0.00
2,700.00	6.00	339.43	2,689.60	190.82	-71.59	191.93	0.00	0.00	0.00
2,800.00	6.00	339.43	2,789.05	200.60	-75.26	201.78	0.00	0.00	0.00
2,900.00	6.00	339.43	2,888.50	210.38	-78.93	211.62	0.00	0.00	0.00
3,000.00	6.00	339.43	2,987.95	220.17	-82.61	221.46	0.00	0.00	0.00
3,100.00	6.00	339.43	3,087.41	229.95	-86.28	231.30	0.00	0.00	0.00
3,200.00	6.00	339.43	3,186.86	239.74	-89.95	241.14	0.00	0.00	0.00
3,300.00	6.00	339.43	3,286.31	249.52	-93.62	250.99	0.00	0.00	0.00
3,400.00	6.00	339.43	3,385.76	259.31	-97.29	260.83	0.00	0.00	0.00
3,500.00	6.00	339.43	3,485.22	269.09	-100.96	270.67	0.00	0.00	0.00
3,600.00	6.00	339.43	3,584.67	278.88	-104.63	280.51	0.00	0.00	0.00
3,700.00	6.00	339.43	3,684.12	288.66	-108.30	290.35	0.00	0.00	0.00
3,800.00	6.00	339.43	3,783.57	298.45	-111.97	300.19	0.00	0.00	0.00
3,900.00	6.00	339.43	3,883.02	308.23	-115.65	310.04	0.00	0.00	0.00
4,000.00	6.00	339.43	3,982.48	318.01	-119.32	319.88	0.00	0.00	0.00
4,100.00	6.00	339.43	4,081.93	327.80	-122.99	329.72	0.00	0.00	0.00
4,200.00	6.00	339.43	4,181.38	337.58	-126.66	339.56	0.00	0.00	0.00
4,300.00	6.00	339.43	4,280.83	347.37	-130.33	349.40	0.00	0.00	0.00
4,340.00	6.00	339.43	4,320.61	351.28	-131.80	353.34	0.00	0.00	0.00
Begin 2.00°/100' Drop									
4,400.00	4.80	339.43	4,380.35	356.57	-133.78	358.66	2.00	-2.00	0.00
4,500.00	2.80	339.43	4,480.12	362.77	-136.11	364.90	2.00	-2.00	0.00
4,600.00	0.80	339.43	4,580.07	365.71	-137.21	367.85	2.00	-2.00	0.00
4,639.93	0.00	0.00	4,620.00	365.97	-137.31	368.11	2.00	-2.00	51.50
Begin Vertical Hold									
8,540.99	0.00	0.00	8,521.06	365.97	-137.31	368.11	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
8,600.00	5.90	359.43	8,579.96	369.00	-137.34	371.15	10.00	10.00	0.00
8,700.00	15.90	359.43	8,678.03	387.89	-137.53	390.04	10.00	10.00	0.00
8,800.00	25.90	359.43	8,771.34	423.52	-137.88	425.67	10.00	10.00	0.00



Phoenix Technology Services LP

Planning Report



Database: Compass 5000 GCR
 Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Site: HH SO 8 5 Fed 003
 Well: 2H
 Wellbore: OH
 Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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)
8,900.00	35.90	359.43	8,857.03	474.81	-138.39	476.95	10.00	10.00	0.00
9,000.00	45.90	359.43	8,932.52	540.20	-139.04	542.35	10.00	10.00	0.00
9,100.00	55.90	359.43	8,995.51	617.70	-139.80	619.85	10.00	10.00	0.00
9,200.00	65.90	359.43	9,044.08	704.96	-140.67	707.12	10.00	10.00	0.00
9,300.00	75.90	359.43	9,076.76	799.33	-141.60	801.49	10.00	10.00	0.00
9,400.00	85.90	359.43	9,092.55	897.94	-142.58	900.10	10.00	10.00	0.00
9,436.75	89.58	359.43	9,094.00	934.66	-142.94	936.82	10.00	10.00	0.00
LP, Hold 89.58° Inc at 359.43° Azm									
9,500.00	89.58	359.43	9,094.47	997.90	-143.57	1,000.07	0.00	0.00	0.00
9,600.00	89.58	359.43	9,095.21	1,097.89	-144.56	1,100.06	0.00	0.00	0.00
9,700.00	89.58	359.43	9,095.95	1,197.89	-145.55	1,200.06	0.00	0.00	0.00
9,800.00	89.58	359.43	9,096.69	1,297.88	-146.55	1,300.05	0.00	0.00	0.00
9,900.00	89.58	359.43	9,097.43	1,397.87	-147.54	1,400.05	0.00	0.00	0.00
10,000.00	89.58	359.43	9,098.17	1,497.86	-148.53	1,500.04	0.00	0.00	0.00
10,100.00	89.58	359.43	9,098.91	1,597.86	-149.52	1,600.04	0.00	0.00	0.00
10,200.00	89.58	359.43	9,099.65	1,697.85	-150.51	1,700.03	0.00	0.00	0.00
10,300.00	89.58	359.43	9,100.39	1,797.84	-151.50	1,800.03	0.00	0.00	0.00
10,400.00	89.58	359.43	9,101.13	1,897.83	-152.49	1,900.02	0.00	0.00	0.00
10,500.00	89.58	359.43	9,101.87	1,997.83	-153.48	2,000.02	0.00	0.00	0.00
10,600.00	89.58	359.43	9,102.61	2,097.82	-154.47	2,100.02	0.00	0.00	0.00
10,700.00	89.58	359.43	9,103.35	2,197.81	-155.46	2,200.01	0.00	0.00	0.00
10,800.00	89.58	359.43	9,104.09	2,297.80	-156.46	2,300.01	0.00	0.00	0.00
10,900.00	89.58	359.43	9,104.83	2,397.80	-157.45	2,400.00	0.00	0.00	0.00
11,000.00	89.58	359.43	9,105.57	2,497.79	-158.44	2,500.00	0.00	0.00	0.00
11,100.00	89.58	359.43	9,106.31	2,597.78	-159.43	2,599.99	0.00	0.00	0.00
11,200.00	89.58	359.43	9,107.05	2,697.77	-160.42	2,699.99	0.00	0.00	0.00
11,300.00	89.58	359.43	9,107.79	2,797.76	-161.41	2,799.98	0.00	0.00	0.00
11,400.00	89.58	359.43	9,108.53	2,897.76	-162.40	2,899.98	0.00	0.00	0.00
11,500.00	89.58	359.43	9,109.27	2,997.75	-163.39	2,999.97	0.00	0.00	0.00
11,600.00	89.58	359.43	9,110.01	3,097.74	-164.38	3,099.97	0.00	0.00	0.00
11,700.00	89.58	359.43	9,110.75	3,197.73	-165.38	3,199.97	0.00	0.00	0.00
11,800.00	89.58	359.43	9,111.49	3,297.73	-166.37	3,299.96	0.00	0.00	0.00
11,900.00	89.58	359.43	9,112.24	3,397.72	-167.36	3,399.96	0.00	0.00	0.00
12,000.00	89.58	359.43	9,112.98	3,497.71	-168.35	3,499.95	0.00	0.00	0.00
12,100.00	89.58	359.43	9,113.72	3,597.70	-169.34	3,599.95	0.00	0.00	0.00
12,200.00	89.58	359.43	9,114.46	3,697.70	-170.33	3,699.94	0.00	0.00	0.00
12,300.00	89.58	359.43	9,115.20	3,797.69	-171.32	3,799.94	0.00	0.00	0.00
12,400.00	89.58	359.43	9,115.94	3,897.68	-172.31	3,899.93	0.00	0.00	0.00
12,500.00	89.58	359.43	9,116.68	3,997.67	-173.30	3,999.93	0.00	0.00	0.00
12,600.00	89.58	359.43	9,117.42	4,097.67	-174.30	4,099.92	0.00	0.00	0.00
12,700.00	89.58	359.43	9,118.16	4,197.66	-175.29	4,199.92	0.00	0.00	0.00
12,800.00	89.58	359.43	9,118.90	4,297.65	-176.28	4,299.92	0.00	0.00	0.00
12,900.00	89.58	359.43	9,119.64	4,397.64	-177.27	4,399.91	0.00	0.00	0.00
13,000.00	89.58	359.43	9,120.38	4,497.63	-178.26	4,499.91	0.00	0.00	0.00
13,100.00	89.58	359.43	9,121.12	4,597.63	-179.25	4,599.90	0.00	0.00	0.00
13,200.00	89.58	359.43	9,121.86	4,697.62	-180.24	4,699.90	0.00	0.00	0.00
13,300.00	89.58	359.43	9,122.60	4,797.61	-181.23	4,799.89	0.00	0.00	0.00
13,400.00	89.58	359.43	9,123.34	4,897.60	-182.22	4,899.89	0.00	0.00	0.00
13,500.00	89.58	359.43	9,124.08	4,997.60	-183.22	4,999.88	0.00	0.00	0.00
13,600.00	89.58	359.43	9,124.82	5,097.59	-184.21	5,099.88	0.00	0.00	0.00
13,700.00	89.58	359.43	9,125.56	5,197.58	-185.20	5,199.87	0.00	0.00	0.00
13,800.00	89.58	359.43	9,126.30	5,297.57	-186.19	5,299.87	0.00	0.00	0.00
13,900.00	89.58	359.43	9,127.04	5,397.57	-187.18	5,399.87	0.00	0.00	0.00



Phoenix Technology Services LP Planning Report



Database: Compass 5000 GCR
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Site: HH SO 8 5 Fed 003
Well: 2H
Wellbore: OH
Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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)
14,000.00	89.58	359.43	9,127.78	5,497.56	-188.17	5,499.86	0.00	0.00	0.00
14,100.00	89.58	359.43	9,128.52	5,597.55	-189.16	5,599.86	0.00	0.00	0.00
14,200.00	89.58	359.43	9,129.26	5,697.54	-190.15	5,699.85	0.00	0.00	0.00
14,300.00	89.58	359.43	9,130.00	5,797.53	-191.14	5,799.85	0.00	0.00	0.00
14,400.00	89.58	359.43	9,130.74	5,897.53	-192.14	5,899.84	0.00	0.00	0.00
14,435.19	89.58	359.43	9,131.00	5,932.72	-192.48	5,935.03	0.00	0.00	0.00
Begin 2.00°/100' Drop & Turn									
14,478.47	89.20	0.21	9,131.46	5,975.99	-192.62	5,978.30	2.00	-0.86	1.81
Hold 89.20° Inc at 0.21° Azm									
14,500.00	89.20	0.21	9,131.76	5,997.52	-192.54	5,999.83	0.00	0.00	0.00
14,600.00	89.20	0.21	9,133.15	6,097.51	-192.16	6,099.80	0.00	0.00	0.00
14,700.00	89.20	0.21	9,134.54	6,197.50	-191.79	6,199.77	0.00	0.00	0.00
14,800.00	89.20	0.21	9,135.92	6,297.49	-191.42	6,299.74	0.00	0.00	0.00
14,900.00	89.20	0.21	9,137.31	6,397.48	-191.04	6,399.71	0.00	0.00	0.00
15,000.00	89.20	0.21	9,138.70	6,497.47	-190.67	6,499.68	0.00	0.00	0.00
15,100.00	89.20	0.21	9,140.09	6,597.46	-190.30	6,599.65	0.00	0.00	0.00
15,200.00	89.20	0.21	9,141.48	6,697.45	-189.92	6,699.62	0.00	0.00	0.00
15,300.00	89.20	0.21	9,142.86	6,797.44	-189.55	6,799.60	0.00	0.00	0.00
15,400.00	89.20	0.21	9,144.25	6,897.43	-189.17	6,899.57	0.00	0.00	0.00
15,500.00	89.20	0.21	9,145.64	6,997.42	-188.80	6,999.54	0.00	0.00	0.00
15,600.00	89.20	0.21	9,147.03	7,097.41	-188.43	7,099.51	0.00	0.00	0.00
15,700.00	89.20	0.21	9,148.41	7,197.40	-188.05	7,199.48	0.00	0.00	0.00
15,800.00	89.20	0.21	9,149.80	7,297.39	-187.68	7,299.45	0.00	0.00	0.00
15,900.00	89.20	0.21	9,151.19	7,397.37	-187.31	7,399.42	0.00	0.00	0.00
16,000.00	89.20	0.21	9,152.58	7,497.36	-186.93	7,499.39	0.00	0.00	0.00
16,100.00	89.20	0.21	9,153.97	7,597.35	-186.56	7,599.36	0.00	0.00	0.00
16,200.00	89.20	0.21	9,155.35	7,697.34	-186.19	7,699.33	0.00	0.00	0.00
16,300.00	89.20	0.21	9,156.74	7,797.33	-185.81	7,799.31	0.00	0.00	0.00
16,400.00	89.20	0.21	9,158.13	7,897.32	-185.44	7,899.28	0.00	0.00	0.00
16,500.00	89.20	0.21	9,159.52	7,997.31	-185.06	7,999.25	0.00	0.00	0.00
16,600.00	89.20	0.21	9,160.91	8,097.30	-184.69	8,099.22	0.00	0.00	0.00
16,700.00	89.20	0.21	9,162.29	8,197.29	-184.32	8,199.19	0.00	0.00	0.00
16,800.00	89.20	0.21	9,163.68	8,297.28	-183.94	8,299.16	0.00	0.00	0.00
16,900.00	89.20	0.21	9,165.07	8,397.27	-183.57	8,399.13	0.00	0.00	0.00
17,000.00	89.20	0.21	9,166.46	8,497.26	-183.20	8,499.10	0.00	0.00	0.00
17,100.00	89.20	0.21	9,167.85	8,597.25	-182.82	8,599.07	0.00	0.00	0.00
17,200.00	89.20	0.21	9,169.23	8,697.24	-182.45	8,699.04	0.00	0.00	0.00
17,300.00	89.20	0.21	9,170.62	8,797.23	-182.07	8,799.02	0.00	0.00	0.00
17,400.00	89.20	0.21	9,172.01	8,897.22	-181.70	8,898.99	0.00	0.00	0.00
17,500.00	89.20	0.21	9,173.40	8,997.21	-181.33	8,998.96	0.00	0.00	0.00
17,600.00	89.20	0.21	9,174.79	9,097.20	-180.95	9,098.93	0.00	0.00	0.00
17,700.00	89.20	0.21	9,176.17	9,197.19	-180.58	9,198.90	0.00	0.00	0.00
17,800.00	89.20	0.21	9,177.56	9,297.18	-180.21	9,298.87	0.00	0.00	0.00
17,900.00	89.20	0.21	9,178.95	9,397.17	-179.83	9,398.84	0.00	0.00	0.00
18,000.00	89.20	0.21	9,180.34	9,497.16	-179.46	9,498.81	0.00	0.00	0.00
18,100.00	89.20	0.21	9,181.73	9,597.15	-179.09	9,598.78	0.00	0.00	0.00
18,200.00	89.20	0.21	9,183.11	9,697.14	-178.71	9,698.75	0.00	0.00	0.00
18,300.00	89.20	0.21	9,184.50	9,797.13	-178.34	9,798.73	0.00	0.00	0.00
18,400.00	89.20	0.21	9,185.89	9,897.12	-177.96	9,898.70	0.00	0.00	0.00
18,500.00	89.20	0.21	9,187.28	9,997.11	-177.59	9,998.67	0.00	0.00	0.00
18,600.00	89.20	0.21	9,188.66	10,097.10	-177.22	10,098.64	0.00	0.00	0.00
18,700.00	89.20	0.21	9,190.05	10,197.09	-176.84	10,198.61	0.00	0.00	0.00
18,800.00	89.20	0.21	9,191.44	10,297.08	-176.47	10,298.58	0.00	0.00	0.00
18,900.00	89.20	0.21	9,192.83	10,397.06	-176.10	10,398.55	0.00	0.00	0.00



Phoenix Technology Serv LP

Planning Report



Database: Compass 5000 GCR
Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Site: HH SO 8 5 Fed 003
Well: 2H
Wellbore: OH
Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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)
19,000.00	89.20	0.21	9,194.22	10,497.05	-175.72	10,498.52	0.00	0.00	0.00
19,100.00	89.20	0.21	9,195.60	10,597.04	-175.35	10,598.49	0.00	0.00	0.00
19,200.00	89.20	0.21	9,196.99	10,697.03	-174.98	10,698.46	0.00	0.00	0.00
19,300.00	89.20	0.21	9,198.38	10,797.02	-174.60	10,798.44	0.00	0.00	0.00
19,400.00	89.20	0.21	9,199.77	10,897.01	-174.23	10,898.41	0.00	0.00	0.00
19,416.71	89.20	0.21	9,200.00	10,913.72	-174.17	10,915.11	0.00	0.00	0.00
TD at 19416.71									

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
FTP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	9,094.00	934.70	-142.94	382,136.33	537,162.94	32° 3' 1.98360 N 04° 12' 48.18600 W	
MP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	9,131.00	5,932.72	-192.48	387,134.34	537,113.40	32° 3' 51.44760 N 04° 12' 48.69720 W	
LTP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	9,200.00	10,913.72	-174.17	392,115.34	537,131.72	32° 4' 40.74240 N 04° 12' 48.42000 W	

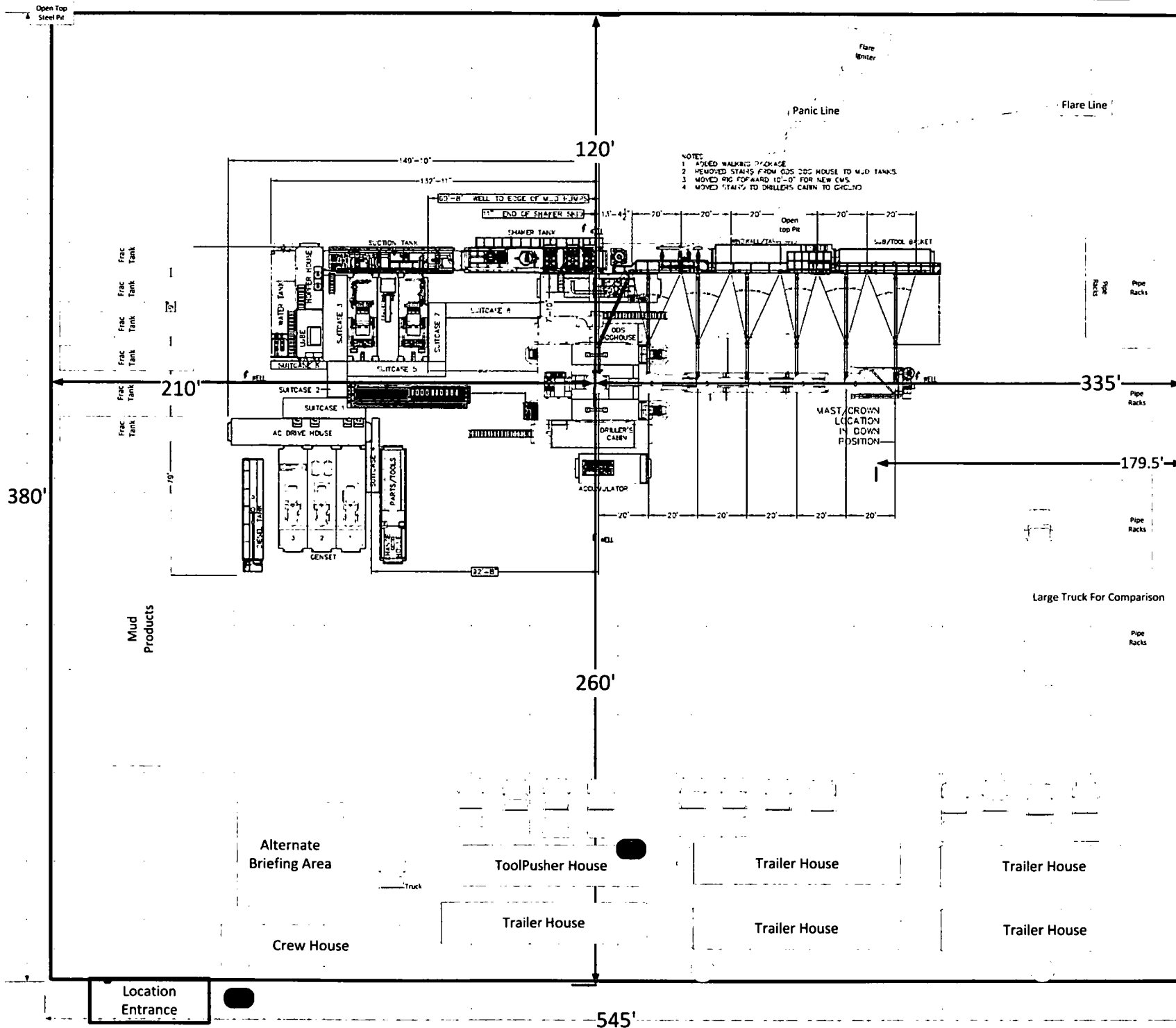
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
600.00	600.00	0.00	0.00	KOP1, Begin 2.00°/100' Build
899.93	899.39	14.69	-5.51	Hold 6.00° Inc at 339.43° Azm
4,340.00	4,320.61	351.28	-131.80	Begin 2.00°/100' Drop
4,639.93	4,620.00	365.97	-137.31	Begin Vertical Hold
8,540.99	8,521.06	365.97	-137.31	KOP2, Begin 10.00°/100' Build
9,436.75	9,094.00	934.66	-142.94	LP, Hold 89.58° Inc at 359.43° Azm
14,435.19	9,131.00	5,932.72	-192.48	Begin 2.00°/100' Drop & Turn
14,478.47	9,131.46	5,975.99	-192.62	Hold 89.20° Inc at 0.21° Azm
19,416.71	9,200.00	10,913.72	-174.17	TD at 19416.71

6 well pad Bi-lateral Patterson Mock Pad



Rig layout shows rig in first and last well for illustration purposes.



H2S Monitor Locations

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

Flag Locations

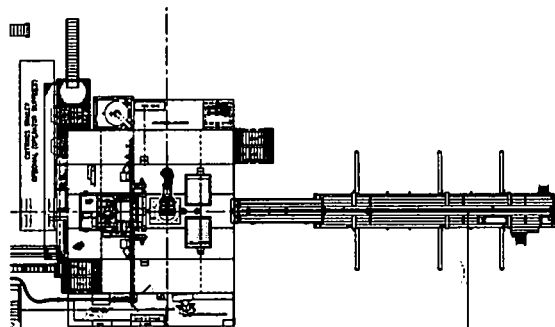
- Sign-in Shack
- Rig Floor
- Dog House

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





NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 17 2018

RECEIVED

Chevron

**Eddy County, NM (NAD27 NME)
HH SO 8 5 Fed 003
2H**

**OH
Plan 1 06-16-17**

Anticollision Report

16 June, 2017





Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 06-16-17		
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** 6/16/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	19,416.70	Plan 1 06-16-17 (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						
Cottonwood Hills 32						
1H - OH - Surveys	19,416.71	9,150.94	1,629.53	1,362.38	6.100	CC, ES, SF
HH SO 8 5 Fed 003						
1H - OH - Plan 1 06-16-17	600.00	600.00	24.74	18.97	4.292	CC
1H - OH - Plan 1 06-16-17	700.00	700.33	25.69	18.85	3.756	ES
1H - OH - Plan 1 06-16-17	19,416.71	19,540.25	949.48	473.61	1.995	SF
3H - OH - Plan 1 06-16-17	675.70	674.08	25.08	18.51	3.816	CC
3H - OH - Plan 1 06-16-17	800.00	797.27	25.45	17.54	3.218	ES
3H - OH - Plan 1 06-16-17	19,416.71	20,034.57	568.69	261.49	1.851	SF
4H - OH - Plan 1 06-16-17	901.51	896.34	44.53	35.57	4.969	CC, ES
4H - OH - Plan 1 06-16-17	19,416.71	20,133.81	1,239.23	799.48	2.818	SF
5H - OH - Plan 1 06-16-17	1,596.45	1,588.18	61.38	44.88	3.722	CC
5H - OH - Plan 1 06-16-17	1,900.00	1,891.35	63.23	43.42	3.192	ES
5H - OH - Plan 1 06-16-17	8,600.00	8,598.83	169.22	76.94	1.834	SF
6H - OH - Plan 1 06-16-17	975.17	964.75	92.11	82.37	9.459	CC
6H - OH - Plan 1 06-16-17	1,000.00	989.27	92.19	82.18	9.213	ES
6H - OH - Plan 1 06-16-17	19,416.71	20,386.28	1,083.41	725.30	3.025	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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 3.00 sigma
 Database: Compass 5000 GCR
 Offset TVD Reference: Reference Datum

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 8 P2						
13HD - OH / Job #61220 - Plan 4 06-13-17	2,474.73	2,384.24	1,300.98	1,275.24	50.548 CC	
13HD - OH / Job #61220 - Plan 4 06-13-17	2,500.00	2,400.00	1,301.05	1,275.09	50.115 ES	
13HD - OH / Job #61220 - Plan 4 06-13-17	19,416.71	20,353.30	1,983.59	1,535.31	4.425 SF	
14HD - OH / Job #61221 - Plan 3 05-10-17	4,660.52	4,630.94	1,011.34	961.38	20.242 CC	
14HD - OH / Job #61221 - Plan 3 05-10-17	8,600.00	8,570.32	1,011.67	920.13	11.052 ES	
14HD - OH / Job #61221 - Plan 3 05-10-17	8,900.00	8,847.39	1,025.64	931.05	10.843 SF	
14HD - ST01 / Job #61221 - Plan 4 06-09-17	4,660.52	4,630.94	1,011.34	961.38	20.242 CC	
14HD - ST01 / Job #61221 - Plan 4 06-09-17	19,416.71	20,421.38	1,308.40	910.63	3.289 ES, SF	
21HA - OH / Job #61216 - Plan 4 06-09-17	1,924.93	1,818.00	1,314.63	1,297.22	75.512 CC	
21HA - OH / Job #61216 - Plan 4 06-09-17	2,100.00	1,982.28	1,316.05	1,296.84	68.484 ES	
21HA - OH / Job #61216 - Plan 4 06-09-17	19,416.71	19,360.41	1,855.13	1,385.66	3.952 SF	
22HA - OH / Job #61217 - Plan 4 06-09-17	4,587.08	4,554.34	914.36	867.27	19.415 CC	
22HA - OH / Job #61217 - Plan 4 06-09-17	19,416.71	19,471.14	927.02	457.80	1.976 ES, SF	
22HA - OH / Job #61217 - Surveys (Patterson 815)	8,194.89	8,169.00	913.29	828.74	10.801 CC	
22HA - OH / Job #61217 - Surveys (Patterson 815)	8,600.00	8,565.65	916.58	827.79	10.323 ES	
22HA - OH / Job #61217 - Surveys (Patterson 815)	8,800.00	8,739.00	923.20	832.34	10.160 SF	
5HC - OH / Job #61218 - Plan 3 06-09-17	2,495.78	2,400.00	1,307.98	1,282.06	50.451 CC	
5HC - OH / Job #61218 - Plan 3 06-09-17	19,416.71	20,004.20	1,498.71	1,043.71	3.294 ES, SF	
6HC - OH / Job #61219 - Plan 3 06-09-17	8,500.00	8,515.25	588.80	498.16	6.496 CC	
6HC - OH / Job #61219 - Plan 3 06-09-17	19,416.71	20,060.22	777.42	382.67	1.969 ES, SF	
HH SO 8 P5						
11H - OH - Plan 1 11-01-16	2,270.53	2,159.96	907.18	884.06	39.228 CC	
11H - OH - Plan 1 11-01-16	19,416.71	18,674.88	930.01	473.59	2.038 ES, SF	
12H - OH - Plan 1 11-01-16	2,117.82	2,009.76	902.70	881.21	42.006 CC	
12H - OH - Plan 1 11-01-16	2,200.00	2,078.02	903.40	881.09	40.482 ES	
12H - OH - Plan 1 11-01-16	19,416.71	18,911.99	1,847.89	1,388.51	4.023 SF	
19H - OH - Plan 2 11-17-16	9,426.07	9,095.20	587.86	487.98	5.886 CC	
19H - OH - Plan 2 11-17-16	19,416.71	19,341.94	747.57	357.66	1.917 ES, SF	
20H - OH - Plan 2 11-17-16	2,109.98	2,008.26	858.67	837.23	40.056 CC	
20H - OH - Plan 2 11-17-16	2,200.00	2,083.60	859.49	837.15	38.465 ES	
20H - OH - Plan 2 11-17-16	19,416.71	19,473.91	1,518.92	1,080.78	3.467 SF	
27H - OH - Plan 2 11-17-16	2,136.89	2,038.37	834.94	813.19	38.396 CC	
27H - OH - Plan 2 11-17-16	2,200.00	2,091.77	835.34	812.95	37.315 ES	
27H - OH - Plan 2 11-17-16	19,416.71	19,875.04	2,027.84	1,599.21	4.731 SF	
28H - OH - Plan 2 11-17-16	2,309.41	2,215.84	813.08	789.41	34.346 CC	
28H - OH - Plan 2 11-17-16	2,600.00	2,502.32	814.54	787.65	30.289 ES	
28H - OH - Plan 2 11-17-16	19,416.71	19,860.22	1,334.29	953.63	3.505 SF	

Offset Design Cottonwood Hills 32 - 1H - OH - Surveys

Survey Program: 129-MWD

Offset Site Error: 0.00 usft

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)			
10,400.00	9,101.13	9,082.59	9,135.59	62.47	28.30	-88.34	11,743.73	-1,576.67	9,948.43	9,857.72	90.71	109.673	
10,500.00	9,101.87	9,083.00	9,136.00	63.85	28.30	-88.35	11,743.73	-1,576.67	9,849.33	9,757.24	92.09	106.953	
10,600.00	9,102.61	9,083.41	9,136.40	65.27	28.30	-88.37	11,743.73	-1,576.66	9,750.25	9,656.74	93.51	104.266	
10,700.00	9,103.35	9,083.81	9,136.81	66.73	28.31	-88.39	11,743.73	-1,576.66	9,651.19	9,556.22	94.98	101.617	
10,800.00	9,104.09	9,084.22	9,137.22	68.23	28.31	-88.41	11,743.73	-1,576.66	9,552.15	9,455.68	96.48	99.011	
10,900.00	9,104.83	9,084.63	9,137.62	69.76	28.31	-88.42	11,743.73	-1,576.66	9,453.13	9,355.12	98.01	96.450	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 Cottonwood Hills 32 - 1H - OH - Surveys													Offset Site Error: 0.00 usft
Survey Program: 129-MWD													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 Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
11,000.00	9,105.57	9,085.03	9,138.03	71.33	28.31	-88.44	11,743.73	-1,576.66	9,354.13	9,254.55	99.58	93.938	
11,100.00	9,106.31	9,085.44	9,138.44	72.92	28.31	-88.46	11,743.72	-1,576.66	9,255.15	9,153.98	101.17	91.477	
11,200.00	9,107.05	9,085.85	9,138.84	74.55	28.31	-88.48	11,743.72	-1,576.66	9,156.20	9,053.40	102.80	89.068	
11,300.00	9,107.79	9,086.25	9,139.25	76.20	28.31	-88.49	11,743.72	-1,576.66	9,057.27	8,952.81	104.45	86.712	
11,400.00	9,108.53	9,086.66	9,139.66	77.87	28.32	-88.51	11,743.72	-1,576.66	8,958.36	8,852.23	106.13	84.409	
11,500.00	9,109.27	9,087.06	9,140.06	79.57	28.32	-88.53	11,743.72	-1,576.66	8,859.47	8,751.64	107.83	82.161	
11,600.00	9,110.01	9,087.47	9,140.47	81.29	28.32	-88.55	11,743.72	-1,576.66	8,760.61	8,651.06	109.55	79.967	
11,700.00	9,110.75	9,087.88	9,140.87	83.03	28.32	-88.56	11,743.72	-1,576.66	8,661.78	8,550.48	111.30	77.826	
11,800.00	9,111.49	9,088.28	9,141.28	84.79	28.32	-88.58	11,743.71	-1,576.66	8,562.97	8,449.92	113.06	75.739	
11,900.00	9,112.24	9,088.69	9,141.69	86.57	28.32	-88.60	11,743.71	-1,576.66	8,464.20	8,349.36	114.84	73.705	
12,000.00	9,112.98	9,089.09	9,142.09	88.36	28.32	-88.62	11,743.71	-1,576.66	8,365.45	8,248.81	116.64	71.722	
12,100.00	9,113.72	9,089.50	9,142.50	90.18	28.32	-88.63	11,743.71	-1,576.66	8,266.73	8,148.28	118.45	69.791	
12,200.00	9,114.46	9,089.90	9,142.90	92.00	28.33	-88.65	11,743.71	-1,576.66	8,168.04	8,047.76	120.28	67.909	
12,300.00	9,115.20	9,090.31	9,143.31	93.84	28.33	-88.67	11,743.71	-1,576.66	8,069.39	7,947.26	122.12	66.077	
12,400.00	9,115.94	9,090.72	9,143.71	95.70	28.33	-88.69	11,743.71	-1,576.66	7,970.76	7,846.79	123.98	64.292	
12,500.00	9,116.68	9,091.12	9,144.12	97.56	28.33	-88.70	11,743.70	-1,576.66	7,872.18	7,746.33	125.85	62.554	
12,600.00	9,117.42	9,091.53	9,144.52	99.44	28.33	-88.72	11,743.70	-1,576.66	7,773.63	7,645.90	127.73	60.862	
12,700.00	9,118.16	9,091.93	9,144.93	101.33	28.33	-88.74	11,743.70	-1,576.66	7,675.11	7,545.49	129.62	59.213	
12,800.00	9,118.90	9,092.34	9,145.33	103.23	28.33	-88.76	11,743.70	-1,576.65	7,576.64	7,445.12	131.52	57.608	
12,900.00	9,119.64	9,092.74	9,145.74	105.14	28.33	-88.77	11,743.70	-1,576.65	7,478.20	7,344.77	133.43	56.045	
13,000.00	9,120.38	9,093.15	9,146.14	107.06	28.34	-88.79	11,743.70	-1,576.65	7,379.81	7,244.46	135.35	54.522	
13,100.00	9,121.12	9,093.55	9,146.55	108.99	28.34	-88.81	11,743.70	-1,576.65	7,281.46	7,144.18	137.29	53.039	
13,200.00	9,121.86	9,093.96	9,146.95	110.93	28.34	-88.83	11,743.70	-1,576.65	7,183.16	7,043.94	139.22	51.594	
13,300.00	9,122.60	9,094.36	9,147.36	112.87	28.34	-88.84	11,743.69	-1,576.65	7,084.90	6,943.73	141.17	50.186	
13,400.00	9,123.34	9,094.76	9,147.76	114.83	28.34	-88.86	11,743.69	-1,576.65	6,986.70	6,843.57	143.13	48.815	
13,500.00	9,124.08	9,095.17	9,148.17	116.79	28.34	-88.88	11,743.69	-1,576.65	6,888.54	6,743.46	145.09	47.478	
13,600.00	9,124.82	9,095.57	9,148.57	118.76	28.34	-88.90	11,743.69	-1,576.65	6,790.44	6,643.39	147.06	46.175	
13,700.00	9,125.56	9,095.98	9,148.98	120.73	28.34	-88.91	11,743.69	-1,576.65	6,692.40	6,543.37	149.03	44.905	
13,800.00	9,126.30	9,096.38	9,149.38	122.71	28.35	-88.93	11,743.69	-1,576.65	6,594.41	6,443.40	151.02	43.667	
13,900.00	9,127.04	9,096.79	9,149.78	124.70	28.35	-88.95	11,743.69	-1,576.65	6,496.49	6,343.49	153.00	42.460	
14,000.00	9,127.78	9,097.19	9,150.19	126.69	28.35	-88.97	11,743.68	-1,576.65	6,398.63	6,243.63	155.00	41.282	
14,100.00	9,128.52	9,097.59	9,150.59	128.69	28.35	-88.98	11,743.68	-1,576.65	6,300.84	6,143.84	157.00	40.133	
14,200.00	9,129.26	9,098.00	9,151.00	130.69	28.35	-89.00	11,743.68	-1,576.65	6,203.12	6,044.11	159.00	39.013	
14,300.00	9,130.00	9,098.40	9,151.40	132.70	28.35	-89.02	11,743.68	-1,576.65	6,105.47	5,944.46	161.01	37.920	
14,400.00	9,130.74	9,098.81	9,151.80	134.71	28.35	-89.04	11,743.68	-1,576.65	6,007.90	5,844.87	163.03	36.853	
14,500.00	9,131.48	9,099.21	9,152.20	136.72	28.36	-89.06	11,743.68	-1,576.65	5,910.54	5,745.62	164.92	35.838	
14,600.00	9,132.22	9,100.00	9,153.00	138.74	28.36	-89.08	11,743.67	-1,576.65	5,813.47	5,646.52	166.95	34.822	
14,700.00	9,132.96	9,100.80	9,153.80	140.76	28.36	-89.10	11,743.67	-1,576.64	5,716.49	5,547.52	168.97	33.831	
14,800.00	9,133.70	9,101.60	9,154.60	142.78	28.37	-89.12	11,743.67	-1,576.64	5,619.62	5,448.62	171.00	32.863	
14,900.00	9,134.44	9,102.40	9,155.40	144.81	28.37	-89.14	11,743.66	-1,576.64	5,522.86	5,349.82	173.03	31.918	
15,000.00	9,135.18	9,103.20	9,156.20	146.84	28.37	-89.16	11,743.66	-1,576.64	5,426.21	5,251.14	175.07	30.994	
15,100.00	9,135.92	9,104.00	9,157.00	148.87	28.38	-89.18	11,743.66	-1,576.64	5,329.70	5,152.58	177.11	30.092	
15,200.00	9,136.66	9,104.80	9,157.80	150.91	28.38	-89.20	11,743.65	-1,576.64	5,233.31	5,054.15	179.16	29.211	
15,300.00	9,137.40	9,105.60	9,158.60	152.95	28.38	-89.22	11,743.65	-1,576.64	5,137.06	4,955.86	181.20	28.350	
15,400.00	9,138.14	9,106.40	9,159.40	155.00	28.39	-89.24	11,743.65	-1,576.64	5,040.95	4,857.70	183.25	27.508	
15,500.00	9,138.88	9,107.20	9,160.20	157.04	28.39	-89.26	11,743.64	-1,576.64	4,945.00	4,759.70	185.30	26.686	
15,600.00	9,139.62	9,108.00	9,161.00	159.09	28.39	-89.28	11,743.64	-1,576.63	4,849.21	4,661.86	187.36	25.882	
15,700.00	9,140.36	9,108.80	9,161.80	161.14	28.40	-89.30	11,743.63	-1,576.63	4,753.60	4,564.18	189.42	25.096	
15,800.00	9,141.10	9,109.60	9,162.60	163.19	28.40	-89.32	11,743.63	-1,576.63	4,658.17	4,466.69	191.48	24.327	
15,900.00	9,141.84	9,110.40	9,163.40	165.25	28.40	-89.34	11,743.63	-1,576.63	4,562.94	4,369.40	193.54	23.576	
16,000.00	9,142.58	9,111.20	9,164.20	167.31	28.41	-89.36	11,743.62	-1,576.63	4,467.91	4,272.30	195.61	22.841	
16,100.00	9,143.32	9,112.00	9,165.00	169.37	28.41	-89.38	11,743.62	-1,576.63	4,373.11	4,175.43	197.68	22.123	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 Cottonwood Hills 32 - 1H - OH - Surveys													Offset Site Error: 0.00 usft
Survey Program: 129-MWD													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)					
16,200.00	9,155.35	9,117.34	9,170.34	171.44	28.41	-88.32	11,743.62	-1,576.63	4,278.54	4,078.79	199.75	21.420	
16,300.00	9,156.74	9,118.39	9,171.39	173.50	28.42	-88.37	11,743.61	-1,576.63	4,184.22	3,982.40	201.82	20.733	
16,400.00	9,158.13	9,119.44	9,172.43	175.57	28.42	-88.41	11,743.61	-1,576.63	4,090.17	3,886.28	203.89	20.060	
16,500.00	9,159.52	9,120.48	9,173.48	177.64	28.42	-88.45	11,743.61	-1,576.63	3,996.42	3,790.45	205.97	19.403	
16,600.00	9,160.91	9,121.53	9,174.53	179.71	28.43	-88.50	11,743.60	-1,576.62	3,902.97	3,694.92	208.05	18.760	
16,700.00	9,162.29	9,122.58	9,175.57	181.79	28.43	-88.54	11,743.60	-1,576.62	3,809.85	3,599.73	210.13	18.131	
16,800.00	9,163.68	9,123.62	9,176.62	183.86	28.43	-88.58	11,743.60	-1,576.62	3,717.10	3,504.89	212.21	17.516	
16,900.00	9,165.07	9,124.67	9,177.67	185.94	28.43	-88.62	11,743.59	-1,576.62	3,624.72	3,410.43	214.29	16.915	
17,000.00	9,166.46	9,125.72	9,178.71	188.02	28.44	-88.67	11,743.59	-1,576.62	3,532.76	3,316.39	216.38	16.327	
17,100.00	9,167.85	9,126.76	9,179.76	190.10	28.44	-88.71	11,743.59	-1,576.62	3,441.25	3,222.79	218.46	15.752	
17,200.00	9,169.23	9,127.81	9,180.81	192.19	28.44	-88.75	11,743.58	-1,576.62	3,350.23	3,129.68	220.55	15.190	
17,300.00	9,170.62	9,128.86	9,181.85	194.27	28.45	-88.79	11,743.58	-1,576.62	3,259.73	3,037.09	222.64	14.641	
17,400.00	9,172.01	9,129.90	9,182.90	196.36	28.45	-88.84	11,743.57	-1,576.62	3,169.80	2,945.07	224.73	14.105	
17,500.00	9,173.40	9,130.95	9,183.94	198.44	28.45	-88.88	11,743.57	-1,576.62	3,080.49	2,853.67	226.83	13.581	
17,600.00	9,174.79	9,131.99	9,184.99	200.53	28.46	-88.92	11,743.57	-1,576.61	2,991.86	2,762.94	228.92	13.069	
17,700.00	9,176.17	9,133.04	9,186.03	202.62	28.46	-88.96	11,743.56	-1,576.61	2,903.97	2,672.95	231.02	12.570	
17,800.00	9,177.56	9,134.08	9,187.08	204.71	28.46	-89.01	11,743.56	-1,576.61	2,816.88	2,583.77	233.11	12.084	
17,900.00	9,178.95	9,135.13	9,188.12	206.81	28.47	-89.05	11,743.56	-1,576.61	2,730.68	2,495.47	235.21	11.610	
18,000.00	9,180.34	9,136.17	9,189.17	208.90	28.47	-89.09	11,743.55	-1,576.61	2,645.45	2,408.14	237.31	11.148	
18,100.00	9,181.73	9,137.21	9,190.21	211.00	28.47	-89.13	11,743.55	-1,576.61	2,561.29	2,321.88	239.41	10.698	
18,200.00	9,183.11	9,138.26	9,191.26	213.09	28.48	-89.18	11,743.55	-1,576.61	2,478.30	2,236.79	241.51	10.262	
18,300.00	9,184.50	9,139.30	9,192.30	215.19	28.48	-89.22	11,743.54	-1,576.61	2,396.61	2,153.00	243.61	9.838	
18,400.00	9,185.89	9,140.34	9,193.34	217.29	28.48	-89.26	11,743.54	-1,576.61	2,316.36	2,070.65	245.72	9.427	
18,500.00	9,187.28	9,141.39	9,194.39	219.39	28.49	-89.30	11,743.54	-1,576.61	2,237.70	1,989.88	247.82	9.030	
18,600.00	9,188.66	9,142.43	9,195.43	221.49	28.49	-89.35	11,743.53	-1,576.61	2,160.81	1,910.88	249.93	8.646	
18,700.00	9,190.05	9,143.47	9,196.47	223.59	28.49	-89.39	11,743.53	-1,576.60	2,085.87	1,833.84	252.03	8.276	
18,800.00	9,191.44	9,144.52	9,197.51	225.69	28.50	-89.43	11,743.52	-1,576.60	2,013.11	1,758.98	254.14	7.921	
18,900.00	9,192.83	9,145.56	9,198.56	227.79	28.50	-89.47	11,743.52	-1,576.60	1,942.78	1,686.53	256.25	7.582	
19,000.00	9,194.22	9,146.60	9,199.60	229.90	28.50	-89.52	11,743.52	-1,576.60	1,875.14	1,616.79	258.35	7.258	
19,100.00	9,195.60	9,147.64	9,200.64	232.00	28.51	-89.56	11,743.51	-1,576.60	1,810.50	1,550.04	260.46	6.951	
19,200.00	9,196.99	9,148.68	9,201.68	234.11	28.51	-89.60	11,743.51	-1,576.60	1,749.20	1,486.62	262.57	6.662	
19,300.00	9,198.38	9,149.73	9,202.72	236.22	28.51	-89.64	11,743.51	-1,576.60	1,691.58	1,426.90	264.69	6.391	
19,400.00	9,199.77	9,150.77	9,203.76	238.33	28.52	-89.69	11,743.50	-1,576.60	1,638.05	1,371.25	266.80	6.140	
19,416.71	9,200.00	9,150.94	9,203.94	238.68	28.52	-89.69	11,743.50	-1,576.60	1,629.53	1,362.38	267.15	6.100 CC, ES, 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 1H - OH - Plan 1 06-16-17													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)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-179.35	-24.74	-0.28	24.74				
100.00	100.00	100.00	100.00	0.19	0.19	-179.35	-24.74	-0.28	24.74	24.35	0.39	63.897	
200.00	200.00	200.00	200.00	0.73	0.73	-179.35	-24.74	-0.28	24.74	23.28	1.46	16.914	
300.00	300.00	300.00	300.00	1.27	1.27	-179.35	-24.74	-0.28	24.74	22.20	2.54	9.747	
400.00	400.00	400.00	400.00	1.81	1.81	-179.35	-24.74	-0.28	24.74	21.12	3.61	6.846	
500.00	500.00	500.00	500.00	2.34	2.34	-179.35	-24.74	-0.28	24.74	20.05	4.69	5.276	
600.00	600.00	600.00	600.00	2.88	2.88	-179.35	-24.74	-0.28	24.74	18.97	5.76	4.292 CC	
700.00	699.98	700.33	700.30	3.42	3.42	-163.71	-23.98	1.30	25.69	18.85	6.84	3.756 ES	
800.00	799.84	800.31	800.15	3.96	3.95	-176.15	-21.73	6.04	29.51	21.60	7.91	3.729	
899.93	899.39	899.57	899.03	4.50	4.48	169.87	-18.01	13.85	38.00	29.02	8.99	4.229	
1,000.00	998.90	998.15	996.87	5.05	5.02	158.18	-12.87	24.66	50.44	40.39	10.06	5.016	
1,100.00	1,098.36	1,095.79	1,093.32	5.60	5.57	148.60	-6.35	38.36	65.56	54.42	11.14	5.887	
1,200.00	1,197.81	1,193.35	1,189.25	6.16	6.15	141.11	1.28	54.40	83.26	71.04	12.23	6.809	
1,300.00	1,297.26	1,291.26	1,285.48	6.72	6.74	136.16	9.03	70.69	102.01	88.69	13.33	7.656	
1,400.00	1,396.71	1,389.18	1,381.72	7.28	7.33	132.76	16.79	86.99	121.27	106.84	14.43	8.405	
1,500.00	1,496.17	1,487.09	1,477.96	7.84	7.94	130.30	24.54	103.28	140.83	125.29	15.53	9.065	
1,600.00	1,595.62	1,585.00	1,574.19	8.41	8.55	128.43	32.29	119.57	160.57	143.93	16.65	9.647	
1,700.00	1,695.07	1,682.92	1,670.43	8.98	9.16	126.98	40.04	135.86	180.45	162.69	17.76	10.160	
1,800.00	1,794.52	1,780.83	1,766.67	9.54	9.78	125.81	47.79	152.15	200.41	181.54	18.88	10.617	
1,900.00	1,893.98	1,878.74	1,862.90	10.11	10.40	124.85	55.54	168.44	220.44	200.45	20.00	11.024	
2,000.00	1,993.43	1,976.66	1,959.14	10.68	11.02	124.06	63.29	184.73	240.52	219.40	21.12	11.390	
2,100.00	2,092.88	2,074.57	2,055.38	11.25	11.65	123.39	71.05	201.03	260.64	238.40	22.24	11.720	
2,200.00	2,192.33	2,172.48	2,151.61	11.82	12.28	122.81	78.80	217.32	280.78	257.42	23.36	12.018	
2,300.00	2,291.79	2,270.40	2,247.85	12.39	12.91	122.31	86.55	233.61	300.95	276.46	24.49	12.290	
2,400.00	2,391.24	2,368.31	2,344.09	12.96	13.54	121.87	94.30	249.90	321.14	295.53	25.61	12.537	
2,500.00	2,490.69	2,466.22	2,440.33	13.53	14.17	121.49	102.05	266.19	341.35	314.60	26.74	12.764	
2,600.00	2,590.14	2,564.14	2,536.56	14.10	14.80	121.15	109.80	282.48	361.56	333.69	27.87	12.973	
2,700.00	2,689.60	2,662.05	2,632.80	14.67	15.43	120.84	117.55	298.78	381.79	352.79	29.00	13.166	
2,800.00	2,789.05	2,759.96	2,729.04	15.24	16.06	120.56	125.31	315.07	402.03	371.90	30.13	13.344	
2,900.00	2,888.50	2,857.88	2,825.27	15.81	16.70	120.32	133.06	331.36	422.28	391.02	31.26	13.509	
3,000.00	2,987.95	2,955.79	2,921.51	16.39	17.33	120.09	140.81	347.65	442.53	410.14	32.39	13.663	
3,100.00	3,087.41	3,053.70	3,017.75	16.96	17.97	119.88	148.56	363.94	462.79	429.27	33.52	13.807	
3,200.00	3,186.86	3,151.62	3,113.98	17.53	18.61	119.69	156.31	380.23	483.05	448.40	34.65	13.941	
3,300.00	3,286.31	3,249.53	3,210.22	18.10	19.24	119.52	164.06	396.52	503.32	467.54	35.78	14.066	
3,400.00	3,385.76	3,347.44	3,306.46	18.68	19.88	119.36	171.81	412.82	523.60	486.68	36.91	14.184	
3,500.00	3,485.22	3,445.36	3,402.69	19.25	20.52	119.21	179.57	429.11	543.87	505.83	38.05	14.295	
3,600.00	3,584.67	3,543.27	3,498.93	19.82	21.15	119.07	187.32	445.40	564.15	524.97	39.18	14.399	
3,700.00	3,684.12	3,641.18	3,595.17	20.39	21.79	118.95	195.07	461.69	584.44	544.12	40.31	14.497	
3,800.00	3,783.57	3,739.10	3,691.40	20.97	22.43	118.83	202.82	477.98	604.72	563.28	41.45	14.590	
3,900.00	3,883.02	3,837.01	3,787.64	21.54	23.07	118.72	210.57	494.27	625.01	582.43	42.58	14.679	
4,000.00	3,982.48	3,934.92	3,883.88	22.11	23.70	118.61	218.32	510.57	645.30	601.59	43.71	14.762	
4,100.00	4,081.93	4,032.84	3,980.11	22.68	24.34	118.51	226.07	526.86	665.59	620.74	44.85	14.841	
4,200.00	4,181.38	4,130.75	4,076.35	23.26	24.98	118.42	233.82	543.15	685.89	639.90	45.98	14.916	
4,300.00	4,280.83	4,228.66	4,172.59	23.83	25.62	118.33	241.58	559.44	706.18	659.06	47.12	14.988	
4,400.00	4,380.35	4,326.63	4,268.87	24.40	26.26	118.42	249.33	575.74	726.19	677.89	48.29	15.037	
4,500.00	4,480.12	4,424.80	4,365.36	24.95	26.90	118.41	257.10	592.07	744.70	695.23	49.47	15.053	
4,600.00	4,580.07	4,523.08	4,461.96	25.48	27.54	118.15	264.88	608.43	761.64	711.02	50.61	15.048	
4,700.00	4,680.07	4,621.37	4,558.57	25.99	28.19	96.98	272.67	624.78	777.33	725.62	51.72	15.030	
4,800.00	4,780.07	4,719.66	4,655.18	26.50	28.83	96.27	280.45	641.14	793.02	740.24	52.78	15.025	
4,900.00	4,880.07	4,817.95	4,751.78	27.01	29.47	95.59	288.23	657.49	808.83	754.98	53.85	15.021	
5,000.00	4,980.07	4,916.23	4,848.39	27.52	30.11	94.93	296.01	673.84	824.74	769.83	54.91	15.019	
5,100.00	5,080.07	5,014.52	4,944.99	28.03	30.75	94.30	303.79	690.20	840.76	784.78	55.98	15.020	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 1H - OH - Plan 1 06-16-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (")	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	5,180.07	5,112.81	5,041.60	28.55	31.40	93.69	311.57	706.55	856.87	799.83	57.04	15.022	
5,300.00	5,280.07	5,211.10	5,138.20	29.06	32.04	93.10	319.35	722.90	873.08	814.97	58.11	15.025	
5,400.00	5,380.07	5,309.39	5,234.81	29.58	32.68	92.54	327.13	739.26	889.37	830.19	59.17	15.030	
5,500.00	5,480.07	5,407.67	5,331.41	30.10	33.32	91.99	334.91	755.61	905.74	845.50	60.24	15.035	
5,600.00	5,580.07	5,505.96	5,428.02	30.61	33.97	91.47	342.69	771.97	922.19	860.89	61.31	15.042	
5,700.00	5,680.07	5,626.52	5,546.69	31.13	34.74	90.87	351.82	791.14	938.08	875.59	62.49	15.011	
5,800.00	5,780.07	5,767.42	5,686.30	31.65	35.58	90.37	359.92	808.17	950.14	886.36	63.78	14.898	
5,900.00	5,880.07	5,909.85	5,828.21	32.17	36.36	90.05	365.11	819.07	957.79	892.74	65.05	14.724	
6,000.00	5,980.07	6,053.15	5,971.40	32.69	37.07	89.92	367.26	823.60	960.95	894.65	66.29	14.495	
6,100.00	6,080.07	6,161.82	6,080.07	33.21	37.56	89.92	367.32	823.73	961.04	893.69	67.35	14.270	
6,200.00	6,180.07	6,261.82	6,180.07	33.73	38.02	89.92	367.32	823.73	961.04	892.68	68.36	14.059	
6,300.00	6,280.07	6,361.82	6,280.07	34.25	38.48	89.92	367.32	823.73	961.04	891.67	69.37	13.854	
6,400.00	6,380.07	6,461.82	6,380.07	34.77	38.94	89.92	367.32	823.73	961.04	890.65	70.39	13.654	
6,500.00	6,480.07	6,561.82	6,480.07	35.30	39.40	89.92	367.32	823.73	961.04	889.64	71.40	13.460	
6,600.00	6,580.07	6,661.82	6,580.07	35.82	39.86	89.92	367.32	823.73	961.04	888.62	72.42	13.271	
6,700.00	6,680.07	6,761.82	6,680.07	36.34	40.33	89.92	367.32	823.73	961.04	887.60	73.44	13.086	
6,800.00	6,780.07	6,861.82	6,780.07	36.87	40.79	89.92	367.32	823.73	961.04	886.58	74.46	12.907	
6,900.00	6,880.07	6,961.82	6,880.07	37.39	41.26	89.92	367.32	823.73	961.04	885.56	75.48	12.732	
7,000.00	6,980.07	7,061.82	6,980.07	37.92	41.73	89.92	367.32	823.73	961.04	884.53	76.51	12.562	
7,100.00	7,080.07	7,161.82	7,080.07	38.44	42.21	89.92	367.32	823.73	961.04	883.51	77.53	12.396	
7,200.00	7,180.07	7,261.82	7,180.07	38.97	42.68	89.92	367.32	823.73	961.04	882.48	78.56	12.234	
7,300.00	7,280.07	7,361.82	7,280.07	39.49	43.15	89.92	367.32	823.73	961.04	881.45	79.58	12.076	
7,400.00	7,380.07	7,461.82	7,380.07	40.02	43.63	89.92	367.32	823.73	961.04	880.42	80.61	11.921	
7,500.00	7,480.07	7,561.82	7,480.07	40.54	44.11	89.92	367.32	823.73	961.04	879.39	81.64	11.771	
7,600.00	7,580.07	7,661.82	7,580.07	41.07	44.59	89.92	367.32	823.73	961.04	878.36	82.68	11.624	
7,700.00	7,680.07	7,761.82	7,680.07	41.60	45.07	89.92	367.32	823.73	961.04	877.33	83.71	11.481	
7,800.00	7,780.07	7,861.82	7,780.07	42.13	45.55	89.92	367.32	823.73	961.04	876.30	84.74	11.341	
7,900.00	7,880.07	7,961.82	7,880.07	42.65	46.03	89.92	367.32	823.73	961.04	875.26	85.78	11.204	
8,000.00	7,980.07	8,061.82	7,980.07	43.18	46.52	89.92	367.32	823.73	961.04	874.23	86.81	11.070	
8,100.00	8,080.07	8,161.82	8,080.07	43.71	47.00	89.92	367.32	823.73	961.04	873.19	87.85	10.940	
8,200.00	8,180.07	8,261.82	8,180.07	44.24	47.49	89.92	367.32	823.73	961.04	872.15	88.89	10.812	
8,300.00	8,280.07	8,361.82	8,280.07	44.77	47.98	89.92	367.32	823.73	961.04	871.11	89.92	10.687	
8,400.00	8,380.07	8,461.82	8,380.07	45.29	48.47	89.92	367.32	823.73	961.04	870.08	90.96	10.565	
8,500.00	8,480.07	8,561.82	8,480.07	45.82	48.96	89.92	367.32	823.73	961.04	869.04	92.00	10.446	
8,526.33	8,506.40	8,588.14	8,506.40	45.96	49.09	90.51	367.32	823.73	961.04	868.78	92.26	10.417	
8,600.00	8,579.96	8,661.71	8,579.96	46.36	49.45	90.66	367.32	823.73	961.07	868.03	93.03	10.330	
8,700.00	8,678.03	8,765.01	8,682.85	46.93	49.97	91.37	374.88	823.60	961.23	867.06	94.16	10.208	
8,800.00	8,771.34	8,870.94	8,785.21	47.54	50.54	92.05	401.57	823.15	961.38	866.02	95.35	10.082	
8,900.00	8,857.03	8,979.09	8,882.83	48.17	51.13	92.67	447.74	822.36	961.47	864.88	96.59	9.954	
9,000.00	8,932.52	9,089.28	8,971.57	48.82	51.71	93.20	512.77	821.25	961.47	863.60	97.88	9.823	
9,100.00	8,995.51	9,201.19	9,047.28	49.51	52.31	93.64	594.91	819.86	961.33	862.12	99.21	9.690	
9,200.00	9,044.08	9,314.35	9,106.16	50.22	52.92	93.95	691.33	818.22	960.99	860.39	100.60	9.552	
9,300.00	9,076.76	9,428.24	9,145.15	50.96	53.60	94.12	798.12	816.40	960.44	858.38	102.06	9.410	
9,400.00	9,092.55	9,542.24	9,162.28	51.72	54.34	94.14	910.62	814.49	959.69	856.10	103.59	9.264	
9,500.00	9,094.47	9,644.89	9,164.08	52.50	55.08	94.16	1,013.24	812.74	958.96	853.83	105.14	9.121	
9,600.00	9,095.21	9,744.89	9,165.42	53.35	55.87	94.20	1,113.21	811.04	958.30	851.48	106.82	8.971	
9,700.00	9,095.95	9,844.89	9,166.76	54.27	56.75	94.24	1,213.18	809.34	957.64	848.99	108.65	8.814	
9,800.00	9,096.69	9,944.88	9,168.10	55.27	57.69	94.28	1,313.15	807.64	956.97	846.36	110.62	8.651	
9,900.00	9,097.43	10,044.88	9,169.44	56.33	58.70	94.32	1,413.13	805.94	956.31	843.60	112.71	8.485	
10,000.00	9,098.17	10,144.87	9,170.78	57.45	59.78	94.35	1,513.10	804.24	955.65	840.72	114.93	8.315	
10,100.00	9,098.91	10,244.87	9,172.12	58.62	60.91	94.39	1,613.07	802.54	954.99	837.72	117.27	8.144	
10,200.00	9,099.65	10,344.86	9,173.46	59.86	62.11	94.43	1,713.04	800.84	954.32	834.61	119.71	7.972	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 1H - OH - Plan 1 06-16-17												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 Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	9,100.39	10,444.86	9,174.80	61.14	63.35	94.47	1,813.02	799.13	953.66	831.40	122.26	7.800	
10,400.00	9,101.13	10,544.86	9,176.14	62.47	64.64	94.51	1,912.99	797.43	953.00	828.10	124.91	7.630	
10,500.00	9,101.87	10,644.85	9,177.48	63.85	65.98	94.55	2,012.96	795.73	952.34	824.70	127.64	7.461	
10,600.00	9,102.61	10,744.85	9,178.83	65.27	67.36	94.59	2,112.93	794.03	951.68	821.22	130.46	7.295	
10,700.00	9,103.35	10,844.84	9,180.17	66.73	68.78	94.63	2,212.90	792.33	951.02	817.66	133.36	7.131	
10,800.00	9,104.09	10,944.84	9,181.51	68.23	70.25	94.67	2,312.88	790.63	950.36	814.03	136.33	6.971	
10,900.00	9,104.83	11,044.83	9,182.85	69.76	71.74	94.71	2,412.85	788.93	949.71	810.33	139.37	6.814	
11,000.00	9,105.57	11,144.83	9,184.19	71.33	73.27	94.75	2,512.82	787.23	949.05	806.57	142.48	6.661	
11,100.00	9,106.31	11,244.82	9,185.53	72.92	74.83	94.79	2,612.79	785.53	948.39	802.74	145.65	6.511	
11,200.00	9,107.05	11,344.82	9,186.87	74.55	76.42	94.83	2,712.77	783.83	947.73	798.86	148.87	6.366	
11,300.00	9,107.79	11,444.82	9,188.21	76.20	78.04	94.87	2,812.74	782.13	947.08	794.93	152.15	6.225	
11,400.00	9,108.53	11,544.81	9,189.55	77.87	79.69	94.91	2,912.71	780.43	946.42	790.94	155.48	6.087	
11,500.00	9,109.27	11,644.81	9,190.89	79.57	81.36	94.95	3,012.68	778.73	945.77	786.91	158.85	5.954	
11,600.00	9,110.01	11,744.80	9,192.23	81.29	83.05	94.99	3,112.65	777.02	945.11	782.84	162.27	5.824	
11,700.00	9,110.75	11,844.80	9,193.57	83.03	84.76	95.03	3,212.63	775.32	944.46	778.73	165.73	5.699	
11,800.00	9,111.49	11,944.79	9,194.91	84.79	86.49	95.07	3,312.60	773.62	943.80	774.58	169.22	5.577	
11,900.00	9,112.24	12,044.79	9,196.25	86.57	88.25	95.11	3,412.57	771.92	943.15	770.39	172.76	5.459	
12,000.00	9,112.98	12,144.79	9,197.59	88.36	90.02	95.15	3,512.54	770.22	942.49	766.17	176.32	5.345	
12,100.00	9,113.72	12,244.78	9,198.93	90.18	91.80	95.19	3,612.52	768.52	941.84	761.92	179.92	5.235	
12,200.00	9,114.46	12,344.78	9,200.28	92.00	93.61	95.23	3,712.49	766.82	941.19	757.64	183.55	5.128	
12,300.00	9,115.20	12,444.77	9,201.62	93.84	95.42	95.27	3,812.46	765.12	940.54	753.33	187.20	5.024	
12,400.00	9,115.94	12,544.77	9,202.96	95.70	97.26	95.31	3,912.43	763.42	939.89	749.00	190.89	4.924	
12,500.00	9,116.68	12,644.76	9,204.30	97.56	99.10	95.35	4,012.40	761.72	939.23	744.64	194.59	4.827	
12,600.00	9,117.42	12,744.76	9,205.64	99.44	100.96	95.39	4,112.38	760.02	938.58	740.26	198.32	4.733	
12,700.00	9,118.16	12,844.76	9,206.98	101.33	102.83	95.43	4,212.35	758.32	937.93	735.86	202.08	4.641	
12,800.00	9,118.90	12,944.75	9,208.32	103.23	104.71	95.47	4,312.32	756.62	937.28	731.43	205.85	4.553	
12,900.00	9,119.64	13,044.75	9,209.66	105.14	106.60	95.51	4,412.29	754.91	936.64	726.99	209.64	4.468	
13,000.00	9,120.38	13,144.74	9,211.00	107.06	108.50	95.55	4,512.27	753.21	935.99	722.53	213.46	4.385	
13,100.00	9,121.12	13,244.74	9,212.34	108.99	110.42	95.59	4,612.24	751.51	935.34	718.05	217.29	4.305	
13,200.00	9,121.86	13,344.73	9,213.68	110.93	112.34	95.64	4,712.21	749.81	934.69	713.56	221.13	4.227	
13,300.00	9,122.60	13,444.73	9,215.02	112.87	114.27	95.68	4,812.18	748.11	934.04	709.05	224.99	4.151	
13,400.00	9,123.34	13,544.73	9,216.36	114.83	116.20	95.72	4,912.15	746.41	933.40	704.53	228.87	4.078	
13,500.00	9,124.08	13,644.72	9,217.70	116.79	118.15	95.76	5,012.13	744.71	932.75	699.99	232.76	4.007	
13,600.00	9,124.82	13,744.72	9,219.04	118.76	120.10	95.80	5,112.10	743.01	932.10	695.44	236.67	3.938	
13,700.00	9,125.56	13,844.71	9,220.39	120.73	122.06	95.84	5,212.07	741.31	931.46	690.88	240.58	3.872	
13,800.00	9,126.30	13,944.71	9,221.73	122.71	124.03	95.88	5,312.04	739.61	930.81	686.30	244.51	3.807	
13,900.00	9,127.04	14,044.70	9,223.07	124.70	126.00	95.92	5,412.02	737.91	930.17	681.72	248.45	3.744	
14,000.00	9,127.78	14,144.70	9,224.41	126.69	127.98	95.96	5,511.99	736.21	929.53	677.12	252.40	3.683	
14,100.00	9,128.52	14,244.70	9,225.75	128.69	129.97	96.01	5,611.96	734.51	928.88	672.52	256.37	3.623	
14,200.00	9,129.26	14,344.69	9,227.09	130.69	131.96	96.05	5,711.93	732.81	928.24	667.90	260.34	3.566	
14,300.00	9,130.00	14,444.69	9,228.43	132.70	133.96	96.09	5,811.90	731.10	927.60	663.28	264.32	3.509	
14,400.00	9,130.74	14,544.68	9,229.77	134.71	135.96	96.13	5,911.88	729.40	926.96	658.65	268.31	3.455	
14,500.00	9,131.48	14,644.67	9,231.11	136.72	137.96	96.17	6,011.85	727.69	926.32	654.00	272.27	3.405	
14,508.81	9,131.88	14,634.33	9,231.58	136.90	137.75	96.18	6,001.50	728.57	926.46	654.08	272.39	3.401	
14,600.00	9,133.15	14,718.04	9,234.55	138.74	139.43	96.29	6,085.15	729.25	927.06	651.21	275.84	3.361	
14,700.00	9,134.54	14,818.01	9,238.22	140.76	141.44	96.42	6,185.06	730.18	927.87	648.07	279.80	3.316	
14,800.00	9,135.92	14,917.99	9,241.88	142.78	143.46	96.56	6,284.96	731.12	928.69	644.93	283.75	3.273	
14,900.00	9,137.31	15,017.96	9,245.55	144.81	145.47	96.69	6,384.86	732.06	929.51	641.79	287.71	3.231	
15,000.00	9,138.70	15,117.93	9,249.21	146.84	147.49	96.83	6,484.76	732.99	930.34	638.65	291.68	3.190	
15,100.00	9,140.09	15,217.90	9,252.87	148.87	149.52	96.96	6,584.66	733.93	931.17	635.52	295.65	3.150	
15,200.00	9,141.48	15,317.88	9,256.54	150.91	151.55	97.10	6,684.56	734.86	932.01	632.38	299.63	3.111	
15,300.00	9,142.86	15,417.85	9,260.20	152.95	153.58	97.23	6,784.46	735.80	932.85	629.24	303.60	3.073	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 1H - OH - Plan 1 06-16-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (")	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	9,144.25	15,517.82	9,263.87	154.99	155.61	97.37	6,884.36	736.74	933.70	626.11	307.59	3.036	
15,500.00	9,145.64	15,617.79	9,267.53	157.04	157.65	97.50	6,984.26	737.67	934.55	622.98	311.57	2.999	
15,600.00	9,147.03	15,717.77	9,271.19	159.09	159.69	97.64	7,084.16	738.61	935.41	619.85	315.56	2.964	
15,700.00	9,148.41	15,817.74	9,274.86	161.14	161.73	97.77	7,184.06	739.55	936.27	616.73	319.55	2.930	
15,800.00	9,149.80	15,917.71	9,278.52	163.19	163.78	97.90	7,283.97	740.48	937.14	613.60	323.54	2.897	
15,900.00	9,151.19	16,017.68	9,282.19	165.25	165.83	98.04	7,383.87	741.42	938.01	610.48	327.53	2.864	
16,000.00	9,152.58	16,117.66	9,285.85	167.31	167.88	98.17	7,483.77	742.35	938.89	607.37	331.53	2.832	
16,100.00	9,153.97	16,217.63	9,289.51	169.37	169.93	98.30	7,583.67	743.29	939.78	604.25	335.52	2.801	
16,200.00	9,155.35	16,317.60	9,293.18	171.44	171.99	98.43	7,683.57	744.23	940.67	601.14	339.52	2.771	
16,300.00	9,156.74	16,422.06	9,296.83	173.50	174.14	98.50	7,783.98	745.18	941.37	597.71	343.66	2.739	
16,400.00	9,158.13	16,524.15	9,299.54	175.57	176.24	98.59	7,884.07	746.07	941.61	593.73	347.89	2.707	
16,500.00	9,159.52	16,624.13	9,299.99	177.64	178.30	98.27	7,990.04	746.93	941.81	589.73	352.08	2.675	
16,600.00	9,160.91	16,724.11	9,294.44	179.71	180.37	98.15	8,090.02	747.78	942.02	585.73	356.28	2.644	
16,700.00	9,162.29	16,824.09	9,293.90	181.79	182.43	98.03	8,189.99	748.64	942.22	581.74	360.49	2.614	
16,800.00	9,163.68	16,924.07	9,293.35	183.86	184.50	97.91	8,289.97	749.50	942.44	577.74	364.70	2.584	
16,900.00	9,165.07	17,024.05	9,292.80	185.94	186.57	97.79	8,389.94	750.36	942.65	573.74	368.91	2.555	
17,000.00	9,166.46	17,124.03	9,292.26	188.02	188.64	97.67	8,489.92	751.22	942.88	569.75	373.13	2.527	
17,100.00	9,167.85	17,224.01	9,291.71	190.10	190.72	97.55	8,589.89	752.08	943.10	565.75	377.35	2.499	
17,200.00	9,169.23	17,323.99	9,291.16	192.19	192.79	97.43	8,689.87	752.94	943.33	561.76	381.57	2.472	
17,300.00	9,170.62	17,423.97	9,290.62	194.27	194.87	97.31	8,789.84	753.80	943.56	557.76	385.80	2.446	
17,400.00	9,172.01	17,523.95	9,290.07	196.36	196.95	97.19	8,889.82	754.66	943.80	553.77	390.03	2.420	
17,500.00	9,173.40	17,623.93	9,289.52	198.44	199.03	97.07	8,989.79	755.52	944.04	549.78	394.26	2.394	
17,600.00	9,174.79	17,723.91	9,288.98	200.53	201.11	96.95	9,089.77	756.38	944.29	545.79	398.50	2.370	
17,700.00	9,176.17	17,823.89	9,288.43	202.62	203.19	96.83	9,189.74	757.24	944.54	541.80	402.74	2.345	
17,800.00	9,177.56	17,923.87	9,287.89	204.71	205.27	96.71	9,289.72	758.10	944.80	537.81	406.98	2.321	
17,900.00	9,178.95	18,023.85	9,287.34	206.81	207.36	96.59	9,389.69	758.96	945.05	533.82	411.23	2.298	
18,000.00	9,180.34	18,123.83	9,286.79	208.90	209.45	96.47	9,489.67	759.81	945.32	529.84	415.48	2.275	
18,100.00	9,181.73	18,223.81	9,286.25	211.00	211.54	96.35	9,589.64	760.67	945.58	525.86	419.73	2.253	
18,200.00	9,183.11	18,323.79	9,285.70	213.09	213.63	96.23	9,689.62	761.53	945.85	521.87	423.98	2.231	
18,300.00	9,184.50	18,423.77	9,285.15	215.19	215.72	96.11	9,789.59	762.39	946.13	517.89	428.23	2.209	
18,400.00	9,185.89	18,523.75	9,284.61	217.29	217.81	95.99	9,889.57	763.25	946.41	513.92	432.49	2.188	
18,500.00	9,187.28	18,623.73	9,284.06	219.39	219.90	95.87	9,989.54	764.11	946.69	509.94	436.75	2.168	
18,600.00	9,188.66	18,723.71	9,283.51	221.49	222.00	95.75	10,089.52	764.97	946.98	505.97	441.01	2.147	
18,700.00	9,190.05	18,823.69	9,282.97	223.59	224.09	95.63	10,189.49	765.83	947.27	502.00	445.27	2.127	
18,800.00	9,191.44	18,923.67	9,282.42	225.69	226.19	95.51	10,289.47	766.69	947.57	498.03	449.54	2.108	
18,900.00	9,192.83	19,023.65	9,281.87	227.79	228.29	95.39	10,389.44	767.55	947.87	494.06	453.80	2.089	
19,000.00	9,194.22	19,123.63	9,281.33	229.90	230.39	95.27	10,489.42	768.41	948.17	490.10	458.07	2.070	
19,100.00	9,195.60	19,223.61	9,280.78	232.00	232.49	95.16	10,589.39	769.27	948.48	486.14	462.34	2.051	
19,200.00	9,196.99	19,323.59	9,280.23	234.11	234.59	95.04	10,689.37	770.13	948.79	482.18	466.61	2.033	
19,300.00	9,198.38	19,423.57	9,279.69	236.22	236.69	94.92	10,789.34	770.99	949.11	478.22	470.88	2.016	
19,400.00	9,199.77	19,523.55	9,279.14	238.33	238.79	94.80	10,889.32	771.84	949.43	474.27	475.16	1.998	
19,416.71	9,200.00	19,540.25	9,279.05	238.68	239.14	94.78	10,906.02	771.99	949.48	473.61	475.87	1.995 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 3H - OH - Plan 1 06-16-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	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)			
0.00	0.00	0.00	1.00	0.00	0.00	-0.06	25.10	-0.03	25.12				
100.00	100.00	99.00	100.00	0.19	0.19	-0.06	25.10	-0.03	25.10	24.71	0.39	65.157	
200.00	200.00	199.00	200.00	0.73	0.73	-0.06	25.10	-0.03	25.10	23.64	1.46	17.225	
300.00	300.00	299.00	300.00	1.27	1.26	-0.06	25.10	-0.03	25.10	22.57	2.53	9.911	
400.00	400.00	399.00	400.00	1.81	1.80	-0.06	25.10	-0.03	25.10	21.49	3.61	6.957	
500.00	500.00	499.00	500.00	2.34	2.34	-0.06	25.10	-0.03	25.10	20.42	4.68	5.359	
600.00	600.00	599.00	600.00	2.88	2.88	-0.06	25.10	-0.03	25.10	19.34	5.76	4.358	
675.70	675.69	674.08	675.07	3.29	3.28	22.05	26.00	0.30	25.08	18.51	6.57	3.816 CC	
700.00	699.98	698.18	699.16	3.42	3.41	23.22	26.68	0.55	25.08	18.25	6.83	3.671	
800.00	799.84	797.27	798.11	3.96	3.95	31.32	31.47	2.32	25.45	17.54	7.91	3.218 ES	
899.93	899.39	896.12	896.59	4.50	4.48	43.80	39.45	5.26	27.14	18.17	8.98	3.023	
1,000.00	998.90	995.88	995.81	5.05	5.02	56.31	49.22	8.86	30.78	20.72	10.06	3.059	
1,100.00	1,098.36	1,095.62	1,095.00	5.60	5.57	65.83	59.00	12.47	35.56	24.40	11.16	3.187	
1,200.00	1,197.81	1,195.35	1,194.19	6.16	6.13	72.96	68.78	16.07	41.08	28.82	12.26	3.351	
1,300.00	1,297.26	1,295.09	1,293.38	6.72	6.69	78.34	78.55	19.68	47.07	33.71	13.37	3.522	
1,400.00	1,396.71	1,394.82	1,392.57	7.28	7.25	82.48	88.33	23.28	53.39	38.91	14.48	3.687	
1,500.00	1,496.17	1,494.56	1,491.75	7.84	7.81	85.73	98.10	26.88	59.93	44.33	15.60	3.842	
1,600.00	1,595.62	1,594.29	1,590.94	8.41	8.37	88.34	107.88	30.49	66.62	49.90	16.72	3.985	
1,700.00	1,695.07	1,694.03	1,690.13	8.98	8.93	90.46	117.66	34.09	73.42	55.58	17.84	4.115	
1,800.00	1,794.52	1,793.76	1,789.32	9.54	9.50	92.23	127.43	37.70	80.31	61.34	18.97	4.234	
1,900.00	1,893.98	1,893.49	1,888.51	10.11	10.07	93.71	137.21	41.30	87.26	67.17	20.09	4.343	
2,000.00	1,993.43	1,993.23	1,987.70	10.68	10.63	94.98	146.98	44.90	94.26	73.04	21.22	4.442	
2,100.00	2,092.88	2,092.96	2,086.89	11.25	11.20	96.07	156.76	48.51	101.30	78.95	22.35	4.533	
2,200.00	2,192.33	2,192.70	2,186.08	11.82	11.77	97.02	166.54	52.11	108.37	84.89	23.48	4.616	
2,300.00	2,291.79	2,292.43	2,285.27	12.39	12.33	97.85	176.31	55.71	115.47	90.86	24.61	4.692	
2,400.00	2,391.24	2,392.17	2,384.46	12.96	12.90	98.58	186.09	59.32	122.59	96.85	25.74	4.763	
2,500.00	2,490.69	2,491.90	2,483.64	13.53	13.47	99.24	195.86	62.92	129.72	102.85	26.87	4.828	
2,600.00	2,590.14	2,591.64	2,582.83	14.10	14.04	99.82	205.64	66.53	136.88	108.87	28.00	4.888	
2,700.00	2,689.60	2,691.37	2,682.02	14.67	14.61	100.35	215.42	70.13	144.04	114.91	29.14	4.944	
2,800.00	2,789.05	2,791.11	2,781.21	15.24	15.18	100.83	225.19	73.73	151.22	120.95	30.27	4.996	
2,900.00	2,888.50	2,890.84	2,880.40	15.81	15.75	101.26	234.97	77.34	158.40	127.00	31.40	5.044	
3,000.00	2,987.95	2,990.58	2,979.59	16.39	16.32	101.66	244.74	80.94	165.59	133.06	32.53	5.090	
3,100.00	3,087.41	3,090.31	3,078.78	16.96	16.89	102.02	254.52	84.55	172.79	139.13	33.67	5.132	
3,200.00	3,186.86	3,190.05	3,177.97	17.53	17.46	102.36	264.30	88.15	180.00	145.20	34.80	5.172	
3,300.00	3,286.31	3,289.78	3,277.16	18.10	18.03	102.67	274.07	91.75	187.21	151.28	35.94	5.210	
3,400.00	3,385.76	3,389.51	3,376.34	18.68	18.60	102.95	283.85	95.36	194.43	157.36	37.07	5.245	
3,500.00	3,485.22	3,489.25	3,475.53	19.25	19.17	103.22	293.63	98.96	201.65	163.45	38.21	5.278	
3,600.00	3,584.67	3,588.98	3,574.72	19.82	19.74	103.46	303.40	102.56	208.88	169.54	39.34	5.310	
3,700.00	3,684.12	3,688.72	3,673.91	20.39	20.31	103.70	313.18	106.17	216.11	175.63	40.47	5.339	
3,800.00	3,783.57	3,788.50	3,773.15	20.97	20.88	103.91	322.96	109.77	223.34	181.73	41.61	5.367	
3,900.00	3,883.02	3,891.90	3,876.16	21.54	21.46	104.55	331.30	112.85	229.76	187.00	42.76	5.374	
4,000.00	3,982.48	3,995.22	3,979.34	22.11	22.02	105.97	336.15	114.64	234.68	190.79	43.89	5.347	
4,100.00	4,081.93	4,097.82	4,081.93	22.68	22.55	108.13	337.53	115.14	238.33	193.34	44.99	5.298	
4,200.00	4,181.38	4,197.27	4,181.38	23.26	23.06	110.48	337.53	115.14	241.80	195.74	46.06	5.249	
4,300.00	4,280.83	4,296.73	4,280.83	23.83	23.57	112.75	337.53	115.14	245.67	198.53	47.14	5.212	
4,400.00	4,380.35	4,396.24	4,380.35	24.40	24.08	114.86	337.53	115.14	249.65	201.44	48.21	5.178	
4,500.00	4,480.12	4,496.02	4,480.12	24.95	24.59	116.28	337.53	115.14	252.52	203.24	49.28	5.124	
4,600.00	4,580.07	4,595.96	4,580.07	25.48	25.11	116.94	337.53	115.14	253.92	203.60	50.33	5.046	
4,700.00	4,680.07	4,695.96	4,680.07	25.99	25.62	96.43	337.53	115.14	254.05	202.70	51.35	4.947	
4,800.00	4,780.07	4,795.96	4,780.07	26.50	26.14	96.43	337.53	115.14	254.05	201.67	52.38	4.850	
4,900.00	4,880.07	4,895.96	4,880.07	27.01	26.66	96.43	337.53	115.14	254.05	200.64	53.41	4.756	
5,000.00	4,980.07	4,995.96	4,980.07	27.52	27.18	96.43	337.53	115.14	254.05	199.60	54.45	4.666	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 5 Fed 003 - 3H - OH - Plan 1 06-16-17												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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
5,100.00	5,080.07	5,095.96	5,080.07	28.03	27.70	96.43	337.53	115.14	254.05	198.57	55.48	4.579	
5,200.00	5,180.07	5,195.96	5,180.07	28.55	28.22	96.43	337.53	115.14	254.05	197.53	56.52	4.495	
5,300.00	5,280.07	5,295.96	5,280.07	29.06	28.74	96.43	337.53	115.14	254.05	196.49	57.56	4.414	
5,400.00	5,380.07	5,395.96	5,380.07	29.58	29.26	96.43	337.53	115.14	254.05	195.45	58.60	4.335	
5,500.00	5,480.07	5,495.96	5,480.07	30.10	29.78	96.43	337.53	115.14	254.05	194.41	59.64	4.260	
5,600.00	5,580.07	5,595.96	5,580.07	30.61	30.30	96.43	337.53	115.14	254.05	193.37	60.68	4.186	
5,700.00	5,680.07	5,695.96	5,680.07	31.13	30.83	96.43	337.53	115.14	254.05	192.32	61.73	4.116	
5,800.00	5,780.07	5,795.96	5,780.07	31.65	31.35	96.43	337.53	115.14	254.05	191.28	62.77	4.047	
5,900.00	5,880.07	5,895.96	5,880.07	32.17	31.87	96.43	337.53	115.14	254.05	190.23	63.82	3.981	
6,000.00	5,980.07	5,995.96	5,980.07	32.69	32.40	96.43	337.53	115.14	254.05	189.19	64.86	3.917	
6,100.00	6,080.07	6,095.96	6,080.07	33.21	32.92	96.43	337.53	115.14	254.05	188.14	65.91	3.854	
6,200.00	6,180.07	6,195.96	6,180.07	33.73	33.45	96.43	337.53	115.14	254.05	187.09	66.96	3.794	
6,300.00	6,280.07	6,295.96	6,280.07	34.25	33.98	96.43	337.53	115.14	254.05	186.04	68.01	3.735	
6,400.00	6,380.07	6,395.96	6,380.07	34.77	34.50	96.43	337.53	115.14	254.05	184.99	69.06	3.679	
6,500.00	6,480.07	6,495.96	6,480.07	35.30	35.03	96.43	337.53	115.14	254.05	183.94	70.11	3.624	
6,600.00	6,580.07	6,595.96	6,580.07	35.82	35.55	96.43	337.53	115.14	254.05	182.89	71.16	3.570	
6,700.00	6,680.07	6,695.96	6,680.07	36.34	36.08	96.43	337.53	115.14	254.05	181.83	72.21	3.518	
6,800.00	6,780.07	6,795.96	6,780.07	36.87	36.61	96.43	337.53	115.14	254.05	180.78	73.27	3.467	
6,900.00	6,880.07	6,895.96	6,880.07	37.39	37.14	96.43	337.53	115.14	254.05	179.73	74.32	3.418	
7,000.00	6,980.07	6,995.96	6,980.07	37.92	37.66	96.43	337.53	115.14	254.05	178.67	75.38	3.370	
7,100.00	7,080.07	7,095.96	7,080.07	38.44	38.19	96.43	337.53	115.14	254.05	177.62	76.43	3.324	
7,200.00	7,180.07	7,195.96	7,180.07	38.97	38.72	96.43	337.53	115.14	254.05	176.56	77.49	3.279	
7,300.00	7,280.07	7,295.96	7,280.07	39.49	39.25	96.43	337.53	115.14	254.05	175.51	78.54	3.235	
7,400.00	7,380.07	7,395.96	7,380.07	40.02	39.78	96.43	337.53	115.14	254.05	174.45	79.60	3.192	
7,500.00	7,480.07	7,495.96	7,480.07	40.54	40.31	96.43	337.53	115.14	254.05	173.39	80.66	3.150	
7,600.00	7,580.07	7,595.96	7,580.07	41.07	40.84	96.43	337.53	115.14	254.05	172.34	81.71	3.109	
7,700.00	7,680.07	7,695.96	7,680.07	41.60	41.37	96.43	337.53	115.14	254.05	171.28	82.77	3.069	
7,800.00	7,780.07	7,795.96	7,780.07	42.13	41.90	96.43	337.53	115.14	254.05	170.22	83.83	3.031	
7,900.00	7,880.07	7,895.96	7,880.07	42.65	42.43	96.43	337.53	115.14	254.05	169.16	84.89	2.993	
8,000.00	7,980.07	7,995.96	7,980.07	43.18	42.96	96.43	337.53	115.14	254.05	168.10	85.95	2.956	
8,100.00	8,080.07	8,095.96	8,080.07	43.71	43.49	96.43	337.53	115.14	254.05	167.04	87.01	2.920	
8,200.00	8,180.07	8,195.96	8,180.07	44.24	44.02	96.43	337.53	115.14	254.05	165.98	88.07	2.885	
8,300.00	8,280.07	8,295.96	8,280.07	44.77	44.55	96.43	337.53	115.14	254.05	164.92	89.13	2.850	
8,400.00	8,380.07	8,395.96	8,380.07	45.29	45.08	96.43	337.53	115.14	254.05	163.86	90.19	2.817	
8,500.00	8,480.07	8,495.96	8,480.07	45.82	45.61	96.43	337.53	115.14	254.05	162.80	91.25	2.784	
8,517.88	8,497.95	8,513.84	8,497.95	45.92	45.71	97.03	337.53	115.14	254.07	162.63	91.44	2.778	
8,600.00	8,579.96	8,595.86	8,579.96	46.36	46.14	97.63	337.53	115.14	254.44	162.12	92.32	2.756	
8,700.00	8,678.03	8,693.93	8,678.03	46.93	46.67	101.40	337.53	115.14	257.64	164.33	93.31	2.761	
8,800.00	8,771.34	8,787.23	8,771.34	47.54	47.16	107.52	337.53	115.14	267.24	173.38	93.86	2.847	
8,900.00	8,857.03	8,872.93	8,857.03	48.17	47.62	114.18	337.53	115.14	288.31	195.01	93.30	3.090	
9,000.00	8,932.52	8,948.41	8,932.52	48.82	48.02	119.52	337.53	115.14	325.09	233.65	91.44	3.555	
9,100.00	8,995.51	9,011.40	8,995.51	49.51	48.35	122.15	337.53	115.14	378.81	289.56	89.25	4.245	
9,200.00	9,044.08	9,059.97	9,044.08	50.22	48.61	120.92	337.53	115.14	447.72	358.89	88.82	5.040	
9,300.00	9,076.76	9,092.65	9,076.76	50.96	48.79	114.16	337.53	115.14	528.38	435.85	92.52	5.711	
9,400.00	9,092.55	9,108.45	9,092.55	51.72	48.87	99.07	337.53	115.14	616.84	517.45	99.39	6.206	
9,500.00	9,094.47	10,151.80	9,690.29	52.50	55.45	157.05	1,024.75	108.36	647.45	593.53	53.92	12.008	
9,600.00	9,095.21	10,251.68	9,686.21	53.35	56.27	156.88	1,124.54	107.37	643.01	587.84	55.17	11.655	
9,700.00	9,095.95	10,351.57	9,682.13	54.27	57.16	156.71	1,224.34	106.39	638.57	582.04	56.54	11.295	
9,800.00	9,096.69	10,451.45	9,678.05	55.27	58.12	156.54	1,324.13	105.40	634.15	576.12	58.02	10.929	
9,900.00	9,097.43	10,551.33	9,673.97	56.33	59.13	156.37	1,423.93	104.41	629.72	570.11	59.62	10.563	
10,000.00	9,098.17	10,651.22	9,669.89	57.45	60.21	156.19	1,523.73	103.43	625.31	564.00	61.31	10.199	
10,100.00	9,098.91	10,751.10	9,665.81	58.62	61.35	156.01	1,623.52	102.44	620.90	557.80	63.10	9.840	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 5 Fed 003 - 3H - OH - Plan 1 06-16-17												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
10,200.00	9,099.65	10,850.98	9,661.73	59.86	62.54	155.83	1,723.32	101.46	616.50	551.52	64.98	9.488	
10,300.00	9,100.39	10,950.87	9,657.65	61.14	63.78	155.64	1,823.11	100.47	612.10	545.16	66.94	9.144	
10,400.00	9,101.13	11,050.75	9,653.57	62.47	65.06	155.45	1,922.91	99.49	607.71	538.73	68.98	8.810	
10,500.00	9,101.87	11,150.63	9,649.49	63.85	66.40	155.26	2,022.70	98.50	603.32	532.23	71.10	8.486	
10,600.00	9,102.61	11,250.52	9,645.41	65.27	67.77	155.07	2,122.50	97.52	598.95	525.66	73.28	8.173	
10,700.00	9,103.35	11,350.40	9,641.33	66.73	69.19	154.87	2,222.29	96.53	594.57	519.04	75.53	7.872	
10,800.00	9,104.09	11,450.29	9,637.25	68.23	70.64	154.67	2,322.09	95.54	590.21	512.37	77.84	7.582	
10,900.00	9,104.83	11,550.17	9,633.17	69.76	72.13	154.47	2,421.88	94.56	585.86	505.64	80.22	7.303	
11,000.00	9,105.57	11,650.05	9,629.09	71.33	73.65	154.27	2,521.68	93.57	581.51	498.86	82.64	7.038	
11,100.00	9,106.31	11,749.94	9,625.01	72.92	75.20	154.06	2,621.47	92.59	577.17	492.04	85.12	6.780	
11,200.00	9,107.05	11,849.82	9,620.93	74.55	76.79	153.85	2,721.27	91.60	572.83	485.18	87.65	6.535	
11,300.00	9,107.79	11,949.70	9,616.85	76.20	78.40	153.63	2,821.07	90.62	568.51	478.27	90.23	6.301	
11,400.00	9,108.53	12,049.59	9,612.77	77.87	80.03	153.42	2,920.86	89.63	564.19	471.33	92.86	6.076	
11,500.00	9,109.27	12,149.47	9,608.69	79.57	81.69	153.19	3,020.66	88.65	559.88	464.35	95.53	5.861	
11,600.00	9,110.01	12,249.35	9,604.61	81.29	83.37	152.97	3,120.45	87.66	555.58	457.34	98.24	5.655	
11,700.00	9,110.75	12,349.24	9,600.53	83.03	85.07	152.74	3,220.25	86.67	551.29	450.29	101.00	5.458	
11,800.00	9,111.49	12,436.52	9,597.93	84.79	86.58	152.59	3,307.48	85.81	548.00	444.48	103.52	5.294	
11,874.33	9,112.05	12,500.00	9,597.68	86.11	87.68	152.55	3,370.96	85.18	547.26	442.00	105.26	5.199	
11,900.00	9,112.24	12,522.76	9,597.94	86.57	88.07	152.56	3,393.71	84.95	547.34	441.50	105.85	5.171	
12,000.00	9,112.98	12,622.76	9,599.28	88.36	89.82	152.58	3,493.70	83.96	547.87	439.61	108.27	5.060	
12,100.00	9,113.72	12,722.75	9,600.62	90.18	91.59	152.61	3,593.68	82.96	548.41	437.70	110.70	4.954	
12,200.00	9,114.46	12,822.75	9,601.96	92.00	93.38	152.64	3,693.67	81.97	548.94	435.78	113.16	4.851	
12,300.00	9,115.20	12,922.75	9,603.30	93.84	95.18	152.67	3,793.65	80.97	549.47	433.84	115.63	4.752	
12,400.00	9,115.94	13,022.75	9,604.64	95.70	96.99	152.70	3,893.63	79.98	550.00	431.89	118.12	4.656	
12,500.00	9,116.68	13,122.75	9,605.99	97.56	98.82	152.73	3,993.62	78.98	550.54	429.92	120.62	4.564	
12,600.00	9,117.42	13,222.74	9,607.33	99.44	100.66	152.76	4,093.60	77.98	551.07	427.94	123.13	4.476	
12,700.00	9,118.16	13,322.74	9,608.67	101.33	102.52	152.79	4,193.59	76.99	551.60	425.95	125.65	4.390	
12,800.00	9,118.90	13,422.74	9,610.01	103.23	104.38	152.82	4,293.57	75.99	552.13	423.94	128.19	4.307	
12,900.00	9,119.64	13,522.74	9,611.35	105.14	106.26	152.85	4,393.56	75.00	552.67	421.93	130.74	4.227	
13,000.00	9,120.38	13,622.74	9,612.70	107.06	108.15	152.88	4,493.54	74.00	553.20	419.90	133.30	4.150	
13,100.00	9,121.12	13,722.74	9,614.04	108.99	110.05	152.90	4,593.52	73.01	553.73	417.87	135.86	4.076	
13,200.00	9,121.86	13,822.73	9,615.38	110.93	111.96	152.93	4,693.51	72.01	554.27	415.83	138.44	4.004	
13,300.00	9,122.60	13,922.73	9,616.72	112.87	113.87	152.96	4,793.49	71.01	554.80	413.78	141.02	3.934	
13,400.00	9,123.34	14,022.73	9,618.06	114.83	115.80	152.99	4,893.48	70.02	555.34	411.72	143.61	3.867	
13,500.00	9,124.08	14,122.73	9,619.41	116.79	117.73	153.02	4,993.46	69.02	555.87	409.66	146.21	3.802	
13,600.00	9,124.82	14,222.73	9,620.75	118.76	119.67	153.05	5,093.44	68.03	556.40	407.59	148.81	3.739	
13,700.00	9,125.56	14,322.72	9,622.09	120.73	121.62	153.08	5,193.43	67.03	556.94	405.51	151.42	3.678	
13,800.00	9,126.30	14,422.72	9,623.43	122.71	123.57	153.11	5,293.41	66.04	557.47	403.43	154.04	3.619	
13,900.00	9,127.04	14,522.72	9,624.77	124.70	125.54	153.13	5,393.40	65.04	558.01	401.34	156.66	3.562	
14,000.00	9,127.78	14,622.72	9,626.11	126.69	127.51	153.16	5,493.38	64.04	558.54	399.25	159.29	3.506	
14,100.00	9,128.52	14,722.72	9,627.46	128.69	129.48	153.19	5,593.37	63.05	559.08	397.16	161.92	3.453	
14,200.00	9,129.26	14,822.72	9,628.80	130.69	131.46	153.22	5,693.35	62.05	559.61	395.06	164.56	3.401	
14,300.00	9,130.00	14,922.71	9,630.14	132.70	133.45	153.25	5,793.33	61.06	560.15	392.95	167.19	3.350	
14,400.00	9,130.74	15,022.71	9,631.48	134.71	135.44	153.27	5,893.32	60.06	560.68	390.84	169.84	3.301	
14,500.00	9,131.76	15,118.39	9,632.83	136.72	137.34	153.29	5,988.98	59.62	561.01	388.49	172.52	3.252	
14,600.00	9,133.15	15,218.39	9,634.34	138.74	139.34	153.29	6,088.97	60.00	561.12	385.90	175.22	3.202	
14,700.00	9,134.54	15,318.39	9,635.86	140.76	141.34	153.30	6,188.96	60.38	561.23	383.31	177.92	3.154	
14,800.00	9,135.92	15,418.39	9,637.37	142.78	143.34	153.30	6,288.95	60.75	561.35	380.72	180.63	3.108	
14,900.00	9,137.31	15,518.39	9,638.88	144.81	145.35	153.31	6,388.93	61.13	561.46	378.12	183.35	3.062	
15,000.00	9,138.70	15,618.39	9,640.40	146.84	147.37	153.31	6,488.92	61.51	561.58	375.51	186.06	3.018	
15,100.00	9,140.09	15,718.39	9,641.91	148.87	149.38	153.32	6,588.91	61.89	561.69	372.91	188.78	2.975	
15,200.00	9,141.48	15,818.39	9,643.42	150.91	151.40	153.32	6,688.90	62.27	561.80	370.30	191.50	2.934	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 3H - OH - Plan 1 06-16-17													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
15,300.00	9,142.86	15,918.39	9,644.94	152.95	153.43	153.33	6,788.88	62.64	561.92	367.69	194.23	2.893	
15,400.00	9,144.25	16,018.39	9,646.45	154.99	155.46	153.33	6,888.87	63.02	562.03	365.07	196.96	2.854	
15,500.00	9,145.64	16,118.39	9,647.96	157.04	157.49	153.34	6,988.86	63.40	562.15	362.46	199.69	2.815	
15,600.00	9,147.03	16,218.39	9,649.48	159.09	159.52	153.35	7,088.85	63.78	562.26	359.83	202.43	2.778	
15,700.00	9,148.41	16,318.39	9,650.99	161.14	161.56	153.35	7,188.84	64.16	562.38	357.21	205.16	2.741	
15,800.00	9,149.80	16,418.39	9,652.50	163.19	163.60	153.36	7,288.82	64.54	562.49	354.59	207.90	2.706	
15,900.00	9,151.19	16,518.39	9,654.02	165.25	165.64	153.36	7,388.81	64.91	562.60	351.96	210.65	2.671	
16,000.00	9,152.58	16,618.39	9,655.53	167.31	167.69	153.37	7,488.80	65.29	562.72	349.33	213.39	2.637	
16,100.00	9,153.97	16,718.39	9,657.04	169.37	169.74	153.37	7,588.79	65.67	562.83	346.70	216.14	2.604	
16,200.00	9,155.35	16,818.39	9,658.56	171.44	171.79	153.38	7,688.77	66.05	562.95	344.06	218.88	2.572	
16,300.00	9,156.74	16,918.39	9,660.07	173.50	173.84	153.38	7,788.76	66.43	563.06	341.42	221.64	2.540	
16,400.00	9,158.13	17,018.39	9,661.58	175.57	175.90	153.39	7,888.75	66.80	563.17	338.79	224.39	2.510	
16,500.00	9,159.52	17,118.39	9,663.10	177.64	177.96	153.39	7,988.74	67.18	563.29	336.15	227.14	2.480	
16,600.00	9,160.91	17,218.39	9,664.61	179.71	180.02	153.40	8,088.72	67.56	563.40	333.50	229.90	2.451	
16,700.00	9,162.29	17,318.39	9,666.12	181.79	182.08	153.40	8,188.71	67.94	563.52	330.86	232.66	2.422	
16,800.00	9,163.68	17,418.39	9,667.64	183.86	184.15	153.41	8,288.70	68.32	563.63	328.22	235.42	2.394	
16,900.00	9,165.07	17,518.39	9,669.15	185.94	186.21	153.41	8,388.69	68.69	563.74	325.57	238.18	2.367	
17,000.00	9,166.46	17,618.39	9,670.66	188.02	188.28	153.42	8,488.68	69.07	563.86	322.92	240.94	2.340	
17,100.00	9,167.85	17,718.39	9,672.18	190.10	190.35	153.43	8,588.66	69.45	563.97	320.27	243.70	2.314	
17,200.00	9,169.23	17,817.87	9,673.73	192.19	192.41	153.43	8,688.63	69.81	564.13	317.68	246.45	2.289	
17,300.00	9,170.62	17,917.87	9,675.36	194.27	194.49	153.45	8,788.62	70.17	564.33	315.14	249.19	2.265	
17,400.00	9,172.01	18,017.87	9,676.99	196.36	196.56	153.46	8,888.61	70.52	564.54	312.60	251.94	2.241	
17,500.00	9,173.40	18,117.87	9,678.62	198.44	198.64	153.47	8,988.59	70.87	564.74	310.06	254.68	2.217	
17,600.00	9,174.79	18,217.87	9,680.25	200.53	200.72	153.49	9,088.58	71.22	564.95	307.53	257.42	2.195	
17,700.00	9,176.17	18,317.87	9,681.88	202.62	202.80	153.50	9,188.56	71.57	565.16	304.99	260.17	2.172	
17,800.00	9,177.56	18,417.87	9,683.51	204.71	204.88	153.51	9,288.55	71.93	565.36	302.45	262.92	2.150	
17,900.00	9,178.95	18,517.87	9,685.14	206.81	206.97	153.52	9,388.54	72.28	565.57	299.90	265.66	2.129	
18,000.00	9,180.34	18,617.87	9,686.76	208.90	209.05	153.54	9,488.52	72.63	565.77	297.36	268.41	2.108	
18,100.00	9,181.73	18,717.87	9,688.39	211.00	211.14	153.55	9,588.51	72.98	565.98	294.82	271.16	2.087	
18,200.00	9,183.11	18,817.87	9,690.02	213.09	213.23	153.56	9,687.99	73.33	566.19	292.28	273.91	2.067	
18,300.00	9,184.50	18,917.87	9,691.65	215.19	215.32	153.58	9,787.98	73.68	566.39	289.74	276.66	2.047	
18,400.00	9,185.89	19,017.87	9,693.28	217.29	217.41	153.59	9,887.96	74.04	566.60	287.19	279.40	2.028	
18,500.00	9,187.28	19,117.87	9,694.91	219.39	219.50	153.60	9,987.95	74.39	566.80	284.65	282.15	2.009	
18,600.00	9,188.66	19,217.86	9,696.54	221.49	221.59	153.61	10,087.94	74.74	567.01	282.11	284.90	1.990	
18,700.00	9,190.05	19,317.86	9,698.17	223.59	223.69	153.63	10,187.92	75.09	567.22	279.56	287.65	1.972	
18,800.00	9,191.44	19,417.86	9,699.79	225.69	225.78	153.64	10,287.91	75.44	567.42	277.02	290.40	1.954	
18,900.00	9,192.83	19,517.86	9,701.42	227.79	227.88	153.65	10,387.89	75.79	567.63	274.47	293.15	1.936	
19,000.00	9,194.22	19,617.86	9,703.05	229.90	229.98	153.67	10,487.88	76.15	567.83	271.93	295.90	1.919	
19,100.00	9,195.60	19,717.86	9,704.68	232.00	232.07	153.68	10,587.86	76.50	568.04	269.39	298.66	1.902	
19,200.00	9,196.99	19,817.86	9,706.31	234.11	234.17	153.69	10,687.85	76.85	568.25	266.84	301.41	1.885	
19,300.00	9,198.38	19,917.86	9,707.94	236.22	236.27	153.70	10,787.84	77.20	568.45	264.30	304.16	1.869	
19,400.00	9,199.77	20,017.86	9,709.57	238.33	238.32	153.72	10,887.82	77.55	568.66	261.84	306.82	1.853	
19,416.71	9,200.00	20,034.57	9,709.84	238.68	238.62	153.72	10,904.53	77.61	568.69	261.49	307.20	1.851SF	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 4H - OH - Plan 1 06-16-17												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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	2.00	0.00	0.00	-0.06	50.20	-0.06	50.24				
100.00	100.00	98.00	100.00	0.19	0.19	-0.06	50.20	-0.06	50.20	49.82	0.38	130.972	
200.00	200.00	198.00	200.00	0.73	0.72	-0.06	50.20	-0.06	50.20	48.75	1.45	34.577	
300.00	300.00	298.00	300.00	1.27	1.26	-0.06	50.20	-0.06	50.20	47.67	2.53	19.863	
400.00	400.00	398.00	400.00	1.81	1.80	-0.06	50.20	-0.06	50.20	46.60	3.60	13.934	
500.00	500.00	498.00	500.00	2.34	2.33	-0.06	50.20	-0.06	50.20	45.52	4.68	10.731	
600.00	600.00	598.00	600.00	2.88	2.87	-0.06	50.20	-0.06	50.20	44.45	5.75	8.725	
700.00	699.98	697.47	699.45	3.42	3.40	23.08	50.65	1.54	49.07	42.25	6.82	7.193	
800.00	799.84	796.55	798.40	3.96	3.92	31.60	52.04	6.43	46.39	38.50	7.88	5.883	
899.93	899.39	894.80	896.28	4.50	4.45	47.22	54.34	14.52	44.53	35.59	8.95	4.978	
901.51	900.95	896.34	897.81	4.51	4.46	47.52	54.38	14.67	44.53	35.57	8.96	4.969 CC, ES	
1,000.00	998.90	992.26	993.03	5.05	4.98	66.58	57.53	25.74	48.44	38.42	10.02	4.836	
1,100.00	1,098.36	1,088.69	1,088.32	5.60	5.53	82.26	61.56	39.94	60.28	49.19	11.09	5.435	
1,200.00	1,197.81	1,183.96	1,181.93	6.16	6.09	92.39	66.41	57.00	78.47	66.31	12.16	6.453	
1,300.00	1,297.26	1,280.35	1,276.18	6.72	6.68	98.64	71.93	76.43	100.54	87.30	13.24	7.596	
1,400.00	1,396.71	1,377.40	1,371.05	7.28	7.29	102.64	77.51	96.08	123.45	109.13	14.32	8.624	
1,500.00	1,496.17	1,474.44	1,465.91	7.84	7.91	105.39	83.09	115.73	146.75	131.35	15.40	9.530	
1,600.00	1,595.62	1,571.48	1,560.78	8.41	8.54	107.39	88.68	135.39	170.29	153.80	16.49	10.327	
1,700.00	1,695.07	1,668.53	1,655.65	8.98	9.17	108.90	94.26	155.04	193.98	176.39	17.59	11.030	
1,800.00	1,794.52	1,765.57	1,750.52	9.54	9.81	110.08	99.84	174.70	217.76	199.07	18.69	11.653	
1,900.00	1,893.98	1,862.61	1,845.38	10.11	10.45	111.03	105.43	194.35	241.62	221.83	19.79	12.208	
2,000.00	1,993.43	1,959.65	1,940.25	10.68	11.10	111.81	111.01	214.00	265.52	244.62	20.90	12.705	
2,100.00	2,092.88	2,056.70	2,035.12	11.25	11.75	112.46	116.59	233.66	289.47	267.46	22.01	13.152	
2,200.00	2,192.33	2,153.74	2,129.99	11.82	12.40	113.01	122.18	253.31	313.44	290.32	23.12	13.556	
2,300.00	2,291.79	2,250.78	2,224.85	12.39	13.06	113.48	127.76	272.96	337.44	313.20	24.24	13.923	
2,400.00	2,391.24	2,347.82	2,319.72	12.96	13.71	113.89	133.34	292.62	361.46	336.11	25.35	14.257	
2,500.00	2,490.69	2,444.87	2,414.59	13.53	14.37	114.25	138.93	312.27	385.49	359.02	26.47	14.562	
2,600.00	2,590.14	2,541.91	2,509.46	14.10	15.03	114.57	144.51	331.92	409.54	381.95	27.59	14.843	
2,700.00	2,689.60	2,638.95	2,604.32	14.67	15.69	114.85	150.09	351.58	433.59	404.88	28.71	15.101	
2,800.00	2,789.05	2,736.00	2,699.19	15.24	16.35	115.10	155.68	371.23	457.66	427.82	29.83	15.340	
2,900.00	2,888.50	2,833.04	2,794.06	15.81	17.02	115.33	161.26	390.88	481.73	450.77	30.96	15.562	
3,000.00	2,987.95	2,930.08	2,888.93	16.39	17.68	115.53	166.84	410.54	505.81	473.73	32.08	15.767	
3,100.00	3,087.41	3,027.12	2,983.80	16.96	18.34	115.72	172.43	430.19	529.89	496.69	33.20	15.958	
3,200.00	3,186.86	3,124.17	3,078.66	17.53	19.01	115.89	178.01	449.85	553.98	519.65	34.33	16.137	
3,300.00	3,286.31	3,221.21	3,173.53	18.10	19.67	116.04	183.59	469.50	578.07	542.62	35.45	16.304	
3,400.00	3,385.76	3,318.25	3,268.40	18.68	20.34	116.19	189.18	489.15	602.17	565.59	36.58	16.461	
3,500.00	3,485.22	3,415.29	3,363.27	19.25	21.01	116.32	194.76	508.81	626.27	588.56	37.71	16.608	
3,600.00	3,584.67	3,512.34	3,458.13	19.82	21.67	116.44	200.34	528.46	650.37	611.54	38.84	16.747	
3,700.00	3,684.12	3,609.38	3,553.00	20.39	22.34	116.56	205.93	548.11	674.48	634.51	39.96	16.878	
3,800.00	3,783.57	3,706.42	3,647.87	20.97	23.01	116.66	211.51	567.77	698.59	657.49	41.09	17.001	
3,900.00	3,883.02	3,803.47	3,742.74	21.54	23.67	116.76	217.09	587.42	722.70	680.48	42.22	17.118	
4,000.00	3,982.48	3,900.51	3,837.60	22.11	24.34	116.85	222.68	607.07	746.81	703.46	43.35	17.228	
4,100.00	4,081.93	3,997.55	3,932.47	22.68	25.01	116.94	228.26	626.73	770.92	726.44	44.48	17.333	
4,200.00	4,181.38	4,094.59	4,027.34	23.26	25.68	117.02	233.84	646.38	795.04	749.43	45.61	17.432	
4,300.00	4,280.83	4,191.64	4,122.21	23.83	26.35	117.10	239.43	666.03	819.15	772.42	46.74	17.527	
4,400.00	4,380.35	4,288.75	4,217.14	24.40	27.02	117.39	245.01	685.70	842.99	795.08	47.92	17.593	
4,500.00	4,480.12	4,386.17	4,312.38	24.95	27.69	117.64	250.62	705.43	865.39	816.29	49.10	17.624	
4,600.00	4,580.07	4,483.83	4,407.85	25.48	28.36	117.66	256.24	725.21	886.24	835.98	50.26	17.633	
4,700.00	4,680.07	4,581.58	4,503.41	25.99	29.04	96.73	261.86	745.01	905.83	854.46	51.37	17.632	
4,800.00	4,780.07	4,679.34	4,598.97	26.50	29.71	96.23	267.49	764.81	925.37	872.93	52.44	17.646	
4,900.00	4,880.07	4,777.10	4,694.54	27.01	30.39	95.75	273.11	784.60	944.97	891.46	53.51	17.660	
5,000.00	4,980.07	4,874.85	4,790.11	27.52	31.06	95.29	278.73	804.40	964.63	910.05	54.58	17.675	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 4H - OH - Plan 1 06-16-17													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	5,080.07	4,972.61	4,885.68	28.03	31.74	94.85	284.36	824.20	984.35	928.71	55.65	17.690	
5,200.00	5,180.07	5,070.37	4,981.24	28.55	32.41	94.43	289.98	844.00	1,004.13	947.41	56.72	17.705	
5,300.00	5,280.07	5,168.13	5,076.81	29.06	33.09	94.02	295.61	863.80	1,023.95	966.17	57.79	17.720	
5,400.00	5,380.07	5,265.89	5,172.38	29.58	33.76	93.63	301.23	883.60	1,043.83	984.97	58.86	17.735	
5,500.00	5,480.07	5,363.65	5,267.95	30.10	34.44	93.25	306.86	903.40	1,063.75	1,003.82	59.93	17.750	
5,600.00	5,580.07	5,461.41	5,363.51	30.61	35.11	92.89	312.48	923.19	1,083.71	1,022.71	61.00	17.765	
5,700.00	5,680.07	5,594.75	5,494.20	31.13	36.01	92.44	319.71	948.65	1,102.72	1,040.45	62.27	17.709	
5,800.00	5,780.07	5,751.36	5,649.01	31.65	36.97	92.06	326.14	971.28	1,117.02	1,053.38	63.64	17.551	
5,900.00	5,880.07	5,910.13	5,807.03	32.17	37.85	91.82	330.29	985.89	1,126.14	1,061.14	65.00	17.324	
6,000.00	5,980.07	6,070.10	5,966.85	32.69	38.62	91.72	332.05	992.08	1,129.97	1,063.64	66.33	17.035	
6,100.00	6,080.07	6,183.32	6,080.07	33.21	39.11	91.72	332.11	992.28	1,130.10	1,062.70	67.40	16.766	
6,200.00	6,180.07	6,283.32	6,180.07	33.73	39.55	91.72	332.11	992.28	1,130.10	1,061.69	68.41	16.520	
6,300.00	6,280.07	6,383.32	6,280.07	34.25	39.99	91.72	332.11	992.28	1,130.10	1,060.68	69.42	16.280	
6,400.00	6,380.07	6,483.32	6,380.07	34.77	40.43	91.72	332.11	992.28	1,130.10	1,059.68	70.42	16.047	
6,500.00	6,480.07	6,583.32	6,480.07	35.30	40.87	91.72	332.11	992.28	1,130.10	1,058.67	71.43	15.820	
6,600.00	6,580.07	6,683.32	6,580.07	35.82	41.32	91.72	332.11	992.28	1,130.10	1,057.65	72.45	15.599	
6,700.00	6,680.07	6,783.32	6,680.07	36.34	41.77	91.72	332.11	992.28	1,130.10	1,056.64	73.46	15.384	
6,800.00	6,780.07	6,883.32	6,780.07	36.87	42.22	91.72	332.11	992.28	1,130.10	1,055.62	74.48	15.174	
6,900.00	6,880.07	6,983.32	6,880.07	37.39	42.67	91.72	332.11	992.28	1,130.10	1,054.61	75.49	14.969	
7,000.00	6,980.07	7,083.32	6,980.07	37.92	43.12	91.72	332.11	992.28	1,130.10	1,053.59	76.51	14.770	
7,100.00	7,080.07	7,183.32	7,080.07	38.44	43.58	91.72	332.11	992.28	1,130.10	1,052.57	77.53	14.576	
7,200.00	7,180.07	7,283.32	7,180.07	38.97	44.04	91.72	332.11	992.28	1,130.10	1,051.54	78.56	14.386	
7,300.00	7,280.07	7,383.32	7,280.07	39.49	44.50	91.72	332.11	992.28	1,130.10	1,050.52	79.58	14.201	
7,400.00	7,380.07	7,483.32	7,380.07	40.02	44.96	91.72	332.11	992.28	1,130.10	1,049.50	80.60	14.021	
7,500.00	7,480.07	7,583.32	7,480.07	40.54	45.42	91.72	332.11	992.28	1,130.10	1,048.47	81.63	13.844	
7,600.00	7,580.07	7,683.32	7,580.07	41.07	45.89	91.72	332.11	992.28	1,130.10	1,047.44	82.66	13.672	
7,700.00	7,680.07	7,783.32	7,680.07	41.60	46.35	91.72	332.11	992.28	1,130.10	1,046.41	83.68	13.504	
7,800.00	7,780.07	7,883.32	7,780.07	42.13	46.82	91.72	332.11	992.28	1,130.10	1,045.39	84.71	13.340	
7,900.00	7,880.07	7,983.32	7,880.07	42.65	47.29	91.72	332.11	992.28	1,130.10	1,044.35	85.74	13.180	
8,000.00	7,980.07	8,083.32	7,980.07	43.18	47.76	91.72	332.11	992.28	1,130.10	1,043.32	86.78	13.023	
8,100.00	8,080.07	8,183.32	8,080.07	43.71	48.23	91.72	332.11	992.28	1,130.10	1,042.29	87.81	12.870	
8,200.00	8,180.07	8,283.32	8,180.07	44.24	48.71	91.72	332.11	992.28	1,130.10	1,041.26	88.84	12.720	
8,300.00	8,280.07	8,383.32	8,280.07	44.77	49.18	91.72	332.11	992.28	1,130.10	1,040.22	89.88	12.574	
8,400.00	8,380.07	8,483.32	8,380.07	45.29	49.66	91.72	332.11	992.28	1,130.10	1,039.19	90.91	12.430	
8,500.00	8,480.07	8,583.32	8,480.07	45.82	50.13	91.72	332.11	992.28	1,130.10	1,038.15	91.95	12.290	
8,516.57	8,496.63	8,599.88	8,496.63	45.91	50.21	92.29	332.11	992.28	1,130.11	1,038.00	92.10	12.270	
8,600.00	8,579.96	8,683.21	8,579.96	46.36	50.61	92.43	332.11	992.28	1,130.22	1,037.26	92.96	12.158	
8,700.00	8,678.03	8,781.28	8,678.03	46.93	51.08	93.26	332.11	992.28	1,131.19	1,037.18	94.00	12.034	
8,800.00	8,771.34	8,874.59	8,771.34	47.54	51.53	94.67	332.11	992.28	1,133.85	1,038.86	94.99	11.936	
8,900.00	8,857.03	8,960.28	8,857.03	48.17	51.94	96.30	332.11	992.28	1,139.64	1,043.79	95.85	11.889	
9,000.00	8,932.52	9,035.77	8,932.52	48.82	52.31	97.70	332.11	992.28	1,150.30	1,053.74	96.56	11.913	
9,100.00	8,995.51	9,098.76	8,995.51	49.51	52.61	98.38	332.11	992.28	1,167.55	1,070.35	97.20	12.011	
9,200.00	9,044.08	9,147.33	9,044.08	50.22	52.85	97.91	332.11	992.28	1,192.73	1,094.69	98.04	12.166	
9,300.00	9,076.76	9,180.01	9,076.76	50.96	53.01	95.89	332.11	992.28	1,226.38	1,127.12	99.26	12.355	
9,400.00	9,092.55	9,195.80	9,092.55	51.72	53.08	92.09	332.11	992.28	1,268.10	1,167.38	100.72	12.590	
9,500.00	9,094.47	10,280.88	9,703.64	52.50	58.31	118.44	1,045.79	980.09	1,279.06	1,184.78	94.28	13.566	
9,600.00	9,095.21	10,380.73	9,698.94	53.35	59.02	118.24	1,145.51	978.39	1,275.84	1,179.93	95.92	13.302	
9,700.00	9,095.95	10,480.58	9,694.24	54.27	59.81	118.04	1,245.24	976.68	1,272.64	1,174.95	97.69	13.027	
9,800.00	9,096.69	10,580.43	9,689.55	55.27	60.68	117.84	1,344.96	974.98	1,269.45	1,169.85	99.60	12.745	
9,900.00	9,097.43	10,680.28	9,684.85	56.33	61.61	117.64	1,444.68	973.28	1,266.28	1,164.64	101.65	12.458	
10,000.00	9,098.17	10,780.13	9,680.15	57.45	62.61	117.44	1,544.41	971.57	1,263.13	1,159.32	103.81	12.167	
10,100.00	9,098.91	10,879.98	9,675.46	58.62	63.68	117.23	1,644.13	969.87	1,259.99	1,153.89	106.10	11.876	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 4H - OH - Plan 1 06-16-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HOGM													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)					
10,200.00	9,099.65	10,979.83	9,670.76	59.86	64.80	117.03	1,743.86	968.17	1,256.87	1,148.37	108.49	11.585	
10,300.00	9,100.39	11,079.68	9,666.06	61.14	65.97	116.82	1,843.58	966.46	1,253.76	1,142.77	110.99	11.296	
10,400.00	9,101.13	11,179.53	9,661.37	62.47	67.20	116.61	1,943.30	964.76	1,250.67	1,137.08	113.59	11.010	
10,500.00	9,101.87	11,279.38	9,656.67	63.85	68.47	116.40	2,043.03	963.06	1,247.60	1,131.31	116.29	10.729	
10,600.00	9,102.61	11,379.23	9,651.97	65.27	69.79	116.19	2,142.75	961.35	1,244.54	1,125.48	119.07	10.453	
10,700.00	9,103.35	11,479.07	9,647.28	66.73	71.15	115.98	2,242.48	959.65	1,241.50	1,119.57	121.93	10.182	
10,800.00	9,104.09	11,574.10	9,642.92	68.23	72.48	115.79	2,337.39	958.03	1,238.54	1,113.75	124.79	9.925	
10,900.00	9,104.83	11,658.12	9,640.94	69.76	73.68	115.69	2,421.37	956.60	1,236.56	1,109.10	127.46	9.701	
11,000.00	9,105.57	11,752.75	9,640.90	71.33	75.06	115.67	2,515.99	955.01	1,235.58	1,105.32	130.26	9.485	
11,100.00	9,106.31	11,852.75	9,641.00	72.92	76.54	115.66	2,615.97	953.33	1,234.68	1,101.49	133.19	9.270	
11,200.00	9,107.05	11,952.74	9,641.10	74.55	78.06	115.65	2,715.95	951.64	1,233.78	1,097.61	136.18	9.060	
11,300.00	9,107.79	12,052.74	9,641.20	76.20	79.61	115.63	2,815.93	949.96	1,232.88	1,093.67	139.22	8.856	
11,400.00	9,108.53	12,152.73	9,641.31	77.87	81.18	115.62	2,915.91	948.28	1,231.98	1,089.68	142.31	8.657	
11,500.00	9,109.27	12,252.73	9,641.41	79.57	82.78	115.61	3,015.89	946.59	1,231.08	1,085.64	145.44	8.464	
11,600.00	9,110.01	12,352.72	9,641.51	81.29	84.41	115.60	3,115.87	944.91	1,230.18	1,081.56	148.62	8.277	
11,700.00	9,110.75	12,452.72	9,641.61	83.03	86.06	115.58	3,215.86	943.23	1,229.28	1,077.44	151.84	8.096	
11,800.00	9,111.49	12,552.71	9,641.72	84.79	87.73	115.57	3,315.84	941.54	1,228.38	1,073.28	155.10	7.920	
11,900.00	9,112.24	12,652.71	9,641.82	86.57	89.43	115.56	3,415.82	939.86	1,227.48	1,069.09	158.40	7.749	
12,000.00	9,112.98	12,752.71	9,641.92	88.36	91.14	115.54	3,515.80	938.18	1,226.58	1,064.85	161.73	7.584	
12,100.00	9,113.72	12,849.46	9,642.08	90.18	92.82	115.53	3,612.54	936.55	1,225.71	1,060.68	165.03	7.427	
12,200.00	9,114.46	12,945.97	9,643.38	92.00	94.51	115.57	3,709.03	934.90	1,225.33	1,057.02	168.31	7.280	
12,300.00	9,115.20	13,045.97	9,644.81	93.84	96.28	115.62	3,809.00	933.19	1,224.98	1,053.31	171.67	7.136	
12,400.00	9,115.94	13,145.96	9,646.23	95.70	98.06	115.66	3,908.97	931.49	1,224.63	1,049.58	175.05	6.996	
12,500.00	9,116.68	13,245.96	9,647.66	97.56	99.86	115.70	4,008.94	929.78	1,224.28	1,045.83	178.45	6.861	
12,600.00	9,117.42	13,345.95	9,649.08	99.44	101.68	115.75	4,108.91	928.07	1,223.93	1,042.06	181.88	6.729	
12,700.00	9,118.16	13,445.95	9,650.50	101.33	103.50	115.79	4,208.88	926.37	1,223.59	1,038.26	185.33	6.602	
12,800.00	9,118.90	13,545.94	9,651.93	103.23	105.35	115.83	4,308.85	924.66	1,223.24	1,034.45	188.79	6.479	
12,900.00	9,119.64	13,645.94	9,653.35	105.14	107.20	115.88	4,408.82	922.96	1,222.89	1,030.62	192.27	6.360	
13,000.00	9,120.38	13,745.93	9,654.78	107.06	109.06	115.92	4,508.79	921.25	1,222.55	1,026.77	195.78	6.245	
13,100.00	9,121.12	13,845.93	9,656.20	108.99	110.94	115.96	4,608.76	919.54	1,222.21	1,022.91	199.29	6.133	
13,200.00	9,121.86	13,945.92	9,657.63	110.93	112.82	116.01	4,708.73	917.84	1,221.86	1,019.04	202.82	6.024	
13,300.00	9,122.60	14,045.92	9,659.05	112.87	114.72	116.05	4,808.70	916.13	1,221.52	1,015.15	206.37	5.919	
13,400.00	9,123.34	14,145.91	9,660.47	114.83	116.62	116.09	4,908.67	914.42	1,221.18	1,011.25	209.93	5.817	
13,500.00	9,124.08	14,245.91	9,661.90	116.79	118.53	116.14	5,008.64	912.72	1,220.83	1,007.33	213.50	5.718	
13,600.00	9,124.82	14,345.90	9,663.32	118.76	120.46	116.18	5,108.61	911.01	1,220.49	1,003.41	217.08	5.622	
13,700.00	9,125.56	14,445.90	9,664.75	120.73	122.39	116.22	5,208.58	909.30	1,220.15	999.48	220.68	5.529	
13,800.00	9,126.30	14,545.89	9,666.17	122.71	124.32	116.27	5,308.55	907.60	1,219.81	995.53	224.28	5.439	
13,900.00	9,127.04	14,645.89	9,667.59	124.70	126.27	116.31	5,408.53	905.89	1,219.48	991.58	227.90	5.351	
14,000.00	9,127.78	14,745.88	9,669.02	126.69	128.22	116.36	5,508.50	904.18	1,219.14	987.62	231.52	5.266	
14,100.00	9,128.52	14,845.88	9,670.44	128.69	130.18	116.40	5,608.47	902.48	1,218.80	983.65	235.15	5.183	
14,200.00	9,129.26	14,945.87	9,671.87	130.69	132.14	116.44	5,708.44	900.77	1,218.46	979.67	238.79	5.103	
14,300.00	9,130.00	15,045.87	9,673.29	132.70	134.12	116.49	5,808.41	899.06	1,218.13	975.69	242.44	5.024	
14,400.00	9,130.74	15,145.86	9,674.71	134.71	136.09	116.53	5,908.38	897.36	1,217.79	971.70	246.09	4.948	
14,490.67	9,131.68	15,215.78	9,675.82	136.53	137.48	116.55	5,978.28	896.58	1,217.47	968.25	249.22	4.885	
14,500.00	9,131.76	15,222.37	9,675.95	136.72	137.61	116.55	5,984.87	896.59	1,217.58	968.04	249.53	4.879	
14,600.00	9,133.15	15,313.16	9,677.87	138.74	139.41	116.57	6,075.63	897.36	1,218.30	965.24	253.06	4.814	
14,700.00	9,134.54	15,413.15	9,680.00	140.76	141.39	116.59	6,175.60	898.30	1,219.14	962.38	256.76	4.748	
14,800.00	9,135.92	15,513.15	9,682.14	142.78	143.39	116.61	6,275.57	899.23	1,219.98	959.51	260.47	4.684	
14,900.00	9,137.31	15,613.14	9,684.28	144.81	145.38	116.63	6,375.54	900.17	1,220.82	956.64	264.19	4.621	
15,000.00	9,138.70	15,713.14	9,686.41	146.84	147.38	116.65	6,475.50	901.11	1,221.66	953.76	267.91	4.560	
15,100.00	9,140.09	15,813.14	9,688.55	148.87	149.39	116.67	6,575.47	902.05	1,222.50	950.87	271.63	4.501	
15,200.00	9,141.48	15,913.13	9,690.69	150.91	151.40	116.69	6,675.44	902.99	1,223.35	947.98	275.37	4.443	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 4H - OH - Plan 1 06-16-17													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)					
15,300.00	9,142.86	16,013.13	9,692.83	152.95	153.41	116.71	6,775.41	903.93	1,224.19	945.08	279.11	4.386	
15,400.00	9,144.25	16,113.12	9,694.96	154.99	155.43	116.73	6,875.38	904.87	1,225.03	942.18	282.85	4.331	
15,500.00	9,145.64	16,213.12	9,697.10	157.04	157.45	116.75	6,975.35	905.81	1,225.87	939.27	286.60	4.277	
15,600.00	9,147.03	16,313.11	9,699.24	159.09	159.47	116.76	7,075.32	906.75	1,226.71	936.36	290.35	4.225	
15,700.00	9,148.41	16,413.11	9,701.37	161.14	161.50	116.78	7,175.28	907.68	1,227.56	933.45	294.11	4.174	
15,800.00	9,149.80	16,513.10	9,703.51	163.19	163.53	116.80	7,275.25	908.62	1,228.40	930.53	297.87	4.124	
15,900.00	9,151.19	16,613.10	9,705.65	165.25	165.56	116.82	7,375.22	909.56	1,229.24	927.60	301.64	4.075	
16,000.00	9,152.58	16,722.08	9,707.62	167.31	167.78	116.83	7,484.18	910.56	1,229.93	924.33	305.60	4.025	
16,100.00	9,153.97	16,822.08	9,708.30	169.37	169.81	116.79	7,584.17	911.42	1,230.05	920.56	309.49	3.974	
16,200.00	9,155.35	16,922.08	9,708.99	171.44	171.86	116.75	7,684.16	912.27	1,230.16	916.78	313.38	3.925	
16,300.00	9,156.74	17,022.07	9,709.68	173.50	173.90	116.71	7,784.15	913.13	1,230.27	912.99	317.29	3.877	
16,400.00	9,158.13	17,122.07	9,710.36	175.57	175.95	116.67	7,884.14	913.98	1,230.39	909.20	321.19	3.831	
16,500.00	9,159.52	17,222.07	9,711.05	177.64	177.99	116.63	7,984.13	914.83	1,230.50	905.40	325.10	3.785	
16,600.00	9,160.91	17,322.06	9,711.73	179.71	180.04	116.59	8,084.12	915.69	1,230.62	901.60	329.02	3.740	
16,700.00	9,162.29	17,422.06	9,712.42	181.79	182.10	116.55	8,184.11	916.54	1,230.73	897.79	332.94	3.697	
16,800.00	9,163.68	17,522.06	9,713.11	183.86	184.15	116.52	8,284.10	917.40	1,230.85	893.98	336.87	3.654	
16,900.00	9,165.07	17,622.05	9,713.79	185.94	186.21	116.48	8,384.09	918.25	1,230.97	890.16	340.80	3.612	
17,000.00	9,166.46	17,722.05	9,714.48	188.02	188.27	116.44	8,484.08	919.10	1,231.08	886.34	344.74	3.571	
17,100.00	9,167.85	17,822.04	9,715.17	190.10	190.33	116.40	8,584.07	919.96	1,231.20	882.52	348.68	3.531	
17,200.00	9,169.23	17,922.04	9,715.85	192.19	192.40	116.36	8,684.07	920.81	1,231.32	878.69	352.63	3.492	
17,300.00	9,170.62	18,022.04	9,716.54	194.27	194.46	116.32	8,784.06	921.67	1,231.44	874.86	356.58	3.453	
17,400.00	9,172.01	18,122.03	9,717.23	196.36	196.53	116.28	8,884.05	922.52	1,231.56	871.03	360.53	3.416	
17,500.00	9,173.40	18,222.03	9,717.91	198.44	198.60	116.24	8,984.04	923.37	1,231.68	867.19	364.49	3.379	
17,600.00	9,174.79	18,322.03	9,718.60	200.53	200.67	116.20	9,084.03	924.23	1,231.80	863.34	368.46	3.343	
17,700.00	9,176.17	18,422.02	9,719.28	202.62	202.74	116.16	9,184.02	925.08	1,231.92	859.50	372.43	3.308	
17,800.00	9,177.56	18,522.02	9,719.97	204.71	204.82	116.12	9,284.01	925.94	1,232.04	855.65	376.40	3.273	
17,900.00	9,178.95	18,622.02	9,720.66	206.81	206.89	116.08	9,384.00	926.79	1,232.17	851.79	380.37	3.239	
18,000.00	9,180.34	18,722.01	9,721.34	208.90	208.97	116.05	9,483.99	927.64	1,232.29	847.94	384.35	3.206	
18,100.00	9,181.73	18,821.31	9,722.03	211.00	211.04	116.01	9,583.28	928.49	1,232.42	844.09	388.32	3.174	
18,200.00	9,183.11	18,917.12	9,723.46	213.09	213.03	116.00	9,679.07	929.32	1,232.89	840.74	392.15	3.144	
18,300.00	9,184.50	19,017.11	9,725.04	215.19	215.11	116.00	9,779.05	930.17	1,233.41	837.36	396.05	3.114	
18,400.00	9,185.89	19,117.11	9,726.62	217.29	217.19	116.00	9,879.04	931.03	1,233.93	833.98	399.95	3.085	
18,500.00	9,187.28	19,217.11	9,728.20	219.39	219.28	116.00	9,979.02	931.89	1,234.46	830.60	403.86	3.057	
18,600.00	9,188.66	19,317.11	9,729.78	221.49	221.37	115.99	10,079.00	932.75	1,234.98	827.21	407.77	3.029	
18,700.00	9,190.05	19,417.11	9,731.36	223.59	223.45	115.99	10,178.98	933.61	1,235.50	823.82	411.68	3.001	
18,800.00	9,191.44	19,517.11	9,732.94	225.69	225.54	115.99	10,278.97	934.47	1,236.02	820.43	415.59	2.974	
18,900.00	9,192.83	19,617.11	9,734.52	227.79	227.63	115.99	10,378.95	935.33	1,236.54	817.04	419.50	2.948	
19,000.00	9,194.22	19,717.11	9,736.10	229.90	229.72	115.99	10,478.93	936.19	1,237.06	813.64	423.42	2.922	
19,100.00	9,195.60	19,817.10	9,737.68	232.00	231.81	115.98	10,578.91	937.05	1,237.58	810.24	427.34	2.896	
19,200.00	9,196.99	19,917.10	9,739.26	234.11	233.91	115.98	10,678.90	937.91	1,238.10	806.85	431.26	2.871	
19,300.00	9,198.38	20,017.10	9,740.84	236.22	236.00	115.98	10,778.88	938.77	1,238.62	803.45	435.18	2.846	
19,400.00	9,199.77	20,117.10	9,742.42	238.33	238.10	115.98	10,878.86	939.63	1,239.14	800.05	439.10	2.822	
19,416.71	9,200.00	20,133.81	9,742.69	238.68	238.45	115.98	10,895.57	939.77	1,239.23	799.48	439.75	2.818 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 5H - OH - Plan 1 06-16-17													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)					
0.00	0.00	0.00	2.00	0.00	0.00	-0.06	74.93	-0.08	74.96				
100.00	100.00	98.00	100.00	0.19	0.19	-0.06	74.93	-0.08	74.93	74.55	0.38	195.509	
200.00	200.00	198.00	200.00	0.73	0.72	-0.06	74.93	-0.08	74.93	73.48	1.45	51.615	
300.00	300.00	298.00	300.00	1.27	1.26	-0.06	74.93	-0.08	74.93	72.41	2.53	29.651	
400.00	400.00	398.00	400.00	1.81	1.80	-0.06	74.93	-0.08	74.93	71.33	3.60	20.800	
500.00	500.00	498.00	500.00	2.34	2.33	-0.06	74.93	-0.08	74.93	70.26	4.68	16.018	
600.00	600.00	598.00	600.00	2.88	2.87	-0.06	74.93	-0.08	74.93	69.18	5.75	13.024	
700.00	699.98	696.32	698.30	3.42	3.40	20.04	76.01	-1.29	74.40	67.58	6.82	10.909	
800.00	799.84	794.56	796.41	3.96	3.92	18.53	79.33	-5.01	72.92	65.03	7.89	9.245	
899.93	899.39	892.67	894.16	4.50	4.45	15.86	84.87	-11.24	70.61	61.65	8.96	7.885	
1,000.00	998.90	992.48	993.42	5.05	5.00	12.21	91.81	-19.02	68.26	58.23	10.03	6.805	
1,100.00	1,098.36	1,092.35	1,092.75	5.60	5.55	8.32	98.75	-26.82	66.22	55.11	11.11	5.959	
1,200.00	1,197.81	1,192.23	1,192.08	6.16	6.11	4.19	105.70	-34.62	64.51	52.32	12.20	5.290	
1,300.00	1,297.26	1,292.10	1,291.40	6.72	6.67	-0.13	112.65	-42.42	63.15	49.87	13.28	4.756	
1,400.00	1,396.71	1,391.98	1,390.73	7.28	7.23	-4.62	119.60	-50.22	62.16	47.80	14.36	4.328	
1,500.00	1,496.17	1,491.85	1,490.06	7.84	7.80	-9.22	126.54	-58.02	61.57	46.12	15.45	3.986	
1,596.45	1,592.09	1,588.18	1,585.86	8.39	8.34	-13.72	133.25	-65.54	61.38	44.88	16.49	3.722 CC	
1,600.00	1,595.62	1,591.72	1,589.38	8.41	8.36	-13.88	133.49	-65.81	61.38	44.85	16.53	3.713	
1,700.00	1,695.07	1,691.60	1,688.71	8.98	8.93	-18.54	140.44	-73.61	61.60	43.98	17.62	3.496	
1,800.00	1,794.52	1,791.47	1,788.04	9.54	9.50	-23.14	147.39	-81.41	62.22	43.51	18.71	3.325	
1,900.00	1,893.98	1,891.35	1,887.36	10.11	10.07	-27.62	154.34	-89.21	63.23	43.42	19.81	3.192 ES	
2,000.00	1,993.43	1,991.22	1,986.69	10.68	10.64	-31.93	161.28	-97.01	64.62	43.70	20.92	3.089	
2,100.00	2,092.88	2,091.10	2,086.02	11.25	11.21	-36.04	168.23	-104.81	66.36	44.33	22.03	3.012	
2,200.00	2,192.33	2,190.97	2,185.34	11.82	11.78	-39.92	175.18	-112.61	68.42	45.27	23.15	2.956	
2,300.00	2,291.79	2,290.85	2,284.67	12.39	12.35	-43.55	182.13	-120.40	70.78	46.51	24.27	2.916	
2,400.00	2,391.24	2,390.72	2,384.00	12.96	12.92	-46.95	189.07	-128.20	73.40	48.00	25.40	2.890	
2,500.00	2,490.69	2,490.59	2,483.32	13.53	13.49	-50.09	196.02	-136.00	76.26	49.73	26.53	2.874	
2,600.00	2,590.14	2,590.47	2,582.65	14.10	14.06	-53.00	202.97	-143.80	79.34	51.67	27.67	2.867	
2,700.00	2,689.60	2,690.34	2,681.98	14.67	14.64	-55.69	209.92	-151.60	82.61	53.79	28.81	2.867	
2,800.00	2,789.05	2,790.22	2,781.30	15.24	15.21	-58.17	216.86	-159.40	86.04	56.08	29.96	2.872	
2,900.00	2,888.50	2,890.09	2,880.63	15.81	15.78	-60.46	223.81	-167.20	89.62	58.52	31.10	2.882	
3,000.00	2,987.95	2,989.97	2,979.96	16.39	16.35	-62.57	230.76	-174.99	93.34	61.09	32.25	2.894	
3,100.00	3,087.41	3,089.84	3,079.29	16.96	16.93	-64.51	237.71	-182.79	97.17	63.77	33.40	2.909	
3,200.00	3,186.86	3,189.71	3,178.61	17.53	17.50	-66.30	244.65	-190.59	101.10	66.55	34.55	2.927	
3,300.00	3,286.31	3,289.59	3,277.94	18.10	18.07	-67.96	251.60	-198.39	105.13	69.43	35.69	2.945	
3,400.00	3,385.76	3,389.46	3,377.27	18.68	18.65	-69.50	258.55	-206.19	109.23	72.39	36.84	2.965	
3,500.00	3,485.22	3,489.34	3,476.59	19.25	19.22	-70.92	265.50	-213.99	113.41	75.42	37.99	2.985	
3,600.00	3,584.67	3,589.21	3,575.92	19.82	19.79	-72.24	272.45	-221.79	117.66	78.51	39.14	3.006	
3,700.00	3,684.12	3,689.09	3,675.25	20.39	20.37	-73.47	279.39	-229.58	121.96	81.66	40.29	3.027	
3,800.00	3,783.57	3,788.96	3,774.57	20.97	20.94	-74.61	286.34	-237.38	126.31	84.87	41.44	3.048	
3,900.00	3,883.02	3,888.84	3,873.90	21.54	21.52	-75.68	293.29	-245.18	130.71	88.12	42.59	3.069	
4,000.00	3,982.48	3,988.71	3,973.23	22.11	22.09	-76.68	300.24	-252.98	135.16	91.41	43.74	3.090	
4,100.00	4,081.93	4,088.58	4,072.55	22.68	22.66	-77.61	307.18	-260.78	139.64	94.75	44.89	3.110	
4,200.00	4,181.38	4,188.46	4,171.88	23.26	23.24	-78.49	314.13	-268.58	144.16	98.11	46.04	3.131	
4,300.00	4,280.83	4,288.33	4,271.21	23.83	23.81	-79.31	321.08	-276.38	148.71	101.51	47.19	3.151	
4,400.00	4,380.35	4,388.21	4,370.54	24.40	24.39	-79.91	328.03	-284.17	153.39	105.06	48.33	3.174	
4,500.00	4,480.12	4,488.05	4,469.83	24.95	24.96	-79.38	334.97	-291.97	158.66	109.23	49.42	3.210	
4,600.00	4,580.07	4,590.87	4,572.20	25.48	25.54	-77.98	341.29	-299.06	163.87	113.39	50.48	3.246	
4,700.00	4,680.07	4,694.62	4,675.78	25.99	26.11	-97.12	345.21	-303.47	167.50	116.00	51.50	3.253	
4,800.00	4,780.07	4,798.65	4,779.78	26.50	26.65	-96.57	346.64	-305.07	168.87	116.33	52.54	3.214	
4,900.00	4,880.07	4,898.94	4,880.07	27.01	27.16	-96.57	346.65	-305.08	168.88	115.31	53.57	3.153	
5,000.00	4,980.07	4,998.94	4,980.07	27.52	27.66	-96.57	346.65	-305.08	168.88	114.29	54.59	3.093	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 5H - OH - Plan 1 06-16-17													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	5,080.07	5,098.94	5,080.07	28.03	28.17	-96.57	346.65	-305.08	168.88	113.26	55.62	3.036	
5,200.00	5,180.07	5,198.94	5,180.07	28.55	28.68	-96.57	346.65	-305.08	168.88	112.23	56.65	2.981	
5,300.00	5,280.07	5,298.94	5,280.07	29.06	29.19	-96.57	346.65	-305.08	168.88	111.20	57.68	2.928	
5,400.00	5,380.07	5,398.94	5,380.07	29.58	29.70	-96.57	346.65	-305.08	168.88	110.17	58.71	2.876	
5,500.00	5,480.07	5,498.94	5,480.07	30.10	30.21	-96.57	346.65	-305.08	168.88	109.13	59.75	2.827	
5,600.00	5,580.07	5,598.94	5,580.07	30.61	30.73	-96.57	346.65	-305.08	168.88	108.10	60.78	2.778	
5,700.00	5,680.07	5,698.94	5,680.07	31.13	31.24	-96.57	346.65	-305.08	168.88	107.06	61.82	2.732	
5,800.00	5,780.07	5,798.94	5,780.07	31.65	31.75	-96.57	346.65	-305.08	168.88	106.02	62.86	2.687	
5,900.00	5,880.07	5,898.94	5,880.07	32.17	32.27	-96.57	346.65	-305.08	168.88	104.98	63.90	2.643	
6,000.00	5,980.07	5,998.94	5,980.07	32.69	32.79	-96.57	346.65	-305.08	168.88	103.94	64.94	2.601	
6,100.00	6,080.07	6,098.94	6,080.07	33.21	33.30	-96.57	346.65	-305.08	168.88	102.90	65.98	2.559	
6,200.00	6,180.07	6,198.94	6,180.07	33.73	33.82	-96.57	346.65	-305.08	168.88	101.85	67.03	2.520	
6,300.00	6,280.07	6,298.94	6,280.07	34.25	34.34	-96.57	346.65	-305.08	168.88	100.81	68.07	2.481	
6,400.00	6,380.07	6,398.94	6,380.07	34.77	34.86	-96.57	346.65	-305.08	168.88	99.77	69.11	2.443	
6,500.00	6,480.07	6,498.94	6,480.07	35.30	35.38	-96.57	346.65	-305.08	168.88	98.72	70.16	2.407	
6,600.00	6,580.07	6,598.94	6,580.07	35.82	35.90	-96.57	346.65	-305.08	168.88	97.67	71.21	2.372	
6,700.00	6,680.07	6,698.94	6,680.07	36.34	36.42	-96.57	346.65	-305.08	168.88	96.62	72.25	2.337	
6,800.00	6,780.07	6,798.94	6,780.07	36.87	36.94	-96.57	346.65	-305.08	168.88	95.58	73.30	2.304	
6,900.00	6,880.07	6,898.94	6,880.07	37.39	37.46	-96.57	346.65	-305.08	168.88	94.53	74.35	2.271	
7,000.00	6,980.07	6,998.94	6,980.07	37.92	37.98	-96.57	346.65	-305.08	168.88	93.48	75.40	2.240	
7,100.00	7,080.07	7,098.94	7,080.07	38.44	38.50	-96.57	346.65	-305.08	168.88	92.43	76.45	2.209	
7,200.00	7,180.07	7,198.94	7,180.07	38.97	39.02	-96.57	346.65	-305.08	168.88	91.38	77.50	2.179	
7,300.00	7,280.07	7,298.94	7,280.07	39.49	39.55	-96.57	346.65	-305.08	168.88	90.32	78.56	2.150	
7,400.00	7,380.07	7,398.94	7,380.07	40.02	40.07	-96.57	346.65	-305.08	168.88	89.27	79.61	2.121	
7,500.00	7,480.07	7,498.94	7,480.07	40.54	40.59	-96.57	346.65	-305.08	168.88	88.22	80.66	2.094	
7,600.00	7,580.07	7,598.94	7,580.07	41.07	41.12	-96.57	346.65	-305.08	168.88	87.16	81.72	2.067	
7,700.00	7,680.07	7,698.94	7,680.07	41.60	41.64	-96.57	346.65	-305.08	168.88	86.11	82.77	2.040	
7,800.00	7,780.07	7,798.94	7,780.07	42.13	42.17	-96.57	346.65	-305.08	168.88	85.05	83.83	2.015	
7,900.00	7,880.07	7,898.94	7,880.07	42.65	42.69	-96.57	346.65	-305.08	168.88	84.00	84.88	1.990	
8,000.00	7,980.07	7,998.94	7,980.07	43.18	43.22	-96.57	346.65	-305.08	168.88	82.94	85.94	1.965	
8,100.00	8,080.07	8,098.94	8,080.07	43.71	43.74	-96.57	346.65	-305.08	168.88	81.89	86.99	1.941	
8,200.00	8,180.07	8,198.94	8,180.07	44.24	44.27	-96.57	346.65	-305.08	168.88	80.83	88.05	1.918	
8,300.00	8,280.07	8,298.94	8,280.07	44.77	44.80	-96.57	346.65	-305.08	168.88	79.77	89.11	1.895	
8,400.00	8,380.07	8,398.94	8,380.07	45.29	45.32	-96.57	346.65	-305.08	168.88	78.71	90.16	1.873	
8,500.00	8,480.07	8,498.94	8,480.07	45.82	45.85	-96.57	346.65	-305.08	168.88	77.66	91.22	1.851	
8,520.73	8,500.79	8,519.66	8,500.79	45.93	45.96	-96.07	346.65	-305.08	168.90	77.45	91.45	1.847	
8,600.00	8,579.96	8,598.83	8,579.96	46.36	46.38	-96.99	346.65	-305.08	169.22	76.94	92.29	1.834 SF	
8,700.00	8,678.03	8,696.90	8,678.03	46.93	46.89	-102.77	346.65	-305.08	172.55	79.29	93.26	1.850	
8,800.00	8,771.34	8,790.20	8,771.34	47.54	47.38	-111.94	346.65	-305.08	184.02	90.60	93.43	1.970	
8,900.00	8,857.03	8,875.90	8,857.03	48.17	47.84	-121.39	346.65	-305.08	210.26	118.62	91.64	2.294	
9,000.00	8,932.52	8,951.39	8,932.52	48.82	48.24	-128.49	346.65	-305.08	255.01	167.26	87.75	2.906	
9,100.00	8,995.51	9,014.38	8,995.51	49.51	48.57	-131.96	346.65	-305.08	317.46	234.19	83.27	3.812	
9,200.00	9,044.08	9,062.95	9,044.08	50.22	48.82	-130.93	346.65	-305.08	394.23	313.14	81.09	4.862	
9,300.00	9,076.76	9,095.63	9,076.76	50.96	49.00	-123.19	346.65	-305.08	481.30	395.90	85.39	5.636	
9,400.00	9,092.55	9,111.42	9,092.55	51.72	49.08	-103.17	346.65	-305.08	574.74	477.23	97.51	5.894	
9,500.00	9,094.47	9,113.34	9,094.47	52.50	49.09	-91.64	346.65	-305.08	670.98	569.97	101.00	6.643	
9,600.00	9,095.21	9,114.08	9,095.21	53.35	49.09	-91.89	346.65	-305.08	768.20	666.36	101.84	7.543	
9,700.00	9,095.95	9,114.82	9,095.95	54.27	49.10	-92.14	346.65	-305.08	866.06	763.31	102.74	8.430	
9,800.00	9,096.69	10,737.57	9,980.70	55.27	59.16	-169.24	1,319.88	-314.65	900.12	856.07	44.04	20.438	
9,900.00	9,097.43	10,837.51	9,978.02	56.33	60.13	-169.20	1,419.78	-315.63	896.76	851.45	45.31	19.792	
10,000.00	9,098.17	10,937.45	9,975.35	57.45	61.15	-169.16	1,519.68	-316.62	893.40	846.73	46.67	19.141	
10,100.00	9,098.91	11,037.39	9,972.68	58.62	62.23	-169.12	1,619.58	-317.60	890.05	841.92	48.13	18.494	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 5 Fed 003 - 5H - OH - Plan 1 06-16-17													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Samt 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)						
10,200.00	9,099.65	11,137.34	9,970.00	59.86	63.36	-169.08	1,719.48	-318.58	886.70	837.04	49.66	17.855		
10,300.00	9,100.39	11,237.28	9,967.33	61.14	64.55	-169.04	1,819.38	-319.56	883.34	832.07	51.27	17.230		
10,400.00	9,101.13	11,337.22	9,964.66	62.47	65.79	-169.00	1,919.29	-320.55	879.99	827.05	52.94	16.622		
10,500.00	9,101.87	11,437.16	9,961.99	63.85	67.07	-168.96	2,019.19	-321.53	876.64	821.96	54.68	16.033		
10,600.00	9,102.61	11,537.10	9,959.31	65.27	68.40	-168.91	2,119.09	-322.51	873.28	816.81	56.47	15.465		
10,700.00	9,103.35	11,637.04	9,956.64	66.73	69.76	-168.87	2,218.99	-323.49	869.93	811.62	58.31	14.918		
10,800.00	9,104.09	11,736.99	9,953.97	68.23	71.17	-168.83	2,318.89	-324.48	866.58	806.38	60.20	14.395		
10,900.00	9,104.83	11,846.41	9,950.40	69.76	72.76	-168.77	2,428.24	-325.56	862.65	800.42	62.23	13.862		
11,000.00	9,105.57	11,946.30	9,946.61	71.33	74.24	-168.71	2,528.06	-326.54	858.20	793.99	64.21	13.365		
11,100.00	9,106.31	12,046.20	9,942.82	72.92	75.76	-168.65	2,627.89	-327.53	853.76	787.52	66.23	12.890		
11,200.00	9,107.05	12,146.10	9,939.02	74.55	77.31	-168.59	2,727.71	-328.52	849.31	781.03	68.28	12.438		
11,300.00	9,107.79	12,245.99	9,935.23	76.20	78.89	-168.53	2,827.53	-329.51	844.87	774.50	70.37	12.006		
11,400.00	9,108.53	12,345.89	9,931.44	77.87	80.49	-168.47	2,927.35	-330.50	840.42	767.94	72.48	11.595		
11,500.00	9,109.27	12,445.79	9,927.65	79.57	82.12	-168.41	3,027.17	-331.49	835.98	761.36	74.62	11.204		
11,600.00	9,110.01	12,545.69	9,923.86	81.29	83.78	-168.35	3,126.99	-332.48	831.54	754.76	76.78	10.830		
11,700.00	9,110.75	12,645.58	9,920.07	83.03	85.45	-168.28	3,226.81	-333.46	827.10	748.13	78.96	10.474		
11,800.00	9,111.49	12,745.48	9,916.28	84.79	87.15	-168.22	3,326.63	-334.45	822.66	741.49	81.17	10.135		
11,900.00	9,112.24	12,845.38	9,912.49	86.57	88.87	-168.15	3,426.45	-335.44	818.22	734.82	83.40	9.811		
12,000.00	9,112.98	12,945.27	9,908.70	88.36	90.61	-168.09	3,526.27	-336.43	813.78	728.14	85.64	9.502		
12,100.00	9,113.72	13,045.17	9,904.90	90.18	92.36	-168.02	3,626.09	-337.42	809.34	721.44	87.90	9.207		
12,200.00	9,114.46	13,145.07	9,901.11	92.00	94.13	-167.96	3,725.91	-338.41	804.91	714.73	90.18	8.925		
12,300.00	9,115.20	13,244.97	9,897.32	93.84	95.92	-167.89	3,825.73	-339.40	800.47	708.00	92.48	8.656		
12,400.00	9,115.94	13,344.86	9,893.53	95.70	97.72	-167.82	3,925.55	-340.39	796.04	701.25	94.79	8.398		
12,500.00	9,116.68	13,426.47	9,891.23	97.56	99.20	-167.78	4,007.12	-341.19	792.60	695.72	96.88	8.181		
12,593.16	9,117.37	13,502.71	9,891.12	99.31	100.59	-167.77	4,083.35	-341.95	791.76	692.95	98.81	8.013		
12,600.00	9,117.42	13,509.55	9,891.17	99.44	100.71	-167.77	4,090.19	-342.02	791.76	692.79	98.97	8.000		
12,700.00	9,118.16	13,609.55	9,891.92	101.33	102.54	-167.76	4,190.18	-343.02	791.77	690.52	101.25	7.820		
12,800.00	9,118.90	13,709.55	9,892.67	103.23	104.39	-167.76	4,290.17	-344.01	791.78	688.25	103.53	7.648		
12,900.00	9,119.64	13,809.55	9,893.42	105.14	106.24	-167.76	4,390.17	-345.01	791.79	685.96	105.83	7.482		
13,000.00	9,120.38	13,909.55	9,894.17	107.06	108.11	-167.76	4,490.16	-346.01	791.80	683.67	108.13	7.323		
13,100.00	9,121.12	14,009.55	9,894.92	108.99	109.99	-167.76	4,590.15	-347.00	791.81	681.37	110.44	7.169		
13,200.00	9,121.86	14,109.55	9,895.67	110.93	111.88	-167.76	4,690.14	-348.00	791.82	679.06	112.76	7.022		
13,300.00	9,122.60	14,209.55	9,896.42	112.87	113.78	-167.76	4,790.13	-348.99	791.84	676.75	115.08	6.880		
13,400.00	9,123.34	14,309.55	9,897.17	114.83	115.69	-167.76	4,890.13	-349.99	791.85	674.43	117.42	6.744		
13,500.00	9,124.08	14,409.55	9,897.92	116.79	117.60	-167.76	4,990.12	-350.99	791.86	672.10	119.75	6.612		
13,600.00	9,124.82	14,509.55	9,898.67	118.76	119.53	-167.76	5,090.11	-351.98	791.87	669.77	122.09	6.486		
13,700.00	9,125.56	14,609.55	9,899.42	120.73	121.46	-167.76	5,190.10	-352.98	791.88	667.44	124.44	6.363		
13,800.00	9,126.30	14,709.55	9,900.17	122.71	123.40	-167.76	5,290.10	-353.97	791.89	665.09	126.79	6.245		
13,900.00	9,127.04	14,809.55	9,900.92	124.70	125.35	-167.76	5,390.09	-354.97	791.90	662.75	129.15	6.132		
14,000.00	9,127.78	14,909.55	9,901.67	126.69	127.30	-167.76	5,490.08	-355.97	791.91	660.40	131.51	6.022		
14,100.00	9,128.52	15,009.55	9,902.42	128.69	129.26	-167.76	5,590.07	-356.96	791.92	658.04	133.88	5.915		
14,200.00	9,129.26	15,109.55	9,903.17	130.69	131.23	-167.76	5,690.06	-357.96	791.93	655.68	136.25	5.812		
14,300.00	9,130.00	15,209.55	9,903.92	132.70	133.20	-167.76	5,790.06	-358.96	791.94	653.32	138.62	5.713		
14,400.00	9,130.74	15,309.55	9,904.67	134.71	135.18	-167.76	5,890.05	-359.95	791.95	650.95	141.00	5.617		
14,500.00	9,131.76	15,400.00	9,905.72	136.72	136.97	-167.75	5,980.49	-360.75	792.21	648.87	143.34	5.527		
14,600.00	9,133.15	15,478.71	9,908.60	138.74	138.54	-167.74	6,059.14	-360.91	794.52	649.04	145.48	5.461		
14,700.00	9,134.54	15,570.85	9,913.99	140.76	140.37	-167.81	6,151.13	-360.54	798.86	651.17	147.69	5.409		
14,800.00	9,135.92	15,670.74	9,920.02	142.78	142.36	-167.88	6,250.83	-360.09	803.39	653.42	149.97	5.357		
14,900.00	9,137.31	15,770.63	9,926.05	144.81	144.36	-167.96	6,350.54	-359.64	807.92	655.66	152.26	5.306		
15,000.00	9,138.70	15,870.52	9,932.08	146.84	146.36	-168.03	6,450.25	-359.19	812.45	657.91	154.55	5.257		
15,100.00	9,140.09	15,970.42	9,938.11	148.87	148.36	-168.10	6,549.96	-358.74	816.99	660.15	156.84	5.209		
15,200.00	9,141.48	16,070.31	9,944.14	150.91	150.37	-168.17	6,649.67	-358.29	821.52	662.39	159.13	5.163		

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 5H - OH - Plan 1 06-16-17													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	
15,300.00	9,142.86	16,170.20	9,950.17	152.95	152.38	-168.25	6,749.38	-357.84	826.06	664.64	161.42	5.117	
15,400.00	9,144.25	16,270.09	9,956.20	154.99	154.40	-168.32	6,849.09	-357.39	830.60	666.88	163.72	5.073	
15,500.00	9,145.64	16,369.98	9,962.23	157.04	156.42	-168.39	6,948.79	-356.93	835.14	669.12	166.01	5.031	
15,600.00	9,147.03	16,469.88	9,968.26	159.09	158.44	-168.46	7,048.50	-356.48	839.68	671.37	168.31	4.989	
15,700.00	9,148.41	16,569.77	9,974.29	161.14	160.46	-168.52	7,148.21	-356.03	844.22	673.61	170.61	4.948	
15,800.00	9,149.80	16,669.66	9,980.32	163.19	162.49	-168.59	7,247.92	-355.58	848.76	675.85	172.91	4.909	
15,900.00	9,151.19	16,769.29	9,986.65	165.25	164.98	-168.66	7,370.38	-355.05	852.56	677.09	175.48	4.859	
16,000.00	9,152.58	16,869.55	9,988.41	167.31	167.49	-168.66	7,493.63	-354.59	852.49	674.33	178.16	4.785	
16,100.00	9,153.97	17,015.55	9,988.93	169.37	169.53	-168.65	7,593.62	-354.24	851.64	671.07	180.58	4.716	
16,200.00	9,155.35	17,115.55	9,989.45	171.44	171.57	-168.63	7,693.61	-353.89	850.79	667.80	183.00	4.649	
16,300.00	9,156.74	17,215.54	9,989.96	173.50	173.62	-168.62	7,793.61	-353.54	849.94	664.52	185.42	4.584	
16,400.00	9,158.13	17,315.54	9,990.48	175.57	175.66	-168.61	7,893.60	-353.19	849.10	661.25	187.85	4.520	
16,500.00	9,159.52	17,415.53	9,991.00	177.64	177.71	-168.59	7,993.60	-352.84	848.25	657.97	190.27	4.458	
16,600.00	9,160.91	17,515.53	9,991.52	179.71	179.76	-168.58	8,093.59	-352.49	847.40	654.69	192.70	4.397	
16,700.00	9,162.29	17,615.53	9,992.03	181.79	181.82	-168.57	8,193.59	-352.14	846.55	651.41	195.14	4.338	
16,800.00	9,163.68	17,715.52	9,992.55	183.86	183.87	-168.55	8,293.58	-351.78	845.70	648.13	197.57	4.281	
16,900.00	9,165.07	17,815.52	9,993.07	185.94	185.93	-168.54	8,393.57	-351.43	844.85	644.85	200.00	4.224	
17,000.00	9,166.46	17,915.52	9,993.59	188.02	187.99	-168.53	8,493.57	-351.08	844.00	641.56	202.44	4.169	
17,100.00	9,167.85	18,015.51	9,994.11	190.10	190.05	-168.51	8,593.56	-350.73	843.16	638.28	204.88	4.115	
17,200.00	9,169.23	18,115.51	9,994.62	192.19	192.12	-168.50	8,693.56	-350.38	842.31	634.99	207.32	4.063	
17,300.00	9,170.62	18,215.50	9,995.14	194.27	194.18	-168.49	8,793.55	-350.03	841.46	631.70	209.76	4.012	
17,400.00	9,172.01	18,315.50	9,995.66	196.36	196.25	-168.47	8,893.55	-349.68	840.61	628.41	212.20	3.961	
17,500.00	9,173.40	18,415.50	9,996.18	198.44	198.32	-168.46	8,993.54	-349.32	839.76	625.12	214.65	3.912	
17,600.00	9,174.79	18,515.49	9,996.69	200.53	200.39	-168.45	9,093.53	-348.97	838.92	621.82	217.09	3.864	
17,700.00	9,176.17	18,609.94	9,997.36	202.62	202.35	-168.44	9,187.98	-348.64	838.26	618.79	219.47	3.820	
17,800.00	9,177.56	18,709.94	9,998.55	204.71	204.43	-168.43	9,287.97	-348.27	838.07	616.17	221.90	3.777	
17,900.00	9,178.95	18,809.94	9,999.75	206.81	206.51	-168.43	9,387.96	-347.91	837.88	613.55	224.33	3.735	
18,000.00	9,180.34	18,909.94	10,000.95	208.90	208.58	-168.43	9,487.95	-347.54	837.70	610.94	226.76	3.694	
18,100.00	9,181.73	19,009.94	10,002.14	211.00	210.67	-168.42	9,587.95	-347.18	837.51	608.32	229.19	3.654	
18,200.00	9,183.11	19,109.94	10,003.34	213.09	212.75	-168.42	9,687.94	-346.82	837.33	605.70	231.63	3.615	
18,300.00	9,184.50	19,209.94	10,004.54	215.19	214.83	-168.42	9,787.93	-346.45	837.14	603.08	234.06	3.577	
18,400.00	9,185.89	19,309.94	10,005.73	217.29	216.91	-168.41	9,887.92	-346.09	836.95	600.45	236.50	3.539	
18,500.00	9,187.28	19,409.94	10,006.93	219.39	219.00	-168.41	9,987.91	-345.72	836.77	597.83	238.94	3.502	
18,600.00	9,188.66	19,509.94	10,008.12	221.49	221.09	-168.41	10,087.91	-345.36	836.58	595.21	241.37	3.466	
18,700.00	9,190.05	19,609.94	10,009.32	223.59	223.18	-168.40	10,187.90	-344.99	836.40	592.58	243.81	3.430	
18,800.00	9,191.44	19,709.94	10,010.52	225.69	225.27	-168.40	10,287.89	-344.63	836.21	589.96	246.25	3.396	
18,900.00	9,192.83	19,809.94	10,011.71	227.79	227.36	-168.40	10,387.88	-344.27	836.02	587.33	248.69	3.362	
19,000.00	9,194.22	19,909.94	10,012.91	229.90	229.45	-168.39	10,487.87	-343.90	835.84	584.70	251.13	3.328	
19,100.00	9,195.60	20,009.94	10,014.10	232.00	231.54	-168.39	10,587.87	-343.54	835.65	582.08	253.57	3.295	
19,200.00	9,196.99	20,109.94	10,015.30	234.11	233.64	-168.39	10,687.86	-343.17	835.47	579.45	256.02	3.263	
19,300.00	9,198.38	20,209.94	10,016.50	236.22	235.73	-168.38	10,787.85	-342.81	835.28	576.82	258.46	3.232	
19,400.00	9,199.77	20,309.94	10,017.69	238.33	237.83	-168.38	10,887.84	-342.44	835.09	574.19	260.90	3.201	
19,416.71	9,200.00	20,326.64	10,017.89	238.68	238.18	-168.38	10,904.55	-342.38	835.06	573.75	261.31	3.196	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 6H - OH - Plan 1 06-16-17													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	0.00	3.00	0.00	0.00	0.11	100.03	0.20	100.08				
100.00	100.00	97.00	100.00	0.19	0.19	0.11	100.03	0.20	100.03	99.65	0.38	262.322	
200.00	200.00	197.00	200.00	0.73	0.72	0.11	100.03	0.20	100.03	98.59	1.45	69.159	
300.00	300.00	297.00	300.00	1.27	1.25	0.11	100.03	0.20	100.03	97.51	2.52	39.667	
400.00	400.00	397.00	400.00	1.81	1.79	0.11	100.03	0.20	100.03	96.44	3.60	27.808	
500.00	500.00	497.00	500.00	2.34	2.33	0.11	100.03	0.20	100.03	95.36	4.67	21.408	
600.00	600.00	597.00	600.00	2.88	2.87	0.11	100.03	0.20	100.03	94.29	5.75	17.403	
700.00	699.98	695.67	698.65	3.42	3.39	21.89	100.84	1.67	99.04	92.23	6.81	14.537	
800.00	799.84	793.96	796.81	3.96	3.91	25.75	102.54	6.27	96.45	88.57	7.88	12.246	
899.93	899.39	891.51	894.01	4.50	4.43	32.56	105.69	13.90	93.20	84.26	8.94	10.429	
975.17	974.21	964.75	966.77	4.91	4.83	39.40	108.86	21.60	92.11	82.37	9.74	9.459 CC	
1,000.00	998.90	989.27	991.11	5.05	4.97	41.79	110.00	24.35	92.19	82.18	10.01	9.213 ES	
1,100.00	1,098.36	1,088.03	1,089.14	5.60	5.52	51.28	114.58	35.45	94.18	83.08	11.10	8.488	
1,200.00	1,197.81	1,186.79	1,187.16	6.16	6.07	60.16	119.16	46.55	98.66	86.47	12.18	8.097	
1,300.00	1,297.26	1,285.54	1,285.18	6.72	6.63	68.10	123.74	57.65	105.32	92.04	13.28	7.933	
1,400.00	1,396.71	1,384.30	1,383.21	7.28	7.20	75.01	128.32	68.74	113.78	99.41	14.37	7.919	
1,500.00	1,496.17	1,483.05	1,481.23	7.84	7.77	80.90	132.90	79.84	123.67	108.21	15.46	8.000	
1,600.00	1,595.62	1,581.81	1,579.25	8.41	8.34	85.89	137.48	90.94	134.67	118.12	16.55	8.136	
1,700.00	1,695.07	1,680.56	1,677.28	8.98	8.91	90.10	142.06	102.04	146.54	128.89	17.65	8.304	
1,800.00	1,794.52	1,779.32	1,775.30	9.54	9.48	93.68	146.64	113.14	159.08	140.33	18.74	8.487	
1,900.00	1,893.98	1,878.08	1,873.32	10.11	10.05	96.73	151.22	124.24	172.14	152.30	19.84	8.676	
2,000.00	1,993.43	1,976.83	1,971.35	10.68	10.63	99.34	155.80	135.33	185.61	164.67	20.94	8.864	
2,100.00	2,092.88	2,075.59	2,069.37	11.25	11.20	101.60	160.38	146.43	199.42	177.37	22.04	9.047	
2,200.00	2,192.33	2,174.34	2,167.39	11.82	11.78	103.56	164.96	157.53	213.49	190.34	23.15	9.224	
2,300.00	2,291.79	2,273.10	2,265.42	12.39	12.36	105.28	169.54	168.63	227.77	203.52	24.25	9.393	
2,400.00	2,391.24	2,371.86	2,363.44	12.96	12.93	106.80	174.11	179.73	242.24	216.88	25.35	9.554	
2,500.00	2,490.69	2,470.61	2,461.46	13.53	13.51	108.14	178.69	190.83	256.85	230.39	26.46	9.707	
2,600.00	2,590.14	2,569.37	2,559.49	14.10	14.09	109.35	183.27	201.92	271.59	244.02	27.57	9.852	
2,700.00	2,689.60	2,668.12	2,657.51	14.67	14.67	110.42	187.85	213.02	286.43	257.76	28.68	9.989	
2,800.00	2,789.05	2,766.88	2,755.53	15.24	15.25	111.39	192.43	224.12	301.36	271.58	29.78	10.118	
2,900.00	2,888.50	2,865.64	2,853.56	15.81	15.83	112.27	197.01	235.22	316.37	285.48	30.89	10.241	
3,000.00	2,987.95	2,964.39	2,951.58	16.39	16.40	113.07	201.59	246.32	331.45	299.45	32.00	10.357	
3,100.00	3,087.41	3,063.15	3,049.60	16.96	16.98	113.80	206.17	257.41	346.58	313.47	33.11	10.467	
3,200.00	3,186.86	3,161.90	3,147.63	17.53	17.56	114.47	210.75	268.51	361.76	327.54	34.22	10.571	
3,300.00	3,286.31	3,260.66	3,245.65	18.10	18.14	115.09	215.33	279.61	376.99	341.66	35.33	10.669	
3,400.00	3,385.76	3,359.42	3,343.67	18.68	18.72	115.66	219.91	290.71	392.26	355.81	36.45	10.763	
3,500.00	3,485.22	3,458.17	3,441.70	19.25	19.30	116.18	224.49	301.81	407.56	370.00	37.56	10.852	
3,600.00	3,584.67	3,556.93	3,539.72	19.82	19.89	116.67	229.07	312.91	422.89	384.22	38.67	10.936	
3,700.00	3,684.12	3,655.68	3,637.74	20.39	20.47	117.12	233.65	324.00	438.25	398.47	39.78	11.016	
3,800.00	3,783.57	3,754.44	3,735.77	20.97	21.05	117.54	238.23	335.10	453.64	412.75	40.89	11.093	
3,900.00	3,883.02	3,853.20	3,833.79	21.54	21.63	117.94	242.81	346.20	469.05	427.04	42.01	11.166	
4,000.00	3,982.48	3,951.95	3,931.81	22.11	22.21	118.31	247.39	357.30	484.48	441.36	43.12	11.235	
4,100.00	4,081.93	4,050.71	4,029.84	22.68	22.79	118.65	251.97	368.40	499.92	455.69	44.23	11.302	
4,200.00	4,181.38	4,149.46	4,127.86	23.26	23.37	118.98	256.55	379.50	515.39	470.04	45.35	11.365	
4,300.00	4,280.83	4,248.22	4,225.88	23.83	23.95	119.29	261.13	390.59	530.87	484.41	46.46	11.426	
4,400.00	4,380.35	4,347.03	4,323.97	24.40	24.53	119.68	265.71	401.70	546.05	498.45	47.60	11.471	
4,500.00	4,480.12	4,446.09	4,422.29	24.95	25.12	119.85	270.30	412.83	559.67	510.92	48.75	11.481	
4,600.00	4,580.07	4,545.31	4,520.77	25.48	25.70	119.68	274.90	423.98	571.58	521.72	49.86	11.464	
4,700.00	4,680.07	4,644.57	4,619.29	25.99	26.29	98.59	279.51	435.14	582.12	531.19	50.93	11.429	
4,800.00	4,780.07	4,743.83	4,717.82	26.50	26.87	97.98	284.11	446.29	592.59	540.60	52.00	11.397	
4,900.00	4,880.07	4,843.09	4,816.34	27.01	27.45	97.40	288.71	457.45	603.13	550.07	53.06	11.367	
5,000.00	4,980.07	4,942.34	4,914.86	27.52	28.04	96.84	293.32	468.60	613.72	559.60	54.12	11.340	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 6H - OH - Plan 1 06-16-17													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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
5,100.00	5,080.07	5,041.60	5,013.38	28.03	28.62	96.29	297.92	479.76	624.38	569.19	55.19	11.314	
5,200.00	5,180.07	5,140.86	5,111.90	28.55	29.21	95.77	302.52	490.91	635.08	578.83	56.25	11.290	
5,300.00	5,280.07	5,240.12	5,210.43	29.06	29.79	95.26	307.12	502.06	645.84	588.53	57.31	11.269	
5,400.00	5,380.07	5,339.38	5,308.95	29.58	30.38	94.77	311.73	513.22	656.65	598.27	58.38	11.248	
5,500.00	5,480.07	5,438.64	5,407.47	30.10	30.98	94.29	316.33	524.37	667.50	608.06	59.44	11.229	
5,600.00	5,580.07	5,537.89	5,505.99	30.61	31.55	93.83	320.93	535.53	678.40	617.89	60.51	11.212	
5,700.00	5,680.07	5,637.15	5,604.51	31.13	32.13	93.38	325.54	546.68	689.34	627.77	61.57	11.195	
5,800.00	5,780.07	5,750.22	5,716.83	31.65	32.79	92.92	330.52	558.77	699.84	637.13	62.71	11.160	
5,900.00	5,880.07	5,878.44	5,844.64	32.17	33.50	92.57	334.32	567.96	706.87	642.94	63.92	11.058	
6,000.00	5,980.07	6,007.29	5,973.42	32.69	34.18	92.43	335.93	571.87	709.84	644.72	65.12	10.900	
6,100.00	6,080.07	6,113.94	6,080.07	33.21	34.70	92.42	335.99	572.01	709.95	643.76	66.19	10.726	
6,200.00	6,180.07	6,213.94	6,180.07	33.73	35.19	92.42	335.99	572.01	709.95	642.74	67.22	10.562	
6,300.00	6,280.07	6,313.94	6,280.07	34.25	35.68	92.42	335.99	572.01	709.95	641.70	68.25	10.403	
6,400.00	6,380.07	6,413.94	6,380.07	34.77	36.18	92.42	335.99	572.01	709.95	640.67	69.28	10.248	
6,500.00	6,480.07	6,513.94	6,480.07	35.30	36.67	92.42	335.99	572.01	709.95	639.64	70.31	10.097	
6,600.00	6,580.07	6,613.94	6,580.07	35.82	37.17	92.42	335.99	572.01	709.95	638.60	71.35	9.950	
6,700.00	6,680.07	6,713.94	6,680.07	36.34	37.66	92.42	335.99	572.01	709.95	637.57	72.38	9.808	
6,800.00	6,780.07	6,813.94	6,780.07	36.87	38.16	92.42	335.99	572.01	709.95	636.53	73.42	9.670	
6,900.00	6,880.07	6,913.94	6,880.07	37.39	38.66	92.42	335.99	572.01	709.95	635.49	74.46	9.535	
7,000.00	6,980.07	7,013.94	6,980.07	37.92	39.16	92.42	335.99	572.01	709.95	634.45	75.50	9.403	
7,100.00	7,080.07	7,113.94	7,080.07	38.44	39.66	92.42	335.99	572.01	709.95	633.41	76.54	9.276	
7,200.00	7,180.07	7,213.94	7,180.07	38.97	40.16	92.42	335.99	572.01	709.95	632.37	77.58	9.151	
7,300.00	7,280.07	7,313.94	7,280.07	39.49	40.66	92.42	335.99	572.01	709.95	631.33	78.62	9.030	
7,400.00	7,380.07	7,413.94	7,380.07	40.02	41.17	92.42	335.99	572.01	709.95	630.29	79.67	8.912	
7,500.00	7,480.07	7,513.94	7,480.07	40.54	41.67	92.42	335.99	572.01	709.95	629.24	80.71	8.796	
7,600.00	7,580.07	7,613.94	7,580.07	41.07	42.18	92.42	335.99	572.01	709.95	628.20	81.75	8.684	
7,700.00	7,680.07	7,713.94	7,680.07	41.60	42.68	92.42	335.99	572.01	709.95	627.15	82.80	8.574	
7,800.00	7,780.07	7,813.94	7,780.07	42.13	43.19	92.42	335.99	572.01	709.95	626.11	83.85	8.467	
7,900.00	7,880.07	7,913.94	7,880.07	42.65	43.70	92.42	335.99	572.01	709.95	625.06	84.89	8.363	
8,000.00	7,980.07	8,013.94	7,980.07	43.18	44.21	92.42	335.99	572.01	709.95	624.01	85.94	8.261	
8,100.00	8,080.07	8,113.94	8,080.07	43.71	44.72	92.42	335.99	572.01	709.95	622.96	86.99	8.162	
8,200.00	8,180.07	8,213.94	8,180.07	44.24	45.23	92.42	335.99	572.01	709.95	621.92	88.04	8.064	
8,300.00	8,280.07	8,313.94	8,280.07	44.77	45.74	92.42	335.99	572.01	709.95	620.87	89.09	7.969	
8,400.00	8,380.07	8,413.94	8,380.07	45.29	46.25	92.42	335.99	572.01	709.95	619.82	90.14	7.876	
8,500.00	8,480.07	8,513.94	8,480.07	45.82	46.76	92.42	335.99	572.01	709.95	618.77	91.19	7.786	
8,517.23	8,497.30	8,531.18	8,497.30	45.92	46.85	93.00	335.99	572.01	709.96	618.60	91.36	7.771	
8,600.00	8,579.96	8,613.84	8,579.96	46.36	47.27	93.22	335.99	572.01	710.12	617.89	92.23	7.699	
8,700.00	8,678.03	8,711.91	8,678.03	46.93	47.77	94.57	335.99	572.01	711.43	618.15	93.28	7.627	
8,800.00	8,771.34	8,805.21	8,771.34	47.54	48.25	96.84	335.99	572.01	715.27	621.02	94.24	7.590	
8,900.00	8,857.03	8,890.91	8,857.03	48.17	48.69	99.46	335.99	572.01	723.83	628.85	94.98	7.621	
9,000.00	8,932.52	8,966.40	8,932.52	48.82	49.08	101.71	335.99	572.01	739.79	644.35	95.44	7.752	
9,100.00	8,995.51	9,029.38	8,995.51	49.51	49.41	102.86	335.99	572.01	765.53	669.73	95.80	7.991	
9,200.00	9,044.08	9,077.95	9,044.08	50.22	49.66	102.22	335.99	572.01	802.53	705.97	96.56	8.311	
9,300.00	9,076.76	9,110.63	9,076.76	50.96	49.82	99.18	335.99	572.01	850.84	752.75	98.09	8.674	
9,400.00	9,092.55	9,126.43	9,092.55	51.72	49.91	93.28	335.99	572.01	909.09	809.05	100.04	9.087	
9,500.00	9,094.47	9,128.35	9,094.47	52.50	49.91	90.40	335.99	572.01	974.78	873.70	101.07	9.644	
9,600.00	9,095.21	9,129.09	9,095.21	53.35	49.92	90.46	335.99	572.01	1,045.94	944.01	101.92	10.262	
9,700.00	9,095.95	9,129.83	9,095.95	54.27	49.92	90.52	335.99	572.01	1,121.50	1,018.65	102.85	10.904	
9,800.00	9,096.69	10,832.39	10,013.49	55.27	59.79	142.55	1,348.39	554.89	1,155.46	1,080.67	74.79	15.450	
9,900.00	9,097.43	10,932.26	10,009.29	56.33	60.75	142.43	1,448.16	553.20	1,151.10	1,074.66	76.45	15.058	
10,000.00	9,098.17	11,032.14	10,005.08	57.45	61.77	142.31	1,547.93	551.51	1,146.75	1,068.54	78.21	14.662	
10,100.00	9,098.91	11,132.01	10,000.87	58.62	62.84	142.18	1,647.70	549.83	1,142.41	1,062.33	80.08	14.265	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 5 Fed 003 - 6H - OH - Plan 1 06-16-17													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		
10,200.00	9,099.65	11,231.89	9,996.67	59.86	63.98	142.06	1,747.47	548.14	1,138.07	1,056.02	82.05	13.870		
10,300.00	9,100.39	11,331.76	9,992.46	61.14	65.16	141.93	1,847.25	546.45	1,133.74	1,049.63	84.11	13.479		
10,400.00	9,101.13	11,431.64	9,988.26	62.47	66.39	141.80	1,947.02	544.76	1,129.41	1,043.16	86.26	13.094		
10,500.00	9,101.87	11,531.51	9,984.05	63.85	67.67	141.68	2,046.79	543.08	1,125.09	1,036.61	88.48	12.715		
10,600.00	9,102.61	11,631.39	9,979.85	65.27	68.99	141.55	2,146.56	541.39	1,120.78	1,029.99	90.78	12.345		
10,700.00	9,103.35	11,731.26	9,975.64	66.73	70.35	141.42	2,246.34	539.70	1,116.47	1,023.31	93.16	11.985		
10,800.00	9,104.09	11,831.14	9,971.44	68.23	71.76	141.29	2,346.11	538.01	1,112.16	1,016.56	95.60	11.634		
10,900.00	9,104.83	11,931.01	9,967.23	69.76	73.20	141.16	2,445.88	536.33	1,107.86	1,009.76	98.10	11.293		
11,000.00	9,105.57	12,030.89	9,963.02	71.33	74.67	141.02	2,545.65	534.64	1,103.57	1,002.91	100.67	10.963		
11,100.00	9,106.31	12,126.47	9,959.00	72.92	76.11	140.89	2,641.13	533.02	1,099.29	996.07	103.22	10.650		
11,200.00	9,107.05	12,206.85	9,956.74	74.55	77.34	140.82	2,721.47	531.66	1,096.14	990.57	105.56	10.384		
11,300.00	9,107.79	12,301.41	9,955.96	76.20	78.80	140.80	2,816.02	530.06	1,094.46	986.43	108.03	10.131		
11,400.00	9,108.53	12,401.40	9,955.19	77.87	80.38	140.78	2,915.98	528.36	1,092.85	982.23	110.61	9.880		
11,500.00	9,109.27	12,501.39	9,954.42	79.57	81.99	140.76	3,015.95	526.66	1,091.23	978.00	113.23	9.637		
11,600.00	9,110.01	12,601.37	9,953.66	81.29	83.61	140.74	3,115.92	524.97	1,089.62	973.73	115.89	9.402		
11,700.00	9,110.75	12,701.36	9,952.89	83.03	85.27	140.72	3,215.89	523.27	1,088.00	969.43	118.58	9.176		
11,800.00	9,111.49	12,801.34	9,952.12	84.79	86.94	140.69	3,315.86	521.57	1,086.39	965.09	121.30	8.956		
11,900.00	9,112.24	12,901.33	9,951.36	86.57	88.64	140.67	3,415.83	519.87	1,084.77	960.73	124.05	8.745		
12,000.00	9,112.98	13,001.32	9,950.59	88.36	90.36	140.65	3,515.80	518.17	1,083.16	956.33	126.83	8.540		
12,100.00	9,113.72	13,101.30	9,949.82	90.18	92.09	140.63	3,615.77	516.48	1,081.55	951.91	129.64	8.343		
12,200.00	9,114.46	13,201.29	9,949.05	92.00	93.84	140.61	3,715.74	514.78	1,079.93	947.47	132.47	8.152		
12,300.00	9,115.20	13,301.28	9,948.29	93.84	95.61	140.59	3,815.70	513.08	1,078.32	943.00	135.32	7.969		
12,400.00	9,115.94	13,401.26	9,947.52	95.70	97.40	140.56	3,915.67	511.38	1,076.71	938.51	138.20	7.791		
12,500.00	9,116.68	13,501.25	9,946.75	97.56	99.20	140.54	4,015.64	509.69	1,075.09	934.00	141.10	7.620		
12,600.00	9,117.42	13,601.23	9,945.99	99.44	101.02	140.52	4,115.61	507.99	1,073.48	929.46	144.02	7.454		
12,700.00	9,118.16	13,701.22	9,945.22	101.33	102.85	140.50	4,215.58	506.29	1,071.87	924.92	146.95	7.294		
12,800.00	9,118.90	13,801.21	9,944.45	103.23	104.69	140.48	4,315.55	504.59	1,070.25	920.35	149.91	7.139		
12,900.00	9,119.64	13,901.19	9,943.68	105.14	106.54	140.45	4,415.52	502.90	1,068.64	915.76	152.88	6.990		
13,000.00	9,120.38	14,001.18	9,942.92	107.06	108.41	140.43	4,515.49	501.20	1,067.03	911.16	155.87	6.846		
13,100.00	9,121.12	14,101.16	9,942.15	108.99	110.28	140.41	4,615.45	499.50	1,065.42	906.55	158.87	6.706		
13,200.00	9,121.86	14,185.13	9,942.22	110.93	111.86	140.42	4,699.41	498.07	1,064.47	902.88	161.59	6.587		
13,300.00	9,122.60	14,285.13	9,943.42	112.87	113.76	140.46	4,799.38	496.35	1,064.37	899.88	164.48	6.471		
13,400.00	9,123.34	14,385.12	9,944.62	114.83	115.66	140.51	4,899.35	494.64	1,064.26	896.88	167.38	6.358		
13,500.00	9,124.08	14,485.12	9,945.82	116.79	117.58	140.55	4,999.33	492.92	1,064.16	893.86	170.29	6.249		
13,600.00	9,124.82	14,585.12	9,947.02	118.76	119.50	140.60	5,099.30	491.21	1,064.05	890.84	173.21	6.143		
13,700.00	9,125.56	14,685.11	9,948.22	120.73	121.43	140.65	5,199.28	489.49	1,063.95	887.82	176.13	6.041		
13,800.00	9,126.30	14,785.11	9,949.42	122.71	123.37	140.69	5,299.25	487.78	1,063.85	884.78	179.06	5.941		
13,900.00	9,127.04	14,885.10	9,950.62	124.70	125.31	140.74	5,399.23	486.06	1,063.74	881.74	182.00	5.845		
14,000.00	9,127.78	14,985.10	9,951.82	126.69	127.26	140.78	5,499.20	484.35	1,063.64	878.70	184.94	5.751		
14,100.00	9,128.52	15,085.10	9,953.03	128.69	129.22	140.83	5,599.18	482.63	1,063.54	875.65	187.89	5.660		
14,200.00	9,129.26	15,185.09	9,954.23	130.69	131.19	140.87	5,699.15	480.91	1,063.44	872.60	190.84	5.572		
14,300.00	9,130.00	15,285.09	9,955.43	132.70	133.16	140.92	5,799.12	479.20	1,063.34	869.54	193.80	5.487		
14,400.00	9,130.74	15,385.09	9,956.63	134.71	135.14	140.97	5,899.10	477.48	1,063.24	866.48	196.76	5.404		
14,489.93	9,131.67	15,460.94	9,957.65	136.52	136.64	141.00	5,974.94	476.51	1,062.99	863.66	199.33	5.333		
14,500.00	9,131.76	15,468.61	9,957.78	136.72	136.79	141.00	5,982.60	476.51	1,063.09	863.48	199.61	5.326		
14,600.00	9,133.15	15,560.06	9,959.66	138.74	138.60	141.00	6,074.03	477.22	1,063.84	861.30	202.54	5.252		
14,700.00	9,134.54	15,660.06	9,961.76	140.76	140.59	141.00	6,174.00	478.13	1,064.73	859.12	205.62	5.178		
14,800.00	9,135.92	15,760.05	9,963.86	142.78	142.58	141.00	6,273.97	479.05	1,065.62	856.93	208.70	5.106		
14,900.00	9,137.31	15,860.05	9,965.96	144.81	144.57	141.00	6,373.94	479.96	1,066.52	854.73	211.78	5.036		
15,000.00	9,138.70	15,960.04	9,968.06	146.84	146.57	141.01	6,473.91	480.88	1,067.41	852.54	214.87	4.968		
15,100.00	9,140.09	16,060.04	9,970.16	148.87	148.57	141.01	6,573.88	481.79	1,068.30	850.33	217.97	4.901		
15,200.00	9,141.48	16,160.04	9,972.26	150.91	150.58	141.01	6,673.85	482.70	1,069.20	848.13	221.07	4.836		

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 5 Fed 003 - 6H - OH - Plan 1 06-16-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (")	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)					
15,300.00	9,142.86	16,260.03	9,974.36	152.95	152.59	141.01	6,773.82	483.62	1,070.09	845.91	224.18	4.773	
15,400.00	9,144.25	16,360.03	9,976.46	154.99	154.60	141.01	6,873.79	484.53	1,070.98	843.70	227.29	4.712	
15,500.00	9,145.64	16,460.02	9,978.56	157.04	156.62	141.01	6,973.76	485.45	1,071.88	841.48	230.40	4.652	
15,600.00	9,147.03	16,560.02	9,980.65	159.09	158.64	141.01	7,073.73	486.36	1,072.77	839.25	233.52	4.594	
15,700.00	9,148.41	16,660.02	9,982.75	161.14	160.67	141.02	7,173.70	487.27	1,073.66	837.02	236.64	4.537	
15,800.00	9,149.80	16,760.01	9,984.85	163.19	162.70	141.02	7,273.67	488.19	1,074.55	834.79	239.76	4.482	
15,900.00	9,151.19	16,860.01	9,986.95	165.25	164.73	141.02	7,373.64	489.10	1,075.45	832.55	242.89	4.428	
16,000.00	9,152.58	16,960.00	9,989.05	167.31	166.76	141.02	7,473.61	490.02	1,076.34	830.32	246.02	4.375	
16,100.00	9,153.97	17,060.00	9,991.15	169.37	168.80	141.02	7,573.58	490.93	1,077.23	828.07	249.16	4.323	
16,200.00	9,155.35	17,160.00	9,993.25	171.44	170.84	141.02	7,673.55	491.84	1,078.13	825.83	252.30	4.273	
16,300.00	9,156.74	17,259.99	9,995.35	173.50	172.88	141.03	7,773.52	492.76	1,079.02	823.58	255.44	4.224	
16,400.00	9,158.13	17,359.99	9,997.45	175.57	174.93	141.03	7,873.49	493.67	1,079.91	821.33	258.58	4.176	
16,500.00	9,159.52	17,459.98	9,999.55	177.64	176.98	141.03	7,973.46	494.59	1,080.81	819.07	261.73	4.129	
16,600.00	9,160.91	17,559.98	10,001.65	179.71	179.03	141.03	8,073.43	495.50	1,081.70	816.82	264.88	4.084	
16,700.00	9,162.29	17,659.98	10,003.74	181.79	181.08	141.03	8,173.40	496.41	1,082.59	814.56	268.03	4.039	
16,800.00	9,163.68	17,769.62	10,005.67	183.86	183.33	141.02	8,283.02	497.40	1,083.22	811.85	271.38	3.992	
16,900.00	9,165.07	17,869.62	10,006.67	185.94	185.39	140.99	8,383.01	498.25	1,083.23	808.59	274.64	3.944	
17,000.00	9,166.46	17,969.62	10,007.67	188.02	187.45	140.96	8,483.00	499.11	1,083.23	805.32	277.91	3.898	
17,100.00	9,167.85	18,069.61	10,008.67	190.10	189.51	140.92	8,582.99	499.97	1,083.23	802.05	281.18	3.852	
17,200.00	9,169.23	18,169.61	10,009.67	192.19	191.57	140.89	8,682.98	500.82	1,083.24	798.78	284.46	3.808	
17,300.00	9,170.62	18,269.61	10,010.67	194.27	193.64	140.86	8,782.97	501.68	1,083.24	795.50	287.74	3.765	
17,400.00	9,172.01	18,369.61	10,011.67	196.36	195.70	140.82	8,882.96	502.54	1,083.24	792.22	291.03	3.722	
17,500.00	9,173.40	18,469.61	10,012.67	198.44	197.77	140.79	8,982.95	503.39	1,083.25	788.93	294.32	3.681	
17,600.00	9,174.79	18,569.60	10,013.67	200.53	199.84	140.76	9,082.94	504.25	1,083.25	785.64	297.61	3.640	
17,700.00	9,176.17	18,669.60	10,014.67	202.62	201.91	140.73	9,182.93	505.11	1,083.26	782.35	300.91	3.600	
17,800.00	9,177.56	18,769.60	10,015.67	204.71	203.99	140.69	9,282.92	505.96	1,083.27	779.05	304.21	3.561	
17,900.00	9,178.95	18,869.60	10,016.67	206.81	206.06	140.66	9,382.90	506.82	1,083.27	775.75	307.52	3.523	
18,000.00	9,180.34	18,969.60	10,017.68	208.90	208.14	140.63	9,482.89	507.68	1,083.28	772.45	310.83	3.485	
18,100.00	9,181.73	19,069.59	10,018.68	211.00	210.22	140.60	9,582.88	508.53	1,083.29	769.14	314.14	3.448	
18,200.00	9,183.11	19,169.59	10,019.68	213.09	212.30	140.56	9,682.87	509.39	1,083.29	765.83	317.46	3.412	
18,300.00	9,184.50	19,269.59	10,020.68	215.19	214.38	140.53	9,782.86	510.25	1,083.30	762.52	320.78	3.377	
18,400.00	9,185.89	19,369.59	10,021.68	217.29	216.46	140.50	9,882.85	511.10	1,083.31	759.20	324.11	3.342	
18,500.00	9,187.28	19,469.59	10,022.68	219.39	218.54	140.46	9,982.84	511.96	1,083.32	755.88	327.44	3.308	
18,600.00	9,188.66	19,569.58	10,023.68	221.49	220.63	140.43	10,082.83	512.82	1,083.33	752.56	330.77	3.275	
18,700.00	9,190.05	19,669.58	10,024.68	223.59	222.72	140.40	10,182.82	513.67	1,083.33	749.23	334.11	3.242	
18,800.00	9,191.44	19,769.58	10,025.68	225.69	224.80	140.37	10,282.81	514.53	1,083.34	745.90	337.44	3.210	
18,900.00	9,192.83	19,869.58	10,026.68	227.79	226.89	140.33	10,382.80	515.39	1,083.35	742.57	340.79	3.179	
19,000.00	9,194.22	19,969.58	10,027.68	229.90	228.98	140.30	10,482.79	516.24	1,083.36	739.23	344.13	3.148	
19,100.00	9,195.60	20,069.58	10,028.68	232.00	231.07	140.27	10,582.78	517.10	1,083.37	735.89	347.48	3.118	
19,200.00	9,196.99	20,169.57	10,029.68	234.11	233.16	140.23	10,682.77	517.96	1,083.38	732.55	350.84	3.088	
19,300.00	9,198.38	20,269.57	10,030.68	236.22	235.26	140.20	10,782.76	518.81	1,083.40	729.20	354.19	3.059	
19,400.00	9,199.77	20,369.57	10,031.68	238.33	237.35	140.17	10,882.75	519.67	1,083.41	725.86	357.55	3.030	
19,416.71	9,200.00	20,386.28	10,031.85	238.68	237.70	140.16	10,899.45	519.81	1,083.41	725.30	358.11	3.025 SF	



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 13HD - OH / Job #61220 - Plan 4 06-13-17												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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	21.00	0.00	0.00	-77.40	302.36	-1,352.89	1,386.42				
100.00	100.00	79.00	100.00	0.19	0.15	-77.40	302.36	-1,352.89	1,386.26	1,385.92	0.35	4,000.767	
200.00	200.00	179.00	200.00	0.73	0.62	-77.40	302.36	-1,352.89	1,386.26	1,384.91	1.35	1,027.130	
300.00	300.00	279.00	300.00	1.27	1.16	-77.40	302.36	-1,352.89	1,386.26	1,383.84	2.43	571.640	
400.00	400.00	379.00	400.00	1.81	1.69	-77.40	302.36	-1,352.89	1,386.26	1,382.76	3.50	396.021	
500.00	500.00	479.00	500.00	2.34	2.23	-77.40	302.36	-1,352.89	1,386.26	1,381.69	4.58	302.949	
600.00	600.00	579.00	600.00	2.88	2.77	-77.40	302.36	-1,352.89	1,386.26	1,380.61	5.65	245.300	
700.00	699.98	678.98	699.98	3.42	3.31	-56.91	302.36	-1,352.89	1,385.31	1,378.58	6.73	205.932	
800.00	799.84	778.84	799.84	3.96	3.84	-57.14	302.36	-1,352.89	1,382.46	1,374.65	7.80	177.182	
899.93	899.39	878.39	899.39	4.50	4.38	-57.52	302.36	-1,352.89	1,377.74	1,368.87	8.88	155.199	
1,000.00	998.90	977.90	998.90	5.05	4.91	-57.89	302.36	-1,352.89	1,372.13	1,362.18	9.95	137.844	
1,100.00	1,098.36	1,077.36	1,098.36	5.60	5.45	-58.26	302.36	-1,352.89	1,366.59	1,355.55	11.04	123.835	
1,200.00	1,197.81	1,176.81	1,197.81	6.16	5.98	-58.63	302.36	-1,352.89	1,361.10	1,348.98	12.12	112.297	
1,300.00	1,297.26	1,276.26	1,297.26	6.72	6.52	-59.01	302.36	-1,352.89	1,355.66	1,342.46	13.21	102.637	
1,400.00	1,396.71	1,375.71	1,396.71	7.28	7.05	-59.39	302.36	-1,352.89	1,350.29	1,335.99	14.30	94.436	
1,500.00	1,496.17	1,475.17	1,496.17	7.84	7.59	-59.77	302.36	-1,352.89	1,344.98	1,329.59	15.39	87.390	
1,600.00	1,595.62	1,574.62	1,595.62	8.41	8.12	-60.15	302.36	-1,352.89	1,339.73	1,323.24	16.48	81.274	
1,700.00	1,695.07	1,674.07	1,695.07	8.98	8.66	-60.54	302.36	-1,352.89	1,334.53	1,316.95	17.58	75.916	
1,800.00	1,794.52	1,773.52	1,794.52	9.54	9.19	-60.93	302.36	-1,352.89	1,329.40	1,310.73	18.68	71.186	
1,900.00	1,893.98	1,872.98	1,893.98	10.11	9.73	-61.33	302.36	-1,352.89	1,324.34	1,304.56	19.77	66.980	
2,000.00	1,893.43	1,872.43	1,893.43	10.68	10.26	-61.72	302.36	-1,352.89	1,319.33	1,298.46	20.87	63.216	
2,100.00	2,092.88	2,071.88	2,092.88	11.25	10.80	-62.12	302.36	-1,352.89	1,314.39	1,292.42	21.97	59.829	
2,200.00	2,192.33	2,171.33	2,192.33	11.82	11.33	-62.52	302.36	-1,352.89	1,309.52	1,286.45	23.07	56.766	
2,300.00	2,291.79	2,264.33	2,285.33	12.39	11.83	-62.90	302.36	-1,352.92	1,304.76	1,280.63	24.13	54.067	
2,400.00	2,391.24	2,332.95	2,353.94	12.96	12.18	-63.19	302.32	-1,354.09	1,301.69	1,276.64	25.05	51.958	
2,474.73	2,465.56	2,384.24	2,405.19	13.39	12.45	-63.42	302.26	-1,356.03	1,300.98	1,275.24	25.74	50.548 CC	
2,500.00	2,490.69	2,400.00	2,420.93	13.53	12.53	-63.48	302.23	-1,356.81	1,301.05	1,275.09	25.96	50.115 ES	
2,600.00	2,590.14	2,470.15	2,490.94	14.10	12.89	-63.80	302.07	-1,361.34	1,302.85	1,275.96	26.89	48.454	
2,700.00	2,689.60	2,538.58	2,559.09	14.67	13.25	-64.12	301.86	-1,367.40	1,307.09	1,279.28	27.81	47.005	
2,800.00	2,789.05	2,600.00	2,620.13	15.24	13.57	-64.41	301.62	-1,374.23	1,313.79	1,285.10	28.69	45.790	
2,900.00	2,888.50	2,674.70	2,694.15	15.81	13.96	-64.77	301.27	-1,384.29	1,322.87	1,293.22	29.65	44.623	
3,000.00	2,987.95	2,742.24	2,760.82	16.39	14.32	-65.09	300.89	-1,395.05	1,334.39	1,303.83	30.56	43.660	
3,100.00	3,087.41	2,813.73	2,831.10	16.96	14.71	-65.44	300.44	-1,408.10	1,348.29	1,316.79	31.50	42.800	
3,200.00	3,186.86	2,911.99	2,927.56	17.53	15.26	-65.92	299.78	-1,426.84	1,363.13	1,330.55	32.58	41.838	
3,300.00	3,286.31	3,010.25	3,024.01	18.10	15.81	-66.38	299.13	-1,445.58	1,378.06	1,344.40	33.66	40.938	
3,400.00	3,385.76	3,108.51	3,120.47	18.68	16.37	-66.83	298.47	-1,464.32	1,393.08	1,358.34	34.75	40.093	
3,500.00	3,485.22	3,206.77	3,216.92	19.25	16.94	-67.28	297.82	-1,483.06	1,408.19	1,372.35	35.83	39.298	
3,600.00	3,584.67	3,305.03	3,313.38	19.82	17.51	-67.71	297.17	-1,501.79	1,423.37	1,386.45	36.92	38.549	
3,700.00	3,684.12	3,403.29	3,409.83	20.39	18.09	-68.14	296.51	-1,520.53	1,438.64	1,400.62	38.02	37.843	
3,800.00	3,783.57	3,501.55	3,506.28	20.97	18.68	-68.56	295.86	-1,539.27	1,453.98	1,414.87	39.11	37.176	
3,900.00	3,883.02	3,599.81	3,602.74	21.54	19.27	-68.97	295.20	-1,558.01	1,469.40	1,429.19	40.21	36.545	
4,000.00	3,982.48	3,698.07	3,699.19	22.11	19.86	-69.37	294.55	-1,576.74	1,484.89	1,443.58	41.31	35.948	
4,100.00	4,081.93	3,796.33	3,795.65	22.68	20.46	-69.76	293.89	-1,595.48	1,500.45	1,458.04	42.41	35.382	
4,200.00	4,181.38	3,894.59	3,892.10	23.26	21.06	-70.14	293.24	-1,614.22	1,516.07	1,472.57	43.51	34.845	
4,300.00	4,280.83	3,992.85	3,988.56	23.83	21.67	-70.52	292.59	-1,632.96	1,531.77	1,487.15	44.61	34.334	
4,400.00	4,380.35	4,091.13	4,085.03	24.40	22.28	-71.05	291.93	-1,651.70	1,547.73	1,502.02	45.71	33.859	
4,500.00	4,480.12	4,189.47	4,181.57	24.95	22.89	-71.61	291.28	-1,670.45	1,564.75	1,517.97	46.78	33.447	
4,600.00	4,580.07	4,287.77	4,278.07	25.48	23.50	-72.06	290.62	-1,689.20	1,582.88	1,535.05	47.83	33.095	
4,700.00	4,680.07	4,385.95	4,374.44	25.99	24.12	-92.77	289.97	-1,707.92	1,601.87	1,553.01	48.86	32.785	
4,800.00	4,780.07	4,484.11	4,470.80	26.50	24.74	-92.76	289.32	-1,726.64	1,620.95	1,571.05	49.91	32.480	
4,900.00	4,880.07	4,582.28	4,567.16	27.01	25.36	-92.75	288.66	-1,745.36	1,640.03	1,589.08	50.95	32.187	
5,000.00	4,980.07	4,680.44	4,663.52	27.52	25.98	-92.74	288.01	-1,764.08	1,659.11	1,607.11	52.00	31.905	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 13HD - OH / Job #61220 - Plan 4 06-13-17												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	5,080.07	4,778.60	4,759.88	28.03	26.61	-92.74	287.35	-1,782.79	1,678.19	1,625.14	53.05	31.633	
5,200.00	5,180.07	4,876.77	4,856.24	28.55	27.23	-92.73	286.70	-1,801.51	1,697.27	1,643.17	54.11	31.370	
5,300.00	5,280.07	4,974.93	4,952.60	29.06	27.86	-92.72	286.05	-1,820.23	1,716.35	1,661.19	55.16	31.116	
5,400.00	5,380.07	5,073.09	5,048.96	29.58	28.49	-92.71	285.39	-1,838.95	1,735.43	1,679.22	56.22	30.871	
5,500.00	5,480.07	5,171.25	5,145.31	30.10	29.12	-92.70	284.74	-1,857.67	1,754.51	1,697.24	57.27	30.635	
5,600.00	5,580.07	5,269.42	5,241.67	30.61	29.75	-92.70	284.09	-1,876.39	1,773.59	1,715.26	58.33	30.406	
5,700.00	5,680.07	5,367.58	5,338.03	31.13	30.39	-92.69	283.43	-1,895.11	1,792.67	1,733.28	59.39	30.184	
5,800.00	5,780.07	5,465.74	5,434.39	31.65	31.02	-92.68	282.78	-1,913.83	1,811.75	1,751.30	60.45	29.970	
5,900.00	5,880.07	5,570.81	5,537.54	32.17	31.70	-92.67	282.08	-1,933.84	1,830.82	1,769.27	61.55	29.745	
6,000.00	5,980.07	5,647.11	5,611.03	32.69	33.37	-92.66	280.74	-1,972.36	1,844.79	1,781.21	63.58	29.016	
6,100.00	6,080.07	6,116.52	6,080.07	33.21	34.78	-92.66	280.31	-1,984.41	1,849.08	1,783.56	65.53	28.219	
6,200.00	6,180.07	6,216.52	6,180.07	33.73	35.27	-92.66	280.31	-1,984.41	1,849.08	1,782.52	66.56	27.781	
6,300.00	6,280.07	6,316.52	6,280.07	34.25	35.76	-92.66	280.31	-1,984.41	1,849.08	1,781.49	67.59	27.355	
6,400.00	6,380.07	6,416.52	6,380.07	34.77	36.25	-92.66	280.31	-1,984.41	1,849.08	1,780.45	68.63	26.942	
6,500.00	6,480.07	6,516.52	6,480.07	35.30	36.74	-92.66	280.31	-1,984.41	1,849.08	1,779.41	69.67	26.541	
6,600.00	6,580.07	6,616.52	6,580.07	35.82	37.23	-92.66	280.31	-1,984.41	1,849.08	1,778.37	70.71	26.151	
6,700.00	6,680.07	6,716.52	6,680.07	36.34	37.73	-92.66	280.31	-1,984.41	1,849.08	1,777.33	71.75	25.772	
6,800.00	6,780.07	6,816.52	6,780.07	36.87	38.22	-92.66	280.31	-1,984.41	1,849.08	1,776.29	72.79	25.403	
6,900.00	6,880.07	6,916.52	6,880.07	37.39	38.72	-92.66	280.31	-1,984.41	1,849.08	1,775.25	73.83	25.045	
7,000.00	6,980.07	7,016.52	6,980.07	37.92	39.21	-92.66	280.31	-1,984.41	1,849.08	1,774.21	74.87	24.696	
7,100.00	7,080.07	7,116.52	7,080.07	38.44	39.71	-92.66	280.31	-1,984.41	1,849.08	1,773.16	75.92	24.356	
7,200.00	7,180.07	7,216.52	7,180.07	38.97	40.21	-92.66	280.31	-1,984.41	1,849.08	1,772.12	76.96	24.026	
7,300.00	7,280.07	7,316.52	7,280.07	39.49	40.71	-92.66	280.31	-1,984.41	1,849.08	1,771.07	78.01	23.704	
7,400.00	7,380.07	7,416.52	7,380.07	40.02	41.21	-92.66	280.31	-1,984.41	1,849.08	1,770.03	79.06	23.390	
7,500.00	7,480.07	7,516.52	7,480.07	40.54	41.71	-92.66	280.31	-1,984.41	1,849.08	1,768.98	80.10	23.084	
7,600.00	7,580.07	7,616.52	7,580.07	41.07	42.21	-92.66	280.31	-1,984.41	1,849.08	1,767.93	81.15	22.786	
7,700.00	7,680.07	7,716.52	7,680.07	41.60	42.72	-92.66	280.31	-1,984.41	1,849.08	1,766.88	82.20	22.495	
7,800.00	7,780.07	7,816.52	7,780.07	42.13	43.22	-92.66	280.31	-1,984.41	1,849.08	1,765.83	83.25	22.212	
7,900.00	7,880.07	7,916.52	7,880.07	42.65	43.73	-92.66	280.31	-1,984.41	1,849.08	1,764.78	84.30	21.935	
8,000.00	7,980.07	8,016.52	7,980.07	43.18	44.23	-92.66	280.31	-1,984.41	1,849.08	1,763.73	85.35	21.665	
8,100.00	8,080.07	8,116.52	8,080.07	43.71	44.74	-92.66	280.31	-1,984.41	1,849.08	1,762.68	86.40	21.401	
8,200.00	8,180.07	8,216.52	8,180.07	44.24	45.25	-92.66	280.31	-1,984.41	1,849.08	1,761.63	87.45	21.144	
8,300.00	8,280.07	8,316.52	8,280.07	44.77	45.76	-92.66	280.31	-1,984.41	1,849.08	1,760.58	88.50	20.893	
8,400.00	8,380.07	8,416.52	8,380.07	45.29	46.26	-92.66	280.31	-1,984.41	1,849.08	1,759.52	89.56	20.647	
8,500.00	8,480.07	8,516.52	8,480.07	45.82	46.77	-92.66	280.31	-1,984.41	1,849.08	1,758.47	90.61	20.407	
8,515.48	8,495.55	8,532.00	8,495.55	45.91	46.85	-92.09	280.31	-1,984.41	1,849.09	1,758.31	90.78	20.370	
8,600.00	8,579.96	8,616.42	8,579.96	46.36	47.28	-92.17	280.31	-1,984.41	1,849.20	1,757.53	91.66	20.174	
8,700.00	8,678.03	8,714.49	8,678.03	46.93	47.78	-92.66	280.31	-1,984.41	1,850.01	1,757.29	92.72	19.953	
8,800.00	8,771.34	8,807.79	8,771.34	47.54	48.26	-93.48	280.31	-1,984.41	1,852.07	1,758.32	93.75	19.756	
8,900.00	8,857.03	8,893.49	8,857.03	48.17	48.70	-94.42	280.31	-1,984.41	1,856.24	1,761.52	94.72	19.598	
9,000.00	8,932.52	8,968.98	8,932.52	48.82	49.09	-95.20	280.31	-1,984.41	1,863.58	1,767.96	95.62	19.490	
9,100.00	8,995.51	9,031.96	8,995.51	49.51	49.41	-95.53	280.31	-1,984.41	1,875.20	1,778.71	96.49	19.435	
9,200.00	9,044.08	9,080.53	9,044.08	50.22	49.66	-95.13	280.31	-1,984.41	1,892.01	1,794.58	97.43	19.419	
9,300.00	9,076.76	9,113.21	9,076.76	50.96	49.83	-93.78	280.31	-1,984.41	1,914.50	1,815.99	98.51	19.435	
9,400.00	9,092.55	9,129.01	9,092.55	51.72	49.91	-91.33	280.31	-1,984.41	1,942.62	1,842.97	99.65	19.494	
9,500.00	9,094.47	9,130.93	9,094.47	52.50	49.92	-90.16	280.31	-1,984.41	1,975.75	1,875.21	100.54	19.652	
9,600.00	9,095.21	9,131.67	9,095.21	53.35	49.92	-90.18	280.31	-1,984.41	2,013.32	1,911.93	101.39	19.857	
9,700.00	9,095.95	9,131.03	9,095.95	54.27	50.40	-113.98	1,181.76	-1,993.34	2,022.51	1,922.90	99.62	20.303	
9,800.00	9,096.69	9,111.02	9,096.69	55.27	57.14	-113.96	1,281.75	-1,994.34	2,022.10	1,920.86	101.24	19.973	
9,900.00	9,097.43	9,111.02	9,097.43	56.33	57.95	-113.93	1,381.74	-1,995.33	2,021.70	1,918.69	103.01	19.627	
10,000.00	9,098.17	9,111.01	9,098.17	57.45	58.83	-113.91	1,481.73	-1,996.32	2,021.29	1,916.39	104.90	19.269	
10,100.00	9,098.91	9,111.01	9,098.91	58.62	59.78	-113.88	1,581.72	-1,997.31	2,020.88	1,913.97	106.91	18.903	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 13HD - OH / Job #61220 - Plan 4 06-13-17													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
10,200.00	9,099.65	11,111.00	9,916.79	59.86	60.79	-113.85	1,681.71	-1,998.30	2,020.47	1,911.44	109.04	18.530	
10,300.00	9,100.39	11,211.00	9,916.52	61.14	61.85	-113.83	1,781.70	-1,999.29	2,020.07	1,908.79	111.27	18.154	
10,400.00	9,101.13	11,310.99	9,916.25	62.47	62.98	-113.80	1,881.69	-2,000.29	2,019.66	1,906.05	113.61	17.777	
10,500.00	9,101.87	11,410.99	9,915.99	63.85	64.16	-113.78	1,981.68	-2,001.28	2,019.25	1,903.21	116.05	17.400	
10,600.00	9,102.61	11,510.98	9,915.72	65.27	65.38	-113.75	2,081.67	-2,002.27	2,018.85	1,900.27	118.58	17.026	
10,700.00	9,103.35	11,610.98	9,915.45	66.73	66.66	-113.72	2,181.65	-2,003.26	2,018.44	1,897.26	121.19	16.655	
10,800.00	9,104.09	11,710.97	9,915.18	68.23	67.98	-113.70	2,281.64	-2,004.25	2,018.04	1,894.16	123.88	16.290	
10,900.00	9,104.83	11,823.13	9,914.56	69.76	69.51	-113.66	2,393.79	-2,005.37	2,017.54	1,890.72	126.82	15.909	
11,000.00	9,105.57	11,933.04	9,911.47	71.33	71.06	-113.56	2,503.66	-2,006.46	2,016.11	1,886.23	129.87	15.524	
11,100.00	9,106.31	12,032.97	9,908.46	72.92	72.52	-113.46	2,603.54	-2,007.45	2,014.61	1,881.76	132.86	15.164	
11,200.00	9,107.05	12,132.90	9,905.45	74.55	74.01	-113.36	2,703.42	-2,008.45	2,013.13	1,877.22	135.90	14.813	
11,300.00	9,107.79	12,232.83	9,902.44	76.20	75.53	-113.26	2,803.30	-2,009.44	2,011.65	1,872.64	139.01	14.471	
11,400.00	9,108.53	12,332.76	9,899.43	77.87	77.09	-113.17	2,903.18	-2,010.44	2,010.17	1,868.00	142.17	14.139	
11,500.00	9,109.27	12,432.69	9,896.42	79.57	78.67	-113.07	3,003.06	-2,011.43	2,008.70	1,863.32	145.38	13.816	
11,600.00	9,110.01	12,532.62	9,893.41	81.29	80.28	-112.97	3,102.93	-2,012.43	2,007.24	1,858.59	148.65	13.503	
11,700.00	9,110.75	12,632.55	9,890.41	83.03	81.91	-112.87	3,202.81	-2,013.42	2,005.78	1,853.83	151.96	13.200	
11,800.00	9,111.49	12,732.48	9,887.40	84.79	83.57	-112.77	3,302.69	-2,014.42	2,004.33	1,849.02	155.31	12.905	
11,900.00	9,112.24	12,832.41	9,884.39	86.57	85.25	-112.67	3,402.57	-2,015.41	2,002.89	1,844.18	158.70	12.620	
12,000.00	9,112.98	12,932.34	9,881.38	88.36	86.95	-112.57	3,502.45	-2,016.41	2,001.45	1,839.31	162.14	12.344	
12,100.00	9,113.72	13,032.27	9,878.37	90.18	88.67	-112.47	3,602.33	-2,017.40	2,000.01	1,834.41	165.61	12.077	
12,200.00	9,114.46	13,132.20	9,875.36	92.00	90.41	-112.37	3,702.21	-2,018.40	1,998.59	1,829.48	169.11	11.818	
12,300.00	9,115.20	13,232.13	9,872.35	93.84	92.17	-112.28	3,802.09	-2,019.39	1,997.16	1,824.52	172.65	11.568	
12,400.00	9,115.94	13,332.06	9,869.34	95.70	93.94	-112.18	3,901.97	-2,020.39	1,995.75	1,819.54	176.21	11.326	
12,500.00	9,116.68	13,431.99	9,866.33	97.56	95.73	-112.08	4,001.85	-2,021.38	1,994.34	1,814.53	179.81	11.091	
12,600.00	9,117.42	13,531.92	9,863.32	99.44	97.54	-111.98	4,101.73	-2,022.38	1,992.94	1,809.50	183.44	10.864	
12,700.00	9,118.16	13,631.85	9,860.31	101.33	99.36	-111.88	4,201.61	-2,023.37	1,991.54	1,804.45	187.09	10.645	
12,800.00	9,118.90	13,731.78	9,857.31	103.23	101.19	-111.78	4,301.49	-2,024.37	1,990.15	1,799.38	190.77	10.432	
12,900.00	9,119.64	13,831.71	9,854.30	105.14	103.04	-111.68	4,401.37	-2,025.36	1,988.77	1,794.30	194.47	10.227	
13,000.00	9,120.38	13,931.63	9,851.29	107.06	104.89	-111.57	4,501.25	-2,026.36	1,987.39	1,789.19	198.19	10.028	
13,100.00	9,121.12	14,026.72	9,848.49	108.99	106.67	-111.48	4,596.29	-2,027.30	1,986.04	1,784.20	201.84	9.839	
13,200.00	9,121.86	14,106.52	9,847.73	110.93	108.17	-111.44	4,676.08	-2,028.10	1,985.43	1,780.26	205.17	9.677	
13,210.64	9,121.94	14,115.02	9,847.78	111.14	108.33	-111.44	4,684.57	-2,028.18	1,985.42	1,779.90	205.52	9.660	
13,300.00	9,122.60	14,201.50	9,848.74	112.87	109.95	-111.45	4,771.05	-2,029.04	1,985.54	1,778.81	208.73	9.512	
13,400.00	9,123.34	14,301.50	9,849.87	114.83	111.85	-111.46	4,871.04	-2,030.03	1,985.68	1,773.28	212.40	9.349	
13,500.00	9,124.08	14,401.50	9,851.01	116.79	113.75	-111.47	4,971.03	-2,031.02	1,985.83	1,769.74	216.09	9.190	
13,600.00	9,124.82	14,501.50	9,852.14	118.76	115.66	-111.48	5,071.01	-2,032.01	1,985.97	1,766.19	219.79	9.036	
13,700.00	9,125.56	14,601.50	9,853.27	120.73	117.58	-111.50	5,171.00	-2,033.00	1,986.12	1,762.62	223.50	8.886	
13,800.00	9,126.30	14,701.50	9,854.41	122.71	119.51	-111.51	5,270.99	-2,034.00	1,986.26	1,759.04	227.23	8.741	
13,900.00	9,127.04	14,801.50	9,855.54	124.70	121.44	-111.52	5,370.98	-2,034.99	1,986.41	1,755.45	230.96	8.601	
14,000.00	9,127.78	14,901.50	9,856.68	126.69	123.39	-111.53	5,470.96	-2,035.98	1,986.55	1,751.84	234.71	8.464	
14,100.00	9,128.52	15,001.50	9,857.81	128.69	125.34	-111.54	5,570.95	-2,036.97	1,986.70	1,748.22	238.47	8.331	
14,200.00	9,129.26	15,101.50	9,858.95	130.69	127.29	-111.55	5,670.94	-2,037.96	1,986.84	1,744.60	242.25	8.202	
14,300.00	9,130.00	15,201.50	9,860.08	132.70	129.26	-111.56	5,770.93	-2,038.95	1,986.99	1,740.96	246.03	8.076	
14,400.00	9,130.74	15,301.50	9,861.21	134.71	131.23	-111.57	5,870.92	-2,039.95	1,987.13	1,737.32	249.82	7.954	
14,500.00	9,131.76	15,402.91	9,862.80	136.72	133.58	-111.58	5,990.31	-2,040.76	1,987.56	1,733.72	253.84	7.830	
14,600.00	9,133.15	15,520.91	9,864.82	138.74	135.56	-111.60	6,090.29	-2,040.35	1,987.76	1,730.13	257.63	7.716	
14,700.00	9,134.54	15,620.91	9,866.83	140.76	137.54	-111.62	6,190.27	-2,039.94	1,987.96	1,726.53	261.43	7.604	
14,800.00	9,135.92	15,720.90	9,868.85	142.78	139.52	-111.64	6,290.25	-2,039.54	1,988.16	1,722.92	265.24	7.496	
14,900.00	9,137.31	15,820.90	9,870.87	144.81	141.51	-111.65	6,390.22	-2,039.13	1,988.36	1,719.31	269.05	7.390	
15,000.00	9,138.70	15,920.90	9,872.88	146.84	143.51	-111.67	6,490.20	-2,038.72	1,988.56	1,715.69	272.87	7.287	
15,100.00	9,140.09	16,020.90	9,874.90	148.87	145.51	-111.69	6,590.18	-2,038.31	1,988.76	1,712.06	276.70	7.187	
15,200.00	9,141.48	16,120.90	9,876.91	150.91	147.51	-111.70	6,690.15	-2,037.91	1,988.96	1,708.43	280.53	7.090	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 13HD - OH / Job #61220 - Plan 4 06-13-17													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)						
15,300.00	9,142.86	16,220.89	9,878.93	152.95	149.52	-111.72	6,790.13	-2,037.50	1,989.16	1,704.79	284.37	6.995		
15,400.00	9,144.25	16,320.89	9,880.95	154.99	151.53	-111.74	6,890.11	-2,037.09	1,989.36	1,701.14	288.22	6.902		
15,500.00	9,145.64	16,420.89	9,882.96	157.04	153.55	-111.76	6,990.08	-2,036.68	1,989.56	1,697.49	292.07	6.812		
15,600.00	9,147.03	16,520.89	9,884.98	159.09	155.57	-111.77	7,090.06	-2,036.28	1,989.77	1,693.84	295.93	6.724		
15,700.00	9,148.41	16,620.37	9,886.96	161.14	157.58	-111.79	7,189.52	-2,035.91	1,989.99	1,690.21	299.78	6.638		
15,800.00	9,149.80	16,720.36	9,888.94	163.19	159.60	-111.81	7,289.50	-2,035.54	1,990.22	1,686.57	303.65	6.554		
15,900.00	9,151.19	16,820.36	9,890.93	165.25	161.63	-111.82	7,389.47	-2,035.17	1,990.45	1,682.93	307.52	6.473		
16,000.00	9,152.58	16,920.36	9,892.92	167.31	163.67	-111.84	7,489.45	-2,034.80	1,990.68	1,679.28	311.40	6.393		
16,100.00	9,153.97	17,020.36	9,894.90	169.37	165.70	-111.85	7,589.43	-2,034.44	1,990.91	1,675.62	315.28	6.315		
16,200.00	9,155.35	17,120.36	9,896.89	171.44	167.74	-111.87	7,689.41	-2,034.07	1,991.13	1,671.97	319.17	6.239		
16,300.00	9,156.74	17,220.35	9,898.88	173.50	169.78	-111.89	7,789.38	-2,033.70	1,991.36	1,668.31	323.06	6.164		
16,400.00	9,158.13	17,320.35	9,900.87	175.57	171.83	-111.90	7,889.36	-2,033.33	1,991.59	1,664.64	326.95	6.091		
16,500.00	9,159.52	17,420.35	9,902.85	177.64	173.87	-111.92	7,989.34	-2,032.96	1,991.82	1,660.97	330.85	6.020		
16,600.00	9,160.91	17,520.35	9,904.84	179.71	175.92	-111.93	8,089.32	-2,032.60	1,992.05	1,657.30	334.75	5.951		
16,700.00	9,162.29	17,620.35	9,906.83	181.79	177.98	-111.95	8,189.30	-2,032.23	1,992.28	1,653.63	338.65	5.883		
16,800.00	9,163.68	17,720.35	9,908.82	183.86	180.03	-111.96	8,289.27	-2,031.86	1,992.51	1,649.95	342.56	5.817		
16,900.00	9,165.07	17,820.34	9,910.80	185.94	182.09	-111.98	8,389.25	-2,031.49	1,992.74	1,646.27	346.47	5.752		
17,000.00	9,166.46	17,920.34	9,912.79	188.02	184.14	-112.00	8,489.23	-2,031.12	1,992.97	1,642.58	350.38	5.688		
17,100.00	9,167.85	18,020.34	9,914.78	190.10	186.21	-112.01	8,589.21	-2,030.76	1,993.20	1,638.90	354.30	5.626		
17,200.00	9,169.23	18,120.34	9,916.76	192.19	188.27	-112.03	8,689.18	-2,030.39	1,993.43	1,635.21	358.22	5.565		
17,300.00	9,170.62	18,220.34	9,918.75	194.27	190.33	-112.04	8,789.16	-2,030.02	1,993.66	1,631.52	362.14	5.505		
17,400.00	9,172.01	18,320.34	9,920.74	196.36	192.40	-112.06	8,889.14	-2,029.65	1,993.89	1,627.83	366.06	5.447		
17,500.00	9,173.40	18,420.33	9,922.73	198.44	194.47	-112.08	8,989.12	-2,029.28	1,994.12	1,624.13	369.99	5.390		
17,600.00	9,174.79	18,533.19	9,924.55	200.53	196.80	-112.08	9,101.96	-2,028.87	1,994.23	1,620.05	374.18	5.330		
17,700.00	9,176.17	18,636.81	9,924.39	202.62	198.95	-112.04	9,205.57	-2,028.48	1,993.65	1,615.35	378.30	5.270		
17,800.00	9,177.56	18,736.79	9,924.19	204.71	201.02	-112.00	9,305.56	-2,028.10	1,993.05	1,610.71	382.35	5.213		
17,900.00	9,178.95	18,836.78	9,924.00	206.81	203.10	-111.96	9,405.55	-2,027.73	1,992.46	1,606.06	386.40	5.157		
18,000.00	9,180.34	18,936.77	9,923.81	208.90	205.18	-111.91	9,505.53	-2,027.35	1,991.87	1,601.42	390.45	5.101		
18,100.00	9,181.73	19,036.76	9,923.62	211.00	207.25	-111.87	9,605.52	-2,026.98	1,991.27	1,596.77	394.51	5.047		
18,200.00	9,183.11	19,136.74	9,923.42	213.09	209.33	-111.83	9,705.51	-2,026.60	1,990.68	1,592.11	398.57	4.995		
18,300.00	9,184.50	19,236.73	9,923.23	215.19	211.41	-111.79	9,805.49	-2,026.23	1,990.10	1,587.46	402.64	4.943		
18,400.00	9,185.89	19,336.72	9,923.04	217.29	213.50	-111.75	9,905.48	-2,025.85	1,989.51	1,582.80	406.71	4.892		
18,500.00	9,187.28	19,436.71	9,922.84	219.39	215.58	-111.70	10,005.46	-2,025.48	1,988.92	1,578.14	410.78	4.842		
18,600.00	9,188.66	19,536.69	9,922.65	221.49	217.67	-111.66	10,105.45	-2,025.10	1,988.33	1,573.48	414.86	4.793		
18,700.00	9,190.05	19,636.68	9,922.46	223.59	219.75	-111.62	10,205.44	-2,024.72	1,987.75	1,568.81	418.94	4.745		
18,800.00	9,191.44	19,736.67	9,922.27	225.69	221.84	-111.58	10,305.42	-2,024.35	1,987.17	1,564.15	423.02	4.698		
18,900.00	9,192.83	19,836.66	9,922.07	227.79	223.93	-111.53	10,405.41	-2,023.97	1,986.58	1,559.48	427.11	4.651		
19,000.00	9,194.22	19,936.64	9,921.88	229.90	226.02	-111.49	10,505.40	-2,023.60	1,986.00	1,554.80	431.20	4.606		
19,100.00	9,195.60	20,036.63	9,921.69	232.00	228.11	-111.45	10,605.38	-2,023.22	1,985.42	1,550.13	435.29	4.561		
19,200.00	9,196.99	20,136.62	9,921.49	234.11	230.21	-111.41	10,705.37	-2,022.85	1,984.84	1,545.45	439.39	4.517		
19,300.00	9,198.38	20,236.61	9,921.30	236.22	232.30	-111.36	10,805.36	-2,022.47	1,984.26	1,540.78	443.49	4.474		
19,400.00	9,199.77	20,336.59	9,921.11	238.33	234.39	-111.32	10,905.34	-2,022.10	1,983.69	1,536.10	447.59	4.432		
19,416.71	9,200.00	20,353.30	9,921.08	238.68	234.74	-111.31	10,922.05	-2,022.03	1,983.59	1,535.31	448.28	4.425 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - OH / Job #61221 - Plan 3 05-10-17													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	
0.00	0.00	0.00	20.00	0.00	0.00	-78.41	277.36	-1,352.89	1,381.17				
100.00	100.00	80.00	100.00	0.19	0.15	-78.41	277.36	-1,352.89	1,381.02	1,380.68	0.35	3,963.510	
200.00	200.00	180.00	200.00	0.73	0.62	-78.41	277.36	-1,352.89	1,381.02	1,379.67	1.36	1,019.189	
300.00	300.00	280.00	300.00	1.27	1.16	-78.41	277.36	-1,352.89	1,381.02	1,378.59	2.43	568.221	
400.00	400.00	380.00	400.00	1.81	1.70	-78.41	277.36	-1,352.89	1,381.02	1,377.52	3.51	393.920	
500.00	500.00	480.00	500.00	2.34	2.24	-78.41	277.36	-1,352.89	1,381.02	1,376.44	4.58	301.450	
600.00	600.00	580.00	600.00	2.88	2.77	-78.41	277.36	-1,352.89	1,381.02	1,375.37	5.66	244.140	
700.00	699.98	679.98	699.98	3.42	3.31	-57.93	277.36	-1,352.89	1,380.10	1,373.36	6.73	204.996	
800.00	799.84	779.84	799.84	3.96	3.85	-58.16	277.36	-1,352.89	1,377.32	1,369.52	7.81	176.408	
899.93	899.39	879.39	899.39	4.50	4.38	-58.54	277.36	-1,352.89	1,372.74	1,363.86	8.88	154.546	
1,000.00	998.90	978.90	998.90	5.05	4.92	-58.92	277.36	-1,352.89	1,367.29	1,357.33	9.96	137.281	
1,100.00	1,098.36	1,078.36	1,098.36	5.60	5.45	-59.29	277.36	-1,352.89	1,361.90	1,350.86	11.04	123.345	
1,200.00	1,197.81	1,177.81	1,197.81	6.16	5.99	-59.67	277.36	-1,352.89	1,356.57	1,344.45	12.13	111.866	
1,300.00	1,297.26	1,277.26	1,297.26	6.72	6.52	-60.05	277.36	-1,352.89	1,351.30	1,338.09	13.22	102.255	
1,400.00	1,396.71	1,376.71	1,396.71	7.28	7.06	-60.43	277.36	-1,352.89	1,346.10	1,331.79	14.31	94.096	
1,500.00	1,496.17	1,476.17	1,496.17	7.84	7.59	-60.82	277.36	-1,352.89	1,340.95	1,325.55	15.40	87.086	
1,600.00	1,595.62	1,575.62	1,595.62	8.41	8.13	-61.21	277.36	-1,352.89	1,335.86	1,319.37	16.49	81.001	
1,700.00	1,695.07	1,675.07	1,695.07	8.98	8.66	-61.60	277.36	-1,352.89	1,330.84	1,313.25	17.59	75.670	
1,800.00	1,794.52	1,774.52	1,794.52	9.54	9.20	-62.00	277.36	-1,352.89	1,325.88	1,307.20	18.68	70.964	
1,900.00	1,893.98	1,873.98	1,893.98	10.11	9.73	-62.40	277.36	-1,352.89	1,320.98	1,301.20	19.78	66.779	
2,000.00	1,993.43	1,973.43	1,993.43	10.68	10.27	-62.80	277.36	-1,352.89	1,316.15	1,295.27	20.88	63.035	
2,100.00	2,092.88	2,072.88	2,092.88	11.25	10.80	-63.20	277.36	-1,352.89	1,311.39	1,289.41	21.98	59.665	
2,200.00	2,192.33	2,172.33	2,192.33	11.82	11.34	-63.61	277.36	-1,352.89	1,306.69	1,283.61	23.08	56.618	
2,300.00	2,291.79	2,289.78	2,309.78	12.39	11.96	-64.09	277.36	-1,352.61	1,301.91	1,277.64	24.27	53.639	
2,400.00	2,391.24	2,470.44	2,490.22	12.96	12.89	-64.82	277.36	-1,344.41	1,292.85	1,267.08	25.77	50.175	
2,500.00	2,490.69	2,604.73	2,623.88	13.53	13.59	-65.34	277.36	-1,331.47	1,278.61	1,251.59	27.02	47.314	
2,600.00	2,590.14	2,703.25	2,721.87	14.10	14.11	-65.73	277.36	-1,321.17	1,263.83	1,235.74	28.10	44.983	
2,700.00	2,689.60	2,801.78	2,819.85	14.67	14.64	-66.13	277.36	-1,310.87	1,249.11	1,219.94	29.17	42.821	
2,800.00	2,789.05	2,900.30	2,917.83	15.24	15.16	-66.54	277.36	-1,300.58	1,234.45	1,204.20	30.25	40.811	
2,900.00	2,888.50	2,998.82	3,015.82	15.81	15.69	-66.96	277.36	-1,290.28	1,219.85	1,188.53	31.33	38.938	
3,000.00	2,987.95	3,097.35	3,113.80	16.39	16.22	-67.39	277.36	-1,279.98	1,205.33	1,172.92	32.41	37.190	
3,100.00	3,087.41	3,195.87	3,211.79	16.96	16.76	-67.84	277.36	-1,269.68	1,190.87	1,157.37	33.49	35.554	
3,200.00	3,186.86	3,294.40	3,309.77	17.53	17.30	-68.29	277.36	-1,259.38	1,176.48	1,141.90	34.58	34.021	
3,300.00	3,286.31	3,392.92	3,407.75	18.10	17.83	-68.75	277.36	-1,249.08	1,162.16	1,126.49	35.67	32.582	
3,400.00	3,385.76	3,491.44	3,505.74	18.68	18.37	-69.22	277.36	-1,238.78	1,147.92	1,111.16	36.76	31.228	
3,500.00	3,485.22	3,589.97	3,603.72	19.25	18.92	-69.71	277.36	-1,228.49	1,133.77	1,095.91	37.85	29.954	
3,600.00	3,584.67	3,688.49	3,701.71	19.82	19.46	-70.21	277.36	-1,218.19	1,119.69	1,080.75	38.94	28.751	
3,700.00	3,684.12	3,787.02	3,799.69	20.39	20.01	-70.72	277.36	-1,207.89	1,105.70	1,065.66	40.04	27.616	
3,800.00	3,783.57	3,885.54	3,897.68	20.97	20.55	-71.24	277.36	-1,197.59	1,091.80	1,050.66	41.14	26.542	
3,900.00	3,883.02	3,984.06	3,995.66	21.54	21.10	-71.78	277.36	-1,187.29	1,077.99	1,035.76	42.23	25.525	
4,000.00	3,982.48	4,082.59	4,093.64	22.11	21.65	-72.33	277.36	-1,176.99	1,064.28	1,020.95	43.33	24.561	
4,100.00	4,081.93	4,181.11	4,191.63	22.68	22.20	-72.89	277.36	-1,166.69	1,050.67	1,006.23	44.43	23.646	
4,200.00	4,181.38	4,269.11	4,279.16	23.26	22.69	-73.41	277.36	-1,157.64	1,037.36	991.88	45.48	22.810	
4,300.00	4,280.83	4,341.81	4,351.61	23.83	23.09	-73.84	277.36	-1,151.70	1,026.21	979.77	46.44	22.098	
4,400.00	4,380.35	4,414.95	4,424.63	24.40	23.49	-74.16	277.36	-1,147.57	1,017.85	970.44	47.41	21.470	
4,500.00	4,480.12	4,500.00	4,509.65	24.95	23.94	-74.37	277.36	-1,145.12	1,013.05	964.63	48.42	20.921	
4,600.00	4,580.07	4,570.42	4,580.07	25.48	24.31	-74.45	277.36	-1,144.84	1,011.50	962.17	49.33	20.504	
4,660.52	4,640.58	4,630.94	4,640.58	25.79	24.63	-74.48	277.36	-1,144.84	1,011.34	961.38	49.96	20.242 CC	
4,700.00	4,680.07	4,670.42	4,680.07	25.99	24.83	-95.03	277.36	-1,144.84	1,011.43	961.06	50.37	20.080	
4,800.00	4,780.07	4,770.42	4,780.07	26.50	25.36	-95.03	277.36	-1,144.84	1,011.43	960.02	51.41	19.674	
4,900.00	4,880.07	4,870.42	4,880.07	27.01	25.88	-95.03	277.36	-1,144.84	1,011.43	958.98	52.45	19.284	
5,000.00	4,980.07	4,970.42	4,980.07	27.52	26.41	-95.03	277.36	-1,144.84	1,011.43	957.93	53.49	18.908	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - OH / Job #61221 - Plan 3 05-10-17													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)	Reference (usft)	Offset (usft)	Semi Major Axis 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
5,100.00	5,080.07	5,070.42	5,080.07	28.03	26.93	-95.03	277.36	-1,144.84	1,011.43	956.89	54.54	18.546	
5,200.00	5,180.07	5,170.42	5,180.07	28.55	27.46	-95.03	277.36	-1,144.84	1,011.43	955.85	55.58	18.198	
5,300.00	5,280.07	5,270.42	5,280.07	29.06	27.99	-95.03	277.36	-1,144.84	1,011.43	954.80	56.63	17.862	
5,400.00	5,380.07	5,370.42	5,380.07	29.58	28.51	-95.03	277.36	-1,144.84	1,011.43	953.75	57.67	17.537	
5,500.00	5,480.07	5,470.42	5,480.07	30.10	29.04	-95.03	277.36	-1,144.84	1,011.43	952.70	58.72	17.224	
5,600.00	5,580.07	5,570.42	5,580.07	30.61	29.57	-95.03	277.36	-1,144.84	1,011.43	951.66	59.77	16.922	
5,700.00	5,680.07	5,670.42	5,680.07	31.13	30.10	-95.03	277.36	-1,144.84	1,011.43	950.61	60.82	16.630	
5,800.00	5,780.07	5,770.42	5,780.07	31.65	30.62	-95.03	277.36	-1,144.84	1,011.43	949.55	61.87	16.348	
5,900.00	5,880.07	5,870.42	5,880.07	32.17	31.15	-95.03	277.36	-1,144.84	1,011.43	948.50	62.92	16.074	
6,000.00	5,980.07	5,970.42	5,980.07	32.69	31.68	-95.03	277.36	-1,144.84	1,011.43	947.45	63.97	15.810	
6,100.00	6,080.07	6,070.42	6,080.07	33.21	32.21	-95.03	277.36	-1,144.84	1,011.43	946.40	65.03	15.554	
6,200.00	6,180.07	6,170.42	6,180.07	33.73	32.74	-95.03	277.36	-1,144.84	1,011.43	945.34	66.08	15.306	
6,300.00	6,280.07	6,270.42	6,280.07	34.25	33.27	-95.03	277.36	-1,144.84	1,011.43	944.29	67.14	15.065	
6,400.00	6,380.07	6,370.42	6,380.07	34.77	33.80	-95.03	277.36	-1,144.84	1,011.43	943.23	68.19	14.832	
6,500.00	6,480.07	6,470.42	6,480.07	35.30	34.33	-95.03	277.36	-1,144.84	1,011.43	942.18	69.25	14.606	
6,600.00	6,580.07	6,570.42	6,580.07	35.82	34.86	-95.03	277.36	-1,144.84	1,011.43	941.12	70.30	14.387	
6,700.00	6,680.07	6,670.42	6,680.07	36.34	35.39	-95.03	277.36	-1,144.84	1,011.43	940.07	71.36	14.174	
6,800.00	6,780.07	6,770.42	6,780.07	36.87	35.92	-95.03	277.36	-1,144.84	1,011.43	939.01	72.42	13.967	
6,900.00	6,880.07	6,870.42	6,880.07	37.39	36.46	-95.03	277.36	-1,144.84	1,011.43	937.95	73.48	13.766	
7,000.00	6,980.07	6,970.42	6,980.07	37.92	36.99	-95.03	277.36	-1,144.84	1,011.43	936.89	74.53	13.570	
7,100.00	7,080.07	7,070.42	7,080.07	38.44	37.52	-95.03	277.36	-1,144.84	1,011.43	935.83	75.59	13.380	
7,200.00	7,180.07	7,170.42	7,180.07	38.97	38.05	-95.03	277.36	-1,144.84	1,011.43	934.77	76.65	13.195	
7,300.00	7,280.07	7,270.42	7,280.07	39.49	38.58	-95.03	277.36	-1,144.84	1,011.43	933.71	77.71	13.015	
7,400.00	7,380.07	7,370.42	7,380.07	40.02	39.11	-95.03	277.36	-1,144.84	1,011.43	932.65	78.77	12.840	
7,500.00	7,480.07	7,470.42	7,480.07	40.54	39.65	-95.03	277.36	-1,144.84	1,011.43	931.59	79.83	12.669	
7,600.00	7,580.07	7,570.42	7,580.07	41.07	40.18	-95.03	277.36	-1,144.84	1,011.43	930.53	80.89	12.503	
7,700.00	7,680.07	7,670.42	7,680.07	41.60	40.71	-95.03	277.36	-1,144.84	1,011.43	929.47	81.95	12.341	
7,800.00	7,780.07	7,770.42	7,780.07	42.13	41.24	-95.03	277.36	-1,144.84	1,011.43	928.41	83.02	12.183	
7,900.00	7,880.07	7,870.42	7,880.07	42.65	41.78	-95.03	277.36	-1,144.84	1,011.43	927.35	84.08	12.029	
8,000.00	7,980.07	7,970.42	7,980.07	43.18	42.31	-95.03	277.36	-1,144.84	1,011.43	926.28	85.14	11.879	
8,100.00	8,080.07	8,070.42	8,080.07	43.71	42.84	-95.03	277.36	-1,144.84	1,011.43	925.22	86.20	11.733	
8,200.00	8,180.07	8,170.42	8,180.07	44.24	43.38	-95.03	277.36	-1,144.84	1,011.43	924.16	87.27	11.590	
8,300.00	8,280.07	8,270.42	8,280.07	44.77	43.91	-95.03	277.36	-1,144.84	1,011.43	923.09	88.33	11.450	
8,400.00	8,380.07	8,370.42	8,380.07	45.29	44.44	-95.03	277.36	-1,144.84	1,011.43	922.03	89.39	11.314	
8,500.00	8,480.07	8,470.42	8,480.07	45.82	44.98	-95.03	277.36	-1,144.84	1,011.43	920.97	90.46	11.181	
8,515.14	8,495.21	8,485.56	8,495.21	45.90	45.06	-94.46	277.36	-1,144.84	1,011.43	920.81	90.63	11.161	
8,600.00	8,579.96	8,570.32	8,579.96	46.36	45.51	-94.60	277.36	-1,144.84	1,011.67	920.13	91.54	11.052 ES	
8,700.00	8,678.03	8,668.39	8,678.03	46.93	46.03	-95.48	277.36	-1,144.84	1,013.36	920.74	92.63	10.940	
8,800.00	8,771.34	8,761.69	8,771.34	47.54	46.53	-96.93	277.36	-1,144.84	1,017.52	923.85	93.67	10.863	
8,900.00	8,857.03	8,847.39	8,857.03	48.17	46.99	-98.56	277.36	-1,144.84	1,025.64	931.05	94.59	10.843 SF	
9,000.00	8,932.52	8,922.88	8,932.52	48.82	47.39	-99.90	277.36	-1,144.84	1,039.58	944.23	95.35	10.903	
9,100.00	8,995.51	8,985.86	8,995.51	49.51	47.73	-100.41	277.36	-1,144.84	1,061.10	965.04	96.07	11.046	
9,200.00	9,044.08	9,034.43	9,044.08	50.22	47.99	-99.60	277.36	-1,144.84	1,091.43	994.45	96.98	11.255	
9,300.00	9,076.76	9,067.11	9,076.76	50.96	48.16	-97.05	277.36	-1,144.84	1,130.90	1,032.67	98.24	11.512	
9,400.00	9,092.55	9,082.91	9,092.55	51.72	48.24	-92.48	277.36	-1,144.84	1,178.83	1,079.26	99.58	11.838	
9,500.00	9,094.47	9,084.82	9,094.47	52.50	48.25	-90.30	277.36	-1,144.84	1,233.58	1,133.15	100.44	12.282	
9,600.00	9,095.21	9,085.56	9,095.21	53.35	48.26	-90.34	277.36	-1,144.84	1,293.77	1,192.48	101.29	12.773	
9,700.00	9,095.95	9,086.30	9,095.95	54.27	48.26	-90.38	277.36	-1,144.84	1,358.65	1,256.44	102.22	13.292	
9,800.00	9,096.69	9,087.05	9,096.69	55.27	48.27	-90.43	277.36	-1,144.84	1,427.60	1,324.39	103.22	13.831	
9,900.00	9,097.43	9,087.79	9,097.43	56.33	48.27	-90.47	277.36	-1,144.84	1,500.05	1,395.77	104.28	14.385	
10,000.00	9,098.17	9,088.53	9,098.17	57.45	48.27	-90.51	277.36	-1,144.84	1,575.52	1,470.12	105.40	14.948	
10,100.00	9,098.91	9,089.27	9,098.91	58.62	48.28	-90.55	277.36	-1,144.84	1,653.59	1,547.01	106.59	15.514	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - OH / Job #61221 - Plan 3 05-10-17													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	
10,200.00	9,099.65	9,090.01	9,099.65	59.86	48.28	-90.59	277.36	-1,144.84	1,733.92	1,626.10	107.82	16.081	
10,300.00	9,100.39	9,090.75	9,100.39	61.14	48.29	-90.64	277.36	-1,144.84	1,816.20	1,707.09	109.11	16.645	
10,400.00	9,101.13	9,091.49	9,101.13	62.47	48.29	-90.68	277.36	-1,144.84	1,900.18	1,789.73	110.45	17.204	
10,500.00	9,101.87	9,092.23	9,101.87	63.85	48.29	-90.72	277.36	-1,144.84	1,985.64	1,873.81	111.83	17.756	
10,600.00	9,102.61	9,092.97	9,102.61	65.27	48.30	-90.76	277.36	-1,144.84	2,072.41	1,959.16	113.25	18.299	
10,700.00	9,103.35	9,093.71	9,103.35	66.73	48.30	-90.80	277.36	-1,144.84	2,160.32	2,045.60	114.72	18.832	
10,800.00	9,104.09	9,094.45	9,104.09	68.23	48.31	-90.85	277.36	-1,144.84	2,249.24	2,133.02	116.22	19.353	
10,900.00	9,104.83	9,095.19	9,104.83	69.76	48.31	-90.89	277.36	-1,144.84	2,339.05	2,221.30	117.75	19.864	
11,000.00	9,105.57	9,095.93	9,105.57	71.33	48.31	-90.93	277.36	-1,144.84	2,429.67	2,310.34	119.32	20.362	
11,100.00	9,106.31	9,096.67	9,106.31	72.92	48.32	-90.97	277.36	-1,144.84	2,520.99	2,400.06	120.92	20.848	
11,200.00	9,107.05	9,097.41	9,107.05	74.55	48.32	-91.01	277.36	-1,144.84	2,612.94	2,490.39	122.55	21.322	
11,300.00	9,107.79	9,098.15	9,107.79	76.20	48.33	-91.06	277.36	-1,144.84	2,705.47	2,581.27	124.20	21.783	
11,400.00	9,108.53	9,098.89	9,108.53	77.87	48.33	-91.10	277.36	-1,144.84	2,798.51	2,672.63	125.88	22.232	
11,500.00	9,109.27	9,099.63	9,109.27	79.57	48.33	-91.14	277.36	-1,144.84	2,892.01	2,764.43	127.58	22.668	
11,600.00	9,110.01	9,100.37	9,110.01	81.29	48.34	-91.18	277.36	-1,144.84	2,985.94	2,856.63	129.30	23.092	
11,700.00	9,110.75	9,101.11	9,110.75	83.03	48.34	-91.22	277.36	-1,144.84	3,080.25	2,949.20	131.05	23.505	
11,800.00	9,111.49	9,101.85	9,111.49	84.79	48.35	-91.27	277.36	-1,144.84	3,174.90	3,042.09	132.81	23.905	
11,900.00	9,112.24	9,102.59	9,112.24	86.57	48.35	-91.31	277.36	-1,144.84	3,269.88	3,135.28	134.59	24.295	
12,000.00	9,112.98	9,103.33	9,112.98	88.36	48.35	-91.35	277.36	-1,144.84	3,365.14	3,228.75	136.39	24.673	
12,100.00	9,113.72	9,104.07	9,113.72	90.18	48.36	-91.39	277.36	-1,144.84	3,460.67	3,322.47	138.20	25.040	
12,200.00	9,114.46	9,104.81	9,114.46	92.00	48.36	-91.43	277.36	-1,144.84	3,556.45	3,416.42	140.03	25.397	
12,300.00	9,115.20	9,105.55	9,115.20	93.84	48.37	-91.48	277.36	-1,144.84	3,652.45	3,510.58	141.88	25.744	
12,400.00	9,115.94	9,106.29	9,115.94	95.70	48.37	-91.52	277.36	-1,144.84	3,748.67	3,604.93	143.73	26.081	
12,500.00	9,116.68	9,107.03	9,116.68	97.56	48.37	-91.56	277.36	-1,144.84	3,845.07	3,699.47	145.60	26.408	
12,600.00	9,117.42	9,107.77	9,117.42	99.44	48.38	-91.60	277.36	-1,144.84	3,941.66	3,794.18	147.48	26.727	
12,700.00	9,118.16	9,108.51	9,118.16	101.33	48.38	-91.64	277.36	-1,144.84	4,038.41	3,889.04	149.37	27.036	
12,800.00	9,118.90	9,109.25	9,118.90	103.23	48.39	-91.69	277.36	-1,144.84	4,135.31	3,984.04	151.27	27.337	
12,900.00	9,119.64	9,109.99	9,119.64	105.14	48.39	-91.73	277.36	-1,144.84	4,232.36	4,079.18	153.19	27.629	
13,000.00	9,120.38	9,110.73	9,120.38	107.06	48.39	-91.77	277.36	-1,144.84	4,329.55	4,174.44	155.11	27.913	
13,100.00	9,121.12	9,111.47	9,121.12	108.99	48.40	-91.81	277.36	-1,144.84	4,426.85	4,269.82	157.04	28.190	
13,200.00	9,121.86	9,112.21	9,121.86	110.93	48.40	-91.85	277.36	-1,144.84	4,524.28	4,365.30	158.97	28.459	
13,300.00	9,122.60	9,112.95	9,122.60	112.87	48.40	-91.90	277.36	-1,144.84	4,621.82	4,460.89	160.92	28.721	
13,400.00	9,123.34	9,113.69	9,123.34	114.83	48.41	-91.94	277.36	-1,144.84	4,719.45	4,556.58	162.87	28.976	
13,500.00	9,124.08	9,114.43	9,124.08	116.79	48.41	-91.98	277.36	-1,144.84	4,817.19	4,652.35	164.84	29.224	
13,600.00	9,124.82	9,115.17	9,124.82	118.76	48.42	-92.02	277.36	-1,144.84	4,915.02	4,748.21	166.80	29.466	
13,700.00	9,125.56	9,115.91	9,125.56	120.73	48.42	-92.06	277.36	-1,144.84	5,012.93	4,844.15	168.78	29.701	
13,800.00	9,126.30	9,116.65	9,126.30	122.71	48.42	-92.11	277.36	-1,144.84	5,110.92	4,940.16	170.76	29.931	
13,900.00	9,127.04	9,117.39	9,127.04	124.70	48.43	-92.15	277.36	-1,144.84	5,208.99	5,036.25	172.74	30.154	
14,000.00	9,127.78	9,118.13	9,127.78	126.69	48.43	-92.19	277.36	-1,144.84	5,307.13	5,132.40	174.74	30.372	
14,100.00	9,128.52	9,118.87	9,128.52	128.69	48.44	-92.23	277.36	-1,144.84	5,405.34	5,228.61	176.73	30.585	
14,200.00	9,129.26	9,119.61	9,129.26	130.69	48.44	-92.27	277.36	-1,144.84	5,503.61	5,324.88	178.73	30.792	
14,300.00	9,130.00	9,120.35	9,130.00	132.70	48.44	-92.32	277.36	-1,144.84	5,601.95	5,421.21	180.74	30.994	
14,400.00	9,130.74	9,121.09	9,130.74	134.71	48.45	-92.36	277.36	-1,144.84	5,700.34	5,517.59	182.75	31.192	
14,500.00	9,131.48	9,121.83	9,131.48	136.72	48.45	-92.40	277.36	-1,144.84	5,798.88	5,614.56	184.76	31.389	
14,600.00	9,132.22	9,122.57	9,132.22	138.74	48.46	-92.44	277.36	-1,144.84	5,897.60	5,711.27	186.77	31.586	
14,700.00	9,132.96	9,123.31	9,132.96	140.76	48.47	-92.48	277.36	-1,144.84	5,996.56	5,808.03	188.78	31.783	
14,800.00	9,133.70	9,124.05	9,133.70	142.78	48.48	-92.52	277.36	-1,144.84	6,095.15	5,904.82	190.79	31.980	
14,900.00	9,134.44	9,124.79	9,134.44	144.81	48.48	-92.56	277.36	-1,144.84	6,193.99	6,001.65	192.80	32.177	
15,000.00	9,135.18	9,125.53	9,135.18	146.84	48.49	-92.60	277.36	-1,144.84	6,292.86	6,098.51	194.81	32.374	
15,100.00	9,135.92	9,126.27	9,135.92	148.87	48.50	-92.64	277.36	-1,144.84	6,391.77	6,195.40	196.82	32.571	
15,200.00	9,136.66	9,127.01	9,136.66	150.91	48.51	-92.68	277.36	-1,144.84	6,490.71	6,292.32	198.83	32.768	
15,300.00	9,137.40	9,127.75	9,137.40	152.95	48.51	-92.72	277.36	-1,144.84	6,589.68	6,389.27	200.84	32.965	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P2 - 14HD - OH / Job #61221 - Plan 3 05-10-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance				Separation Factor	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)
15,400.00	9,144.25	9,134.60	9,144.25	154.99	48.52	-95.64	277.36	-1,144.84	6,688.69	6,486.25	202.43	33.041	
15,500.00	9,145.64	9,135.99	9,145.64	157.04	48.53	-95.72	277.36	-1,144.84	6,787.72	6,583.26	204.46	33.198	
15,600.00	9,147.03	9,137.38	9,147.03	159.09	48.54	-95.81	277.36	-1,144.84	6,886.78	6,680.29	206.49	33.352	
15,700.00	9,148.41	9,138.77	9,148.41	161.14	48.54	-95.89	277.36	-1,144.84	6,985.86	6,777.35	208.51	33.503	
15,800.00	9,149.80	9,140.16	9,149.80	163.19	48.55	-95.98	277.36	-1,144.84	7,084.97	6,874.43	210.55	33.651	
15,900.00	9,151.19	9,141.54	9,151.19	165.25	48.56	-96.06	277.36	-1,144.84	7,184.11	6,971.53	212.58	33.795	
16,000.00	9,152.58	9,142.93	9,152.58	167.31	48.56	-96.15	277.36	-1,144.84	7,283.27	7,068.66	214.61	33.937	
16,100.00	9,153.97	9,144.32	9,153.97	169.37	48.57	-96.23	277.36	-1,144.84	7,382.45	7,165.80	216.65	34.076	
16,200.00	9,155.35	9,145.71	9,155.35	171.44	48.58	-96.32	277.36	-1,144.84	7,481.65	7,262.97	218.68	34.212	
16,300.00	9,156.74	9,147.10	9,156.74	173.50	48.59	-96.40	277.36	-1,144.84	7,580.88	7,360.15	220.72	34.346	
16,400.00	9,158.13	9,148.48	9,158.13	175.57	48.59	-96.48	277.36	-1,144.84	7,680.12	7,457.36	222.76	34.477	
16,500.00	9,159.52	9,149.87	9,159.52	177.64	48.60	-96.57	277.36	-1,144.84	7,779.38	7,554.58	224.80	34.605	
16,600.00	9,160.91	9,151.26	9,160.91	179.71	48.61	-96.65	277.36	-1,144.84	7,878.66	7,651.82	226.84	34.732	
16,700.00	9,162.29	9,152.65	9,162.29	181.79	48.62	-96.74	277.36	-1,144.84	7,977.96	7,749.07	228.89	34.856	
16,800.00	9,163.68	9,154.04	9,163.68	183.86	48.62	-96.82	277.36	-1,144.84	8,077.28	7,846.35	230.93	34.977	
16,900.00	9,165.07	9,155.42	9,165.07	185.94	48.63	-96.91	277.36	-1,144.84	8,176.61	7,943.63	232.97	35.097	
17,000.00	9,166.46	9,156.81	9,166.46	188.02	48.64	-96.99	277.36	-1,144.84	8,275.96	8,040.94	235.02	35.214	
17,100.00	9,167.85	9,158.20	9,167.85	190.10	48.65	-97.07	277.36	-1,144.84	8,375.32	8,138.25	237.07	35.329	
17,200.00	9,169.23	9,159.59	9,169.23	192.19	48.65	-97.16	277.36	-1,144.84	8,474.70	8,235.59	239.11	35.442	
17,300.00	9,170.62	9,160.98	9,170.62	194.27	48.66	-97.24	277.36	-1,144.84	8,574.09	8,332.93	241.16	35.554	
17,400.00	9,172.01	9,162.36	9,172.01	196.36	48.67	-97.33	277.36	-1,144.84	8,673.50	8,430.29	243.21	35.663	
17,500.00	9,173.40	9,163.75	9,173.40	198.44	48.68	-97.41	277.36	-1,144.84	8,772.92	8,527.66	245.26	35.770	
17,600.00	9,174.79	9,165.14	9,174.79	200.53	48.68	-97.49	277.36	-1,144.84	8,872.35	8,625.04	247.31	35.876	
17,700.00	9,176.17	9,166.53	9,176.17	202.62	48.69	-97.58	277.36	-1,144.84	8,971.79	8,722.44	249.35	35.980	
17,800.00	9,177.56	9,167.92	9,177.56	204.71	48.70	-97.66	277.36	-1,144.84	9,071.25	8,819.85	251.40	36.082	
17,900.00	9,178.95	9,169.30	9,178.95	206.81	48.71	-97.75	277.36	-1,144.84	9,170.72	8,917.26	253.45	36.183	
18,000.00	9,180.34	9,170.69	9,180.34	208.90	48.71	-97.83	277.36	-1,144.84	9,270.20	9,014.69	255.50	36.282	
18,100.00	9,181.73	9,172.08	9,181.73	211.00	48.72	-97.91	277.36	-1,144.84	9,369.69	9,112.13	257.55	36.379	
18,200.00	9,183.11	9,173.47	9,183.11	213.09	48.73	-98.00	277.36	-1,144.84	9,469.19	9,209.58	259.61	36.475	
18,300.00	9,184.50	9,174.86	9,184.50	215.19	48.74	-98.08	277.36	-1,144.84	9,568.70	9,307.04	261.66	36.570	
18,400.00	9,185.89	9,176.24	9,185.89	217.29	48.74	-98.16	277.36	-1,144.84	9,668.22	9,404.51	263.71	36.663	
18,500.00	9,187.28	9,177.63	9,187.28	219.39	48.75	-98.25	277.36	-1,144.84	9,767.75	9,501.99	265.76	36.754	
18,600.00	9,188.66	9,179.02	9,188.66	221.49	48.76	-98.33	277.36	-1,144.84	9,867.29	9,599.48	267.81	36.845	
18,700.00	9,190.05	9,180.41	9,190.05	223.59	48.77	-98.42	277.36	-1,144.84	9,966.84	9,696.98	269.86	36.934	



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - ST01 / Job #61221 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM, 9445-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	
0.00	0.00	0.00	20.00	0.00	0.00	-78.41	277.36	-1,352.89	1,381.17				
100.00	100.00	80.00	100.00	0.19	0.15	-78.41	277.36	-1,352.89	1,381.02	1,380.68	0.35	3,963.510	
200.00	200.00	180.00	200.00	0.73	0.62	-78.41	277.36	-1,352.89	1,381.02	1,379.67	1.36	1,019.189	
300.00	300.00	280.00	300.00	1.27	1.16	-78.41	277.36	-1,352.89	1,381.02	1,378.59	2.43	568.221	
400.00	400.00	380.00	400.00	1.81	1.70	-78.41	277.36	-1,352.89	1,381.02	1,377.52	3.51	393.920	
500.00	500.00	480.00	500.00	2.34	2.24	-78.41	277.36	-1,352.89	1,381.02	1,376.44	4.58	301.450	
600.00	600.00	580.00	600.00	2.88	2.77	-78.41	277.36	-1,352.89	1,381.02	1,375.37	5.66	244.140	
700.00	699.98	679.98	699.98	3.42	3.31	-57.93	277.36	-1,352.89	1,380.10	1,373.36	6.73	204.996	
800.00	799.84	779.84	799.84	3.96	3.85	-58.16	277.36	-1,352.89	1,377.32	1,369.52	7.81	176.408	
899.93	899.39	879.39	899.39	4.50	4.38	-58.54	277.36	-1,352.89	1,372.74	1,363.86	8.88	154.546	
1,000.00	998.90	978.90	998.90	5.05	4.92	-58.92	277.36	-1,352.89	1,367.29	1,357.33	9.96	137.281	
1,100.00	1,098.36	1,078.36	1,098.36	5.60	5.45	-59.29	277.36	-1,352.89	1,361.90	1,350.86	11.04	123.345	
1,200.00	1,197.81	1,177.81	1,197.81	6.16	5.99	-59.67	277.36	-1,352.89	1,356.57	1,344.45	12.13	111.866	
1,300.00	1,297.26	1,277.26	1,297.26	6.72	6.52	-60.05	277.36	-1,352.89	1,351.30	1,338.09	13.22	102.255	
1,400.00	1,396.71	1,376.71	1,396.71	7.28	7.06	-60.43	277.36	-1,352.89	1,346.10	1,331.79	14.31	94.096	
1,500.00	1,496.17	1,476.17	1,496.17	7.84	7.59	-60.82	277.36	-1,352.89	1,340.95	1,325.55	15.40	87.086	
1,600.00	1,595.62	1,575.62	1,595.62	8.41	8.13	-61.21	277.36	-1,352.89	1,335.86	1,319.37	16.49	81.001	
1,700.00	1,695.07	1,675.07	1,695.07	8.98	8.66	-61.60	277.36	-1,352.89	1,330.84	1,313.25	17.59	75.670	
1,800.00	1,794.52	1,774.52	1,794.52	9.54	9.20	-62.00	277.36	-1,352.89	1,325.88	1,307.20	18.68	70.964	
1,900.00	1,893.98	1,873.98	1,893.98	10.11	9.73	-62.40	277.36	-1,352.89	1,320.98	1,301.20	19.78	66.779	
2,000.00	1,893.43	1,873.43	1,893.43	10.68	10.27	-62.80	277.36	-1,352.89	1,316.15	1,295.27	20.88	63.035	
2,100.00	2,092.88	2,072.88	2,092.88	11.25	10.80	-63.20	277.36	-1,352.89	1,311.39	1,289.41	21.98	59.665	
2,200.00	2,192.33	2,172.33	2,192.33	11.82	11.34	-63.61	277.36	-1,352.89	1,306.69	1,283.61	23.08	56.618	
2,300.00	2,291.79	2,289.78	2,309.78	12.39	11.96	-64.09	277.36	-1,352.61	1,301.91	1,277.64	24.27	53.639	
2,400.00	2,391.24	2,470.44	2,490.22	12.96	12.89	-64.82	277.36	-1,344.41	1,292.85	1,267.08	25.77	50.175	
2,500.00	2,490.69	2,604.73	2,623.88	13.53	13.59	-65.34	277.36	-1,331.47	1,278.61	1,251.59	27.02	47.314	
2,600.00	2,590.14	2,703.25	2,721.87	14.10	14.11	-65.73	277.36	-1,321.17	1,263.83	1,235.74	28.10	44.983	
2,700.00	2,689.60	2,801.78	2,819.85	14.67	14.64	-66.13	277.36	-1,310.87	1,249.11	1,219.94	29.17	42.821	
2,800.00	2,789.05	2,900.30	2,917.83	15.24	15.16	-66.54	277.36	-1,300.58	1,234.45	1,204.20	30.25	40.811	
2,900.00	2,888.50	2,998.82	3,015.82	15.81	15.69	-66.96	277.36	-1,290.28	1,219.85	1,188.53	31.33	38.938	
3,000.00	2,987.95	3,097.35	3,113.80	16.39	16.22	-67.39	277.36	-1,279.98	1,205.33	1,172.92	32.41	37.190	
3,100.00	3,087.41	3,195.87	3,211.79	16.96	16.76	-67.84	277.36	-1,269.68	1,190.87	1,157.37	33.49	35.554	
3,200.00	3,186.86	3,294.40	3,309.77	17.53	17.30	-68.29	277.36	-1,259.38	1,176.48	1,141.90	34.58	34.021	
3,300.00	3,286.31	3,392.92	3,407.75	18.10	17.83	-68.75	277.36	-1,249.08	1,162.16	1,126.49	35.67	32.582	
3,400.00	3,385.76	3,491.44	3,505.74	18.68	18.37	-69.22	277.36	-1,238.78	1,147.92	1,111.16	36.76	31.228	
3,500.00	3,485.22	3,589.97	3,603.72	19.25	18.92	-69.71	277.36	-1,228.49	1,133.77	1,095.91	37.85	29.954	
3,600.00	3,584.67	3,688.49	3,701.71	19.82	19.46	-70.21	277.36	-1,218.19	1,119.69	1,080.75	38.94	28.751	
3,700.00	3,684.12	3,787.02	3,799.69	20.39	20.01	-70.72	277.36	-1,207.89	1,105.70	1,065.66	40.04	27.616	
3,800.00	3,783.57	3,885.54	3,897.68	20.97	20.55	-71.24	277.36	-1,197.59	1,091.80	1,050.66	41.14	26.542	
3,900.00	3,883.02	3,984.06	3,995.66	21.54	21.10	-71.78	277.36	-1,187.29	1,077.99	1,035.76	42.23	25.525	
4,000.00	3,982.48	4,082.59	4,093.64	22.11	21.65	-72.33	277.36	-1,176.99	1,064.28	1,020.95	43.33	24.561	
4,100.00	4,081.93	4,181.11	4,191.63	22.68	22.20	-72.89	277.36	-1,166.69	1,050.67	1,006.23	44.43	23.646	
4,200.00	4,181.38	4,269.11	4,279.16	23.26	22.69	-73.41	277.36	-1,157.64	1,037.36	991.88	45.48	22.810	
4,300.00	4,280.83	4,341.81	4,351.61	23.83	23.09	-73.84	277.36	-1,151.70	1,026.21	979.77	46.44	22.098	
4,400.00	4,380.35	4,414.95	4,424.63	24.40	23.49	-74.16	277.36	-1,147.57	1,017.85	970.44	47.41	21.470	
4,500.00	4,480.12	4,500.00	4,509.65	24.95	23.94	-74.37	277.36	-1,145.12	1,013.05	964.63	48.42	20.921	
4,600.00	4,580.07	4,570.42	4,580.07	25.48	24.31	-74.45	277.36	-1,144.84	1,011.50	962.17	49.33	20.504	
4,660.52	4,640.58	4,630.94	4,640.58	25.79	24.63	-74.48	277.36	-1,144.84	1,011.34	961.38	49.96	20.242 CC	
4,700.00	4,680.07	4,670.42	4,680.07	25.99	24.83	-95.03	277.36	-1,144.84	1,011.43	961.06	50.37	20.080	
4,800.00	4,780.07	4,770.42	4,780.07	26.50	25.36	-95.03	277.36	-1,144.84	1,011.43	960.02	51.41	19.674	
4,900.00	4,880.07	4,870.42	4,880.07	27.01	25.88	-95.03	277.36	-1,144.84	1,011.43	958.98	52.45	19.284	
5,000.00	4,980.07	4,970.42	4,980.07	27.52	26.41	-95.03	277.36	-1,144.84	1,011.43	957.93	53.49	18.908	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - ST01 / Job #61221 - Plan 4 06-09-17												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 9445-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)					
5,100.00	5,080.07	5,070.42	5,080.07	28.03	26.93	-95.03	277.36	-1,144.84	1,011.43	956.89	54.54	18.546	
5,200.00	5,180.07	5,170.42	5,180.07	28.55	27.46	-95.03	277.36	-1,144.84	1,011.43	955.85	55.58	18.198	
5,300.00	5,280.07	5,270.42	5,280.07	29.06	27.99	-95.03	277.36	-1,144.84	1,011.43	954.80	56.63	17.862	
5,400.00	5,380.07	5,370.42	5,380.07	29.58	28.51	-95.03	277.36	-1,144.84	1,011.43	953.75	57.67	17.537	
5,500.00	5,480.07	5,470.42	5,480.07	30.10	29.04	-95.03	277.36	-1,144.84	1,011.43	952.70	58.72	17.224	
5,600.00	5,580.07	5,570.42	5,580.07	30.61	29.57	-95.03	277.36	-1,144.84	1,011.43	951.66	59.77	16.922	
5,700.00	5,680.07	5,670.42	5,680.07	31.13	30.10	-95.03	277.36	-1,144.84	1,011.43	950.61	60.82	16.630	
5,800.00	5,780.07	5,770.42	5,780.07	31.65	30.62	-95.03	277.36	-1,144.84	1,011.43	949.55	61.87	16.348	
5,900.00	5,880.07	5,870.42	5,880.07	32.17	31.15	-95.03	277.36	-1,144.84	1,011.43	948.50	62.92	16.074	
6,000.00	5,980.07	5,970.42	5,980.07	32.69	31.68	-95.03	277.36	-1,144.84	1,011.43	947.45	63.97	15.810	
6,100.00	6,080.07	6,070.42	6,080.07	33.21	32.21	-95.03	277.36	-1,144.84	1,011.43	946.40	65.03	15.554	
6,200.00	6,180.07	6,170.42	6,180.07	33.73	32.74	-95.03	277.36	-1,144.84	1,011.43	945.34	66.08	15.306	
6,300.00	6,280.07	6,270.42	6,280.07	34.25	33.27	-95.03	277.36	-1,144.84	1,011.43	944.29	67.14	15.065	
6,400.00	6,380.07	6,370.42	6,380.07	34.77	33.80	-95.03	277.36	-1,144.84	1,011.43	943.23	68.19	14.832	
6,500.00	6,480.07	6,470.42	6,480.07	35.30	34.33	-95.03	277.36	-1,144.84	1,011.43	942.18	69.25	14.606	
6,600.00	6,580.07	6,570.42	6,580.07	35.82	34.86	-95.03	277.36	-1,144.84	1,011.43	941.12	70.30	14.387	
6,700.00	6,680.07	6,670.42	6,680.07	36.34	35.39	-95.03	277.36	-1,144.84	1,011.43	940.07	71.36	14.174	
6,800.00	6,780.07	6,770.42	6,780.07	36.87	35.92	-95.03	277.36	-1,144.84	1,011.43	939.01	72.42	13.967	
6,900.00	6,880.07	6,870.42	6,880.07	37.39	36.46	-95.03	277.36	-1,144.84	1,011.43	937.95	73.48	13.766	
7,000.00	6,980.07	6,970.42	6,980.07	37.92	36.99	-95.03	277.36	-1,144.84	1,011.43	936.89	74.53	13.570	
7,100.00	7,080.07	7,070.42	7,080.07	38.44	37.52	-95.03	277.36	-1,144.84	1,011.43	935.83	75.59	13.380	
7,200.00	7,180.07	7,170.42	7,180.07	38.97	38.05	-95.03	277.36	-1,144.84	1,011.43	934.77	76.65	13.195	
7,300.00	7,280.07	7,270.42	7,280.07	39.49	38.58	-95.03	277.36	-1,144.84	1,011.43	933.71	77.71	13.015	
7,400.00	7,380.07	7,370.42	7,380.07	40.02	39.11	-95.03	277.36	-1,144.84	1,011.43	932.65	78.77	12.840	
7,500.00	7,480.07	7,470.42	7,480.07	40.54	39.65	-95.03	277.36	-1,144.84	1,011.43	931.59	79.83	12.669	
7,600.00	7,580.07	7,570.42	7,580.07	41.07	40.18	-95.03	277.36	-1,144.84	1,011.43	930.53	80.89	12.503	
7,700.00	7,680.07	7,670.42	7,680.07	41.60	40.71	-95.03	277.36	-1,144.84	1,011.43	929.47	81.95	12.341	
7,800.00	7,780.07	7,770.42	7,780.07	42.13	41.24	-95.03	277.36	-1,144.84	1,011.43	928.41	83.02	12.183	
7,900.00	7,880.07	7,870.42	7,880.07	42.65	41.78	-95.03	277.36	-1,144.84	1,011.43	927.35	84.08	12.029	
8,000.00	7,980.07	7,970.42	7,980.07	43.18	42.31	-95.03	277.36	-1,144.84	1,011.43	926.28	85.14	11.879	
8,100.00	8,080.07	8,070.42	8,080.07	43.71	42.84	-95.03	277.36	-1,144.84	1,011.43	925.22	86.20	11.733	
8,200.00	8,180.07	8,170.42	8,180.07	44.24	43.38	-95.03	277.36	-1,144.84	1,011.43	924.16	87.27	11.590	
8,300.00	8,280.07	8,270.42	8,280.07	44.77	43.91	-95.03	277.36	-1,144.84	1,011.43	923.09	88.33	11.450	
8,400.00	8,380.07	8,370.42	8,380.07	45.29	44.44	-95.03	277.36	-1,144.84	1,011.43	922.03	89.39	11.314	
8,500.00	8,480.07	8,470.42	8,480.07	45.82	44.98	-95.03	277.36	-1,144.84	1,011.43	920.97	90.46	11.181	
8,515.14	8,495.21	8,485.56	8,495.21	45.90	45.06	-94.46	277.36	-1,144.84	1,011.43	920.81	90.63	11.161	
8,600.00	8,579.96	8,570.32	8,579.96	46.36	45.51	-94.60	277.36	-1,144.84	1,011.67	920.13	91.54	11.052	
8,700.00	8,678.03	8,668.39	8,678.03	46.93	46.03	-95.48	277.36	-1,144.84	1,013.36	920.74	92.63	10.940	
8,800.00	8,771.34	8,761.69	8,771.34	47.54	46.53	-96.93	277.36	-1,144.84	1,017.52	923.85	93.67	10.863	
8,900.00	8,857.03	8,847.39	8,857.03	48.17	46.99	-98.56	277.36	-1,144.84	1,025.64	931.05	94.59	10.843	
9,000.00	8,932.52	8,922.88	8,932.52	48.82	47.39	-99.90	277.36	-1,144.84	1,039.58	944.23	95.35	10.903	
9,100.00	8,995.51	8,985.86	8,995.51	49.51	47.73	-100.41	277.36	-1,144.84	1,061.10	965.04	96.07	11.046	
9,200.00	9,044.08	9,034.43	9,044.08	50.22	47.99	-99.60	277.36	-1,144.84	1,091.43	994.45	96.98	11.255	
9,300.00	9,076.76	9,067.11	9,076.76	50.96	48.16	-97.05	277.36	-1,144.84	1,130.90	1,032.67	98.24	11.512	
9,400.00	9,092.55	9,082.91	9,092.55	51.72	48.24	-92.48	277.36	-1,144.84	1,178.83	1,079.26	99.58	11.838	
9,500.00	9,094.47	9,084.82	9,094.47	52.50	48.25	-90.30	277.36	-1,144.84	1,233.58	1,133.15	100.44	12.282	
9,600.00	9,095.21	9,085.56	9,095.21	53.35	48.26	-90.34	277.36	-1,144.84	1,293.77	1,192.48	101.29	12.773	
9,700.00	9,095.95	9,086.30	9,095.95	54.27	48.26	-90.38	277.36	-1,144.84	1,358.65	1,256.44	102.22	13.292	
9,800.00	9,096.69	9,087.04	9,096.69	55.27	48.26	-132.23	1,318.58	-1,155.00	1,362.07	1,276.09	85.97	15.843	
9,900.00	9,097.43	9,087.68	9,097.43	56.33	48.26	-132.10	1,418.43	-1,155.98	1,359.32	1,271.58	87.74	15.492	
10,000.00	9,098.17	9,087.92	9,098.17	57.45	48.26	-131.97	1,518.29	-1,156.95	1,356.58	1,266.95	89.63	15.136	
10,100.00	9,098.91	9,088.16	9,098.91	58.62	48.26	-131.85	1,618.15	-1,157.93	1,353.84	1,262.22	91.62	14.777	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - ST01 / Job #61221 - Plan 4 06-09-17												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM, 9445-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
10,200.00	9,099.65	11,212.94	9,998.68	59.86	58.87	-131.72	1,718.00	-1,158.90	1,351.12	1,257.40	93.72	14.417	
10,300.00	9,100.39	11,312.85	9,995.35	61.14	60.04	-131.59	1,817.86	-1,159.88	1,348.40	1,252.48	95.92	14.058	
10,400.00	9,101.13	11,412.77	9,992.02	62.47	61.25	-131.46	1,917.72	-1,160.85	1,345.68	1,247.48	98.21	13.702	
10,500.00	9,101.87	11,512.69	9,988.69	63.85	62.52	-131.33	2,017.57	-1,161.82	1,342.98	1,242.39	100.59	13.352	
10,600.00	9,102.61	11,612.60	9,985.36	65.27	63.83	-131.20	2,117.43	-1,162.80	1,340.28	1,237.23	103.05	13.007	
10,700.00	9,103.35	11,712.52	9,982.03	66.73	65.19	-131.07	2,217.29	-1,163.77	1,337.58	1,232.00	105.58	12.669	
10,800.00	9,104.09	11,812.44	9,978.69	68.23	66.59	-130.94	2,317.14	-1,164.75	1,334.90	1,226.70	108.19	12.338	
10,900.00	9,104.83	11,912.36	9,975.36	69.76	68.03	-130.81	2,417.00	-1,165.72	1,332.22	1,221.35	110.87	12.016	
11,000.00	9,105.57	12,012.27	9,972.03	71.33	69.51	-130.67	2,516.86	-1,166.70	1,329.55	1,215.93	113.62	11.702	
11,100.00	9,106.31	12,112.19	9,968.70	72.92	71.03	-130.54	2,616.71	-1,167.67	1,326.88	1,210.46	116.42	11.397	
11,200.00	9,107.05	12,201.83	9,965.97	74.55	72.41	-130.43	2,706.31	-1,168.55	1,324.43	1,205.32	119.12	11.119	
11,300.00	9,107.79	12,300.43	9,964.01	76.20	73.96	-130.34	2,804.88	-1,169.51	1,322.66	1,200.71	121.95	10.846	
11,400.00	9,108.53	12,400.39	9,962.03	77.87	75.56	-130.25	2,904.82	-1,170.49	1,320.89	1,196.03	124.86	10.579	
11,500.00	9,109.27	12,500.35	9,960.05	79.57	77.19	-130.16	3,004.76	-1,171.47	1,319.12	1,191.31	127.81	10.321	
11,600.00	9,110.01	12,600.32	9,958.07	81.29	78.85	-130.07	3,104.70	-1,172.45	1,317.36	1,186.55	130.81	10.071	
11,700.00	9,110.75	12,700.28	9,956.08	83.03	80.53	-129.98	3,204.64	-1,173.43	1,315.60	1,181.75	133.84	9.829	
11,800.00	9,111.49	12,800.24	9,954.10	84.79	82.23	-129.89	3,304.57	-1,174.41	1,313.84	1,176.92	136.92	9.596	
11,900.00	9,112.24	12,900.20	9,952.12	86.57	83.96	-129.80	3,404.51	-1,175.38	1,312.08	1,172.05	140.03	9.370	
12,000.00	9,112.98	13,000.17	9,950.13	88.36	85.70	-129.71	3,504.45	-1,176.36	1,310.33	1,167.15	143.18	9.151	
12,100.00	9,113.72	13,100.13	9,948.15	90.18	87.46	-129.62	3,604.39	-1,177.34	1,308.58	1,162.22	146.36	8.941	
12,200.00	9,114.46	13,200.09	9,946.17	92.00	89.24	-129.52	3,704.33	-1,178.32	1,306.84	1,157.26	149.58	8.737	
12,300.00	9,115.20	13,300.06	9,944.18	93.84	91.04	-129.43	3,804.27	-1,179.30	1,305.10	1,152.28	152.82	8.540	
12,400.00	9,115.94	13,400.02	9,942.20	95.70	92.85	-129.34	3,904.20	-1,180.28	1,303.36	1,147.27	156.09	8.350	
12,500.00	9,116.68	13,499.98	9,940.22	97.56	94.67	-129.25	4,004.14	-1,181.26	1,301.63	1,142.23	159.39	8.166	
12,600.00	9,117.42	13,599.94	9,938.23	99.44	96.51	-129.16	4,104.08	-1,182.24	1,299.89	1,137.18	162.72	7.989	
12,700.00	9,118.16	13,699.91	9,936.25	101.33	98.37	-129.06	4,204.02	-1,183.22	1,298.17	1,132.10	166.06	7.817	
12,800.00	9,118.90	13,799.87	9,934.27	103.23	100.23	-128.97	4,303.96	-1,184.19	1,296.44	1,127.00	169.44	7.651	
12,900.00	9,119.64	13,899.83	9,932.28	105.14	102.11	-128.88	4,403.90	-1,185.17	1,294.72	1,121.89	172.83	7.491	
13,000.00	9,120.38	13,999.80	9,930.30	107.06	104.00	-128.78	4,503.83	-1,186.15	1,293.00	1,116.75	176.25	7.336	
13,100.00	9,121.12	14,099.76	9,928.32	108.99	105.90	-128.69	4,603.77	-1,187.13	1,291.29	1,111.60	179.69	7.186	
13,200.00	9,121.86	14,199.72	9,926.33	110.93	107.80	-128.59	4,703.71	-1,188.11	1,289.58	1,106.43	183.15	7.041	
13,300.00	9,122.60	14,299.68	9,924.35	112.87	109.72	-128.50	4,803.65	-1,189.09	1,287.87	1,101.25	186.63	6.901	
13,400.00	9,123.34	14,399.64	9,922.36	114.83	111.51	-128.42	4,896.58	-1,190.00	1,286.26	1,096.27	189.99	6.770	
13,467.85	9,123.84	14,445.61	9,922.51	116.16	112.54	-128.40	4,949.55	-1,190.52	1,285.86	1,093.82	192.04	6.696	
13,500.00	9,124.08	14,470.71	9,922.81	116.79	113.02	-128.40	4,974.65	-1,190.77	1,285.95	1,092.96	193.00	6.663	
13,600.00	9,124.82	14,551.01	9,925.21	118.76	114.58	-128.47	5,054.90	-1,191.58	1,287.34	1,091.43	195.91	6.571	
13,700.00	9,125.56	14,650.95	9,929.26	120.73	116.52	-128.58	5,154.76	-1,192.59	1,289.43	1,090.36	199.07	6.477	
13,800.00	9,126.30	14,750.90	9,933.32	122.71	118.47	-128.69	5,254.62	-1,193.60	1,291.51	1,089.28	202.23	6.386	
13,900.00	9,127.04	14,850.84	9,937.37	124.70	120.43	-128.81	5,354.48	-1,194.62	1,293.61	1,088.21	205.40	6.298	
14,000.00	9,127.78	14,950.79	9,941.42	126.69	122.39	-128.92	5,454.34	-1,195.63	1,295.70	1,087.14	208.57	6.212	
14,100.00	9,128.52	15,050.73	9,945.47	128.69	124.36	-129.04	5,554.19	-1,196.64	1,297.81	1,086.07	211.74	6.129	
14,200.00	9,129.26	15,150.68	9,949.53	130.69	126.34	-129.15	5,654.05	-1,197.65	1,299.91	1,085.00	214.92	6.048	
14,300.00	9,130.00	15,250.62	9,953.58	132.70	128.32	-129.26	5,753.91	-1,198.66	1,302.03	1,083.93	218.10	5.970	
14,400.00	9,130.74	15,350.57	9,957.63	134.71	130.31	-129.37	5,853.77	-1,199.67	1,304.14	1,082.86	221.28	5.894	
14,500.00	9,131.76	15,462.68	9,962.05	136.72	132.54	-129.49	5,953.78	-1,200.74	1,306.47	1,081.81	224.66	5.815	
14,600.00	9,133.15	15,587.88	9,964.21	138.74	135.04	-129.50	6,050.96	-1,200.52	1,306.71	1,078.23	228.49	5.719	
14,700.00	9,134.54	15,687.88	9,965.48	140.76	137.04	-129.49	6,150.95	-1,200.12	1,306.62	1,074.70	231.91	5.634	
14,800.00	9,135.92	15,787.88	9,966.76	142.78	139.05	-129.49	6,250.94	-1,199.72	1,306.52	1,071.17	235.35	5.551	
14,900.00	9,137.31	15,887.88	9,968.03	144.81	141.06	-129.49	6,350.94	-1,199.32	1,306.43	1,067.64	238.79	5.471	
15,000.00	9,138.70	15,987.88	9,969.30	146.84	143.08	-129.48	6,450.93	-1,198.92	1,306.34	1,064.10	242.24	5.393	
15,100.00	9,140.09	16,087.88	9,970.58	148.87	145.10	-129.48	6,550.92	-1,198.52	1,306.24	1,060.55	245.69	5.317	
15,200.00	9,141.48	16,187.88	9,971.85	150.91	147.12	-129.48	6,650.91	-1,198.12	1,306.15	1,057.00	249.15	5.242	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 14HD - ST01 / Job #61221 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM, 9445-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
15,300.00	9,142.86	16,287.88	9,973.12	152.95	149.15	-129.48	6,790.90	-1,197.72	1,306.06	1,053.44	252.62	5.170	
15,400.00	9,144.25	16,387.88	9,974.40	154.99	151.18	-129.47	6,890.89	-1,197.32	1,305.96	1,049.87	256.09	5.100	
15,500.00	9,145.64	16,487.88	9,975.67	157.04	153.21	-129.47	6,990.88	-1,196.92	1,305.87	1,046.30	259.57	5.031	
15,600.00	9,147.03	16,587.88	9,976.94	159.09	155.25	-129.47	7,090.87	-1,196.52	1,305.78	1,042.73	263.05	4.964	
15,700.00	9,148.41	16,687.88	9,978.22	161.14	157.29	-129.46	7,190.86	-1,196.12	1,305.68	1,039.15	266.54	4.899	
15,800.00	9,149.80	16,787.88	9,979.49	163.19	159.33	-129.46	7,290.85	-1,195.72	1,305.59	1,035.56	270.03	4.835	
15,900.00	9,151.19	16,887.88	9,980.76	165.25	161.38	-129.46	7,390.85	-1,195.32	1,305.50	1,031.97	273.52	4.773	
16,000.00	9,152.58	16,987.88	9,982.04	167.31	163.43	-129.45	7,490.84	-1,194.92	1,305.40	1,028.38	277.02	4.712	
16,100.00	9,153.97	17,087.88	9,983.31	169.37	165.48	-129.45	7,590.83	-1,194.52	1,305.31	1,024.78	280.53	4.653	
16,155.33	9,154.73	17,141.99	9,984.00	170.51	166.59	-129.45	7,644.93	-1,194.30	1,305.26	1,022.81	282.45	4.621	
16,200.00	9,155.35	17,177.42	9,984.67	171.44	167.31	-129.45	7,680.36	-1,194.16	1,305.40	1,021.57	283.83	4.599	
16,300.00	9,156.74	17,272.24	9,987.58	173.50	169.26	-129.51	7,775.13	-1,193.81	1,306.46	1,019.35	287.11	4.550	
16,400.00	9,158.13	17,372.23	9,990.70	175.57	171.32	-129.57	7,875.07	-1,193.44	1,307.57	1,017.11	290.46	4.502	
16,500.00	9,159.52	17,472.21	9,993.82	177.64	173.38	-129.63	7,975.00	-1,193.07	1,308.67	1,014.86	293.81	4.454	
16,600.00	9,160.91	17,572.20	9,996.94	179.71	175.44	-129.68	8,074.94	-1,192.70	1,309.78	1,012.62	297.16	4.408	
16,700.00	9,162.29	17,672.18	10,000.06	181.79	177.50	-129.74	8,174.88	-1,192.33	1,310.89	1,010.37	300.51	4.362	
16,800.00	9,163.68	17,772.17	10,003.18	183.86	179.57	-129.80	8,274.81	-1,191.96	1,312.00	1,008.13	303.87	4.318	
16,900.00	9,165.07	17,872.15	10,006.30	185.94	181.64	-129.86	8,374.75	-1,191.58	1,313.11	1,005.89	307.22	4.274	
17,000.00	9,166.46	17,972.14	10,009.42	188.02	183.70	-129.92	8,474.68	-1,191.21	1,314.23	1,003.66	310.57	4.232	
17,100.00	9,167.85	18,072.12	10,012.54	190.10	185.78	-129.97	8,574.62	-1,190.84	1,315.34	1,001.42	313.92	4.190	
17,200.00	9,169.23	18,172.11	10,015.66	192.19	187.85	-130.03	8,674.55	-1,190.47	1,316.46	999.19	317.27	4.149	
17,300.00	9,170.62	18,272.09	10,018.78	194.27	189.92	-130.09	8,774.49	-1,190.10	1,317.57	996.95	320.62	4.109	
17,400.00	9,172.01	18,372.08	10,021.90	196.36	192.00	-130.15	8,874.43	-1,189.73	1,318.69	994.72	323.97	4.070	
17,500.00	9,173.40	18,472.06	10,025.02	198.44	194.08	-130.20	8,974.36	-1,189.36	1,319.81	992.50	327.32	4.032	
17,600.00	9,174.79	18,572.05	10,028.14	200.53	196.16	-130.26	9,074.30	-1,188.99	1,320.93	990.27	330.67	3.995	
17,700.00	9,176.17	18,672.03	10,031.26	202.62	198.24	-130.32	9,174.23	-1,188.62	1,322.06	988.05	334.01	3.958	
17,800.00	9,177.56	18,772.02	10,034.38	204.71	200.32	-130.38	9,274.17	-1,188.25	1,323.18	985.83	337.36	3.922	
17,900.00	9,178.95	18,872.00	10,037.50	206.81	202.41	-130.43	9,374.10	-1,187.88	1,324.31	983.61	340.70	3.887	
18,000.00	9,180.34	18,971.99	10,040.62	208.90	204.49	-130.49	9,474.04	-1,187.51	1,325.43	981.39	344.04	3.853	
18,100.00	9,181.73	19,096.01	10,043.38	211.00	207.08	-130.52	9,598.03	-1,187.04	1,326.06	978.18	347.88	3.812	
18,200.00	9,183.11	19,204.94	10,042.77	213.09	209.36	-130.45	9,706.95	-1,186.63	1,324.77	972.99	351.78	3.766	
18,300.00	9,184.50	19,304.92	10,042.07	215.19	211.45	-130.39	9,806.93	-1,186.25	1,323.41	967.89	355.53	3.722	
18,400.00	9,185.89	19,404.90	10,041.37	217.29	213.54	-130.32	9,906.90	-1,185.88	1,322.06	962.78	359.28	3.680	
18,500.00	9,187.28	19,504.88	10,040.68	219.39	215.64	-130.25	10,006.88	-1,185.50	1,320.71	957.67	363.04	3.638	
18,600.00	9,188.66	19,604.85	10,039.98	221.49	217.73	-130.18	10,106.86	-1,185.12	1,319.35	952.55	366.80	3.597	
18,700.00	9,190.05	19,704.83	10,039.28	223.59	219.83	-130.11	10,206.83	-1,184.74	1,318.01	947.43	370.57	3.557	
18,800.00	9,191.44	19,804.81	10,038.58	225.69	221.93	-130.04	10,306.81	-1,184.36	1,316.66	942.31	374.35	3.517	
18,900.00	9,192.83	19,904.79	10,037.88	227.79	224.03	-129.97	10,406.78	-1,183.99	1,315.31	937.18	378.13	3.478	
19,000.00	9,194.22	20,004.77	10,037.18	229.90	226.13	-129.90	10,506.76	-1,183.61	1,313.97	932.05	381.92	3.440	
19,100.00	9,195.60	20,104.75	10,036.49	232.00	228.23	-129.83	10,606.73	-1,183.23	1,312.63	926.92	385.71	3.403	
19,200.00	9,196.99	20,204.72	10,035.79	234.11	230.33	-129.76	10,706.71	-1,182.85	1,311.29	921.78	389.51	3.366	
19,300.00	9,198.38	20,304.70	10,035.09	236.22	232.44	-129.69	10,806.68	-1,182.47	1,309.95	916.63	393.32	3.331	
19,400.00	9,199.77	20,404.68	10,034.39	238.33	234.54	-129.62	10,906.66	-1,182.10	1,308.62	911.49	397.13	3.295	
19,416.71	9,200.00	20,421.38	10,034.27	238.68	234.89	-129.61	10,923.36	-1,182.03	1,308.40	910.63	397.77	3.289 ES, 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 21HA - OH / Job #61216 - Plan 4 06-09-17												Offset Site Error:	0.00 usft
Survey Program: 164-MWD, 432-MWD+HDGM, 9054-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	
0.00	0.00	0.00	22.00	0.00	0.00	-73.46	402.36	-1,354.89	1,413.54				
100.00	100.00	87.16	109.16	0.19	0.13	-73.47	402.13	-1,354.66	1,413.12	1,412.80	0.32	4,427.018	
200.00	200.00	193.60	215.59	0.73	0.33	-73.49	401.26	-1,353.81	1,412.11	1,411.06	1.06	1,336.376	
300.00	300.00	307.97	329.95	1.27	0.68	-73.51	400.51	-1,352.66	1,411.03	1,409.08	1.95	724.797	
400.00	400.00	427.88	449.79	1.81	1.07	-73.52	398.96	-1,348.98	1,407.62	1,404.75	2.87	490.356	
500.00	500.00	528.39	550.24	2.34	1.28	-73.54	397.67	-1,345.79	1,404.21	1,400.58	3.63	387.201	
600.00	600.00	644.68	666.43	2.88	1.59	-73.55	396.07	-1,341.21	1,400.05	1,395.59	4.46	313.730	
700.00	699.98	750.24	771.85	3.42	1.98	-53.16	394.02	-1,336.23	1,393.92	1,388.51	5.40	258.019	
800.00	799.84	849.70	871.18	3.96	2.43	-53.51	391.70	-1,331.57	1,385.64	1,379.25	6.39	216.988	
899.93	899.39	930.83	952.22	4.50	2.82	-53.94	389.71	-1,328.19	1,375.84	1,368.52	7.31	188.111	
1,000.00	998.90	1,006.92	1,028.26	5.05	3.19	-54.25	388.16	-1,326.26	1,366.68	1,358.47	8.22	166.289	
1,100.00	1,098.36	1,090.74	1,112.07	5.60	3.61	-54.60	386.85	-1,325.45	1,359.20	1,350.03	9.17	148.212	
1,200.00	1,197.81	1,193.25	1,214.57	6.16	4.12	-54.98	386.17	-1,324.44	1,352.03	1,341.79	10.23	132.146	
1,300.00	1,297.26	1,291.83	1,313.14	6.72	4.62	-55.31	386.54	-1,323.03	1,344.74	1,333.46	11.28	119.235	
1,400.00	1,396.71	1,385.29	1,406.59	7.28	5.09	-55.60	387.63	-1,321.83	1,337.83	1,325.52	12.30	108.742	
1,500.00	1,496.17	1,479.92	1,501.20	7.84	5.57	-55.87	389.31	-1,320.89	1,331.39	1,318.05	13.34	99.836	
1,600.00	1,595.62	1,576.01	1,597.27	8.41	6.05	-56.17	390.66	-1,320.32	1,325.27	1,310.89	14.38	92.171	
1,700.00	1,695.07	1,660.56	1,681.82	8.98	6.48	-56.46	391.34	-1,320.29	1,319.65	1,304.29	15.36	85.902	
1,800.00	1,794.52	1,730.94	1,752.18	9.54	6.83	-56.75	391.24	-1,321.84	1,315.99	1,299.72	16.27	80.866	
1,900.00	1,893.98	1,818.00	1,839.12	10.11	7.26	-57.17	390.17	-1,326.17	1,314.76	1,297.50	17.27	76.132	
1,924.93	1,918.77	1,818.00	1,839.12	10.25	7.26	-57.17	390.17	-1,326.17	1,314.63	1,297.22	17.41	75.512 CC	
2,000.00	1,993.43	1,888.97	1,909.92	10.68	7.62	-57.54	388.85	-1,330.92	1,315.03	1,296.84	18.19	72.306	
2,100.00	2,092.88	1,982.28	2,002.97	11.25	8.08	-58.03	387.07	-1,337.55	1,316.05	1,296.84	19.22	68.484 ES	
2,200.00	2,192.33	2,074.23	2,094.64	11.82	8.54	-58.52	385.35	-1,344.54	1,317.68	1,297.43	20.25	65.076	
2,300.00	2,291.79	2,165.72	2,185.82	12.39	9.01	-58.99	383.92	-1,351.98	1,319.99	1,298.71	21.28	62.032	
2,400.00	2,391.24	2,242.95	2,262.74	12.96	9.41	-59.38	383.17	-1,358.88	1,323.35	1,301.11	22.24	59.502	
2,500.00	2,490.69	2,312.19	2,331.56	13.53	9.77	-59.68	383.66	-1,366.39	1,328.92	1,305.76	23.16	57.375	
2,600.00	2,590.14	2,386.00	2,404.72	14.10	10.16	-59.95	385.64	-1,375.98	1,336.89	1,312.78	24.11	55.452	
2,700.00	2,689.60	2,473.03	2,490.80	14.67	10.63	-60.23	388.95	-1,388.36	1,346.35	1,321.22	25.13	53.586	
2,800.00	2,789.05	2,568.36	2,585.06	15.24	11.15	-60.54	392.58	-1,402.19	1,356.17	1,329.98	26.19	51.789	
2,900.00	2,888.50	2,647.94	2,663.64	15.81	11.59	-60.82	395.03	-1,414.45	1,366.84	1,339.67	27.17	50.308	
3,000.00	2,987.95	2,735.61	2,750.04	16.39	12.08	-61.18	396.69	-1,429.23	1,378.83	1,350.63	28.20	48.897	
3,100.00	3,087.41	2,828.09	2,841.10	16.96	12.61	-61.56	398.13	-1,445.35	1,391.42	1,362.16	29.26	47.561	
3,200.00	3,186.86	2,925.02	2,936.47	17.53	13.18	-61.97	399.37	-1,462.60	1,404.40	1,374.06	30.34	46.291	
3,300.00	3,286.31	3,019.10	3,029.02	18.10	13.73	-62.37	400.37	-1,479.46	1,417.58	1,386.17	31.41	45.131	
3,400.00	3,385.76	3,111.01	3,119.36	18.68	14.28	-62.76	401.19	-1,496.36	1,431.26	1,398.79	32.47	44.077	
3,500.00	3,485.22	3,200.08	3,206.82	19.25	14.82	-63.14	401.85	-1,513.21	1,445.54	1,412.02	33.52	43.125	
3,600.00	3,584.67	3,288.79	3,293.80	19.82	15.36	-63.52	402.38	-1,530.63	1,460.59	1,426.02	34.57	42.251	
3,700.00	3,684.12	3,384.38	3,387.42	20.39	15.95	-63.93	402.66	-1,549.89	1,476.21	1,440.55	35.66	41.399	
3,800.00	3,783.57	3,503.48	3,504.20	20.97	16.69	-64.45	402.60	-1,573.32	1,491.46	1,454.58	36.88	40.445	
3,900.00	3,883.02	3,604.20	3,603.17	21.54	17.32	-64.88	402.34	-1,592.03	1,505.62	1,467.63	38.00	39.626	
4,000.00	3,982.48	3,712.92	3,710.04	22.11	17.99	-65.34	401.95	-1,612.00	1,519.66	1,480.50	39.16	38.806	
4,100.00	4,081.93	3,835.02	3,830.36	22.68	18.74	-65.86	400.94	-1,632.72	1,532.30	1,491.90	40.40	37.928	
4,200.00	4,181.38	3,927.14	3,921.17	23.26	19.31	-66.26	399.91	-1,648.14	1,544.83	1,503.36	41.48	37.246	
4,300.00	4,280.83	4,027.07	4,019.66	23.83	19.93	-66.68	399.07	-1,665.04	1,557.63	1,515.04	42.60	36.567	
4,400.00	4,380.35	4,130.40	4,121.56	24.40	20.57	-67.20	398.92	-1,682.16	1,570.43	1,526.71	43.73	35.916	
4,500.00	4,480.12	4,230.76	4,220.55	24.95	21.19	-67.71	398.84	-1,698.70	1,584.41	1,539.60	44.81	35.359	
4,600.00	4,580.07	4,331.61	4,320.05	25.48	21.81	-68.13	398.41	-1,715.14	1,599.54	1,553.67	45.87	34.874	
4,700.00	4,680.07	4,428.65	4,415.79	25.99	22.41	-68.84	398.24	-1,730.94	1,615.72	1,568.83	46.89	34.454	
4,800.00	4,780.07	4,521.75	4,507.61	26.50	22.99	-68.83	398.75	-1,746.29	1,632.21	1,584.30	47.92	34.063	
4,900.00	4,880.07	4,615.21	4,599.73	27.01	23.58	-68.79	400.28	-1,762.04	1,649.09	1,600.15	48.94	33.693	
5,000.00	4,980.07	4,707.62	4,690.77	27.52	24.16	-68.76	401.50	-1,777.85	1,666.23	1,616.27	49.97	33.347	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 21HA - OH / Job #61216 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 164-MWD, 432-MWD+HDGM, 9054-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	Warning
5,100.00	5,080.07	4,801.31	4,782.99	28.03	24.75	-88.74	402.41	-1,794.29	1,683.80	1,632.80	51.00	33.017	
5,200.00	5,180.07	4,896.81	4,876.99	28.55	25.36	-88.73	402.96	-1,811.18	1,701.49	1,649.45	52.04	32.696	
5,300.00	5,280.07	4,989.38	4,968.06	29.06	25.95	-88.73	403.31	-1,827.81	1,719.46	1,666.39	53.07	32.401	
5,400.00	5,380.07	5,080.91	5,058.04	29.58	26.54	-88.74	403.47	-1,844.59	1,737.79	1,683.70	54.09	32.126	
5,500.00	5,480.07	5,172.38	5,147.88	30.10	27.13	-88.76	403.39	-1,861.73	1,756.52	1,701.40	55.12	31.868	
5,600.00	5,580.07	5,274.46	5,248.11	30.61	27.79	-88.78	403.13	-1,881.10	1,775.50	1,719.29	56.20	31.590	
5,700.00	5,680.07	5,388.83	5,360.57	31.13	28.53	-88.79	403.27	-1,901.94	1,793.71	1,736.36	57.36	31.273	
5,800.00	5,780.07	5,491.98	5,462.10	31.65	29.19	-88.79	403.54	-1,920.12	1,811.33	1,752.88	58.45	30.990	
5,900.00	5,880.07	5,630.92	5,599.09	32.17	30.06	-88.82	403.29	-1,943.29	1,828.09	1,768.35	59.74	30.602	
6,000.00	5,980.07	5,779.31	5,746.04	32.69	30.96	-88.87	402.04	-1,963.82	1,841.80	1,780.73	61.07	30.157	
6,100.00	6,080.07	5,907.72	5,873.50	33.21	31.72	-88.94	400.15	-1,979.28	1,853.84	1,791.54	62.30	29.758	
6,200.00	6,180.07	6,124.33	6,089.34	33.73	32.92	-89.01	397.99	-1,996.96	1,862.14	1,798.16	63.99	29.102	
6,300.00	6,280.07	6,278.56	6,243.48	34.25	33.71	-89.03	397.47	-2,001.93	1,865.24	1,799.92	65.32	28.555	
6,400.00	6,380.07	6,402.10	6,367.00	34.77	34.32	-89.05	396.87	-2,003.51	1,866.50	1,800.01	66.49	28.073	
6,500.00	6,480.07	6,510.42	6,475.32	35.30	34.84	-89.07	396.15	-2,003.95	1,866.89	1,799.32	67.57	27.630	
6,600.00	6,580.07	6,612.85	6,577.76	35.82	35.33	-89.09	395.55	-2,004.16	1,867.08	1,798.47	68.61	27.212	
6,700.00	6,680.07	6,714.04	6,678.94	36.34	35.81	-89.12	394.60	-2,004.25	1,867.16	1,797.51	69.65	26.807	
6,800.00	6,780.07	6,814.66	6,779.55	36.87	36.28	-89.14	393.88	-2,004.31	1,867.21	1,796.52	70.69	26.415	
6,900.00	6,880.07	6,922.68	6,887.57	37.39	36.79	-89.16	393.32	-2,004.16	1,867.07	1,795.31	71.75	26.021	
7,000.00	6,980.07	7,031.92	6,996.81	37.92	37.29	-89.17	393.11	-2,003.45	1,866.42	1,793.60	72.82	25.632	
7,100.00	7,080.07	7,149.86	7,114.74	38.44	37.83	-89.16	393.28	-2,001.88	1,865.09	1,791.18	73.91	25.233	
7,200.00	7,180.07	7,267.27	7,232.12	38.97	38.37	-89.17	393.06	-1,999.01	1,862.63	1,787.62	75.01	24.831	
7,300.00	7,280.07	7,370.44	7,335.24	39.49	38.84	-89.17	392.76	-1,996.01	1,859.71	1,783.67	76.04	24.457	
7,400.00	7,380.07	7,471.91	7,436.66	40.02	39.30	-89.17	392.75	-1,992.96	1,856.71	1,779.65	77.06	24.094	
7,500.00	7,480.07	7,572.82	7,537.52	40.54	39.76	-89.18	392.46	-1,989.86	1,853.63	1,775.55	78.08	23.740	
7,600.00	7,580.07	7,676.95	7,641.60	41.07	40.24	-89.19	392.05	-1,986.54	1,850.44	1,771.32	79.12	23.389	
7,700.00	7,680.07	7,779.12	7,743.71	41.60	40.71	-89.20	391.61	-1,983.08	1,847.04	1,766.90	80.14	23.046	
7,800.00	7,780.07	7,873.31	7,837.85	42.13	41.15	-89.22	391.17	-1,979.97	1,843.74	1,762.60	81.14	22.724	
7,900.00	7,880.07	7,965.89	7,930.39	42.65	41.58	-89.23	390.72	-1,977.26	1,840.80	1,758.68	82.12	22.416	
8,000.00	7,980.07	8,063.09	8,027.56	43.18	42.04	-89.24	390.29	-1,974.69	1,838.16	1,755.03	83.13	22.111	
8,100.00	8,080.07	8,163.35	8,127.78	43.71	42.51	-89.26	389.52	-1,972.11	1,835.57	1,751.41	84.16	21.811	
8,200.00	8,180.07	8,257.25	8,221.64	44.24	42.96	-89.31	388.17	-1,969.84	1,833.14	1,747.98	85.16	21.526	
8,300.00	8,280.07	8,346.21	8,310.57	44.77	43.38	-89.36	386.56	-1,968.05	1,831.11	1,744.97	86.14	21.258	
8,400.00	8,380.07	8,427.91	8,392.25	45.29	43.78	-89.39	385.31	-1,967.11	1,829.94	1,742.86	87.08	21.014	
8,437.27	8,417.34	8,453.00	8,417.34	45.49	43.90	-89.40	385.01	-1,966.98	1,829.78	1,742.37	87.41	20.934	
8,500.00	8,480.07	8,500.00	8,464.34	45.82	44.13	-89.40	385.26	-1,967.23	1,830.10	1,742.11	87.98	20.801	
8,600.00	8,579.96	8,565.92	8,530.13	46.36	44.47	-88.65	388.94	-1,968.66	1,832.11	1,743.24	88.87	20.615	
8,700.00	8,678.03	8,669.80	8,632.29	46.93	44.99	-88.49	406.90	-1,971.01	1,834.16	1,744.17	89.99	20.381	
8,800.00	8,771.34	8,738.00	8,696.61	47.54	45.32	-88.31	429.31	-1,972.92	1,836.57	1,745.62	90.96	20.192	
8,900.00	8,857.03	8,806.47	8,756.47	48.17	45.62	-88.02	462.20	-1,975.96	1,840.37	1,748.43	91.94	20.018	
9,000.00	8,932.52	8,884.68	8,817.52	48.82	45.92	-87.67	510.77	-1,980.07	1,844.86	1,751.88	92.98	19.841	
9,100.00	8,995.51	8,998.21	8,890.28	49.51	46.30	-87.33	597.48	-1,985.96	1,849.26	1,755.05	94.21	19.630	
9,200.00	9,044.08	9,117.83	8,954.73	50.22	46.69	-87.33	698.16	-1,989.68	1,851.18	1,755.64	95.53	19.377	
9,300.00	9,076.76	9,215.99	8,999.64	50.96	47.07	-87.65	785.32	-1,992.21	1,852.27	1,755.44	96.83	19.129	
9,400.00	9,092.55	9,315.90	9,032.36	51.72	47.54	-88.14	879.60	-1,994.28	1,852.77	1,754.59	98.18	18.870	
9,500.00	9,094.47	9,418.58	9,051.65	52.50	48.11	-88.68	980.35	-1,995.83	1,852.84	1,753.25	99.59	18.605	
9,600.00	9,095.21	9,523.30	9,056.15	53.35	48.77	-88.79	1,084.88	-1,996.78	1,852.67	1,751.55	101.12	18.321	
9,700.00	9,095.95	9,623.28	9,055.24	54.27	49.48	-88.74	1,184.86	-1,997.46	1,852.40	1,749.62	102.78	18.022	
9,800.00	9,096.69	9,723.27	9,054.33	55.27	50.28	-88.69	1,284.84	-1,998.14	1,852.13	1,747.54	104.59	17.708	
9,900.00	9,097.43	9,823.26	9,053.42	56.33	51.16	-88.64	1,384.82	-1,998.83	1,851.86	1,745.31	106.55	17.381	
10,000.00	9,098.17	9,923.24	9,052.52	57.45	52.11	-88.59	1,484.80	-1,999.51	1,851.59	1,742.95	108.64	17.043	
10,100.00	9,098.91	10,023.23	9,051.61	58.62	53.14	-88.53	1,584.78	-2,000.19	1,851.33	1,740.46	110.86	16.699	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 21HA - OH / Job #61216 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 164-MWD, 432-MWD+HDGM, 9054-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 +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	9,099.65	10,123.21	9,050.70	59.86	54.23	-88.48	1,684.76	-2,000.88	1,851.06	1,737.86	113.21	16.351	
10,300.00	9,100.39	10,223.20	9,049.80	61.14	55.38	-88.43	1,784.74	-2,001.56	1,850.80	1,735.14	115.66	16.002	
10,400.00	9,101.13	10,323.18	9,048.89	62.47	56.60	-88.38	1,884.72	-2,002.24	1,850.54	1,732.31	118.23	15.652	
10,500.00	9,101.87	10,423.17	9,047.98	63.85	57.86	-88.33	1,984.70	-2,002.93	1,850.28	1,729.38	120.89	15.305	
10,600.00	9,102.61	10,523.16	9,047.07	65.27	59.18	-88.28	2,084.68	-2,003.61	1,850.02	1,726.36	123.65	14.961	
10,700.00	9,103.35	10,623.14	9,046.17	66.73	60.55	-88.23	2,184.66	-2,004.29	1,849.76	1,723.26	126.50	14.623	
10,800.00	9,104.09	10,723.13	9,045.26	68.23	61.96	-88.18	2,284.64	-2,004.98	1,849.50	1,720.07	129.43	14.290	
10,900.00	9,104.83	10,823.11	9,044.35	69.76	63.41	-88.12	2,384.61	-2,005.66	1,849.25	1,716.81	132.43	13.963	
11,000.00	9,105.57	10,923.10	9,043.44	71.33	64.91	-88.07	2,484.59	-2,006.34	1,849.00	1,713.49	135.51	13.645	
11,100.00	9,106.31	11,018.79	9,042.20	72.92	66.37	-88.01	2,580.27	-2,007.04	1,848.80	1,710.22	138.59	13.341	
11,103.80	9,106.34	11,022.27	9,042.11	72.98	66.42	-88.01	2,583.75	-2,007.07	1,848.80	1,710.10	138.70	13.329	
11,200.00	9,107.05	11,115.10	9,038.73	74.55	67.88	-87.88	2,676.51	-2,007.98	1,848.94	1,707.20	141.74	13.045	
11,300.00	9,107.79	11,214.99	9,034.85	76.20	69.48	-87.74	2,776.32	-2,008.98	1,849.14	1,704.12	145.01	12.752	
11,400.00	9,108.53	11,314.88	9,030.98	77.87	71.12	-87.60	2,876.14	-2,009.99	1,849.34	1,701.00	148.34	12.467	
11,500.00	9,109.27	11,414.78	9,027.10	79.57	72.78	-87.45	2,975.95	-2,011.00	1,849.56	1,697.85	151.71	12.191	
11,600.00	9,110.01	11,514.67	9,023.23	81.29	74.46	-87.31	3,075.76	-2,012.00	1,849.78	1,694.65	155.13	11.924	
11,700.00	9,110.75	11,614.56	9,019.36	83.03	76.17	-87.17	3,175.58	-2,013.01	1,850.02	1,691.43	158.59	11.665	
11,800.00	9,111.49	11,714.46	9,015.48	84.79	77.90	-87.03	3,275.39	-2,014.01	1,850.27	1,688.18	162.09	11.415	
11,900.00	9,112.24	11,814.35	9,011.61	86.57	79.65	-86.88	3,375.20	-2,015.02	1,850.53	1,684.90	165.63	11.173	
12,000.00	9,112.98	11,914.24	9,007.73	88.36	81.42	-86.74	3,475.01	-2,016.02	1,850.81	1,681.60	169.20	10.938	
12,100.00	9,113.72	12,014.14	9,003.86	90.18	83.21	-86.60	3,574.83	-2,017.03	1,851.09	1,678.28	172.81	10.712	
12,200.00	9,114.46	12,114.03	8,999.98	92.00	85.02	-86.46	3,674.64	-2,018.03	1,851.39	1,674.94	176.44	10.493	
12,300.00	9,115.20	12,213.92	8,996.11	93.84	86.84	-86.31	3,774.45	-2,019.04	1,851.70	1,671.59	180.11	10.281	
12,400.00	9,115.94	12,313.82	8,992.24	95.70	88.68	-86.17	3,874.27	-2,020.04	1,852.01	1,668.22	183.80	10.076	
12,500.00	9,116.68	12,413.71	8,988.36	97.56	90.53	-86.03	3,974.08	-2,021.05	1,852.35	1,664.83	187.51	9.879	
12,600.00	9,117.42	12,513.60	8,984.49	99.44	92.40	-85.89	4,073.89	-2,022.05	1,852.69	1,661.44	191.25	9.687	
12,700.00	9,118.16	12,613.50	8,980.61	101.33	94.28	-85.74	4,173.71	-2,023.06	1,853.04	1,658.03	195.01	9.502	
12,800.00	9,118.90	12,713.39	8,976.74	103.23	96.17	-85.60	4,273.52	-2,024.07	1,853.41	1,654.62	198.79	9.324	
12,900.00	9,119.64	12,813.48	8,972.86	105.14	98.07	-85.46	4,373.53	-2,025.07	1,853.78	1,651.19	202.59	9.150	
13,000.00	9,120.38	12,919.12	8,970.85	107.06	100.09	-85.37	4,479.14	-2,026.13	1,854.00	1,647.49	206.52	8.978	
13,100.00	9,121.12	13,020.74	8,971.69	108.99	102.03	-85.38	4,580.75	-2,027.14	1,854.00	1,643.60	210.39	8.812	
13,200.00	9,121.86	13,120.74	8,972.66	110.93	103.96	-85.38	4,680.74	-2,028.13	1,853.98	1,639.72	214.26	8.653	
13,300.00	9,122.60	13,220.74	8,973.64	112.87	105.89	-85.39	4,780.73	-2,029.12	1,853.96	1,635.82	218.14	8.499	
13,400.00	9,123.34	13,320.74	8,974.62	114.83	107.84	-85.40	4,880.72	-2,030.12	1,853.94	1,631.91	222.04	8.350	
13,500.00	9,124.08	13,420.74	8,975.60	116.79	109.79	-85.41	4,980.71	-2,031.11	1,853.93	1,627.98	225.95	8.205	
13,600.00	9,124.82	13,520.74	8,976.58	118.76	111.75	-85.41	5,080.70	-2,032.10	1,853.91	1,624.03	229.88	8.065	
13,700.00	9,125.56	13,620.74	8,977.56	120.73	113.71	-85.42	5,180.69	-2,033.09	1,853.89	1,620.07	233.82	7.929	
13,800.00	9,126.30	13,720.74	8,978.54	122.71	115.69	-85.43	5,280.68	-2,034.09	1,853.87	1,616.10	237.77	7.797	
13,900.00	9,127.04	13,820.74	8,979.52	124.70	117.67	-85.44	5,380.67	-2,035.08	1,853.86	1,612.12	241.74	7.669	
14,000.00	9,127.78	13,920.74	8,980.50	126.69	119.65	-85.44	5,480.66	-2,036.07	1,853.84	1,608.12	245.71	7.545	
14,100.00	9,128.52	14,020.74	8,981.48	128.69	121.64	-85.45	5,580.65	-2,037.06	1,853.82	1,604.12	249.70	7.424	
14,200.00	9,129.26	14,120.74	8,982.46	130.69	123.64	-85.46	5,680.64	-2,038.06	1,853.80	1,600.10	253.70	7.307	
14,300.00	9,130.00	14,220.74	8,983.44	132.70	125.64	-85.47	5,780.63	-2,039.05	1,853.78	1,596.07	257.71	7.193	
14,400.00	9,130.74	14,320.73	8,984.42	134.71	127.65	-85.47	5,880.62	-2,040.04	1,853.77	1,592.04	261.73	7.083	
14,401.24	9,130.75	14,321.97	8,984.43	134.73	127.68	-85.47	5,881.86	-2,040.05	1,853.77	1,591.99	261.78	7.081	
14,500.00	9,131.76	14,446.15	8,985.61	136.72	130.17	-85.48	6,006.03	-2,040.65	1,853.90	1,587.83	266.07	6.968	
14,600.00	9,133.15	14,546.15	8,986.51	138.74	132.18	-85.46	6,106.02	-2,040.26	1,853.93	1,583.83	270.09	6.864	
14,700.00	9,134.54	14,646.15	8,987.41	140.76	134.20	-85.45	6,206.01	-2,039.87	1,853.95	1,579.82	274.12	6.763	
14,800.00	9,135.92	14,746.15	8,988.31	142.78	136.22	-85.43	6,306.01	-2,039.48	1,853.97	1,575.81	278.16	6.665	
14,900.00	9,137.31	14,846.15	8,989.21	144.81	138.24	-85.42	6,406.00	-2,039.09	1,854.00	1,571.79	282.21	6.570	
15,000.00	9,138.70	14,946.15	8,990.11	146.84	140.26	-85.40	6,506.00	-2,038.71	1,854.02	1,567.76	286.26	6.477	
15,100.00	9,140.09	15,046.14	8,991.01	148.87	142.29	-85.39	6,605.99	-2,038.32	1,854.04	1,563.72	290.32	6.386	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 21HA - OH / Job #61216 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 164-MWD, 432-MWD+HDGM, 9054-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
15,200.00	9,141.48	15,146.14	8,991.91	150.91	144.33	-85.37	6,705.98	-2,037.93	1,854.07	1,559.68	294.39	6.298	
15,300.00	9,142.86	15,246.14	8,992.81	152.95	146.37	-85.36	6,805.98	-2,037.54	1,854.09	1,555.63	298.46	6.212	
15,400.00	9,144.25	15,346.14	8,993.71	154.99	148.41	-85.34	6,905.97	-2,037.15	1,854.12	1,551.58	302.54	6.129	
15,500.00	9,145.64	15,446.14	8,994.61	157.04	150.45	-85.33	7,005.97	-2,036.76	1,854.14	1,547.52	306.62	6.047	
15,600.00	9,147.03	15,546.14	8,995.51	159.09	152.50	-85.31	7,105.96	-2,036.37	1,854.16	1,543.45	310.71	5.967	
15,700.00	9,148.41	15,646.14	8,996.41	161.14	154.55	-85.30	7,205.95	-2,035.98	1,854.19	1,539.38	314.81	5.890	
15,800.00	9,149.80	15,746.14	8,997.32	163.19	156.60	-85.28	7,305.95	-2,035.59	1,854.21	1,535.31	318.91	5.814	
15,900.00	9,151.19	15,846.13	8,998.22	165.25	158.65	-85.27	7,405.94	-2,035.20	1,854.24	1,531.23	323.01	5.740	
16,000.00	9,152.58	15,946.13	8,999.12	167.31	160.71	-85.25	7,505.94	-2,034.81	1,854.26	1,527.14	327.12	5.668	
16,100.00	9,153.97	16,046.13	9,000.02	169.37	162.77	-85.24	7,605.93	-2,034.43	1,854.29	1,523.05	331.23	5.598	
16,200.00	9,155.35	16,146.13	9,000.92	171.44	164.83	-85.22	7,705.92	-2,034.04	1,854.31	1,518.96	335.35	5.529	
16,300.00	9,156.74	16,246.13	9,001.82	173.50	166.90	-85.21	7,805.92	-2,033.65	1,854.34	1,514.86	339.48	5.462	
16,400.00	9,158.13	16,346.13	9,002.72	175.57	168.97	-85.19	7,905.91	-2,033.26	1,854.36	1,510.76	343.60	5.397	
16,500.00	9,159.52	16,447.61	9,003.60	177.64	171.07	-85.20	8,007.38	-2,032.88	1,854.35	1,506.58	347.77	5.332	
16,600.00	9,160.91	16,547.60	9,006.51	179.71	173.14	-85.22	8,107.35	-2,032.52	1,854.30	1,502.38	351.91	5.269	
16,700.00	9,162.29	16,647.60	9,008.72	181.79	175.21	-85.25	8,207.32	-2,032.16	1,854.24	1,498.18	356.07	5.208	
16,800.00	9,163.68	16,747.60	9,010.93	183.86	177.29	-85.27	8,307.29	-2,031.80	1,854.19	1,493.97	360.22	5.147	
16,900.00	9,165.07	16,847.59	9,013.14	185.94	179.36	-85.30	8,407.26	-2,031.44	1,854.14	1,489.76	364.38	5.089	
17,000.00	9,166.46	16,947.59	9,015.35	188.02	181.44	-85.32	8,507.23	-2,031.09	1,854.08	1,485.55	368.54	5.031	
17,100.00	9,167.85	17,047.59	9,017.56	190.10	183.53	-85.35	8,607.20	-2,030.73	1,854.03	1,481.33	372.70	4.975	
17,200.00	9,169.23	17,147.58	9,019.77	192.19	185.61	-85.38	8,707.18	-2,030.37	1,853.98	1,477.11	376.87	4.919	
17,300.00	9,170.62	17,247.58	9,021.98	194.27	187.69	-85.40	8,807.15	-2,030.01	1,853.93	1,472.89	381.04	4.865	
17,400.00	9,172.01	17,347.58	9,024.19	196.36	189.78	-85.43	8,907.12	-2,029.65	1,853.88	1,468.66	385.22	4.813	
17,500.00	9,173.40	17,447.57	9,026.40	198.44	191.87	-85.45	9,007.09	-2,029.29	1,853.83	1,464.43	389.39	4.761	
17,600.00	9,174.79	17,547.57	9,028.61	200.53	193.95	-85.48	9,107.06	-2,028.93	1,853.78	1,460.20	393.57	4.710	
17,700.00	9,176.17	17,647.57	9,030.82	202.62	196.04	-85.50	9,207.03	-2,028.57	1,853.73	1,455.97	397.76	4.660	
17,800.00	9,177.56	17,747.56	9,033.03	204.71	198.14	-85.53	9,307.01	-2,028.21	1,853.68	1,451.74	401.94	4.612	
17,900.00	9,178.95	17,847.56	9,035.24	206.81	200.23	-85.55	9,406.98	-2,027.86	1,853.63	1,447.50	406.13	4.564	
18,000.00	9,180.34	17,947.56	9,037.45	208.90	202.32	-85.58	9,506.95	-2,027.50	1,853.58	1,443.26	410.32	4.517	
18,100.00	9,181.73	18,047.55	9,039.66	211.00	204.42	-85.60	9,606.92	-2,027.14	1,853.53	1,439.02	414.51	4.472	
18,200.00	9,183.11	18,147.55	9,041.87	213.09	206.52	-85.63	9,706.89	-2,026.78	1,853.48	1,434.77	418.71	4.427	
18,300.00	9,184.50	18,247.41	9,044.07	215.19	208.61	-85.65	9,806.72	-2,026.42	1,853.44	1,430.53	422.90	4.383	
18,318.58	9,184.76	18,265.24	9,044.39	215.58	208.98	-85.66	9,824.56	-2,026.36	1,853.43	1,429.76	423.67	4.375	
18,400.00	9,185.89	18,343.95	9,044.50	217.29	210.63	-85.63	9,903.26	-2,026.05	1,853.50	1,426.49	427.01	4.341	
18,500.00	9,187.28	18,443.93	9,043.70	219.39	212.73	-85.56	10,003.24	-2,025.66	1,853.65	1,422.46	431.19	4.299	
18,600.00	9,188.66	18,543.90	9,042.89	221.49	214.84	-85.49	10,103.21	-2,025.27	1,853.80	1,418.44	435.36	4.258	
18,700.00	9,190.05	18,643.88	9,042.09	223.59	216.94	-85.42	10,203.18	-2,024.87	1,853.95	1,414.42	439.53	4.218	
18,800.00	9,191.44	18,743.86	9,041.29	225.69	219.04	-85.36	10,303.15	-2,024.48	1,854.11	1,410.40	443.71	4.179	
18,900.00	9,192.83	18,843.83	9,040.48	227.79	221.14	-85.29	10,403.12	-2,024.09	1,854.27	1,406.38	447.88	4.140	
19,000.00	9,194.22	18,943.81	9,039.68	229.90	223.25	-85.22	10,503.10	-2,023.69	1,854.43	1,402.37	452.06	4.102	
19,100.00	9,195.60	19,043.78	9,038.88	232.00	225.35	-85.15	10,603.07	-2,023.30	1,854.59	1,398.36	456.24	4.065	
19,200.00	9,196.99	19,143.76	9,038.07	234.11	227.46	-85.09	10,703.04	-2,022.90	1,854.76	1,394.34	460.41	4.028	
19,300.00	9,198.38	19,243.74	9,037.27	236.22	229.57	-85.02	10,803.01	-2,022.51	1,854.93	1,390.33	464.59	3.993	
19,400.00	9,199.77	19,343.71	9,036.47	238.33	231.68	-84.95	10,902.98	-2,022.12	1,855.10	1,386.33	468.77	3.957	
19,416.71	9,200.00	19,360.41	9,036.33	238.68	232.03	-84.94	10,919.69	-2,022.05	1,855.13	1,385.66	469.47	3.952 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 22HA - OH / Job #61217 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 174-MWD, 532-MWD+HDGM, 5040-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	
0.00	0.00	0.00	22.00	0.00	0.00	-74.43	377.36	-1,353.89	1,405.66				
100.00	100.00	81.25	103.25	0.19	0.12	-74.42	377.43	-1,353.77	1,405.40	1,405.09	0.31	4,552.410	
200.00	200.00	188.49	210.48	0.73	0.30	-74.40	377.71	-1,353.25	1,405.01	1,403.99	1.03	1,369.727	
300.00	300.00	308.48	330.45	1.27	0.69	-74.37	378.02	-1,351.08	1,403.29	1,401.33	1.96	716.487	
400.00	400.00	412.31	434.26	1.81	1.02	-74.38	377.08	-1,348.85	1,400.98	1,398.16	2.83	495.903	
500.00	500.00	524.39	546.29	2.34	1.26	-74.42	375.33	-1,346.05	1,398.17	1,394.56	3.61	387.722	
600.00	600.00	760.80	781.96	2.88	2.00	-74.46	369.90	-1,329.85	1,392.28	1,387.40	4.88	285.490	
700.00	699.98	872.00	892.05	3.42	2.54	-54.19	365.70	-1,314.71	1,377.06	1,371.12	5.94	231.795	
800.00	799.84	949.43	968.77	3.96	2.96	-54.62	362.64	-1,304.77	1,360.66	1,353.81	6.85	198.650	
899.93	899.39	1,033.04	1,051.80	4.50	3.41	-55.17	359.70	-1,295.38	1,343.89	1,336.09	7.79	172.448	
1,000.00	998.90	1,120.40	1,138.64	5.05	3.89	-55.48	357.79	-1,286.01	1,326.99	1,318.23	8.76	151.495	
1,100.00	1,098.36	1,225.62	1,243.25	5.60	4.47	-55.78	357.25	-1,274.70	1,310.55	1,300.72	9.84	133.201	
1,200.00	1,197.81	1,316.35	1,333.39	6.16	4.98	-56.02	357.05	-1,264.45	1,293.70	1,282.85	10.85	119.190	
1,300.00	1,297.26	1,408.68	1,425.19	6.72	5.49	-56.25	357.79	-1,254.64	1,277.74	1,265.86	11.88	107.526	
1,400.00	1,396.71	1,504.03	1,520.00	7.28	6.02	-56.45	359.31	-1,244.55	1,262.02	1,249.09	12.93	97.573	
1,500.00	1,496.17	1,591.74	1,607.26	7.84	6.51	-56.67	360.34	-1,235.79	1,246.82	1,232.87	13.95	89.380	
1,600.00	1,595.62	1,695.83	1,710.91	8.41	7.09	-56.96	361.12	-1,226.21	1,232.30	1,217.24	15.06	81.847	
1,700.00	1,695.07	1,819.00	1,833.34	8.98	7.80	-57.28	362.35	-1,212.85	1,216.26	1,199.98	16.27	74.736	
1,800.00	1,794.52	1,897.48	1,911.33	9.54	8.24	-57.49	363.05	-1,204.19	1,200.04	1,182.79	17.25	69.557	
1,900.00	1,893.98	1,972.73	1,986.27	10.11	8.66	-57.72	363.37	-1,197.34	1,185.63	1,167.42	18.21	65.104	
2,000.00	1,993.43	2,057.82	2,071.14	10.68	9.13	-58.02	363.61	-1,191.23	1,173.05	1,153.83	19.22	61.024	
2,100.00	2,092.88	2,154.96	2,168.07	11.25	9.66	-58.37	363.84	-1,184.74	1,161.02	1,140.72	20.30	57.191	
2,200.00	2,192.33	2,255.56	2,268.44	11.82	10.21	-58.73	364.23	-1,177.96	1,149.01	1,127.61	21.40	53.691	
2,300.00	2,291.79	2,356.88	2,369.50	12.39	10.77	-59.09	364.86	-1,170.89	1,136.86	1,114.35	22.51	50.514	
2,400.00	2,391.24	2,458.18	2,470.54	12.96	11.33	-59.45	365.74	-1,163.57	1,124.55	1,100.94	23.61	47.628	
2,500.00	2,490.69	2,558.30	2,570.38	13.53	11.88	-59.79	366.84	-1,156.13	1,112.11	1,087.40	24.71	45.002	
2,600.00	2,590.14	2,673.57	2,685.25	14.10	12.52	-60.18	368.26	-1,146.75	1,099.08	1,073.18	25.90	42.438	
2,700.00	2,689.60	2,789.32	2,800.43	14.67	13.18	-60.58	369.42	-1,135.29	1,084.27	1,057.18	27.09	40.023	
2,800.00	2,789.05	2,887.74	2,898.30	15.24	13.75	-60.93	370.18	-1,124.94	1,068.88	1,040.69	28.19	37.916	
2,900.00	2,888.50	2,983.31	2,993.35	15.81	14.29	-61.28	371.02	-1,115.05	1,053.72	1,024.45	29.27	35.995	
3,000.00	2,987.95	3,080.64	3,090.17	16.39	14.85	-61.64	372.09	-1,105.20	1,038.86	1,008.49	30.37	34.209	
3,100.00	3,087.41	3,181.79	3,190.78	16.96	15.43	-62.01	373.39	-1,094.83	1,023.93	992.45	31.48	32.523	
3,200.00	3,186.86	3,283.24	3,291.66	17.53	16.02	-62.38	374.89	-1,084.14	1,008.80	976.20	32.60	30.943	
3,300.00	3,286.31	3,381.65	3,389.48	18.10	16.58	-62.74	376.46	-1,073.54	993.48	959.78	33.70	29.477	
3,400.00	3,385.76	3,469.34	3,476.70	18.68	17.09	-63.11	377.30	-1,064.56	978.68	943.93	34.75	28.165	
3,500.00	3,485.22	3,547.21	3,554.30	19.25	17.52	-63.52	376.92	-1,058.06	965.63	929.89	35.74	27.021	
3,600.00	3,584.67	3,619.00	3,625.97	19.82	17.91	-63.96	375.84	-1,054.00	955.20	918.51	36.69	26.034	
3,700.00	3,684.12	3,697.77	3,704.69	20.39	18.32	-64.48	374.43	-1,051.53	947.35	909.67	37.68	25.145	
3,800.00	3,783.57	3,788.21	3,795.10	20.97	18.78	-65.08	373.04	-1,050.24	941.29	902.57	38.72	24.310	
3,900.00	3,883.02	3,877.76	3,884.64	21.54	19.22	-65.65	372.03	-1,049.64	936.17	896.42	39.75	23.551	
4,000.00	3,982.48	3,974.72	3,981.61	22.11	19.68	-66.26	371.46	-1,049.76	931.98	891.16	40.81	22.835	
4,100.00	4,081.93	4,074.80	4,081.68	22.68	20.16	-66.89	370.77	-1,049.85	927.86	885.97	41.89	22.150	
4,200.00	4,181.38	4,173.44	4,180.32	23.26	20.64	-67.53	370.01	-1,049.94	923.85	880.89	42.96	21.503	
4,300.00	4,280.83	4,271.80	4,278.67	23.83	21.11	-68.16	369.29	-1,050.14	920.07	876.04	44.04	20.894	
4,400.00	4,380.35	4,369.38	4,376.26	24.40	21.58	-68.73	368.57	-1,050.48	916.78	871.67	45.12	20.321	
4,500.00	4,480.12	4,468.44	4,475.31	24.95	22.06	-69.13	367.70	-1,050.97	914.89	868.70	46.19	19.808	
4,587.08	4,567.16	4,554.34	4,561.21	25.41	22.47	-69.34	366.89	-1,051.48	914.36	867.27	47.10	19.415 CC	
4,600.00	4,580.07	4,567.08	4,573.94	25.48	22.53	-69.36	366.77	-1,051.56	914.37	867.15	47.23	19.360	
4,700.00	4,680.07	4,665.00	4,671.85	25.99	23.01	-90.00	365.96	-1,052.33	915.06	866.83	48.23	18.974	
4,800.00	4,780.07	4,761.88	4,768.72	26.50	23.47	-90.05	365.17	-1,053.36	916.13	866.91	49.22	18.613	
4,900.00	4,880.07	4,858.96	4,865.79	27.01	23.94	-90.11	364.26	-1,054.73	917.53	867.32	50.22	18.272	
5,000.00	4,980.07	4,958.36	4,965.17	27.52	24.42	-90.18	363.15	-1,056.30	919.12	867.89	51.23	17.943	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P2 - 22HA - OH / Job #61217 - Plan 4 06-09-17													Offset Site Error:	0.00 usft
Survey Program: 174-MWD, 532-MWD+HDGM, 5040-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	5,080.07	5,063.04	5,069.83	28.03	24.93	-90.27	361.71	-1,057.98	920.74	868.47	52.27	17.617		
5,200.00	5,180.07	5,173.28	5,180.07	28.55	25.47	-90.28	361.49	-1,058.22	920.92	867.58	53.34	17.266		
5,300.00	5,280.07	5,273.28	5,280.07	29.06	25.98	-90.28	361.49	-1,058.22	920.92	866.56	54.36	16.941		
5,400.00	5,380.07	5,373.28	5,380.07	29.58	26.48	-90.28	361.49	-1,058.22	920.92	865.54	55.39	16.627		
5,500.00	5,480.07	5,473.28	5,480.07	30.10	26.98	-90.28	361.49	-1,058.22	920.92	864.51	56.41	16.324		
5,600.00	5,580.07	5,573.28	5,580.07	30.61	27.49	-90.28	361.49	-1,058.22	920.92	863.48	57.44	16.032		
5,700.00	5,680.07	5,673.28	5,680.07	31.13	27.99	-90.28	361.49	-1,058.22	920.92	862.45	58.47	15.749		
5,800.00	5,780.07	5,773.28	5,780.07	31.65	28.50	-90.28	361.49	-1,058.22	920.92	861.42	59.51	15.476		
5,900.00	5,880.07	5,873.28	5,880.07	32.17	29.01	-90.28	361.49	-1,058.22	920.92	860.38	60.54	15.212		
6,000.00	5,980.07	5,973.28	5,980.07	32.69	29.52	-90.28	361.49	-1,058.22	920.92	859.35	61.57	14.956		
6,100.00	6,080.07	6,073.28	6,080.07	33.21	30.03	-90.28	361.49	-1,058.22	920.92	858.31	62.61	14.708		
6,200.00	6,180.07	6,173.28	6,180.07	33.73	30.54	-90.28	361.49	-1,058.22	920.92	857.27	63.65	14.469		
6,300.00	6,280.07	6,273.28	6,280.07	34.25	31.05	-90.28	361.49	-1,058.22	920.92	856.23	64.69	14.236		
6,400.00	6,380.07	6,373.28	6,380.07	34.77	31.56	-90.28	361.49	-1,058.22	920.92	855.19	65.73	14.011		
6,500.00	6,480.07	6,473.28	6,480.07	35.30	32.08	-90.28	361.49	-1,058.22	920.92	854.15	66.77	13.792		
6,600.00	6,580.07	6,573.28	6,580.07	35.82	32.59	-90.28	361.49	-1,058.22	920.92	853.11	67.81	13.580		
6,700.00	6,680.07	6,673.28	6,680.07	36.34	33.11	-90.28	361.49	-1,058.22	920.92	852.07	68.86	13.375		
6,800.00	6,780.07	6,773.28	6,780.07	36.87	33.62	-90.28	361.49	-1,058.22	920.92	851.02	69.90	13.175		
6,900.00	6,880.07	6,873.28	6,880.07	37.39	34.14	-90.28	361.49	-1,058.22	920.92	849.98	70.95	12.981		
7,000.00	6,980.07	6,973.28	6,980.07	37.92	34.66	-90.28	361.49	-1,058.22	920.92	848.93	71.99	12.792		
7,100.00	7,080.07	7,073.28	7,080.07	38.44	35.17	-90.28	361.49	-1,058.22	920.92	847.88	73.04	12.608		
7,200.00	7,180.07	7,173.28	7,180.07	38.97	35.69	-90.28	361.49	-1,058.22	920.92	846.83	74.09	12.430		
7,300.00	7,280.07	7,273.28	7,280.07	39.49	36.21	-90.28	361.49	-1,058.22	920.92	845.79	75.14	12.257		
7,400.00	7,380.07	7,373.28	7,380.07	40.02	36.73	-90.28	361.49	-1,058.22	920.92	844.74	76.19	12.088		
7,500.00	7,480.07	7,473.28	7,480.07	40.54	37.25	-90.28	361.49	-1,058.22	920.92	843.69	77.24	11.923		
7,600.00	7,580.07	7,573.28	7,580.07	41.07	37.77	-90.28	361.49	-1,058.22	920.92	842.63	78.29	11.763		
7,700.00	7,680.07	7,673.28	7,680.07	41.60	38.29	-90.28	361.49	-1,058.22	920.92	841.58	79.34	11.607		
7,800.00	7,780.07	7,773.28	7,780.07	42.13	38.82	-90.28	361.49	-1,058.22	920.92	840.53	80.39	11.455		
7,900.00	7,880.07	7,873.28	7,880.07	42.65	39.34	-90.28	361.49	-1,058.22	920.92	839.48	81.44	11.307		
8,000.00	7,980.07	7,973.28	7,980.07	43.18	39.86	-90.28	361.49	-1,058.22	920.92	838.42	82.50	11.163		
8,100.00	8,080.07	8,073.28	8,080.07	43.71	40.38	-90.28	361.49	-1,058.22	920.92	837.37	83.55	11.022		
8,200.00	8,180.07	8,173.28	8,180.07	44.24	40.91	-90.28	361.49	-1,058.22	920.92	836.32	84.61	10.885		
8,300.00	8,280.07	8,273.28	8,280.07	44.77	41.43	-90.28	361.49	-1,058.22	920.92	835.26	85.66	10.751		
8,400.00	8,380.07	8,373.28	8,380.07	45.29	41.95	-90.28	361.49	-1,058.22	920.92	834.21	86.72	10.620		
8,500.00	8,480.07	8,473.28	8,480.07	45.82	42.48	-90.28	361.49	-1,058.22	920.92	833.15	87.77	10.492		
8,600.00	8,579.96	8,573.18	8,579.96	46.36	43.00	-89.90	361.49	-1,058.22	920.91	832.07	88.84	10.366		
8,613.96	8,593.83	8,587.04	8,593.83	46.44	43.07	-90.00	361.49	-1,058.22	920.91	831.91	89.00	10.348		
8,700.00	8,678.03	8,673.04	8,679.50	46.93	43.52	-90.67	368.00	-1,058.29	920.98	831.03	89.95	10.239		
8,800.00	8,771.34	8,775.12	8,778.53	47.54	44.03	-91.44	392.23	-1,058.56	921.24	830.15	91.09	10.114		
8,900.00	8,857.03	8,879.57	8,873.75	48.17	44.51	-92.17	434.77	-1,059.03	921.67	829.43	92.24	9.992		
9,000.00	8,932.52	8,986.38	8,961.50	48.82	44.94	-92.84	495.39	-1,059.71	922.22	828.82	93.40	9.874		
9,100.00	8,995.51	9,095.44	9,037.92	49.51	45.33	-93.42	572.97	-1,060.57	922.83	828.26	94.57	9.758		
9,200.00	9,044.08	9,206.52	9,099.23	50.22	45.80	-93.90	665.39	-1,061.60	923.43	827.66	95.77	9.642		
9,300.00	9,076.76	9,319.25	9,142.07	50.96	46.36	-94.25	769.45	-1,062.76	923.95	826.92	97.02	9.523		
9,400.00	9,092.55	9,433.12	9,163.84	51.72	46.96	-94.45	881.03	-1,064.00	924.32	825.98	98.34	9.399		
9,500.00	9,094.47	9,540.49	9,165.86	52.50	47.57	-94.43	988.32	-1,065.19	924.43	824.71	99.71	9.271		
9,600.00	9,095.21	9,640.48	9,164.93	53.35	48.21	-94.33	1,088.29	-1,066.30	924.42	823.21	101.21	9.134		
9,700.00	9,095.95	9,740.47	9,164.01	54.27	48.94	-94.22	1,188.27	-1,067.41	924.42	821.55	102.86	8.987		
9,773.48	9,096.49	9,813.94	9,163.33	55.00	49.52	-94.15	1,261.73	-1,068.23	924.42	820.24	104.18	8.873		
9,800.00	9,096.69	9,840.45	9,163.08	55.27	49.75	-94.12	1,288.24	-1,068.52	924.42	819.74	104.67	8.832		
9,900.00	9,097.43	9,940.44	9,162.16	56.33	50.64	-94.02	1,388.22	-1,069.64	924.42	817.79	106.62	8.670		
10,000.00	9,098.17	10,040.42	9,161.23	57.45	51.60	-93.91	1,488.19	-1,070.75	924.42	815.71	108.71	8.503		

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 22HA - OH / Job #61217 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 174-MWD, 532-MWD+HDGM, 5040-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 N-S (usft)	Offset E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.00	9,098.91	10,140.41	9,160.31	58.62	52.63	-93.81	1,588.17	-1,071.86	924.43	813.50	110.93	8.333	
10,200.00	9,099.65	10,240.40	9,159.38	59.86	53.73	-93.70	1,688.14	-1,072.97	924.44	811.17	113.27	8.161	
10,300.00	9,100.39	10,340.38	9,158.46	61.14	54.90	-93.60	1,788.12	-1,074.08	924.46	808.73	115.73	7.988	
10,400.00	9,101.13	10,440.37	9,157.53	62.47	56.12	-93.50	1,888.10	-1,075.19	924.48	806.19	118.29	7.815	
10,500.00	9,101.87	10,540.35	9,156.61	63.85	57.39	-93.39	1,988.07	-1,076.31	924.50	803.54	120.95	7.643	
10,600.00	9,102.61	10,640.34	9,155.68	65.27	58.72	-93.29	2,088.05	-1,077.42	924.52	800.81	123.71	7.473	
10,700.00	9,103.35	10,740.33	9,154.76	66.73	60.10	-93.19	2,188.02	-1,078.53	924.55	797.99	126.56	7.305	
10,800.00	9,104.09	10,840.31	9,153.83	68.23	61.52	-93.08	2,288.00	-1,079.64	924.58	795.09	129.48	7.141	
10,900.00	9,104.83	10,940.30	9,152.91	69.76	62.98	-92.98	2,387.97	-1,080.75	924.61	792.12	132.49	6.979	
11,000.00	9,105.57	11,040.28	9,151.98	71.33	64.48	-92.88	2,487.95	-1,081.86	924.64	789.08	135.56	6.821	
11,100.00	9,106.31	11,140.27	9,151.06	72.92	66.02	-92.77	2,587.92	-1,082.98	924.68	785.98	138.70	6.667	
11,200.00	9,107.05	11,240.26	9,150.13	74.55	67.59	-92.67	2,687.90	-1,084.09	924.72	782.81	141.91	6.516	
11,300.00	9,107.79	11,340.24	9,149.21	76.20	69.20	-92.57	2,787.88	-1,085.20	924.77	779.60	145.17	6.370	
11,400.00	9,108.53	11,440.23	9,148.28	77.87	70.83	-92.46	2,887.85	-1,086.31	924.81	776.33	148.49	6.228	
11,500.00	9,109.27	11,541.82	9,146.70	79.57	72.52	-92.32	2,989.42	-1,087.37	924.77	772.89	151.89	6.089	
11,600.00	9,110.01	11,641.78	9,144.57	81.29	74.21	-92.14	3,089.36	-1,088.36	924.66	769.35	155.31	5.954	
11,700.00	9,110.75	11,741.74	9,142.44	83.03	75.93	-91.96	3,189.29	-1,089.35	924.55	765.77	158.78	5.823	
11,800.00	9,111.49	11,841.70	9,140.32	84.79	77.66	-91.79	3,289.22	-1,090.33	924.45	762.17	162.28	5.696	
11,900.00	9,112.24	11,941.66	9,138.19	86.57	79.42	-91.61	3,389.15	-1,091.32	924.36	758.53	165.83	5.574	
12,000.00	9,112.98	12,041.61	9,136.06	88.36	81.20	-91.43	3,489.08	-1,092.30	924.28	754.87	169.41	5.456	
12,100.00	9,113.72	12,141.57	9,133.94	90.18	82.99	-91.25	3,589.01	-1,093.29	924.21	751.19	173.03	5.341	
12,200.00	9,114.46	12,241.53	9,131.81	92.00	84.81	-91.08	3,688.94	-1,094.28	924.15	747.48	176.67	5.231	
12,300.00	9,115.20	12,341.49	9,129.68	93.84	86.64	-90.90	3,788.88	-1,095.26	924.10	743.75	180.35	5.124	
12,400.00	9,115.94	12,441.45	9,127.55	95.70	88.48	-90.72	3,888.81	-1,096.25	924.05	740.01	184.05	5.021	
12,500.00	9,116.68	12,541.41	9,125.43	97.56	90.34	-90.54	3,988.74	-1,097.24	924.02	736.24	187.77	4.921	
12,600.00	9,117.42	12,641.37	9,123.30	99.44	92.21	-90.36	4,088.67	-1,098.22	923.99	732.47	191.52	4.824	
12,700.00	9,118.16	12,741.33	9,121.17	101.33	94.09	-90.19	4,188.60	-1,099.21	923.97	728.68	195.30	4.731	
12,800.00	9,118.90	12,841.29	9,119.05	103.23	95.98	-90.01	4,288.53	-1,100.20	923.96	724.87	199.09	4.641	
12,850.25	9,119.27	12,891.51	9,117.98	104.19	96.94	-89.92	4,338.75	-1,100.69	923.96	722.96	201.01	4.597	
12,900.00	9,119.64	12,941.24	9,116.92	105.14	97.89	-89.83	4,388.46	-1,101.18	923.96	721.06	202.90	4.554	
13,000.00	9,120.38	13,041.20	9,114.79	107.06	99.81	-89.65	4,488.40	-1,102.17	923.97	717.24	206.74	4.469	
13,100.00	9,121.12	13,141.16	9,112.67	108.99	101.73	-89.48	4,588.33	-1,103.16	923.99	713.41	210.58	4.388	
13,200.00	9,121.86	13,241.12	9,110.54	110.93	103.67	-89.30	4,688.26	-1,104.14	924.02	709.57	214.45	4.309	
13,300.00	9,122.60	13,341.08	9,108.41	112.87	105.61	-89.12	4,788.19	-1,105.13	924.05	705.72	218.33	4.232	
13,400.00	9,123.34	13,441.04	9,106.29	114.83	107.56	-88.94	4,888.12	-1,106.12	924.10	701.87	222.22	4.158	
13,500.00	9,124.08	13,541.00	9,104.16	116.79	109.52	-88.77	4,988.05	-1,107.10	924.15	698.02	226.13	4.087	
13,600.00	9,124.82	13,640.96	9,102.03	118.76	111.49	-88.59	5,087.98	-1,108.09	924.21	694.16	230.05	4.017	
13,700.00	9,125.56	13,741.33	9,100.37	120.73	113.47	-88.44	5,188.34	-1,109.08	924.27	690.28	233.99	3.950	
13,800.00	9,126.30	13,842.00	9,101.77	122.71	115.46	-88.48	5,288.99	-1,110.08	924.26	686.29	237.97	3.884	
13,900.00	9,127.04	13,941.98	9,104.43	124.70	117.45	-88.60	5,388.93	-1,111.08	924.22	682.27	241.95	3.820	
14,000.00	9,127.78	14,041.96	9,107.09	126.69	119.44	-88.72	5,488.87	-1,112.08	924.18	678.23	245.95	3.758	
14,100.00	9,128.52	14,141.94	9,109.75	128.69	121.44	-88.84	5,588.81	-1,113.08	924.15	674.19	249.96	3.697	
14,200.00	9,129.26	14,241.93	9,112.41	130.69	123.45	-88.96	5,688.75	-1,114.08	924.12	670.15	253.98	3.639	
14,300.00	9,130.00	14,341.91	9,115.07	132.70	125.45	-89.07	5,788.69	-1,115.08	924.10	666.10	258.00	3.582	
14,400.00	9,130.74	14,441.89	9,117.73	134.71	127.47	-89.19	5,888.63	-1,116.08	924.08	662.04	262.04	3.526	
14,401.32	9,130.75	14,443.20	9,117.76	134.73	127.49	-89.19	5,889.95	-1,116.09	924.08	661.99	262.09	3.526	
14,500.00	9,131.76	14,554.64	9,120.42	136.72	129.74	-89.30	6,001.35	-1,116.62	924.16	657.82	266.34	3.470	
14,600.00	9,133.15	14,654.64	9,122.37	138.74	131.76	-89.33	6,101.33	-1,116.23	924.13	653.76	270.37	3.418	
14,700.00	9,134.54	14,754.64	9,124.32	140.76	133.78	-89.37	6,201.31	-1,115.83	924.11	649.69	274.42	3.368	
14,800.00	9,135.92	14,854.64	9,126.27	142.78	135.81	-89.40	6,301.29	-1,115.44	924.09	645.62	278.47	3.318	
14,900.00	9,137.31	14,954.64	9,128.22	144.81	137.84	-89.44	6,401.27	-1,115.05	924.06	641.53	282.53	3.271	
15,000.00	9,138.70	15,054.63	9,130.17	146.84	139.87	-89.47	6,501.24	-1,114.66	924.04	637.44	286.60	3.224	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 22HA - OH / Job #61217 - Plan 4 06-09-17													Offset Site Error: 0.00 usft
Survey Program: 174-MWD, 532-MWD+HDGM, 5040-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)					
15,100.00	9,140.09	15,154.63	9,132.12	148.87	141.91	-89.51	6,601.22	-1,114.27	924.02	633.35	290.67	3.179	
15,200.00	9,141.48	15,254.63	9,134.07	150.91	143.95	-89.54	6,701.20	-1,113.88	924.00	629.25	294.75	3.135	
15,300.00	9,142.86	15,354.63	9,136.02	152.95	145.99	-89.58	6,801.18	-1,113.49	923.98	625.14	298.84	3.092	
15,400.00	9,144.25	15,454.63	9,137.97	154.99	148.04	-89.61	6,901.16	-1,113.10	923.95	621.02	302.93	3.050	
15,500.00	9,145.64	15,554.63	9,139.92	157.04	150.09	-89.64	7,001.14	-1,112.71	923.93	616.90	307.03	3.009	
15,600.00	9,147.03	15,654.63	9,141.86	159.09	152.14	-89.68	7,101.12	-1,112.32	923.91	612.78	311.13	2.969	
15,700.00	9,148.41	15,754.62	9,143.81	161.14	154.19	-89.71	7,201.09	-1,111.93	923.89	608.65	315.24	2.931	
15,800.00	9,149.80	15,854.62	9,145.76	163.19	156.25	-89.75	7,301.07	-1,111.54	923.87	604.51	319.36	2.893	
15,900.00	9,151.19	15,954.48	9,147.48	165.25	158.31	-89.77	7,400.92	-1,111.15	923.86	600.38	323.48	2.856	
15,910.52	9,151.34	15,964.96	9,147.53	165.47	158.53	-89.76	7,411.40	-1,111.11	923.86	599.95	323.91	2.852	
16,000.00	9,152.58	16,054.17	9,146.57	167.31	160.37	-89.63	7,500.60	-1,110.78	923.87	596.29	327.59	2.820	
16,100.00	9,153.97	16,154.12	9,144.78	169.37	162.43	-89.43	7,600.53	-1,110.42	923.91	592.21	331.70	2.785	
16,200.00	9,155.35	16,254.07	9,143.00	171.44	164.50	-89.23	7,700.47	-1,110.06	923.96	588.14	335.82	2.751	
16,300.00	9,156.74	16,354.02	9,141.22	173.50	166.57	-89.04	7,800.40	-1,109.70	924.02	584.08	339.94	2.718	
16,400.00	9,158.13	16,453.97	9,139.43	175.57	168.64	-88.84	7,900.33	-1,109.34	924.09	580.03	344.06	2.686	
16,500.00	9,159.52	16,553.92	9,137.65	177.64	170.72	-88.64	8,000.27	-1,108.97	924.17	575.99	348.18	2.654	
16,600.00	9,160.91	16,653.87	9,135.86	179.71	172.79	-88.45	8,100.20	-1,108.61	924.27	571.96	352.31	2.623	
16,700.00	9,162.29	16,753.82	9,134.08	181.79	174.87	-88.25	8,200.13	-1,108.25	924.37	567.94	356.43	2.593	
16,800.00	9,163.68	16,853.77	9,132.29	183.86	176.95	-88.05	8,300.07	-1,107.89	924.48	563.93	360.55	2.564	
16,900.00	9,165.07	16,953.72	9,130.51	185.94	179.03	-87.86	8,400.00	-1,107.53	924.61	559.94	364.67	2.535	
17,000.00	9,166.46	17,053.67	9,128.72	188.02	181.12	-87.66	8,499.93	-1,107.17	924.74	555.95	368.79	2.507	
17,100.00	9,167.85	17,153.62	9,126.94	190.10	183.20	-87.47	8,599.86	-1,106.80	924.89	551.98	372.91	2.480	
17,200.00	9,169.23	17,253.57	9,125.15	192.19	185.29	-87.27	8,699.80	-1,106.44	925.05	548.02	377.03	2.454	
17,300.00	9,170.62	17,353.52	9,123.37	194.27	187.38	-87.07	8,799.73	-1,106.08	925.22	544.07	381.15	2.427	
17,400.00	9,172.01	17,453.96	9,121.67	196.36	189.48	-86.88	8,900.16	-1,105.72	925.39	540.11	385.28	2.402	
17,500.00	9,173.40	17,554.59	9,121.63	198.44	191.58	-86.79	9,000.78	-1,105.33	925.46	536.03	389.44	2.376	
17,600.00	9,174.79	17,654.58	9,121.75	200.53	193.67	-86.72	9,100.77	-1,104.96	925.53	531.94	393.59	2.352	
17,700.00	9,176.17	17,754.57	9,121.87	202.62	195.76	-86.64	9,200.76	-1,104.58	925.60	527.85	397.74	2.327	
17,800.00	9,177.56	17,854.56	9,121.99	204.71	197.86	-86.56	9,300.75	-1,104.20	925.67	523.77	401.90	2.303	
17,900.00	9,178.95	17,954.55	9,122.11	206.81	199.95	-86.48	9,400.75	-1,103.82	925.74	519.68	406.05	2.280	
18,000.00	9,180.34	18,054.55	9,122.23	208.90	202.05	-86.40	9,500.74	-1,103.44	925.81	515.60	410.21	2.257	
18,100.00	9,181.73	18,154.54	9,122.35	211.00	204.15	-86.32	9,600.73	-1,103.06	925.88	511.51	414.37	2.234	
18,200.00	9,183.11	18,254.53	9,122.48	213.09	206.24	-86.25	9,700.72	-1,102.68	925.96	507.43	418.53	2.212	
18,300.00	9,184.50	18,354.52	9,122.60	215.19	208.34	-86.17	9,800.71	-1,102.30	926.04	503.34	422.69	2.191	
18,400.00	9,185.89	18,454.51	9,122.72	217.29	210.44	-86.09	9,900.70	-1,101.92	926.12	499.26	426.86	2.170	
18,500.00	9,187.28	18,554.51	9,122.84	219.39	212.55	-86.01	10,000.69	-1,101.54	926.20	495.18	431.02	2.149	
18,600.00	9,188.66	18,654.50	9,122.96	221.49	214.65	-85.93	10,100.68	-1,101.16	926.28	491.10	435.18	2.128	
18,700.00	9,190.05	18,754.49	9,123.08	223.59	216.75	-85.85	10,200.68	-1,100.78	926.37	487.02	439.35	2.108	
18,800.00	9,191.44	18,854.48	9,123.20	225.69	218.86	-85.78	10,300.67	-1,100.40	926.45	482.94	443.52	2.089	
18,900.00	9,192.83	18,954.47	9,123.32	227.79	220.96	-85.70	10,400.66	-1,100.02	926.54	478.86	447.68	2.070	
19,000.00	9,194.22	19,054.47	9,123.44	229.90	223.07	-85.62	10,500.65	-1,099.64	926.63	474.78	451.85	2.051	
19,100.00	9,195.60	19,154.46	9,123.56	232.00	225.18	-85.54	10,600.64	-1,099.26	926.72	470.70	456.02	2.032	
19,200.00	9,196.99	19,254.45	9,123.68	234.11	227.29	-85.46	10,700.63	-1,098.88	926.81	466.63	460.19	2.014	
19,300.00	9,198.38	19,354.44	9,123.80	236.22	229.40	-85.39	10,800.62	-1,098.50	926.91	462.55	464.36	1.996	
19,400.00	9,199.77	19,454.43	9,123.93	238.33	231.51	-85.31	10,900.61	-1,098.12	927.01	458.48	468.53	1.979	
19,416.71	9,200.00	19,471.14	9,123.95	238.68	231.86	-85.29	10,917.32	-1,098.06	927.02	457.80	469.22	1.976 ES, 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 22HA - OH / Job #61217 - Surveys (Patterson 815)													Offset Site Error: 0.00 usft
Survey Program: 174-MWD, 434-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)			
0.00	0.00	0.00	22.00	0.00	0.00	-74.43	377.36	-1,353.89	1,405.66				
100.00	100.00	81.25	103.25	0.19	0.12	-74.42	377.43	-1,353.77	1,405.40	1,405.09	0.31	4,552.410	
200.00	200.00	188.49	210.48	0.73	0.30	-74.40	377.71	-1,353.25	1,405.01	1,403.99	1.03	1,369.727	
300.00	300.00	308.48	330.45	1.27	0.69	-74.37	378.02	-1,351.08	1,403.29	1,401.33	1.96	716.487	
400.00	400.00	412.31	434.26	1.81	1.02	-74.38	377.08	-1,348.85	1,400.98	1,398.16	2.83	495.903	
500.00	500.00	524.39	546.29	2.34	1.26	-74.42	375.33	-1,346.05	1,398.17	1,394.56	3.61	387.722	
600.00	600.00	760.80	781.96	2.88	2.00	-74.46	369.90	-1,329.85	1,392.28	1,387.40	4.88	285.490	
700.00	699.98	872.00	892.05	3.42	2.54	-54.19	365.70	-1,314.71	1,377.06	1,371.12	5.94	231.795	
800.00	799.84	949.43	968.77	3.96	2.96	-54.62	362.64	-1,304.77	1,360.66	1,353.81	6.85	198.650	
899.93	899.39	1,033.04	1,051.80	4.50	3.41	-55.17	359.70	-1,295.38	1,343.89	1,336.09	7.79	172.448	
1,000.00	998.90	1,120.40	1,138.64	5.05	3.89	-55.48	357.79	-1,286.01	1,326.99	1,318.23	8.76	151.495	
1,100.00	1,098.36	1,225.62	1,243.25	5.60	4.47	-55.78	357.25	-1,274.70	1,310.55	1,300.72	9.84	133.201	
1,200.00	1,197.81	1,316.35	1,333.39	6.16	4.98	-56.02	357.05	-1,264.45	1,293.70	1,282.85	10.85	119.190	
1,300.00	1,297.26	1,408.68	1,425.19	6.72	5.49	-56.25	357.79	-1,254.64	1,277.74	1,265.86	11.88	107.526	
1,400.00	1,396.71	1,504.03	1,520.00	7.28	6.02	-56.45	359.31	-1,244.55	1,262.02	1,249.09	12.93	97.573	
1,500.00	1,496.17	1,591.74	1,607.26	7.84	6.51	-56.67	360.34	-1,235.79	1,246.82	1,232.87	13.95	89.380	
1,600.00	1,595.62	1,695.83	1,710.91	8.41	7.09	-56.96	361.12	-1,226.21	1,232.30	1,217.24	15.06	81.847	
1,700.00	1,695.07	1,819.00	1,833.34	8.98	7.80	-57.28	362.35	-1,212.85	1,216.26	1,199.98	16.27	74.736	
1,800.00	1,794.52	1,897.48	1,911.33	9.54	8.24	-57.49	363.05	-1,204.19	1,200.04	1,182.79	17.25	69.557	
1,900.00	1,893.98	1,972.73	1,986.27	10.11	8.66	-57.72	363.37	-1,197.34	1,185.63	1,167.42	18.21	65.104	
2,000.00	1,993.43	2,057.82	2,071.14	10.68	9.13	-58.02	363.61	-1,191.23	1,173.05	1,153.83	19.22	61.024	
2,100.00	2,092.88	2,154.96	2,168.07	11.25	9.66	-58.37	363.84	-1,184.74	1,161.02	1,140.72	20.30	57.191	
2,200.00	2,192.33	2,255.56	2,268.44	11.82	10.21	-58.73	364.23	-1,177.96	1,149.01	1,127.61	21.40	53.691	
2,300.00	2,291.79	2,356.88	2,369.50	12.39	10.77	-59.09	364.86	-1,170.89	1,136.86	1,114.35	22.51	50.514	
2,400.00	2,391.24	2,458.18	2,470.54	12.96	11.33	-59.45	365.74	-1,163.57	1,124.55	1,100.94	23.61	47.628	
2,500.00	2,490.69	2,558.30	2,570.38	13.53	11.88	-59.79	366.84	-1,156.13	1,112.11	1,087.40	24.71	45.002	
2,600.00	2,590.14	2,673.57	2,685.25	14.10	12.52	-60.18	368.26	-1,146.75	1,099.08	1,073.18	25.90	42.438	
2,700.00	2,689.60	2,789.32	2,800.43	14.67	13.18	-60.58	369.42	-1,135.29	1,084.27	1,057.18	27.09	40.023	
2,800.00	2,789.05	2,887.74	2,898.30	15.24	13.75	-60.93	370.18	-1,124.94	1,068.88	1,040.69	28.19	37.916	
2,900.00	2,888.50	2,983.31	2,993.35	15.81	14.29	-61.28	371.02	-1,115.05	1,053.72	1,024.45	29.27	35.995	
3,000.00	2,987.95	3,080.64	3,090.17	16.39	14.85	-61.64	372.09	-1,105.20	1,038.86	1,008.49	30.37	34.209	
3,100.00	3,087.41	3,181.79	3,190.78	16.96	15.43	-62.01	373.39	-1,094.83	1,023.93	992.45	31.48	32.523	
3,200.00	3,186.86	3,283.24	3,291.66	17.53	16.02	-62.38	374.89	-1,084.14	1,008.80	976.20	32.60	30.943	
3,300.00	3,286.31	3,381.65	3,389.48	18.10	16.58	-62.74	376.46	-1,073.54	993.48	959.78	33.70	29.477	
3,400.00	3,385.76	3,469.34	3,476.70	18.68	17.09	-63.11	377.30	-1,064.56	978.68	943.93	34.75	28.165	
3,500.00	3,485.22	3,547.21	3,554.30	19.25	17.52	-63.52	376.92	-1,058.06	965.63	929.89	35.74	27.021	
3,600.00	3,584.67	3,619.00	3,625.97	19.82	17.91	-63.96	375.84	-1,054.00	955.20	918.51	36.69	26.034	
3,700.00	3,684.12	3,697.77	3,704.69	20.39	18.32	-64.48	374.43	-1,051.53	947.35	909.67	37.68	25.145	
3,800.00	3,783.57	3,788.21	3,795.10	20.97	18.78	-65.08	373.04	-1,050.24	941.29	902.57	38.72	24.310	
3,900.00	3,883.02	3,877.76	3,884.64	21.54	19.22	-65.65	372.03	-1,049.64	936.17	896.42	39.75	23.551	
4,000.00	3,982.48	3,974.72	3,981.61	22.11	19.68	-66.26	371.46	-1,049.76	931.98	891.16	40.81	22.835	
4,100.00	4,081.93	4,074.80	4,081.68	22.68	20.16	-66.89	370.77	-1,049.85	927.86	885.97	41.89	22.150	
4,200.00	4,181.38	4,173.44	4,180.32	23.26	20.64	-67.53	370.01	-1,049.94	923.85	880.89	42.96	21.503	
4,300.00	4,280.83	4,271.80	4,278.67	23.83	21.11	-68.16	369.29	-1,050.14	920.07	876.04	44.04	20.894	
4,400.00	4,380.35	4,369.38	4,376.26	24.40	21.58	-68.73	368.57	-1,050.48	916.78	871.67	45.12	20.321	
4,500.00	4,480.12	4,468.44	4,475.31	24.95	22.06	-69.13	367.70	-1,050.97	914.89	868.70	46.19	19.808	
4,587.08	4,567.16	4,554.34	4,561.21	25.41	22.47	-69.34	366.89	-1,051.48	914.36	867.27	47.10	19.415	
4,600.00	4,580.07	4,567.08	4,573.94	25.48	22.53	-69.36	366.77	-1,051.56	914.37	867.15	47.23	19.360	
4,700.00	4,680.07	4,665.00	4,671.85	25.99	23.01	-90.00	365.96	-1,052.33	915.06	866.83	48.23	18.974	
4,800.00	4,780.07	4,761.88	4,768.72	26.50	23.47	-90.05	365.17	-1,053.36	916.13	866.91	49.22	18.613	
4,900.00	4,880.07	4,858.96	4,865.79	27.01	23.94	-90.11	364.26	-1,054.73	917.53	867.32	50.22	18.272	
5,000.00	4,980.07	4,958.36	4,965.17	27.52	24.42	-90.18	363.15	-1,056.30	919.12	867.89	51.23	17.943	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 22HA - OH / Job #61217 - Surveys (Patterson 815)												Offset Site Error:	0.00 usft
Survey Program: 174-MWD, 434-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	5,080.07	5,057.24	5,064.03	28.03	24.90	-90.26	361.73	-1,057.95	920.80	868.56	52.24	17.627	
5,200.00	5,180.07	5,155.46	5,162.22	28.55	25.38	-90.36	360.10	-1,059.75	922.63	869.39	53.25	17.327	
5,300.00	5,280.07	5,253.32	5,260.04	29.06	25.85	-90.47	358.36	-1,061.73	924.67	870.41	54.26	17.042	
5,400.00	5,380.07	5,351.17	5,357.86	29.58	26.33	-90.54	357.16	-1,063.99	926.99	871.73	55.27	16.773	
5,500.00	5,480.07	5,449.91	5,456.57	30.10	26.81	-90.57	356.69	-1,066.35	929.38	873.11	56.28	16.515	
5,600.00	5,580.07	5,545.27	5,551.89	30.61	27.28	-90.61	356.12	-1,069.01	932.18	874.91	57.27	16.276	
5,700.00	5,680.07	5,652.78	5,659.35	31.13	27.80	-90.65	355.30	-1,072.20	935.19	876.86	58.33	16.033	
5,800.00	5,780.07	5,798.00	5,804.55	31.65	28.53	-90.62	355.82	-1,072.24	935.31	875.72	59.59	15.696	
5,900.00	5,880.07	5,895.35	5,901.86	32.17	29.05	-90.55	357.02	-1,069.81	932.80	872.18	60.62	15.381	
6,000.00	5,980.07	5,991.71	5,998.20	32.69	29.55	-90.48	358.17	-1,067.76	930.66	869.01	61.65	15.096	
6,100.00	6,080.07	6,086.75	6,093.22	33.21	30.05	-90.40	359.41	-1,066.17	928.98	866.32	62.67	14.824	
6,200.00	6,180.07	6,184.83	6,191.28	33.73	30.56	-90.34	360.49	-1,064.91	927.68	863.98	63.70	14.563	
6,300.00	6,280.07	6,285.11	6,291.55	34.25	31.09	-90.30	361.09	-1,063.65	926.43	861.68	64.75	14.308	
6,400.00	6,380.07	6,381.59	6,388.03	34.77	31.59	-90.27	361.61	-1,062.65	925.39	859.60	65.78	14.068	
6,500.00	6,480.07	6,479.40	6,485.83	35.30	32.10	-90.23	362.20	-1,061.95	924.67	857.85	66.82	13.839	
6,600.00	6,580.07	6,578.79	6,585.21	35.82	32.62	-90.19	362.88	-1,061.34	924.05	856.19	67.86	13.617	
6,700.00	6,680.07	6,676.39	6,682.81	36.34	33.12	-90.15	363.52	-1,060.93	923.63	854.74	68.89	13.407	
6,792.68	6,772.75	6,766.33	6,772.75	36.83	33.58	-90.12	364.09	-1,060.77	923.46	853.62	69.84	13.222	
6,800.00	6,780.07	6,773.26	6,779.68	36.87	33.62	-90.11	364.13	-1,060.77	923.46	853.55	69.91	13.208	
6,900.00	6,880.07	6,869.96	6,876.38	37.39	34.10	-90.09	364.45	-1,061.06	923.76	852.83	70.93	13.023	
7,000.00	6,980.07	6,970.90	6,977.31	37.92	34.61	-90.09	364.56	-1,061.39	924.09	852.12	71.97	12.840	
7,100.00	7,080.07	7,072.36	7,078.78	38.44	35.12	-90.08	364.73	-1,061.67	924.36	851.35	73.01	12.661	
7,200.00	7,180.07	7,173.89	7,180.30	38.97	35.64	-90.05	365.16	-1,061.66	924.36	850.30	74.06	12.482	
7,229.12	7,209.19	7,202.78	7,209.19	39.12	35.79	-90.04	365.31	-1,061.66	924.35	849.99	74.36	12.431	
7,300.00	7,280.07	7,273.75	7,280.17	39.49	36.16	-90.02	365.70	-1,061.66	924.35	849.25	75.10	12.308	
7,400.00	7,380.07	7,375.63	7,382.05	40.02	36.68	-89.98	366.23	-1,061.58	924.27	848.12	76.16	12.137	
7,500.00	7,480.07	7,478.32	7,484.73	40.54	37.22	-89.97	366.42	-1,061.21	923.91	846.69	77.22	11.964	
7,600.00	7,580.07	7,581.28	7,587.69	41.07	37.75	-90.02	366.68	-1,060.53	923.25	844.96	78.29	11.792	
7,700.00	7,680.07	7,689.38	7,695.77	41.60	38.32	-90.11	364.17	-1,059.21	922.04	842.64	79.39	11.614	
7,800.00	7,780.07	7,793.26	7,799.60	42.13	38.87	-90.26	361.74	-1,057.19	920.10	839.62	80.47	11.434	
7,900.00	7,880.07	7,891.03	7,897.30	42.65	39.38	-90.46	358.59	-1,055.22	918.10	836.58	81.52	11.262	
8,000.00	7,980.07	7,990.56	7,996.74	43.18	39.91	-90.70	354.77	-1,053.33	916.24	833.67	82.58	11.096	
8,100.00	8,080.07	8,088.29	8,094.35	43.71	40.42	-90.98	350.34	-1,051.61	914.55	830.92	83.62	10.936	
8,194.89	8,174.95	8,169.00	8,174.95	44.21	40.84	-91.23	346.35	-1,050.39	913.29	828.74	84.55	10.801 CC	
8,200.00	8,180.07	8,169.00	8,174.95	44.24	40.84	-91.23	346.35	-1,050.39	913.31	828.73	84.58	10.798	
8,300.00	8,280.07	8,241.77	8,247.67	44.77	41.21	-91.38	344.03	-1,051.17	914.70	829.21	85.49	10.700	
8,400.00	8,380.07	8,381.51	8,387.29	45.29	41.93	-91.60	340.36	-1,053.82	916.90	830.16	86.74	10.571	
8,500.00	8,480.07	8,477.47	8,483.12	45.82	42.43	-91.91	335.45	-1,053.08	916.28	828.50	87.78	10.438	
8,531.33	8,511.40	8,506.55	8,512.16	45.99	42.58	-91.47	333.90	-1,052.96	916.22	828.12	88.11	10.399	
8,600.00	8,579.96	8,565.65	8,571.21	46.36	42.88	-91.70	331.62	-1,053.12	916.58	827.79	88.79	10.323 ES	
8,700.00	8,678.03	8,650.13	8,655.64	46.93	43.31	-92.39	332.62	-1,054.69	919.10	829.30	89.81	10.234	
8,800.00	8,771.34	8,739.00	8,743.66	47.54	43.75	-93.19	344.02	-1,057.23	923.20	832.34	90.86	10.160 SF	
8,900.00	8,857.03	8,739.00	8,743.66	48.17	43.75	-92.00	344.02	-1,057.23	935.01	843.51	91.49	10.219	
9,000.00	8,932.52	8,739.00	8,743.66	48.82	43.75	-89.66	344.02	-1,057.23	957.73	865.59	92.13	10.395	
9,100.00	8,995.51	8,739.00	8,743.66	49.51	43.75	-86.26	344.02	-1,057.23	989.95	897.31	92.64	10.685	
9,200.00	9,044.08	8,739.00	8,743.66	50.22	43.75	-81.92	344.02	-1,057.23	1,029.86	937.13	92.73	11.106	
9,300.00	9,076.76	8,739.00	8,743.66	50.96	43.75	-76.89	344.02	-1,057.23	1,075.47	983.42	92.05	11.683	
9,400.00	9,092.55	8,739.00	8,743.66	51.72	43.75	-71.43	344.02	-1,057.23	1,124.79	1,034.34	90.45	12.436	
9,500.00	9,094.47	8,739.00	8,743.66	52.50	43.75	-69.39	344.02	-1,057.23	1,177.03	1,086.89	90.14	13.057	
9,600.00	9,095.21	8,739.00	8,743.66	53.35	43.75	-69.39	344.02	-1,057.23	1,234.86	1,143.90	90.96	13.576	
9,700.00	9,095.95	8,739.00	8,743.66	54.27	43.75	-69.39	344.02	-1,057.23	1,297.83	1,205.97	91.85	14.130	
9,800.00	9,096.69	8,739.00	8,743.66	55.27	43.75	-69.39	344.02	-1,057.23	1,365.22	1,272.41	92.81	14.710	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 22HA - OH / Job #61217 - Surveys (Patterson 815)													Offset Site Error: 0.00 usft		
Survey Program: 174-MWD, 434-MWD+HDGM													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)										
9,900.00	9,097.43	8,739.00	8,743.66	56.33	43.75	-69.39	344.02	-1,057.23	1,436.42	1,342.59	93.82	15.310			
10,000.00	9,098.17	8,739.00	8,743.66	57.45	43.75	-69.39	344.02	-1,057.23	1,510.88	1,415.98	94.90	15.921			
10,100.00	9,098.91	8,739.00	8,743.66	58.62	43.75	-69.39	344.02	-1,057.23	1,588.16	1,492.12	96.03	16.537			
10,200.00	9,099.65	8,739.00	8,743.66	59.86	43.75	-69.39	344.02	-1,057.23	1,667.85	1,570.63	97.22	17.156			
10,300.00	9,100.39	8,739.00	8,743.66	61.14	43.75	-69.39	344.02	-1,057.23	1,749.63	1,651.17	98.45	17.771			
10,400.00	9,101.13	8,739.00	8,743.66	62.47	43.75	-69.39	344.02	-1,057.23	1,833.21	1,733.48	99.73	18.381			
10,500.00	9,101.87	8,739.00	8,743.66	63.85	43.75	-69.39	344.02	-1,057.23	1,918.37	1,817.31	101.06	18.983			
10,600.00	9,102.61	8,739.00	8,743.66	65.27	43.75	-69.39	344.02	-1,057.23	2,004.90	1,902.48	102.42	19.575			
10,700.00	9,103.35	8,739.00	8,743.66	66.73	43.75	-69.39	344.02	-1,057.23	2,092.63	1,988.80	103.82	20.156			
10,800.00	9,104.09	8,739.00	8,743.66	68.23	43.75	-69.39	344.02	-1,057.23	2,181.41	2,076.15	105.26	20.724			
10,900.00	9,104.83	8,739.00	8,743.66	69.76	43.75	-69.39	344.02	-1,057.23	2,271.13	2,164.40	106.73	21.279			
11,000.00	9,105.57	8,739.00	8,743.66	71.33	43.75	-69.39	344.02	-1,057.23	2,361.68	2,253.44	108.23	21.820			
11,100.00	9,106.31	8,739.00	8,743.66	72.92	43.75	-69.39	344.02	-1,057.23	2,452.96	2,343.19	109.76	22.348			
11,200.00	9,107.05	8,739.00	8,743.66	74.55	43.75	-69.39	344.02	-1,057.23	2,544.89	2,433.57	111.32	22.861			
11,300.00	9,107.79	8,739.00	8,743.66	76.20	43.75	-69.39	344.02	-1,057.23	2,637.41	2,524.51	112.90	23.360			
11,400.00	9,108.53	8,739.00	8,743.66	77.87	43.75	-69.39	344.02	-1,057.23	2,730.46	2,615.95	114.51	23.845			
11,500.00	9,109.27	8,739.00	8,743.66	79.57	43.75	-69.39	344.02	-1,057.23	2,823.98	2,707.85	116.14	24.316			
11,600.00	9,110.01	8,739.00	8,743.66	81.29	43.75	-69.39	344.02	-1,057.23	2,917.94	2,800.15	117.79	24.773			
11,700.00	9,110.75	8,739.00	8,743.66	83.03	43.75	-69.39	344.02	-1,057.23	3,012.28	2,892.83	119.45	25.217			
11,800.00	9,111.49	8,739.00	8,743.66	84.79	43.75	-69.39	344.02	-1,057.23	3,106.98	2,985.84	121.14	25.647			
11,900.00	9,112.24	8,739.00	8,743.66	86.57	43.75	-69.39	344.02	-1,057.23	3,202.00	3,079.15	122.85	26.065			
12,000.00	9,112.98	8,739.00	8,743.66	88.36	43.75	-69.39	344.02	-1,057.23	3,297.31	3,172.74	124.57	26.470			
12,100.00	9,113.72	8,739.00	8,743.66	90.18	43.75	-69.39	344.02	-1,057.23	3,392.89	3,266.59	126.30	26.864			
12,200.00	9,114.46	8,739.00	8,743.66	92.00	43.75	-69.39	344.02	-1,057.23	3,488.73	3,360.68	128.05	27.245			
12,300.00	9,115.20	8,739.00	8,743.66	93.84	43.75	-69.39	344.02	-1,057.23	3,584.78	3,454.97	129.81	27.615			
12,400.00	9,115.94	8,739.00	8,743.66	95.70	43.75	-69.39	344.02	-1,057.23	3,681.05	3,549.46	131.59	27.974			
12,500.00	9,116.68	8,739.00	8,743.66	97.56	43.75	-69.39	344.02	-1,057.23	3,777.52	3,644.14	133.38	28.322			
12,600.00	9,117.42	8,739.00	8,743.66	99.44	43.75	-69.39	344.02	-1,057.23	3,874.16	3,738.98	135.17	28.660			
12,700.00	9,118.16	8,739.00	8,743.66	101.33	43.75	-69.39	344.02	-1,057.23	3,970.97	3,833.98	136.98	28.989			
12,800.00	9,118.90	8,739.00	8,743.66	103.23	43.75	-69.39	344.02	-1,057.23	4,067.93	3,929.13	138.80	29.307			
12,900.00	9,119.64	8,739.00	8,743.66	105.14	43.75	-69.39	344.02	-1,057.23	4,165.04	4,024.40	140.63	29.617			
13,000.00	9,120.38	8,739.00	8,743.66	107.06	43.75	-69.39	344.02	-1,057.23	4,262.28	4,119.81	142.47	29.917			
13,100.00	9,121.12	8,739.00	8,743.66	108.99	43.75	-69.39	344.02	-1,057.23	4,359.64	4,215.33	144.31	30.209			
13,200.00	9,121.86	8,739.00	8,743.66	110.93	43.75	-69.39	344.02	-1,057.23	4,457.12	4,310.95	146.17	30.493			
13,300.00	9,122.60	8,739.00	8,743.66	112.87	43.75	-69.39	344.02	-1,057.23	4,554.71	4,406.68	148.03	30.769			
13,400.00	9,123.34	8,739.00	8,743.66	114.83	43.75	-69.39	344.02	-1,057.23	4,652.41	4,502.51	149.90	31.037			
13,500.00	9,124.08	8,739.00	8,743.66	116.79	43.75	-69.39	344.02	-1,057.23	4,750.20	4,598.42	151.78	31.298			
13,600.00	9,124.82	8,739.00	8,743.66	118.76	43.75	-69.39	344.02	-1,057.23	4,848.08	4,694.42	153.66	31.551			
13,700.00	9,125.56	8,739.00	8,743.66	120.73	43.75	-69.39	344.02	-1,057.23	4,946.04	4,790.49	155.55	31.798			
13,800.00	9,126.30	8,739.00	8,743.66	122.71	43.75	-69.39	344.02	-1,057.23	5,044.08	4,886.64	157.44	32.038			
13,900.00	9,127.04	8,739.00	8,743.66	124.70	43.75	-69.39	344.02	-1,057.23	5,142.20	4,982.86	159.34	32.272			
14,000.00	9,127.78	8,739.00	8,743.66	126.69	43.75	-69.39	344.02	-1,057.23	5,240.40	5,079.15	161.25	32.499			
14,100.00	9,128.52	8,739.00	8,743.66	128.69	43.75	-69.39	344.02	-1,057.23	5,338.65	5,175.50	163.16	32.721			
14,200.00	9,129.26	8,739.00	8,743.66	130.69	43.75	-69.39	344.02	-1,057.23	5,436.97	5,271.90	165.07	32.937			
14,300.00	9,130.00	8,739.00	8,743.66	132.70	43.75	-69.39	344.02	-1,057.23	5,535.36	5,368.36	166.99	33.147			
14,400.00	9,130.74	8,739.00	8,743.66	134.71	43.75	-69.39	344.02	-1,057.23	5,633.79	5,464.88	168.92	33.352			
14,500.00	9,131.48	8,739.00	8,743.66	136.72	43.75	-69.39	344.02	-1,057.23	5,732.39	5,561.19	171.20	33.483			
14,600.00	9,132.22	8,739.00	8,743.66	138.74	43.75	-69.39	344.02	-1,057.23	5,831.18	5,658.05	173.13	33.680			
14,700.00	9,132.96	8,739.00	8,743.66	140.76	43.75	-69.39	344.02	-1,057.23	5,930.00	5,754.93	175.07	33.872			
14,800.00	9,133.70	8,739.00	8,743.66	142.78	43.75	-69.39	344.02	-1,057.23	6,028.87	5,851.86	177.01	34.060			
14,900.00	9,134.44	8,739.00	8,743.66	144.81	43.75	-69.39	344.02	-1,057.23	6,127.77	5,948.82	178.95	34.243			
15,000.00	9,135.18	8,739.00	8,743.66	146.84	43.75	-69.39	344.02	-1,057.23	6,226.71	6,045.81	180.90	34.421			

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P2 - 22HA - OH / Job #61217 - Surveys (Patterson 815)												Offset Site Error:	0.00 usft
Survey Program: 174-MWD, 434-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
15,100.00	9,140.09	8,739.00	8,743.66	148.87	43.75	-69.85	344.02	-1,057.23	6,325.68	6,142.83	182.85	34.595	
15,200.00	9,141.48	8,739.00	8,743.66	150.91	43.75	-69.85	344.02	-1,057.23	6,424.68	6,239.88	184.80	34.765	
15,300.00	9,142.86	8,739.00	8,743.66	152.95	43.75	-69.85	344.02	-1,057.23	6,523.71	6,336.95	186.76	34.932	
15,400.00	9,144.25	8,739.00	8,743.66	154.99	43.75	-69.85	344.02	-1,057.23	6,622.77	6,434.06	188.71	35.094	
15,500.00	9,145.64	8,739.00	8,743.66	157.04	43.75	-69.85	344.02	-1,057.23	6,721.86	6,531.18	190.68	35.253	
15,600.00	9,147.03	8,739.00	8,743.66	159.09	43.75	-69.85	344.02	-1,057.23	6,820.98	6,628.34	192.64	35.408	
15,700.00	9,148.41	8,739.00	8,743.66	161.14	43.75	-69.85	344.02	-1,057.23	6,920.12	6,725.51	194.61	35.560	
15,800.00	9,149.80	8,739.00	8,743.66	163.19	43.75	-69.85	344.02	-1,057.23	7,019.28	6,822.71	196.58	35.708	
15,900.00	9,151.19	8,739.00	8,743.66	165.25	43.75	-69.85	344.02	-1,057.23	7,118.47	6,919.92	198.55	35.853	
16,000.00	9,152.58	8,739.00	8,743.66	167.31	43.75	-69.85	344.02	-1,057.23	7,217.68	7,017.16	200.52	35.995	
16,100.00	9,153.97	8,739.00	8,743.66	169.37	43.75	-69.85	344.02	-1,057.23	7,316.91	7,114.42	202.50	36.134	
16,200.00	9,155.35	8,739.00	8,743.66	171.44	43.75	-69.85	344.02	-1,057.23	7,416.17	7,211.69	204.47	36.270	
16,300.00	9,156.74	8,739.00	8,743.66	173.50	43.75	-69.85	344.02	-1,057.23	7,515.44	7,308.99	206.45	36.403	
16,400.00	9,158.13	8,739.00	8,743.66	175.57	43.75	-69.85	344.02	-1,057.23	7,614.73	7,406.30	208.44	36.533	
16,500.00	9,159.52	8,739.00	8,743.66	177.64	43.75	-69.85	344.02	-1,057.23	7,714.04	7,503.62	210.42	36.660	
16,600.00	9,160.91	8,739.00	8,743.66	179.71	43.75	-69.85	344.02	-1,057.23	7,813.37	7,600.97	212.40	36.785	
16,700.00	9,162.29	8,739.00	8,743.66	181.79	43.75	-69.85	344.02	-1,057.23	7,912.72	7,698.32	214.39	36.908	
16,800.00	9,163.68	8,739.00	8,743.66	183.86	43.75	-69.85	344.02	-1,057.23	8,012.08	7,795.70	216.38	37.028	
16,900.00	9,165.07	8,739.00	8,743.66	185.94	43.75	-69.85	344.02	-1,057.23	8,111.45	7,893.08	218.37	37.145	
17,000.00	9,166.46	8,739.00	8,743.66	188.02	43.75	-69.85	344.02	-1,057.23	8,210.85	7,990.48	220.36	37.260	
17,100.00	9,167.85	8,739.00	8,743.66	190.10	43.75	-69.85	344.02	-1,057.23	8,310.25	8,087.89	222.36	37.373	
17,200.00	9,169.23	8,739.00	8,743.66	192.19	43.75	-69.85	344.02	-1,057.23	8,409.67	8,185.32	224.35	37.484	
17,300.00	9,170.62	8,739.00	8,743.66	194.27	43.75	-69.85	344.02	-1,057.23	8,509.11	8,282.76	226.35	37.593	
17,400.00	9,172.01	8,739.00	8,743.66	196.36	43.75	-69.85	344.02	-1,057.23	8,608.56	8,380.21	228.35	37.699	
17,500.00	9,173.40	8,739.00	8,743.66	198.44	43.75	-69.85	344.02	-1,057.23	8,708.02	8,477.67	230.35	37.804	
17,600.00	9,174.79	8,739.00	8,743.66	200.53	43.75	-69.85	344.02	-1,057.23	8,807.49	8,575.14	232.35	37.906	
17,700.00	9,176.17	8,739.00	8,743.66	202.62	43.75	-69.85	344.02	-1,057.23	8,906.97	8,672.62	234.35	38.007	
17,800.00	9,177.56	8,739.00	8,743.66	204.71	43.75	-69.85	344.02	-1,057.23	9,006.47	8,770.11	236.35	38.106	
17,900.00	9,178.95	8,739.00	8,743.66	206.81	43.75	-69.85	344.02	-1,057.23	9,105.97	8,867.61	238.36	38.203	
18,000.00	9,180.34	8,739.00	8,743.66	208.90	43.75	-69.85	344.02	-1,057.23	9,205.49	8,965.13	240.36	38.298	
18,100.00	9,181.73	8,739.00	8,743.66	211.00	43.75	-69.85	344.02	-1,057.23	9,305.02	9,062.65	242.37	38.392	
18,200.00	9,183.11	8,739.00	8,743.66	213.09	43.75	-69.85	344.02	-1,057.23	9,404.56	9,160.18	244.38	38.484	
18,300.00	9,184.50	8,739.00	8,743.66	215.19	43.75	-69.85	344.02	-1,057.23	9,504.10	9,257.72	246.39	38.574	
18,400.00	9,185.89	8,739.00	8,743.66	217.29	43.75	-69.85	344.02	-1,057.23	9,603.66	9,355.26	248.40	38.662	
18,500.00	9,187.28	8,739.00	8,743.66	219.39	43.75	-69.85	344.02	-1,057.23	9,703.23	9,452.82	250.41	38.750	
18,600.00	9,188.66	8,739.00	8,743.66	221.49	43.75	-69.85	344.02	-1,057.23	9,802.80	9,550.38	252.42	38.835	
18,700.00	9,190.05	8,739.00	8,743.66	223.59	43.75	-69.85	344.02	-1,057.23	9,902.38	9,647.95	254.43	38.919	



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 5HC - OH / Job #61218 - Plan 3 06-09-17													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	
0.00	0.00	0.00	22.00	0.00	0.00	-75.41	352.36	-1,353.89	1,399.16				
100.00	100.00	78.00	100.00	0.19	0.15	-75.41	352.36	-1,353.89	1,398.99	1,398.64	0.34	4,060.175	
200.00	200.00	178.00	200.00	0.73	0.61	-75.41	352.36	-1,353.89	1,398.99	1,397.64	1.34	1,040.705	
300.00	300.00	278.00	300.00	1.27	1.15	-75.41	352.36	-1,353.89	1,398.99	1,396.57	2.42	578.170	
400.00	400.00	378.00	400.00	1.81	1.69	-75.41	352.36	-1,353.89	1,398.99	1,395.49	3.50	400.271	
500.00	500.00	478.00	500.00	2.34	2.23	-75.41	352.36	-1,353.89	1,398.99	1,394.42	4.57	306.090	
600.00	600.00	578.00	600.00	2.88	2.76	-75.41	352.36	-1,353.89	1,398.99	1,393.34	5.65	247.787	
700.00	699.98	677.98	699.98	3.42	3.30	-54.92	352.36	-1,353.89	1,397.98	1,391.26	6.72	207.975	
800.00	799.84	777.84	799.84	3.96	3.84	-55.15	352.36	-1,353.89	1,394.98	1,387.18	7.80	178.899	
899.93	899.39	877.39	899.39	4.50	4.37	-55.52	352.36	-1,353.89	1,390.01	1,381.14	8.87	156.668	
1,000.00	998.90	976.90	998.90	5.05	4.91	-55.88	352.36	-1,353.89	1,384.10	1,374.15	9.95	139.124	
1,100.00	1,098.36	1,076.36	1,098.36	5.60	5.44	-56.24	352.36	-1,353.89	1,378.24	1,367.21	11.03	124.963	
1,200.00	1,197.81	1,175.81	1,197.81	6.16	5.98	-56.60	352.36	-1,353.89	1,372.44	1,360.33	12.11	113.299	
1,300.00	1,297.26	1,275.26	1,297.26	6.72	6.51	-56.96	352.36	-1,353.89	1,366.69	1,353.49	13.20	103.534	
1,400.00	1,396.71	1,374.71	1,396.71	7.28	7.05	-57.33	352.36	-1,353.89	1,361.00	1,346.71	14.29	95.243	
1,500.00	1,496.17	1,474.17	1,496.17	7.84	7.58	-57.70	352.36	-1,353.89	1,355.37	1,339.98	15.38	88.120	
1,600.00	1,595.62	1,573.62	1,595.62	8.41	8.12	-58.07	352.36	-1,353.89	1,349.79	1,333.31	16.47	81.936	
1,700.00	1,695.07	1,673.07	1,695.07	8.98	8.65	-58.45	352.36	-1,353.89	1,344.27	1,326.70	17.57	76.519	
1,800.00	1,794.52	1,772.52	1,794.52	9.54	9.19	-58.83	352.36	-1,353.89	1,338.81	1,320.14	18.66	71.736	
1,900.00	1,893.98	1,871.98	1,893.98	10.11	9.72	-59.21	352.36	-1,353.89	1,333.41	1,313.65	19.76	67.483	
2,000.00	1,993.43	1,971.43	1,993.43	10.68	10.26	-59.60	352.36	-1,353.89	1,328.07	1,307.21	20.86	63.677	
2,100.00	2,092.88	2,070.88	2,092.88	11.25	10.79	-59.99	352.36	-1,353.89	1,322.79	1,300.83	21.95	60.252	
2,200.00	2,192.33	2,170.33	2,192.33	11.82	11.33	-60.38	352.36	-1,353.89	1,317.57	1,294.51	23.05	57.154	
2,300.00	2,291.79	2,269.79	2,291.79	12.39	11.83	-60.75	352.36	-1,353.92	1,312.46	1,288.34	24.12	54.420	
2,400.00	2,391.24	2,369.24	2,391.24	12.96	12.38	-61.13	352.36	-1,355.06	1,309.01	1,283.97	25.04	52.283	
2,495.78	2,486.49	2,464.49	2,495.78	13.51	12.83	-61.32	352.36	-1,357.81	1,307.98	1,282.06	25.93	50.451 CC	
2,500.00	2,490.69	2,468.69	2,490.69	13.53	12.83	-61.32	352.36	-1,357.81	1,307.99	1,282.04	25.95	50.405	
2,600.00	2,590.14	2,568.14	2,590.14	14.10	13.49	-61.62	352.36	-1,362.26	1,309.40	1,282.53	26.87	48.728	
2,700.00	2,689.60	2,567.60	2,689.60	14.67	13.94	-61.93	352.36	-1,368.30	1,313.24	1,285.45	27.79	47.256	
2,800.00	2,789.05	2,667.05	2,789.05	15.24	14.51	-62.36	352.36	-1,378.06	1,318.73	1,289.89	28.84	45.724	
2,900.00	2,888.50	2,766.50	2,888.50	15.81	15.08	-62.82	352.36	-1,388.44	1,324.35	1,294.42	29.92	44.258	
3,000.00	2,987.95	2,865.95	2,987.95	16.39	15.66	-63.26	352.36	-1,398.81	1,330.05	1,299.04	31.01	42.893	
3,100.00	3,087.41	2,965.41	3,087.41	16.96	16.23	-63.71	352.36	-1,409.19	1,335.82	1,303.73	32.10	41.620	
3,200.00	3,186.86	3,064.86	3,186.86	17.53	16.80	-64.15	352.36	-1,419.57	1,341.68	1,308.50	33.19	40.430	
3,300.00	3,286.31	3,164.31	3,286.31	18.10	17.37	-64.59	352.36	-1,429.95	1,347.62	1,313.35	34.28	39.316	
3,400.00	3,385.76	3,263.76	3,385.76	18.68	17.94	-65.02	352.36	-1,440.33	1,353.64	1,318.27	35.37	38.271	
3,500.00	3,485.22	3,363.22	3,485.22	19.25	18.51	-65.45	352.36	-1,450.71	1,359.73	1,323.27	36.46	37.290	
3,600.00	3,584.67	3,462.67	3,584.67	19.82	19.08	-65.87	352.36	-1,461.09	1,365.91	1,328.35	37.56	36.366	
3,700.00	3,684.12	3,562.12	3,684.12	20.39	19.65	-66.30	352.36	-1,471.47	1,372.15	1,333.49	38.66	35.495	
3,800.00	3,783.57	3,661.57	3,783.57	20.97	19.11	-66.71	352.36	-1,481.84	1,378.47	1,338.72	39.76	34.673	
3,900.00	3,883.02	3,761.02	3,883.02	21.54	19.66	-67.13	352.36	-1,492.22	1,384.86	1,344.01	40.86	33.896	
4,000.00	3,982.48	3,860.48	3,982.48	22.11	20.21	-67.54	352.36	-1,502.60	1,391.33	1,349.37	41.96	33.161	
4,100.00	4,081.93	3,959.93	4,081.93	22.68	20.76	-67.95	352.36	-1,512.98	1,397.87	1,354.81	43.06	32.464	
4,200.00	4,181.38	4,059.38	4,181.38	23.26	21.32	-68.35	352.36	-1,523.36	1,404.47	1,360.31	44.16	31.803	
4,300.00	4,280.83	4,158.83	4,280.83	23.83	21.87	-68.75	352.36	-1,533.74	1,411.15	1,365.88	45.26	31.176	
4,400.00	4,380.28	4,258.28	4,380.28	24.40	22.43	-69.20	352.36	-1,544.12	1,418.12	1,371.75	46.36	30.586	
4,500.00	4,480.12	4,358.12	4,480.12	24.95	23.25	-69.69	352.36	-1,557.95	1,425.42	1,377.72	47.70	29.882	
4,600.00	4,580.07	4,458.07	4,580.07	25.48	24.32	-69.97	352.36	-1,565.06	1,427.91	1,378.64	49.28	28.978	
4,671.58	4,651.65	4,640.17	4,651.65	25.84	24.70	-69.99	352.36	-1,565.06	1,427.69	1,377.67	50.02	28.541	
4,700.00	4,680.07	4,668.59	4,680.07	25.99	24.85	-90.55	352.36	-1,565.06	1,427.82	1,377.51	50.31	28.380	
4,800.00	4,780.07	4,768.59	4,780.07	26.50	25.37	-90.55	352.36	-1,565.06	1,427.82	1,376.47	51.35	27.805	
4,900.00	4,880.07	4,868.59	4,880.07	27.01	25.90	-90.55	352.36	-1,565.06	1,427.82	1,375.43	52.39	27.253	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 5HC - OH / Job #61218 - Plan 3 06-09-17												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)	
5,000.00	4,980.07	4,968.59	4,980.07	27.52	26.42	-90.55	352.36	-1,565.06	1,427.82	1,374.38	53.43	26.721
5,100.00	5,080.07	5,068.59	5,080.07	28.03	26.95	-90.55	352.36	-1,565.06	1,427.82	1,373.34	54.48	26.209
5,200.00	5,180.07	5,168.59	5,180.07	28.55	27.47	-90.55	352.36	-1,565.06	1,427.82	1,372.29	55.52	25.715
5,300.00	5,280.07	5,268.59	5,280.07	29.06	28.00	-90.55	352.36	-1,565.06	1,427.82	1,371.25	56.57	25.240
5,400.00	5,380.07	5,368.59	5,380.07	29.58	28.52	-90.55	352.36	-1,565.06	1,427.82	1,370.20	57.62	24.781
5,500.00	5,480.07	5,468.59	5,480.07	30.10	29.05	-90.55	352.36	-1,565.06	1,427.82	1,369.15	58.67	24.338
5,600.00	5,580.07	5,568.59	5,580.07	30.61	29.58	-90.55	352.36	-1,565.06	1,427.82	1,368.10	59.72	23.910
5,700.00	5,680.07	5,668.59	5,680.07	31.13	30.11	-90.55	352.36	-1,565.06	1,427.82	1,367.05	60.77	23.497
5,800.00	5,780.07	5,768.59	5,780.07	31.65	30.63	-90.55	352.36	-1,565.06	1,427.82	1,366.00	61.82	23.097
5,900.00	5,880.07	5,868.59	5,880.07	32.17	31.16	-90.55	352.36	-1,565.06	1,427.82	1,364.95	62.87	22.711
6,000.00	5,980.07	5,968.59	5,980.07	32.69	31.69	-90.55	352.36	-1,565.06	1,427.82	1,363.90	63.92	22.337
6,100.00	6,080.07	6,068.59	6,080.07	33.21	32.22	-90.55	352.36	-1,565.06	1,427.82	1,362.84	64.98	21.975
6,200.00	6,180.07	6,168.59	6,180.07	33.73	32.75	-90.55	352.36	-1,565.06	1,427.82	1,361.79	66.03	21.624
6,300.00	6,280.07	6,268.59	6,280.07	34.25	33.28	-90.55	352.36	-1,565.06	1,427.82	1,360.73	67.08	21.284
6,400.00	6,380.07	6,368.59	6,380.07	34.77	33.81	-90.55	352.36	-1,565.06	1,427.82	1,359.68	68.14	20.954
6,500.00	6,480.07	6,468.59	6,480.07	35.30	34.34	-90.55	352.36	-1,565.06	1,427.82	1,358.62	69.20	20.634
6,600.00	6,580.07	6,568.59	6,580.07	35.82	34.87	-90.55	352.36	-1,565.06	1,427.82	1,357.56	70.25	20.324
6,700.00	6,680.07	6,668.59	6,680.07	36.34	35.40	-90.55	352.36	-1,565.06	1,427.82	1,356.51	71.31	20.023
6,800.00	6,780.07	6,768.59	6,780.07	36.87	35.93	-90.55	352.36	-1,565.06	1,427.82	1,355.45	72.37	19.730
6,900.00	6,880.07	6,868.59	6,880.07	37.39	36.46	-90.55	352.36	-1,565.06	1,427.82	1,354.39	73.43	19.446
7,000.00	6,980.07	6,968.59	6,980.07	37.92	36.99	-90.55	352.36	-1,565.06	1,427.82	1,353.33	74.49	19.169
7,100.00	7,080.07	7,068.59	7,080.07	38.44	37.52	-90.55	352.36	-1,565.06	1,427.82	1,352.27	75.54	18.900
7,200.00	7,180.07	7,168.59	7,180.07	38.97	38.05	-90.55	352.36	-1,565.06	1,427.82	1,351.21	76.60	18.639
7,300.00	7,280.07	7,268.59	7,280.07	39.49	38.59	-90.55	352.36	-1,565.06	1,427.82	1,350.15	77.66	18.384
7,400.00	7,380.07	7,368.59	7,380.07	40.02	39.12	-90.55	352.36	-1,565.06	1,427.82	1,349.09	78.72	18.137
7,500.00	7,480.07	7,468.59	7,480.07	40.54	39.65	-90.55	352.36	-1,565.06	1,427.82	1,348.03	79.79	17.896
7,600.00	7,580.07	7,568.59	7,580.07	41.07	40.18	-90.55	352.36	-1,565.06	1,427.82	1,346.97	80.85	17.661
7,700.00	7,680.07	7,668.59	7,680.07	41.60	40.71	-90.55	352.36	-1,565.06	1,427.82	1,345.91	81.91	17.432
7,800.00	7,780.07	7,768.59	7,780.07	42.13	41.25	-90.55	352.36	-1,565.06	1,427.82	1,344.85	82.97	17.209
7,900.00	7,880.07	7,868.59	7,880.07	42.65	41.78	-90.55	352.36	-1,565.06	1,427.82	1,343.78	84.03	16.991
8,000.00	7,980.07	7,968.59	7,980.07	43.18	42.31	-90.55	352.36	-1,565.06	1,427.82	1,342.72	85.10	16.779
8,100.00	8,080.07	8,068.59	8,080.07	43.71	42.84	-90.55	352.36	-1,565.06	1,427.82	1,341.66	86.16	16.572
8,200.00	8,180.07	8,168.59	8,180.07	44.24	43.38	-90.55	352.36	-1,565.06	1,427.82	1,340.60	87.22	16.370
8,300.00	8,280.07	8,268.59	8,280.07	44.77	43.91	-90.55	352.36	-1,565.06	1,427.82	1,339.53	88.29	16.173
8,400.00	8,380.07	8,368.59	8,380.07	45.29	44.44	-90.55	352.36	-1,565.06	1,427.82	1,338.47	89.35	15.980
8,500.00	8,480.07	8,468.59	8,480.07	45.82	44.98	-90.55	352.36	-1,565.06	1,427.82	1,337.40	90.41	15.792
8,551.13	8,531.18	8,519.70	8,531.18	46.10	45.25	-90.03	352.36	-1,565.06	1,427.82	1,336.85	90.97	15.696
8,600.00	8,579.96	8,568.48	8,579.96	46.36	45.51	-90.10	352.36	-1,565.06	1,427.82	1,336.33	91.49	15.606
8,700.00	8,678.03	8,666.55	8,678.03	46.93	46.03	-90.82	352.36	-1,565.06	1,427.98	1,335.39	92.59	15.423
8,800.00	8,771.34	8,759.85	8,771.34	47.54	46.53	-92.06	352.36	-1,565.06	1,428.96	1,335.28	93.68	15.254
8,900.00	8,857.03	8,845.55	8,857.03	48.17	46.99	-93.52	352.36	-1,565.06	1,431.92	1,337.21	94.71	15.120
9,000.00	8,932.52	8,921.04	8,932.52	48.82	47.39	-94.84	352.36	-1,565.06	1,438.34	1,342.70	95.64	15.039
9,100.00	8,995.51	8,984.03	8,995.51	49.51	47.73	-95.63	352.36	-1,565.06	1,449.75	1,353.24	96.51	15.022
9,200.00	9,044.08	9,032.60	9,044.08	50.22	47.99	-95.53	352.36	-1,565.06	1,467.39	1,369.97	97.42	15.063
9,300.00	9,076.76	9,065.28	9,076.76	50.96	48.16	-94.22	352.36	-1,565.06	1,491.98	1,393.52	98.46	15.153
9,400.00	9,092.55	9,081.07	9,092.55	51.72	48.24	-91.52	352.36	-1,565.06	1,523.52	1,423.96	99.56	15.303
9,500.00	9,094.47	10,079.69	9,687.54	52.50	52.85	-112.55	1,000.03	-1,571.47	1,546.17	1,448.78	97.38	15.877
9,600.00	9,095.21	10,179.63	9,684.80	53.35	53.44	-112.43	1,099.92	-1,572.46	1,544.83	1,446.03	98.80	15.635
9,700.00	9,095.95	10,279.57	9,682.06	54.27	54.11	-112.31	1,199.82	-1,573.45	1,543.51	1,443.14	100.37	15.378
9,800.00	9,096.69	10,379.51	9,679.32	55.27	54.85	-112.19	1,299.72	-1,574.44	1,542.19	1,440.10	102.08	15.107
9,900.00	9,097.43	10,479.45	9,676.59	56.33	55.67	-112.07	1,399.61	-1,575.43	1,540.87	1,436.94	103.93	14.825
10,000.00	9,098.17	10,579.39	9,673.85	57.45	56.56	-111.95	1,499.51	-1,576.42	1,539.57	1,433.65	105.92	14.536

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 5HC - OH / Job #61218 - Plan 3 06-09-17													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	
10,100.00	9,098.91	10,679.33	9,671.11	58.62	57.51	-111.83	1,599.41	-1,577.40	1,538.27	1,430.25	108.02	14.241	
10,200.00	9,099.65	10,779.27	9,668.37	59.86	58.53	-111.71	1,699.30	-1,578.39	1,536.98	1,426.73	110.24	13.942	
10,300.00	9,100.39	10,879.21	9,665.63	61.14	59.61	-111.59	1,799.20	-1,579.38	1,535.69	1,423.11	112.58	13.641	
10,400.00	9,101.13	10,979.15	9,662.89	62.47	60.75	-111.47	1,899.10	-1,580.37	1,534.41	1,419.40	115.01	13.341	
10,500.00	9,101.87	11,079.09	9,660.16	63.85	61.94	-111.35	1,999.00	-1,581.36	1,533.14	1,415.59	117.55	13.042	
10,600.00	9,102.61	11,179.02	9,657.42	65.27	63.18	-111.23	2,098.89	-1,582.35	1,531.87	1,411.69	120.18	12.746	
10,700.00	9,103.35	11,278.96	9,654.68	66.73	64.48	-111.11	2,198.79	-1,583.34	1,530.61	1,407.71	122.90	12.454	
10,800.00	9,104.09	11,378.90	9,651.94	68.23	65.81	-110.99	2,298.69	-1,584.32	1,529.36	1,403.66	125.70	12.167	
10,900.00	9,104.83	11,478.84	9,649.20	69.76	67.19	-110.87	2,398.58	-1,585.31	1,528.12	1,399.54	128.58	11.885	
11,000.00	9,105.57	11,578.78	9,646.47	71.33	68.61	-110.74	2,498.48	-1,586.30	1,526.88	1,395.35	131.53	11.609	
11,100.00	9,106.31	11,678.72	9,643.73	72.92	70.07	-110.62	2,598.38	-1,587.29	1,525.65	1,391.10	134.55	11.339	
11,200.00	9,107.05	11,778.66	9,640.99	74.55	71.56	-110.50	2,698.28	-1,588.28	1,524.42	1,386.79	137.63	11.076	
11,300.00	9,107.79	11,878.62	9,638.22	76.20	73.09	-110.38	2,798.19	-1,589.27	1,523.20	1,382.42	140.78	10.820	
11,400.00	9,108.53	11,978.86	9,635.40	77.87	74.65	-110.25	2,898.39	-1,590.27	1,521.97	1,377.99	143.98	10.571	
11,500.00	9,109.27	12,078.80	9,632.59	79.57	76.24	-110.12	2,998.28	-1,591.26	1,520.75	1,373.51	147.24	10.328	
11,600.00	9,110.01	12,178.73	9,629.77	81.29	77.85	-110.00	3,098.17	-1,592.26	1,519.53	1,368.98	150.55	10.093	
11,700.00	9,110.75	12,278.67	9,626.95	83.03	79.50	-109.87	3,198.06	-1,593.26	1,518.32	1,364.42	153.90	9.866	
11,800.00	9,111.49	12,378.61	9,624.13	84.79	81.16	-109.75	3,297.95	-1,594.25	1,517.12	1,359.82	157.30	9.645	
11,900.00	9,112.24	12,478.54	9,621.32	86.57	82.85	-109.62	3,397.85	-1,595.25	1,515.93	1,355.19	160.74	9.431	
12,000.00	9,112.98	12,578.48	9,618.50	88.36	84.56	-109.49	3,497.74	-1,596.24	1,514.74	1,350.52	164.22	9.224	
12,100.00	9,113.72	12,678.42	9,615.68	90.18	86.29	-109.37	3,597.63	-1,597.24	1,513.56	1,345.82	167.74	9.023	
12,200.00	9,114.46	12,778.35	9,612.86	92.00	88.04	-109.24	3,697.52	-1,598.24	1,512.39	1,341.10	171.29	8.829	
12,300.00	9,115.20	12,878.29	9,610.04	93.84	89.81	-109.11	3,797.41	-1,599.23	1,511.22	1,336.34	174.88	8.641	
12,400.00	9,115.94	12,978.23	9,607.23	95.70	91.59	-108.98	3,897.30	-1,600.23	1,510.07	1,331.57	178.50	8.460	
12,500.00	9,116.68	13,078.16	9,604.41	97.56	93.39	-108.86	3,997.20	-1,601.22	1,508.92	1,326.77	182.15	8.284	
12,600.00	9,117.42	13,178.10	9,601.59	99.44	95.20	-108.73	4,097.09	-1,602.22	1,507.78	1,321.95	185.83	8.114	
12,700.00	9,118.16	13,278.04	9,598.77	101.33	97.03	-108.60	4,196.98	-1,603.21	1,506.64	1,317.11	189.53	7.949	
12,800.00	9,118.90	13,377.97	9,595.96	103.23	98.87	-108.47	4,296.87	-1,604.21	1,505.51	1,312.25	193.26	7.790	
12,900.00	9,119.64	13,477.91	9,593.14	105.14	100.73	-108.34	4,396.76	-1,605.21	1,504.40	1,307.37	197.02	7.636	
13,000.00	9,120.38	13,577.85	9,590.32	107.06	102.60	-108.21	4,496.66	-1,606.20	1,503.28	1,302.48	200.80	7.486	
13,100.00	9,121.12	13,677.78	9,587.50	108.99	104.47	-108.08	4,596.55	-1,607.20	1,502.18	1,297.58	204.60	7.342	
13,200.00	9,121.86	13,777.67	9,584.75	110.93	106.33	-107.96	4,696.49	-1,608.18	1,501.09	1,292.70	208.39	7.203	
13,300.00	9,122.60	13,877.61	9,582.00	112.87	107.97	-107.90	4,796.38	-1,609.03	1,500.56	1,288.66	211.91	7.081	
13,306.73	9,122.65	13,868.06	9,583.94	113.01	108.08	-107.90	4,786.77	-1,609.09	1,500.56	1,288.42	212.14	7.073	
13,400.00	9,123.34	13,952.40	9,585.64	114.83	109.68	-107.94	4,871.09	-1,609.93	1,500.93	1,285.50	215.43	6.967	
13,500.00	9,124.08	14,052.38	9,588.30	116.79	111.60	-108.01	4,971.03	-1,610.93	1,501.52	1,282.41	219.11	6.853	
13,600.00	9,124.82	14,152.37	9,590.95	118.76	113.52	-108.08	5,070.97	-1,611.93	1,502.12	1,279.31	222.81	6.742	
13,700.00	9,125.56	14,252.35	9,593.61	120.73	115.45	-108.15	5,170.92	-1,612.92	1,502.72	1,276.20	226.52	6.634	
13,800.00	9,126.30	14,352.33	9,596.26	122.71	117.39	-108.22	5,270.86	-1,613.92	1,503.33	1,273.08	230.24	6.529	
13,900.00	9,127.04	14,452.31	9,598.92	124.70	119.33	-108.29	5,370.80	-1,614.91	1,503.93	1,269.96	233.97	6.428	
14,000.00	9,127.78	14,552.29	9,601.57	126.69	121.29	-108.36	5,470.74	-1,615.91	1,504.54	1,266.82	237.72	6.329	
14,100.00	9,128.52	14,652.27	9,604.23	128.69	123.25	-108.43	5,570.68	-1,616.91	1,505.15	1,263.68	241.47	6.233	
14,200.00	9,129.26	14,752.26	9,606.88	130.69	125.22	-108.50	5,670.62	-1,617.90	1,505.76	1,260.53	245.23	6.140	
14,300.00	9,130.00	14,852.24	9,609.54	132.70	127.19	-108.57	5,770.56	-1,618.90	1,506.38	1,257.38	249.00	6.050	
14,400.00	9,130.74	14,952.22	9,612.20	134.71	129.17	-108.64	5,870.50	-1,619.89	1,506.99	1,254.22	252.78	5.962	
14,500.00	9,131.76	15,078.35	9,615.17	136.72	131.67	-108.70	5,996.60	-1,620.70	1,507.76	1,250.78	256.98	5.867	
14,600.00	9,133.15	15,178.35	9,616.63	138.74	133.65	-108.71	6,096.59	-1,620.27	1,507.73	1,246.89	260.84	5.780	
14,700.00	9,134.54	15,278.35	9,618.10	140.76	135.64	-108.71	6,196.58	-1,619.84	1,507.70	1,242.99	264.70	5.696	
14,800.00	9,135.92	15,378.35	9,619.56	142.78	137.63	-108.71	6,296.56	-1,619.41	1,507.67	1,239.09	268.58	5.614	
14,900.00	9,137.31	15,478.35	9,621.02	144.81	139.63	-108.72	6,396.55	-1,618.98	1,507.64	1,235.18	272.46	5.533	
15,000.00	9,138.70	15,578.35	9,622.49	146.84	141.64	-108.72	6,496.54	-1,618.55	1,507.61	1,231.26	276.35	5.455	
15,100.00	9,140.09	15,678.35	9,623.95	148.87	143.64	-108.72	6,596.53	-1,618.12	1,507.58	1,227.33	280.24	5.380	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 5HC - OH / Job #61218 - Plan 3 06-09-17													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
15,200.00	9,141.48	15,778.35	9,625.41	150.91	145.65	-108.73	6,696.52	-1,617.68	1,507.55	1,223.40	284.15	5.306	
15,300.00	9,142.86	15,878.35	9,626.88	152.95	147.67	-108.73	6,796.51	-1,617.25	1,507.52	1,219.46	288.06	5.233	
15,368.78	9,143.82	15,947.14	9,627.88	154.35	149.06	-108.73	6,865.28	-1,616.96	1,507.50	1,216.75	290.75	5.185	
15,400.00	9,144.25	15,976.02	9,628.35	154.99	149.64	-108.73	6,894.16	-1,616.84	1,507.52	1,215.59	291.93	5.164	
15,500.00	9,145.64	16,076.02	9,630.08	157.04	151.66	-108.75	6,994.15	-1,616.49	1,507.64	1,211.80	295.84	5.096	
15,600.00	9,147.03	16,176.02	9,631.82	159.09	153.69	-108.76	7,094.13	-1,616.13	1,507.77	1,208.01	299.75	5.030	
15,700.00	9,148.41	16,276.02	9,633.55	161.14	155.72	-108.77	7,194.11	-1,615.77	1,507.89	1,204.21	303.68	4.965	
15,800.00	9,149.80	16,376.02	9,635.28	163.19	157.75	-108.78	7,294.10	-1,615.41	1,508.02	1,200.41	307.60	4.902	
15,900.00	9,151.19	16,476.02	9,637.02	165.25	159.79	-108.80	7,394.08	-1,615.05	1,508.14	1,196.60	311.54	4.841	
16,000.00	9,152.58	16,576.02	9,638.75	167.31	161.83	-108.81	7,494.07	-1,614.69	1,508.27	1,192.79	315.47	4.781	
16,100.00	9,153.97	16,676.02	9,640.49	169.37	163.87	-108.82	7,594.05	-1,614.33	1,508.39	1,188.97	319.42	4.722	
16,200.00	9,155.35	16,776.02	9,642.22	171.44	165.92	-108.83	7,694.03	-1,613.97	1,508.52	1,185.15	323.36	4.665	
16,300.00	9,156.74	16,876.02	9,643.95	173.50	167.97	-108.84	7,794.02	-1,613.61	1,508.64	1,181.33	327.31	4.609	
16,400.00	9,158.13	16,976.02	9,645.69	175.57	170.02	-108.86	7,894.00	-1,613.25	1,508.77	1,177.50	331.27	4.555	
16,500.00	9,159.52	17,076.02	9,647.42	177.64	172.07	-108.87	7,993.98	-1,612.89	1,508.89	1,173.67	335.22	4.501	
16,600.00	9,160.91	17,176.02	9,649.15	179.71	174.13	-108.88	8,093.97	-1,612.53	1,509.02	1,169.83	339.19	4.449	
16,700.00	9,162.29	17,276.02	9,650.89	181.79	176.18	-108.89	8,193.95	-1,612.17	1,509.14	1,165.99	343.15	4.398	
16,800.00	9,163.68	17,376.02	9,652.62	183.86	178.24	-108.91	8,293.94	-1,611.81	1,509.27	1,162.15	347.12	4.348	
16,900.00	9,165.07	17,476.01	9,654.35	185.94	180.31	-108.92	8,393.92	-1,611.46	1,509.39	1,158.30	351.09	4.299	
17,000.00	9,166.46	17,576.01	9,656.09	188.02	182.37	-108.93	8,493.90	-1,611.10	1,509.52	1,154.45	355.07	4.251	
17,100.00	9,167.85	17,676.01	9,657.82	190.10	184.44	-108.94	8,593.89	-1,610.74	1,509.64	1,150.60	359.05	4.205	
17,200.00	9,169.23	17,776.01	9,659.55	192.19	186.51	-108.95	8,693.87	-1,610.38	1,509.77	1,146.74	363.03	4.159	
17,300.00	9,170.62	17,876.01	9,661.29	194.27	188.58	-108.97	8,793.85	-1,610.02	1,509.90	1,142.88	367.01	4.114	
17,400.00	9,172.01	17,976.01	9,663.02	196.36	190.65	-108.98	8,893.84	-1,609.66	1,510.02	1,139.02	371.00	4.070	
17,500.00	9,173.40	18,076.01	9,664.75	198.44	192.72	-108.99	8,993.82	-1,609.30	1,510.15	1,135.16	374.99	4.027	
17,600.00	9,174.79	18,181.99	9,666.39	200.53	194.92	-109.00	9,093.79	-1,608.92	1,510.22	1,131.11	379.11	3.984	
17,700.00	9,176.17	18,287.84	9,668.92	202.62	197.12	-108.93	9,205.63	-1,608.52	1,509.61	1,126.26	383.36	3.938	
17,800.00	9,177.56	18,387.82	9,665.30	204.71	199.20	-108.86	9,305.61	-1,608.14	1,508.96	1,121.46	387.49	3.894	
17,900.00	9,178.95	18,487.80	9,664.68	206.81	201.28	-108.78	9,405.59	-1,607.76	1,508.31	1,116.67	391.64	3.851	
18,000.00	9,180.34	18,587.78	9,664.06	208.90	203.36	-108.71	9,505.56	-1,607.39	1,507.66	1,111.87	395.79	3.809	
18,100.00	9,181.73	18,687.76	9,663.44	211.00	205.44	-108.64	9,605.54	-1,607.01	1,507.01	1,107.07	399.94	3.768	
18,200.00	9,183.11	18,787.74	9,662.81	213.09	207.53	-108.57	9,705.52	-1,606.63	1,506.36	1,102.27	404.09	3.728	
18,300.00	9,184.50	18,887.72	9,662.19	215.19	209.62	-108.49	9,805.49	-1,606.25	1,505.72	1,097.47	408.26	3.688	
18,400.00	9,185.89	18,987.70	9,661.57	217.29	211.70	-108.42	9,905.47	-1,605.87	1,505.08	1,092.66	412.42	3.649	
18,500.00	9,187.28	19,087.68	9,660.95	219.39	213.79	-108.35	10,005.45	-1,605.50	1,504.44	1,087.85	416.59	3.611	
18,600.00	9,188.66	19,187.65	9,660.33	221.49	215.88	-108.28	10,105.43	-1,605.12	1,503.81	1,083.04	420.76	3.574	
18,700.00	9,190.05	19,287.63	9,659.70	223.59	217.97	-108.20	10,205.40	-1,604.74	1,503.17	1,078.23	424.94	3.537	
18,800.00	9,191.44	19,387.61	9,659.08	225.69	220.07	-108.13	10,305.38	-1,604.36	1,502.54	1,073.42	429.12	3.501	
18,900.00	9,192.83	19,487.59	9,658.46	227.79	222.16	-108.06	10,405.36	-1,603.99	1,501.92	1,068.61	433.31	3.466	
19,000.00	9,194.22	19,587.57	9,657.84	229.90	224.26	-107.98	10,505.33	-1,603.61	1,501.29	1,063.79	437.50	3.432	
19,100.00	9,195.60	19,687.55	9,657.22	232.00	226.35	-107.91	10,605.31	-1,603.23	1,500.67	1,058.98	441.69	3.398	
19,200.00	9,196.99	19,787.53	9,656.59	234.11	228.45	-107.84	10,705.29	-1,602.85	1,500.05	1,054.16	445.89	3.364	
19,300.00	9,198.38	19,887.51	9,655.97	236.22	230.55	-107.77	10,805.27	-1,602.47	1,499.43	1,049.34	450.09	3.331	
19,400.00	9,199.77	19,987.49	9,655.35	238.33	232.65	-107.69	10,905.24	-1,602.10	1,498.81	1,044.52	454.29	3.299	
19,416.71	9,200.00	20,004.20	9,655.25	238.68	233.00	-107.68	10,921.95	-1,602.03	1,498.71	1,043.71	454.99	3.294 ES, 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 6HC - OH / Job #61219 - Plan 3 06-09-17													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	
0.00	0.00	0.00	22.00	0.00	0.00	-76.41	327.36	-1,353.89	1,393.07				
100.00	100.00	78.00	100.00	0.19	0.15	-76.41	327.36	-1,353.89	1,392.90	1,392.56	0.34	4,042.511	
200.00	200.00	178.00	200.00	0.73	0.61	-76.41	327.36	-1,353.89	1,392.90	1,391.56	1.34	1,036.177	
300.00	300.00	278.00	300.00	1.27	1.15	-76.41	327.36	-1,353.89	1,392.90	1,390.48	2.42	575.654	
400.00	400.00	378.00	400.00	1.81	1.69	-76.41	327.36	-1,353.89	1,392.90	1,389.41	3.50	398.530	
500.00	500.00	478.00	500.00	2.34	2.23	-76.41	327.36	-1,353.89	1,392.90	1,388.33	4.57	304.758	
600.00	600.00	578.00	600.00	2.88	2.76	-76.41	327.36	-1,353.89	1,392.90	1,387.25	5.65	246.709	
700.00	699.98	677.98	699.98	3.42	3.30	-55.92	327.36	-1,353.89	1,391.92	1,385.20	6.72	207.077	
800.00	799.84	777.84	799.84	3.96	3.84	-56.14	327.36	-1,353.89	1,388.99	1,381.20	7.80	178.137	
899.93	899.39	877.39	899.39	4.50	4.37	-56.52	327.36	-1,353.89	1,384.15	1,375.28	8.87	156.012	
1,000.00	998.90	976.90	998.90	5.05	4.91	-56.88	327.36	-1,353.89	1,378.39	1,368.44	9.95	138.549	
1,100.00	1,098.36	1,076.36	1,098.36	5.60	5.44	-57.25	327.36	-1,353.89	1,372.69	1,361.66	11.03	124.454	
1,200.00	1,197.81	1,175.81	1,197.81	6.16	5.98	-57.62	327.36	-1,353.89	1,367.04	1,354.93	12.11	112.845	
1,300.00	1,297.26	1,275.26	1,297.26	6.72	6.51	-57.99	327.36	-1,353.89	1,361.45	1,348.25	13.20	103.127	
1,400.00	1,396.71	1,374.71	1,396.71	7.28	7.05	-58.36	327.36	-1,353.89	1,355.92	1,341.62	14.29	94.876	
1,500.00	1,496.17	1,474.17	1,496.17	7.84	7.58	-58.73	327.36	-1,353.89	1,350.44	1,335.06	15.38	87.788	
1,600.00	1,595.62	1,573.62	1,595.62	8.41	8.12	-59.11	327.36	-1,353.89	1,345.02	1,328.55	16.48	81.634	
1,700.00	1,695.07	1,673.07	1,695.07	8.98	8.65	-59.50	327.36	-1,353.89	1,339.67	1,322.10	17.57	76.245	
1,800.00	1,794.52	1,772.52	1,794.52	9.54	9.19	-59.88	327.36	-1,353.89	1,334.37	1,315.71	18.67	71.485	
1,900.00	1,893.98	1,871.98	1,893.98	10.11	9.72	-60.27	327.36	-1,353.89	1,329.14	1,309.37	19.76	67.254	
2,000.00	1,993.43	1,971.43	1,993.43	10.68	10.26	-60.66	327.36	-1,353.89	1,323.96	1,303.10	20.86	63.467	
2,100.00	2,092.88	2,070.88	2,092.88	11.25	10.79	-61.05	327.36	-1,353.89	1,318.85	1,296.89	21.96	60.060	
2,200.00	2,192.33	2,170.33	2,192.33	11.82	11.33	-61.45	327.36	-1,353.89	1,313.81	1,290.75	23.06	56.978	
2,300.00	2,291.79	2,269.79	2,291.79	12.39	11.94	-61.92	327.36	-1,353.89	1,308.70	1,284.46	24.24	53.986	
2,400.00	2,391.24	2,369.24	2,391.24	12.96	12.48	-62.61	327.36	-1,345.67	1,299.42	1,273.69	25.74	50.489	
2,500.00	2,490.69	2,468.69	2,490.69	13.53	13.01	-63.25	327.36	-1,326.67	1,284.05	1,256.83	27.22	47.175	
2,600.00	2,590.14	2,568.14	2,590.14	14.10	13.57	-63.82	327.36	-1,299.14	1,262.77	1,234.14	28.64	44.098	
2,700.00	2,689.60	2,667.60	2,689.60	14.67	14.14	-64.16	327.36	-1,280.65	1,239.23	1,209.54	29.70	41.730	
2,800.00	2,789.05	2,767.05	2,789.05	15.24	14.71	-64.51	327.36	-1,262.16	1,215.73	1,184.97	30.76	39.524	
2,900.00	2,888.50	2,866.50	2,888.50	15.81	15.28	-64.87	327.36	-1,243.66	1,192.28	1,160.45	31.83	37.463	
3,000.00	2,987.95	2,965.95	2,987.95	16.39	15.86	-65.25	327.36	-1,225.17	1,168.87	1,135.98	32.90	35.533	
3,100.00	3,087.41	3,065.41	3,087.41	16.96	16.43	-65.65	327.36	-1,206.67	1,145.52	1,111.55	33.97	33.723	
3,200.00	3,186.86	3,164.86	3,186.86	17.53	16.99	-66.05	327.36	-1,188.18	1,122.21	1,087.17	35.04	32.022	
3,300.00	3,286.31	3,264.31	3,286.31	18.10	17.56	-66.48	327.36	-1,169.68	1,098.97	1,062.84	36.12	30.422	
3,400.00	3,385.76	3,363.76	3,385.76	18.68	18.14	-66.93	327.36	-1,151.19	1,075.78	1,038.58	37.21	28.915	
3,500.00	3,485.22	3,463.22	3,485.22	19.25	18.71	-67.39	327.36	-1,132.70	1,052.66	1,014.37	38.29	27.492	
3,600.00	3,584.67	3,562.67	3,584.67	19.82	19.28	-67.88	327.36	-1,114.20	1,029.61	990.23	39.38	26.147	
3,700.00	3,684.12	3,662.12	3,684.12	20.39	19.85	-68.38	327.36	-1,095.71	1,006.63	966.16	40.47	24.876	
3,800.00	3,783.57	3,761.57	3,783.57	20.97	20.43	-68.91	327.36	-1,077.21	983.73	942.17	41.56	23.671	
3,900.00	3,883.02	3,861.02	3,883.02	21.54	21.00	-69.47	327.36	-1,058.72	960.92	918.26	42.65	22.529	
4,000.00	3,982.48	3,960.48	3,982.48	22.11	21.57	-70.05	327.36	-1,040.23	938.19	894.44	43.75	21.444	
4,100.00	4,081.93	4,059.93	4,081.93	22.68	22.14	-70.66	327.36	-1,021.73	915.57	870.72	44.85	20.414	
4,200.00	4,181.38	4,159.38	4,181.38	23.26	22.72	-71.31	327.36	-1,003.24	893.04	847.09	45.95	19.434	
4,300.00	4,280.83	4,258.83	4,280.83	23.83	23.29	-71.98	327.36	-984.74	870.64	823.58	47.06	18.502	
4,400.00	4,380.35	4,358.35	4,380.35	24.40	23.86	-72.39	327.36	-966.23	848.53	800.36	48.17	17.614	
4,500.00	4,480.12	4,458.12	4,480.12	24.95	24.41	-72.47	327.36	-947.63	827.47	778.19	49.28	16.792	
4,600.00	4,580.07	4,558.07	4,580.07	25.48	24.94	-72.36	327.36	-928.95	807.47	757.11	50.36	16.034	
4,700.00	4,680.07	4,658.07	4,680.07	25.99	25.45	-92.86	327.36	-910.22	788.32	736.92	51.41	15.335	
4,800.00	4,780.07	4,758.07	4,780.07	26.50	25.96	-92.93	327.36	-891.49	769.27	716.81	52.46	14.664	
4,900.00	4,880.07	4,858.07	4,880.07	27.01	26.47	-93.00	327.36	-872.76	750.21	696.70	53.51	14.019	
5,000.00	4,980.07	4,958.07	4,980.07	27.52	26.98	-93.08	327.36	-854.03	731.16	676.59	54.57	13.399	
5,100.00	5,080.07	5,058.07	5,080.07	28.03	27.49	-93.17	327.36	-835.30	712.10	656.48	55.62	12.802	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P2 - 6HC - OH / Job #61219 - Plan 3 06-09-17													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)						
5,200.00	5,180.07	5,340.14	5,312.10	28.55	30.18	-93.25	327.36	-816.57	693.05	636.37	56.68	12.227		
5,300.00	5,280.07	5,438.31	5,408.46	29.06	30.81	-93.34	327.36	-797.84	674.00	616.26	57.74	11.673		
5,400.00	5,380.07	5,536.47	5,504.82	29.58	31.44	-93.44	327.36	-779.11	654.95	596.15	58.80	11.138		
5,500.00	5,480.07	5,618.36	5,585.38	30.10	31.96	-93.52	327.36	-764.41	637.05	577.28	59.77	10.658		
5,600.00	5,580.07	5,700.00	5,666.07	30.61	32.47	-93.59	327.36	-752.03	621.91	561.17	60.74	10.239		
5,700.00	5,680.07	5,781.14	5,746.59	31.13	32.94	-93.65	327.36	-742.02	609.58	547.89	61.70	9.880		
5,800.00	5,780.07	5,863.36	5,828.44	31.65	33.41	-93.70	327.36	-734.21	600.10	537.43	62.66	9.577		
5,900.00	5,880.07	5,945.97	5,910.86	32.17	33.85	-93.73	327.36	-728.72	593.47	529.85	63.62	9.328		
6,000.00	5,980.07	6,028.83	5,993.66	32.69	34.28	-93.75	327.36	-725.61	589.72	525.14	64.58	9.131		
6,100.00	6,080.07	6,115.25	6,080.07	33.21	34.71	-93.76	327.36	-724.85	588.80	523.25	65.55	8.982		
6,200.00	6,180.07	6,215.25	6,180.07	33.73	35.20	-93.76	327.36	-724.85	588.80	522.22	66.59	8.843		
6,300.00	6,280.07	6,315.25	6,280.07	34.25	35.69	-93.76	327.36	-724.85	588.80	521.18	67.62	8.707		
6,400.00	6,380.07	6,415.25	6,380.07	34.77	36.18	-93.76	327.36	-724.85	588.80	520.15	68.66	8.576		
6,500.00	6,480.07	6,515.25	6,480.07	35.30	36.68	-93.76	327.36	-724.85	588.80	519.11	69.70	8.448		
6,600.00	6,580.07	6,615.25	6,580.07	35.82	37.17	-93.76	327.36	-724.85	588.80	518.07	70.74	8.324		
6,700.00	6,680.07	6,715.25	6,680.07	36.34	37.67	-93.76	327.36	-724.85	588.80	517.03	71.78	8.203		
6,800.00	6,780.07	6,815.25	6,780.07	36.87	38.16	-93.76	327.36	-724.85	588.80	515.99	72.82	8.086		
6,900.00	6,880.07	6,915.25	6,880.07	37.39	38.66	-93.76	327.36	-724.85	588.80	514.94	73.86	7.972		
7,000.00	6,980.07	7,015.25	6,980.07	37.92	39.16	-93.76	327.36	-724.85	588.80	513.90	74.90	7.861		
7,100.00	7,080.07	7,115.25	7,080.07	38.44	39.66	-93.76	327.36	-724.85	588.80	512.86	75.95	7.753		
7,200.00	7,180.07	7,215.25	7,180.07	38.97	40.16	-93.76	327.36	-724.85	588.80	511.81	76.99	7.647		
7,300.00	7,280.07	7,315.25	7,280.07	39.49	40.66	-93.76	327.36	-724.85	588.80	510.77	78.04	7.545		
7,400.00	7,380.07	7,415.25	7,380.07	40.02	41.16	-93.76	327.36	-724.85	588.80	509.72	79.09	7.445		
7,500.00	7,480.07	7,515.25	7,480.07	40.54	41.66	-93.76	327.36	-724.85	588.80	508.67	80.13	7.348		
7,600.00	7,580.07	7,615.25	7,580.07	41.07	42.17	-93.76	327.36	-724.85	588.80	507.62	81.18	7.253		
7,700.00	7,680.07	7,715.25	7,680.07	41.60	42.67	-93.76	327.36	-724.85	588.80	506.57	82.23	7.160		
7,800.00	7,780.07	7,815.25	7,780.07	42.13	43.18	-93.76	327.36	-724.85	588.80	505.52	83.28	7.070		
7,900.00	7,880.07	7,915.25	7,880.07	42.65	43.68	-93.76	327.36	-724.85	588.80	504.47	84.33	6.982		
8,000.00	7,980.07	8,015.25	7,980.07	43.18	44.19	-93.76	327.36	-724.85	588.80	503.42	85.38	6.896		
8,100.00	8,080.07	8,115.25	8,080.07	43.71	44.70	-93.76	327.36	-724.85	588.80	502.37	86.43	6.812		
8,200.00	8,180.07	8,215.25	8,180.07	44.24	45.21	-93.76	327.36	-724.85	588.80	501.32	87.48	6.730		
8,300.00	8,280.07	8,315.25	8,280.07	44.77	45.72	-93.76	327.36	-724.85	588.80	500.27	88.54	6.650		
8,400.00	8,380.07	8,415.25	8,380.07	45.29	46.23	-93.76	327.36	-724.85	588.80	499.21	89.59	6.572		
8,500.00	8,480.07	8,515.25	8,480.07	45.82	46.74	-93.76	327.36	-724.85	588.80	498.16	90.64	6.496 CC		
8,517.70	8,497.77	8,532.95	8,497.77	45.92	46.83	-93.21	327.36	-724.85	588.81	497.97	90.84	6.482		
8,600.00	8,579.96	8,615.14	8,579.96	46.36	47.25	-93.47	327.36	-724.85	588.98	497.25	91.73	6.421		
8,700.00	8,678.03	8,713.21	8,678.03	46.93	47.75	-95.11	327.36	-724.85	590.43	497.56	92.87	6.358		
8,800.00	8,771.34	8,806.51	8,771.34	47.54	48.23	-97.87	327.36	-724.85	594.79	500.82	93.97	6.329		
8,900.00	8,857.03	8,892.21	8,857.03	48.17	48.67	-101.04	327.36	-724.85	604.71	509.86	94.85	6.375		
9,000.00	8,932.52	8,967.70	8,932.52	48.82	49.05	-103.77	327.36	-724.85	623.27	527.91	95.36	6.536		
9,100.00	8,995.51	9,030.69	8,995.51	49.51	49.38	-105.18	327.36	-724.85	653.12	557.43	95.69	6.825		
9,200.00	9,044.08	9,079.26	9,044.08	50.22	49.63	-104.48	327.36	-724.85	695.59	599.20	96.39	7.216		
9,300.00	9,076.76	9,111.94	9,076.76	50.96	49.79	-100.93	327.36	-724.85	750.28	652.37	97.92	7.662		
9,400.00	9,092.55	9,127.73	9,092.55	51.72	49.88	-93.93	327.36	-724.85	815.23	715.50	99.73	8.174		
9,500.00	9,094.47	10,182.85	9,693.54	52.50	53.98	-135.53	1,021.91	-731.72	839.86	759.30	80.57	10.425		
9,600.00	9,095.21	10,282.68	9,688.57	53.35	54.59	-135.25	1,121.62	-732.70	835.79	753.66	82.13	10.177		
9,700.00	9,095.95	10,382.52	9,683.61	54.27	55.29	-134.98	1,221.33	-733.69	831.74	747.92	83.82	9.923		
9,800.00	9,096.69	10,482.36	9,678.64	55.27	56.07	-134.70	1,321.03	-734.68	827.71	742.06	85.65	9.664		
9,900.00	9,097.43	10,582.20	9,673.68	56.33	56.92	-134.42	1,420.74	-735.66	823.70	736.11	87.59	9.404		
10,000.00	9,098.17	10,682.03	9,668.72	57.45	57.84	-134.13	1,520.45	-736.65	819.71	730.06	89.65	9.144		
10,100.00	9,098.91	10,781.87	9,663.75	58.62	58.82	-133.84	1,620.16	-737.63	815.73	723.92	91.81	8.885		
10,200.00	9,099.65	10,881.71	9,658.79	59.86	59.87	-133.55	1,719.87	-738.62	811.78	717.70	94.09	8.628		

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P2 - 6HC - OH / Job #61219 - Plan 3 06-09-17													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	9,100.39	10,981.54	9,653.82	61.14	60.97	-133.26	1,819.58	-739.61	807.85	711.39	96.46	8.375	
10,400.00	9,101.13	11,081.38	9,648.86	62.47	62.13	-132.96	1,919.28	-740.59	803.95	705.02	98.93	8.127	
10,500.00	9,101.87	11,181.22	9,643.90	63.85	63.35	-132.67	2,018.99	-741.58	800.06	698.57	101.49	7.884	
10,600.00	9,102.61	11,281.05	9,638.93	65.27	64.61	-132.36	2,118.70	-742.57	796.20	692.07	104.13	7.646	
10,700.00	9,103.35	11,380.23	9,634.00	66.73	65.90	-132.06	2,217.75	-743.55	792.35	685.51	106.84	7.416	
10,800.00	9,104.09	11,465.10	9,631.04	68.23	67.04	-131.87	2,302.56	-744.39	789.53	680.20	109.33	7.222	
10,900.00	9,104.83	11,562.54	9,629.51	69.76	68.38	-131.75	2,399.98	-745.36	787.99	676.05	111.94	7.040	
11,000.00	9,105.57	11,662.51	9,627.98	71.33	69.80	-131.62	2,499.94	-746.35	786.48	671.84	114.64	6.861	
11,100.00	9,106.31	11,762.49	9,626.45	72.92	71.25	-131.50	2,599.90	-747.34	784.98	667.58	117.40	6.686	
11,200.00	9,107.05	11,862.46	9,624.92	74.55	72.74	-131.37	2,699.85	-748.34	783.48	663.26	120.22	6.517	
11,300.00	9,107.79	11,962.43	9,623.39	76.20	74.26	-131.25	2,799.81	-749.33	781.98	658.89	123.09	6.353	
11,400.00	9,108.53	12,062.41	9,621.86	77.87	75.81	-131.12	2,899.77	-750.33	780.49	654.48	126.01	6.194	
11,500.00	9,109.27	12,162.38	9,620.33	79.57	77.39	-131.00	2,999.73	-751.32	779.00	650.02	128.98	6.040	
11,600.00	9,110.01	12,262.36	9,618.80	81.29	78.99	-130.87	3,099.68	-752.31	777.51	645.52	131.99	5.891	
11,700.00	9,110.75	12,362.33	9,617.27	83.03	80.63	-130.74	3,199.64	-753.31	776.03	640.99	135.04	5.746	
11,800.00	9,111.49	12,462.30	9,615.74	84.79	82.28	-130.62	3,299.60	-754.30	774.55	636.41	138.14	5.607	
11,900.00	9,112.24	12,562.28	9,614.21	86.57	83.96	-130.49	3,399.56	-755.30	773.08	631.81	141.27	5.472	
12,000.00	9,112.98	12,662.25	9,612.68	88.36	85.66	-130.36	3,499.52	-756.29	771.61	627.17	144.44	5.342	
12,100.00	9,113.72	12,762.23	9,611.15	90.18	87.39	-130.23	3,599.47	-757.28	770.14	622.50	147.65	5.216	
12,200.00	9,114.46	12,862.20	9,609.62	92.00	89.13	-130.10	3,699.43	-758.28	768.68	617.79	150.88	5.094	
12,300.00	9,115.20	12,962.18	9,608.09	93.84	90.89	-129.97	3,799.39	-759.27	767.22	613.07	154.15	4.977	
12,400.00	9,115.94	13,062.15	9,606.56	95.70	92.66	-129.84	3,899.35	-760.27	765.77	608.31	157.45	4.863	
12,500.00	9,116.68	13,162.12	9,605.03	97.56	94.45	-129.71	3,999.30	-761.26	764.32	603.53	160.78	4.754	
12,600.00	9,117.42	13,262.10	9,603.49	99.44	96.26	-129.58	4,099.26	-762.25	762.87	598.73	164.14	4.648	
12,700.00	9,118.16	13,362.07	9,601.96	101.33	98.08	-129.45	4,199.22	-763.25	761.43	593.90	167.52	4.545	
12,800.00	9,118.90	13,462.05	9,600.43	103.23	99.92	-129.32	4,299.18	-764.24	759.99	589.05	170.93	4.446	
12,900.00	9,119.64	13,562.02	9,598.90	105.14	101.76	-129.18	4,399.13	-765.24	758.55	584.19	174.37	4.350	
13,000.00	9,120.38	13,662.00	9,597.38	107.06	103.51	-129.07	4,493.25	-766.17	757.28	579.58	177.70	4.262	
13,034.93	9,120.64	13,686.11	9,597.74	107.74	104.07	-129.06	4,523.20	-766.47	757.17	578.39	178.77	4.235	
13,100.00	9,121.12	13,749.89	9,598.38	108.99	105.26	-129.07	4,586.98	-767.10	757.27	576.41	180.86	4.187	
13,200.00	9,121.86	13,849.89	9,599.39	110.93	107.14	-129.09	4,686.97	-768.09	757.44	573.33	184.11	4.114	
13,300.00	9,122.60	13,949.89	9,600.40	112.87	109.03	-129.10	4,786.96	-769.08	757.61	570.23	187.38	4.043	
13,400.00	9,123.34	14,049.89	9,601.41	114.83	110.93	-129.12	4,886.95	-770.07	757.78	567.13	190.65	3.975	
13,500.00	9,124.08	14,149.89	9,602.42	116.79	112.84	-129.13	4,986.94	-771.06	757.95	564.01	193.94	3.908	
13,600.00	9,124.82	14,249.89	9,603.43	118.76	114.76	-129.15	5,086.93	-772.05	758.12	560.87	197.24	3.844	
13,700.00	9,125.56	14,349.89	9,604.44	120.73	116.68	-129.17	5,186.92	-773.04	758.29	557.73	200.56	3.781	
13,800.00	9,126.30	14,449.89	9,605.45	122.71	118.62	-129.18	5,286.91	-774.03	758.46	554.58	203.88	3.720	
13,900.00	9,127.04	14,549.89	9,606.46	124.70	120.56	-129.20	5,386.90	-775.02	758.63	551.42	207.21	3.661	
14,000.00	9,127.78	14,649.89	9,607.47	126.69	122.51	-129.21	5,486.89	-776.01	758.80	548.24	210.55	3.604	
14,100.00	9,128.52	14,749.89	9,608.48	128.69	124.46	-129.23	5,586.88	-777.00	758.97	545.06	213.90	3.548	
14,200.00	9,129.26	14,849.89	9,609.49	130.69	126.43	-129.24	5,686.87	-777.99	759.14	541.87	217.26	3.494	
14,300.00	9,130.00	14,949.89	9,610.50	132.70	128.40	-129.26	5,786.86	-778.98	759.31	538.68	220.63	3.442	
14,400.00	9,130.74	15,049.89	9,611.51	134.71	130.37	-129.28	5,886.85	-779.97	759.48	535.47	224.01	3.390	
14,500.00	9,131.76	15,147.68	9,612.88	136.72	132.31	-129.29	5,984.63	-780.73	760.00	532.63	227.37	3.343	
14,600.00	9,133.15	15,246.28	9,616.14	138.74	134.26	-129.40	6,083.17	-780.41	761.26	530.72	230.54	3.302	
14,700.00	9,134.54	15,346.26	9,619.60	140.76	136.25	-129.52	6,183.09	-780.01	762.56	528.84	233.71	3.263	
14,800.00	9,135.92	15,446.24	9,623.05	142.78	138.25	-129.64	6,283.01	-779.60	763.85	526.97	236.88	3.225	
14,900.00	9,137.31	15,546.22	9,626.51	144.81	140.25	-129.77	6,382.93	-779.20	765.15	525.11	240.05	3.188	
15,000.00	9,138.70	15,646.20	9,629.97	146.84	142.25	-129.89	6,482.84	-778.80	766.45	523.24	243.21	3.151	
15,100.00	9,140.09	15,746.17	9,633.43	148.87	144.26	-130.01	6,582.76	-778.39	767.76	521.38	246.38	3.116	
15,200.00	9,141.48	15,846.15	9,636.88	150.91	146.27	-130.13	6,682.68	-777.99	769.07	519.52	249.55	3.082	
15,300.00	9,142.86	15,946.13	9,640.34	152.95	148.28	-130.24	6,782.60	-777.58	770.38	517.67	252.71	3.048	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P2 - 6HC - OH / Job #61219 - Plan 3 06-09-17													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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)	Between Ellipses (usft)
15,400.00	9,144.25	16,046.11	9,643.80	154.99	150.30	-130.36	6,882.52	-777.18	771.70	515.82	255.88	3.016	
15,500.00	9,145.64	16,146.09	9,647.26	157.04	152.32	-130.48	6,982.43	-776.78	773.02	513.98	259.04	2.984	
15,600.00	9,147.03	16,246.07	9,650.71	159.09	154.35	-130.60	7,082.35	-776.37	774.34	512.14	262.20	2.953	
15,700.00	9,148.41	16,346.05	9,654.17	161.14	156.38	-130.72	7,182.27	-775.97	775.67	510.30	265.37	2.923	
15,800.00	9,149.80	16,446.02	9,657.63	163.19	158.41	-130.83	7,282.19	-775.57	777.00	508.48	268.52	2.894	
15,900.00	9,151.19	16,546.00	9,661.09	165.25	160.45	-130.95	7,382.11	-775.16	778.33	506.65	271.68	2.865	
16,000.00	9,152.58	16,645.98	9,664.54	167.31	162.49	-131.07	7,482.02	-774.76	779.67	504.83	274.83	2.837	
16,100.00	9,153.97	16,752.18	9,668.00	169.37	164.66	-131.18	7,588.17	-774.33	780.89	502.79	278.11	2.808	
16,200.00	9,155.35	16,862.97	9,668.76	171.44	166.92	-131.14	7,698.95	-773.92	780.40	498.56	281.84	2.769	
16,300.00	9,156.74	16,962.96	9,668.86	173.50	168.96	-131.06	7,798.94	-773.56	779.56	494.09	285.48	2.731	
16,400.00	9,158.13	17,062.95	9,668.96	175.57	171.01	-130.99	7,898.93	-773.20	778.73	489.61	289.12	2.693	
16,500.00	9,159.52	17,162.94	9,669.06	177.64	173.06	-130.92	7,998.92	-772.84	777.89	485.13	292.77	2.657	
16,600.00	9,160.91	17,262.94	9,669.17	179.71	175.12	-130.85	8,098.91	-772.48	777.06	480.63	296.43	2.621	
16,700.00	9,162.29	17,362.93	9,669.27	181.79	177.17	-130.78	8,198.90	-772.12	776.23	476.14	300.09	2.587	
16,800.00	9,163.68	17,462.92	9,669.37	183.86	179.23	-130.70	8,298.89	-771.76	775.40	471.63	303.77	2.553	
16,900.00	9,165.07	17,562.91	9,669.47	185.94	181.29	-130.63	8,398.89	-771.40	774.57	467.12	307.45	2.519	
17,000.00	9,166.46	17,662.90	9,669.57	188.02	183.35	-130.56	8,498.88	-771.03	773.74	462.61	311.13	2.487	
17,100.00	9,167.85	17,762.90	9,669.67	190.10	185.42	-130.48	8,598.87	-770.67	772.92	458.09	314.83	2.455	
17,200.00	9,169.23	17,862.89	9,669.77	192.19	187.48	-130.41	8,698.86	-770.31	772.09	453.56	318.53	2.424	
17,300.00	9,170.62	17,962.88	9,669.87	194.27	189.55	-130.34	8,798.85	-769.95	771.27	449.02	322.24	2.393	
17,400.00	9,172.01	18,062.87	9,669.97	196.36	191.62	-130.26	8,898.84	-769.59	770.44	444.49	325.96	2.364	
17,500.00	9,173.40	18,162.86	9,670.07	198.44	193.69	-130.19	8,998.83	-769.23	769.62	439.94	329.68	2.334	
17,600.00	9,174.79	18,262.85	9,670.17	200.53	195.77	-130.12	9,098.82	-768.87	768.80	435.39	333.41	2.306	
17,700.00	9,176.17	18,362.85	9,670.27	202.62	197.84	-130.04	9,198.81	-768.51	767.98	430.83	337.15	2.278	
17,800.00	9,177.56	18,462.84	9,670.38	204.71	199.92	-129.97	9,298.81	-768.15	767.16	426.27	340.89	2.250	
17,900.00	9,178.95	18,562.83	9,670.48	206.81	202.00	-129.89	9,398.80	-767.78	766.35	421.70	344.65	2.224	
18,000.00	9,180.34	18,662.82	9,670.58	208.90	204.08	-129.82	9,498.79	-767.42	765.53	417.13	348.40	2.197	
18,100.00	9,181.73	18,762.81	9,670.68	211.00	206.16	-129.74	9,598.78	-767.06	764.72	412.55	352.17	2.171	
18,200.00	9,183.11	18,862.80	9,670.78	213.09	208.25	-129.67	9,698.77	-766.70	763.91	407.97	355.94	2.146	
18,300.00	9,184.50	18,962.80	9,670.88	215.19	210.33	-129.59	9,798.76	-766.34	763.09	403.38	359.72	2.121	
18,400.00	9,185.89	19,062.79	9,670.98	217.29	212.42	-129.52	9,898.75	-765.98	762.28	398.78	363.50	2.097	
18,463.05	9,186.76	19,119.67	9,671.27	218.61	213.60	-129.49	9,955.63	-765.77	761.95	396.22	365.72	2.083	
18,500.00	9,187.28	19,151.31	9,671.88	219.39	214.27	-129.50	9,987.26	-765.65	762.08	395.16	366.91	2.077	
18,600.00	9,188.66	19,243.80	9,675.28	221.49	216.20	-129.62	10,079.70	-765.30	763.50	393.55	369.95	2.064	
18,700.00	9,190.05	19,343.77	9,679.31	223.59	218.29	-129.78	10,179.58	-764.91	765.19	392.18	373.01	2.051	
18,800.00	9,191.44	19,443.73	9,683.35	225.69	220.38	-129.93	10,279.46	-764.53	766.88	390.82	376.06	2.039	
18,900.00	9,192.83	19,543.70	9,687.39	227.79	222.47	-130.08	10,379.34	-764.14	768.57	389.46	379.11	2.027	
19,000.00	9,194.22	19,643.66	9,691.43	229.90	224.57	-130.23	10,479.23	-763.76	770.27	388.12	382.15	2.016	
19,100.00	9,195.60	19,743.63	9,695.47	232.00	226.66	-130.38	10,579.11	-763.37	771.98	386.80	385.18	2.004	
19,200.00	9,196.99	19,843.59	9,699.50	234.11	228.76	-130.53	10,678.99	-762.98	773.69	385.48	388.21	1.993	
19,300.00	9,198.38	19,943.56	9,703.54	236.22	230.85	-130.68	10,778.87	-762.60	775.41	384.18	391.23	1.982	
19,400.00	9,199.77	20,043.52	9,707.58	238.33	232.95	-130.83	10,878.76	-762.21	777.13	382.88	394.25	1.971	
19,416.71	9,200.00	20,060.22	9,708.25	238.68	233.30	-130.86	10,895.44	-762.15	777.42	382.67	394.75	1.969 ES, 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 11H - OH - Plan 1 11-01-16												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	
0.00	0.00	0.00	10.00	0.00	0.00	-25.59	935.37	-447.89	1,037.12				
100.00	100.00	90.00	100.00	0.19	0.17	-25.59	935.37	-447.89	1,037.07	1,036.71	0.37	2,819.727	
200.00	200.00	190.00	200.00	0.73	0.68	-25.59	935.37	-447.89	1,037.07	1,035.67	1.41	736.143	
300.00	300.00	290.00	300.00	1.27	1.22	-25.59	935.37	-447.89	1,037.07	1,034.59	2.48	417.467	
400.00	400.00	390.00	400.00	1.81	1.75	-25.59	935.37	-447.89	1,037.07	1,033.51	3.56	291.344	
500.00	500.00	490.00	500.00	2.34	2.29	-25.59	935.37	-447.89	1,037.07	1,032.44	4.64	223.747	
600.00	600.00	590.00	600.00	2.88	2.83	-25.59	935.37	-447.89	1,037.07	1,031.36	5.71	181.610	
700.00	699.98	689.98	699.98	3.42	3.37	-5.03	935.37	-447.89	1,035.34	1,028.54	6.79	152.458	
800.00	799.84	789.84	799.84	3.96	3.90	-5.07	935.37	-447.89	1,030.12	1,022.25	7.87	130.837	
899.93	899.39	889.39	899.39	4.50	4.44	-5.13	935.37	-447.89	1,021.45	1,012.50	8.95	114.150	
1,000.00	998.90	988.90	998.90	5.05	4.97	-5.18	935.37	-447.89	1,011.03	1,001.02	10.01	100.977	
1,100.00	1,098.36	1,088.36	1,098.36	5.60	5.51	-5.23	935.37	-447.89	1,000.62	989.55	11.08	90.313	
1,200.00	1,197.81	1,187.81	1,197.81	6.16	6.04	-5.29	935.37	-447.89	990.22	978.07	12.15	81.506	
1,300.00	1,297.26	1,287.26	1,297.26	6.72	6.58	-5.34	935.37	-447.89	979.81	966.59	13.22	74.113	
1,400.00	1,396.71	1,386.71	1,396.71	7.28	7.11	-5.40	935.37	-447.89	969.41	955.11	14.29	67.822	
1,500.00	1,496.17	1,486.17	1,496.17	7.84	7.65	-5.46	935.37	-447.89	959.00	943.63	15.37	62.405	
1,600.00	1,595.62	1,585.62	1,595.62	8.41	8.18	-5.52	935.37	-447.89	948.60	932.16	16.44	57.692	
1,700.00	1,695.07	1,685.07	1,695.07	8.98	8.72	-5.58	935.37	-447.89	938.20	920.68	17.52	53.556	
1,800.00	1,794.52	1,779.42	1,780.41	9.54	9.17	-5.68	935.55	-448.73	928.44	909.93	18.51	50.154	
1,900.00	1,893.98	1,853.41	1,863.34	10.11	9.60	-5.89	936.22	-451.90	920.45	900.96	19.49	47.232	
2,000.00	1,993.43	1,936.42	1,946.15	10.68	10.04	-6.22	937.39	-457.42	914.29	893.83	20.47	44.676	
2,100.00	2,092.88	2,019.30	2,028.64	11.25	10.47	-6.68	939.06	-465.27	910.00	888.56	21.45	42.433	
2,200.00	2,192.33	2,100.00	2,108.70	11.82	10.90	-7.23	941.15	-475.16	907.65	885.23	22.42	40.486	
2,270.53	2,262.48	2,159.96	2,167.99	12.22	11.23	-7.72	943.01	-483.93	907.18	884.06	23.13	39.228 CC	
2,300.00	2,291.79	2,187.27	2,194.93	12.39	11.38	-7.96	943.93	-488.27	907.26	883.83	23.43	38.715	
2,400.00	2,391.24	2,286.31	2,292.65	12.96	11.93	-8.82	947.28	-504.06	907.69	883.17	24.52	37.018	
2,500.00	2,490.69	2,385.35	2,390.36	13.53	12.48	-9.68	950.63	-519.86	908.34	882.72	25.61	35.466	
2,600.00	2,590.14	2,484.38	2,488.07	14.10	13.04	-10.55	953.97	-535.65	909.19	882.48	26.71	34.043	
2,700.00	2,689.60	2,583.42	2,585.79	14.67	13.61	-11.41	957.32	-551.44	910.25	882.45	27.81	32.734	
2,800.00	2,789.05	2,682.46	2,683.50	15.24	14.18	-12.26	960.67	-567.23	911.52	882.61	28.91	31.529	
2,900.00	2,888.50	2,781.50	2,781.22	15.81	14.76	-13.12	964.01	-583.02	913.00	882.99	30.02	30.417	
3,000.00	2,987.95	2,880.54	2,878.93	16.39	15.34	-13.97	967.36	-598.82	914.69	883.57	31.12	29.389	
3,100.00	3,087.41	2,979.58	2,976.64	16.96	15.92	-14.82	970.71	-614.61	916.58	884.35	32.23	28.436	
3,200.00	3,186.86	3,078.61	3,074.36	17.53	16.51	-15.67	974.06	-630.40	918.68	885.33	33.34	27.551	
3,300.00	3,286.31	3,177.65	3,172.07	18.10	17.10	-16.51	977.40	-646.19	920.98	886.52	34.46	26.728	
3,400.00	3,385.76	3,276.69	3,269.79	18.68	17.70	-17.35	980.75	-661.99	923.48	887.91	35.57	25.962	
3,500.00	3,485.22	3,375.73	3,367.50	19.25	18.29	-18.18	984.10	-677.78	926.18	889.49	36.68	25.247	
3,600.00	3,584.67	3,474.77	3,465.21	19.82	18.89	-19.01	987.44	-693.57	929.08	891.28	37.80	24.579	
3,700.00	3,684.12	3,573.81	3,562.93	20.39	19.49	-19.83	990.79	-709.36	932.17	893.26	38.91	23.955	
3,800.00	3,783.57	3,672.85	3,660.64	20.97	20.10	-20.65	994.14	-725.16	935.46	895.43	40.03	23.369	
3,900.00	3,883.02	3,771.88	3,758.36	21.54	20.70	-21.46	997.49	-740.95	938.95	897.80	41.15	22.820	
4,000.00	3,982.48	3,870.92	3,856.07	22.11	21.30	-22.27	1,000.83	-756.74	942.62	900.36	42.26	22.305	
4,100.00	4,081.93	3,969.96	3,953.78	22.68	21.91	-23.07	1,004.18	-772.53	946.48	903.10	43.38	21.820	
4,200.00	4,181.38	4,069.00	4,051.50	23.26	22.52	-23.86	1,007.53	-788.32	950.52	906.03	44.49	21.364	
4,300.00	4,280.83	4,168.04	4,149.21	23.83	23.13	-24.65	1,010.87	-804.12	954.75	909.15	45.61	20.934	
4,400.00	4,380.35	4,267.08	4,246.93	24.40	23.74	-25.44	1,014.22	-819.91	959.73	913.00	46.73	20.538	
4,500.00	4,480.12	4,366.10	4,344.63	24.95	24.35	-26.18	1,017.57	-835.70	967.75	919.94	47.81	20.242	
4,600.00	4,580.07	4,464.99	4,442.19	25.48	24.96	-26.85	1,020.91	-851.47	979.01	930.18	48.83	20.050	
4,700.00	4,680.07	4,563.67	4,539.56	25.99	25.57	-27.95	1,024.24	-867.20	992.88	943.01	49.87	19.907	
4,800.00	4,780.07	4,662.34	4,636.90	26.50	26.18	-28.42	1,027.58	-882.94	1,007.07	956.11	50.96	19.764	
4,900.00	4,880.07	4,761.00	4,734.24	27.01	26.79	-28.87	1,030.91	-898.67	1,021.32	969.28	52.04	19.627	
5,000.00	4,980.07	4,859.66	4,831.58	27.52	27.41	-29.31	1,034.25	-914.40	1,035.62	982.51	53.12	19.497	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 11H - OH - Plan 1 11-01-16													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					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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
5,100.00	5,080.07	4,958.32	4,928.93	28.03	28.02	-49.73	1,037.58	-930.13	1,049.99	995.79	54.20	19.373		
5,200.00	5,180.07	5,056.99	5,026.27	28.55	28.63	-50.15	1,040.92	-945.87	1,064.41	1,009.13	55.28	19.255		
5,300.00	5,280.07	5,155.65	5,123.61	29.06	29.25	-50.55	1,044.25	-961.60	1,078.89	1,022.53	56.36	19.142		
5,400.00	5,380.07	5,254.31	5,220.96	29.58	29.86	-50.94	1,047.59	-977.33	1,093.41	1,035.97	57.44	19.035		
5,500.00	5,480.07	5,352.97	5,318.30	30.10	30.48	-51.33	1,050.92	-993.06	1,107.99	1,049.47	58.52	18.932		
5,600.00	5,580.07	5,451.64	5,415.64	30.61	31.09	-51.70	1,054.25	-1,008.79	1,122.61	1,063.01	59.61	18.834		
5,700.00	5,680.07	5,550.30	5,512.99	31.13	31.71	-52.06	1,057.59	-1,024.53	1,137.28	1,076.59	60.69	18.740		
5,800.00	5,780.07	5,687.86	5,649.01	31.65	32.55	-52.51	1,061.83	-1,044.53	1,150.84	1,088.86	61.98	18.567		
5,900.00	5,880.07	5,844.53	5,804.90	32.17	33.45	-52.84	1,065.04	-1,059.67	1,159.79	1,096.42	63.36	18.304		
6,000.00	5,980.07	6,002.45	5,962.64	32.69	34.28	-52.99	1,066.48	-1,066.48	1,163.78	1,099.05	64.73	17.980		
6,100.00	6,080.07	6,119.88	6,080.07	33.21	34.86	-53.00	1,066.56	-1,066.87	1,164.00	1,098.15	65.85	17.676		
6,200.00	6,180.07	6,219.88	6,180.07	33.73	35.35	-53.00	1,066.56	-1,066.87	1,164.00	1,097.12	66.89	17.402		
6,300.00	6,280.07	6,319.88	6,280.07	34.25	35.84	-53.00	1,066.56	-1,066.87	1,164.00	1,096.08	67.92	17.137		
6,400.00	6,380.07	6,419.88	6,380.07	34.77	36.33	-53.00	1,066.56	-1,066.87	1,164.00	1,095.04	68.96	16.879		
6,500.00	6,480.07	6,519.88	6,480.07	35.30	36.82	-53.00	1,066.56	-1,066.87	1,164.00	1,094.00	70.00	16.629		
6,600.00	6,580.07	6,619.88	6,580.07	35.82	37.31	-53.00	1,066.56	-1,066.87	1,164.00	1,092.96	71.04	16.385		
6,700.00	6,680.07	6,719.88	6,680.07	36.34	37.81	-53.00	1,066.56	-1,066.87	1,164.00	1,091.92	72.08	16.149		
6,800.00	6,780.07	6,819.88	6,780.07	36.87	38.31	-53.00	1,066.56	-1,066.87	1,164.00	1,090.88	73.12	15.918		
6,900.00	6,880.07	6,919.88	6,880.07	37.39	38.80	-53.00	1,066.56	-1,066.87	1,164.00	1,089.84	74.17	15.695		
7,000.00	6,980.07	7,019.88	6,980.07	37.92	39.30	-53.00	1,066.56	-1,066.87	1,164.00	1,088.80	75.21	15.477		
7,100.00	7,080.07	7,119.88	7,080.07	38.44	39.80	-53.00	1,066.56	-1,066.87	1,164.00	1,087.75	76.25	15.265		
7,200.00	7,180.07	7,219.88	7,180.07	38.97	40.30	-53.00	1,066.56	-1,066.87	1,164.00	1,086.71	77.30	15.058		
7,300.00	7,280.07	7,319.88	7,280.07	39.49	40.81	-53.00	1,066.56	-1,066.87	1,164.00	1,085.66	78.35	14.857		
7,400.00	7,380.07	7,419.88	7,380.07	40.02	41.31	-53.00	1,066.56	-1,066.87	1,164.00	1,084.61	79.39	14.661		
7,500.00	7,480.07	7,519.88	7,480.07	40.54	41.81	-53.00	1,066.56	-1,066.87	1,164.00	1,083.56	80.44	14.470		
7,600.00	7,580.07	7,619.88	7,580.07	41.07	42.32	-53.00	1,066.56	-1,066.87	1,164.00	1,082.52	81.49	14.284		
7,700.00	7,680.07	7,719.88	7,680.07	41.60	42.82	-53.00	1,066.56	-1,066.87	1,164.00	1,081.47	82.54	14.103		
7,800.00	7,780.07	7,819.88	7,780.07	42.13	43.33	-53.00	1,066.56	-1,066.87	1,164.00	1,080.42	83.59	13.925		
7,900.00	7,880.07	7,919.88	7,880.07	42.65	43.83	-53.00	1,066.56	-1,066.87	1,164.00	1,079.37	84.64	13.753		
8,000.00	7,980.07	8,019.88	7,980.07	43.18	44.34	-53.00	1,066.56	-1,066.87	1,164.00	1,078.31	85.69	13.584		
8,100.00	8,080.07	8,119.88	8,080.07	43.71	44.85	-53.00	1,066.56	-1,066.87	1,164.00	1,077.26	86.74	13.419		
8,200.00	8,180.07	8,219.88	8,180.07	44.24	45.36	-53.00	1,066.56	-1,066.87	1,164.00	1,076.21	87.79	13.258		
8,300.00	8,280.07	8,319.88	8,280.07	44.77	45.87	-53.00	1,066.56	-1,066.87	1,164.00	1,075.16	88.85	13.101		
8,400.00	8,380.07	8,419.88	8,380.07	45.29	46.38	-53.00	1,066.56	-1,066.87	1,164.00	1,074.10	89.90	12.948		
8,457.51	8,437.58	8,477.39	8,437.58	45.60	46.67	-53.00	1,066.56	-1,066.87	1,164.00	1,073.50	90.51	12.861		
8,500.00	8,480.07	8,500.00	8,460.19	45.82	46.79	-52.99	1,066.59	-1,066.87	1,164.19	1,073.34	90.85	12.814		
8,600.00	8,579.96	8,550.00	8,510.10	46.36	47.04	-52.31	1,069.22	-1,066.89	1,165.87	1,074.12	91.75	12.707		
8,700.00	8,678.03	8,600.00	8,559.60	46.93	47.30	-52.68	1,076.19	-1,066.96	1,162.60	1,070.58	92.01	12.635		
8,800.00	8,771.34	8,650.00	8,608.30	47.54	47.56	-53.74	1,087.45	-1,067.08	1,153.60	1,062.07	91.53	12.603		
8,900.00	8,857.03	8,683.84	8,640.61	48.17	47.73	-55.30	1,097.46	-1,067.18	1,138.94	1,048.33	90.61	12.569		
9,000.00	8,932.52	8,727.83	8,681.65	48.82	47.95	-57.61	1,113.29	-1,067.34	1,119.43	1,029.47	89.96	12.444		
9,100.00	8,995.51	8,771.43	8,720.99	49.51	48.16	-60.55	1,132.04	-1,067.53	1,095.71	1,005.66	90.05	12.167		
9,200.00	9,044.08	8,814.48	8,758.34	50.22	48.37	-64.11	1,153.44	-1,067.75	1,068.76	977.56	91.20	11.718		
9,300.00	9,076.76	8,850.00	8,787.87	50.96	48.53	-67.96	1,173.16	-1,067.95	1,039.87	946.69	93.18	11.160		
9,400.00	9,092.55	8,900.00	8,827.25	51.72	48.75	-72.71	1,203.95	-1,068.26	1,010.40	914.41	95.99	10.526		
9,500.00	9,094.47	8,939.70	8,856.51	52.50	48.92	-75.43	1,230.76	-1,068.54	983.06	885.12	97.94	10.037		
9,600.00	9,095.21	8,987.64	8,889.27	53.35	49.12	-77.34	1,265.75	-1,068.89	961.75	862.14	99.61	9.655		
9,700.00	9,095.95	9,050.00	8,927.30	54.27	49.37	-79.59	1,315.13	-1,069.39	946.40	844.97	101.43	9.330		
9,800.00	9,096.69	9,108.03	8,957.68	55.27	49.61	-81.40	1,364.53	-1,069.90	936.13	833.04	103.10	9.080		
9,900.00	9,097.43	9,181.40	8,988.68	56.33	49.93	-83.26	1,430.98	-1,070.57	930.01	825.17	104.85	8.870		
10,000.00	9,098.17	9,262.68	9,012.80	57.45	50.32	-84.70	1,508.52	-1,071.36	926.84	820.25	106.59	8.696		
10,100.00	9,098.91	9,350.00	9,026.22	58.62	50.79	-85.49	1,594.71	-1,072.24	925.59	817.24	108.34	8.543		

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 11H - OH - Plan 1 11-01-16													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 +N/-S (usft)	+E/-W (usft)					
10,144.06	9,099.24	9,388.63	9,027.94	59.17	51.01	-85.58	1,633.30	-1,072.63	925.47	816.34	109.12	8.481	
10,200.00	9,099.65	9,443.68	9,027.89	59.86	51.34	-85.55	1,688.35	-1,073.19	925.52	815.35	110.17	8.401	
10,300.00	9,100.39	9,543.68	9,027.74	61.14	52.01	-85.50	1,788.34	-1,074.21	925.61	813.47	112.15	8.254	
10,400.00	9,101.13	9,643.68	9,027.58	62.47	52.76	-85.44	1,888.33	-1,075.23	925.71	811.46	114.25	8.102	
10,500.00	9,101.87	9,743.67	9,027.42	63.85	53.59	-85.39	1,988.32	-1,076.24	925.81	809.33	116.48	7.948	
10,600.00	9,102.61	9,843.67	9,027.27	65.27	54.50	-85.33	2,088.31	-1,077.26	925.91	807.09	118.82	7.792	
10,700.00	9,103.35	9,943.66	9,027.11	66.73	55.47	-85.28	2,188.30	-1,078.28	926.01	804.74	121.27	7.636	
10,800.00	9,104.09	10,043.66	9,026.95	68.23	56.51	-85.22	2,288.29	-1,079.30	926.11	802.28	123.82	7.479	
10,900.00	9,104.83	10,143.66	9,026.79	69.76	57.62	-85.17	2,388.28	-1,080.31	926.21	799.74	126.47	7.323	
11,000.00	9,105.57	10,243.65	9,026.64	71.33	58.78	-85.11	2,488.27	-1,081.33	926.31	797.10	129.21	7.169	
11,100.00	9,106.31	10,343.65	9,026.48	72.92	60.00	-85.06	2,588.26	-1,082.35	926.41	794.38	132.04	7.016	
11,200.00	9,107.05	10,443.64	9,026.32	74.55	61.27	-85.00	2,688.25	-1,083.37	926.52	791.58	134.94	6.866	
11,300.00	9,107.79	10,543.64	9,026.17	76.20	62.58	-84.95	2,788.25	-1,084.38	926.62	788.70	137.92	6.719	
11,400.00	9,108.53	10,643.64	9,026.01	77.87	63.95	-84.89	2,888.24	-1,085.40	926.73	785.76	140.97	6.574	
11,500.00	9,109.27	10,743.63	9,025.85	79.57	65.36	-84.84	2,988.23	-1,086.42	926.83	782.75	144.08	6.433	
11,600.00	9,110.01	10,843.63	9,025.69	81.29	66.80	-84.78	3,088.22	-1,087.43	926.94	779.69	147.25	6.295	
11,700.00	9,110.75	10,943.62	9,025.54	83.03	68.29	-84.73	3,188.21	-1,088.45	927.05	776.56	150.49	6.160	
11,800.00	9,111.49	11,043.62	9,025.38	84.79	69.81	-84.67	3,288.20	-1,089.47	927.16	773.39	153.77	6.030	
11,900.00	9,112.24	11,143.62	9,025.22	86.57	71.36	-84.62	3,388.19	-1,090.49	927.27	770.16	157.10	5.902	
12,000.00	9,112.98	11,243.61	9,025.07	88.36	72.95	-84.56	3,488.18	-1,091.50	927.38	766.89	160.49	5.779	
12,100.00	9,113.72	11,343.61	9,024.91	90.18	74.56	-84.51	3,588.17	-1,092.52	927.49	763.58	163.91	5.659	
12,200.00	9,114.46	11,443.60	9,024.75	92.00	76.20	-84.45	3,688.16	-1,093.54	927.60	760.23	167.38	5.542	
12,300.00	9,115.20	11,543.60	9,024.59	93.84	77.87	-84.40	3,788.15	-1,094.56	927.72	756.84	170.88	5.429	
12,400.00	9,115.94	11,643.60	9,024.44	95.70	79.56	-84.34	3,888.14	-1,095.57	927.83	753.41	174.42	5.320	
12,500.00	9,116.68	11,743.59	9,024.28	97.56	81.27	-84.29	3,988.13	-1,096.59	927.95	749.96	177.99	5.213	
12,600.00	9,117.42	11,843.59	9,024.12	99.44	83.00	-84.23	4,088.12	-1,097.61	928.06	746.47	181.60	5.111	
12,700.00	9,118.16	11,943.58	9,023.97	101.33	84.75	-84.18	4,188.11	-1,098.63	928.18	742.95	185.23	5.011	
12,800.00	9,118.90	12,043.58	9,023.81	103.23	86.53	-84.12	4,288.11	-1,099.64	928.30	739.40	188.89	4.914	
12,900.00	9,119.64	12,143.58	9,023.65	105.14	88.31	-84.07	4,388.10	-1,100.66	928.42	735.83	192.58	4.821	
13,000.00	9,120.38	12,243.57	9,023.50	107.06	90.12	-84.01	4,488.09	-1,101.68	928.54	732.24	196.30	4.730	
13,100.00	9,121.12	12,343.57	9,023.34	108.99	91.94	-83.96	4,588.08	-1,102.70	928.66	728.62	200.03	4.643	
13,200.00	9,121.86	12,443.56	9,023.18	110.93	93.77	-83.90	4,688.07	-1,103.71	928.78	724.99	203.79	4.558	
13,300.00	9,122.60	12,543.56	9,023.02	112.87	95.62	-83.85	4,788.06	-1,104.73	928.90	721.33	207.57	4.475	
13,400.00	9,123.34	12,643.56	9,022.87	114.83	97.48	-83.79	4,888.05	-1,105.75	929.02	717.66	211.37	4.395	
13,500.00	9,124.08	12,743.55	9,022.71	116.79	99.35	-83.74	4,988.04	-1,106.77	929.14	713.96	215.18	4.318	
13,600.00	9,124.82	12,843.55	9,022.55	118.76	101.24	-83.68	5,088.03	-1,107.78	929.27	710.25	219.01	4.243	
13,700.00	9,125.56	12,943.54	9,022.40	120.73	103.13	-83.63	5,188.02	-1,108.80	929.39	706.53	222.86	4.170	
13,800.00	9,126.30	13,043.54	9,022.24	122.71	105.04	-83.57	5,288.01	-1,109.82	929.52	702.79	226.73	4.100	
13,900.00	9,127.04	13,143.54	9,022.08	124.70	106.95	-83.52	5,388.00	-1,110.83	929.65	699.04	230.61	4.031	
14,000.00	9,127.78	13,243.53	9,021.92	126.69	108.88	-83.46	5,487.99	-1,111.85	929.78	695.27	234.50	3.965	
14,100.00	9,128.52	13,343.53	9,021.77	128.69	110.81	-83.41	5,587.98	-1,112.87	929.90	691.50	238.41	3.900	
14,200.00	9,129.26	13,443.52	9,021.61	130.69	112.75	-83.35	5,687.97	-1,113.89	930.03	687.71	242.33	3.838	
14,300.00	9,130.00	13,543.52	9,021.45	132.70	114.70	-83.30	5,787.97	-1,114.90	930.16	683.91	246.26	3.777	
14,400.00	9,130.74	13,643.52	9,021.30	134.71	116.66	-83.24	5,887.96	-1,115.92	930.30	680.10	250.20	3.718	
14,500.00	9,131.76	13,758.18	9,021.69	136.72	118.91	-83.21	6,002.61	-1,116.59	930.60	676.35	254.25	3.660	
14,600.00	9,133.15	13,858.18	9,023.15	138.74	120.87	-83.21	6,102.60	-1,116.22	930.59	672.36	258.22	3.604	
14,700.00	9,134.54	13,958.18	9,024.61	140.76	122.84	-83.22	6,202.59	-1,115.84	930.58	668.37	262.21	3.549	
14,800.00	9,135.92	14,058.18	9,026.08	142.78	124.82	-83.22	6,302.58	-1,115.46	930.56	664.37	266.20	3.496	
14,900.00	9,137.31	14,158.18	9,027.54	144.81	126.80	-83.22	6,402.57	-1,115.08	930.55	660.36	270.20	3.444	
15,000.00	9,138.70	14,258.18	9,029.00	146.84	128.79	-83.23	6,502.56	-1,114.71	930.54	656.33	274.21	3.394	
15,100.00	9,140.09	14,358.18	9,030.46	148.87	130.78	-83.23	6,602.55	-1,114.33	930.53	652.31	278.22	3.345	
15,200.00	9,141.48	14,458.18	9,031.92	150.91	132.78	-83.24	6,702.53	-1,113.95	930.52	648.27	282.25	3.297	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 11H - OH - Plan 1 11-01-16													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 +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,300.00	9,142.86	14,558.18	9,033.38	152.95	134.78	-83.24	6,802.52	-1,113.58	930.50	644.22	286.28	3.250	
15,400.00	9,144.25	14,658.18	9,034.85	154.99	136.79	-83.25	6,902.51	-1,113.20	930.49	640.17	290.32	3.205	
15,500.00	9,145.64	14,758.18	9,036.31	157.04	138.80	-83.25	7,002.50	-1,112.82	930.48	636.11	294.37	3.161	
15,600.00	9,147.03	14,858.18	9,037.77	159.09	140.82	-83.26	7,102.49	-1,112.44	930.47	632.04	298.42	3.118	
15,700.00	9,148.41	14,958.18	9,039.23	161.14	142.84	-83.26	7,202.48	-1,112.07	930.46	627.97	302.49	3.076	
15,800.00	9,149.80	15,058.18	9,040.69	163.19	144.86	-83.26	7,302.47	-1,111.69	930.44	623.89	306.55	3.035	
15,900.00	9,151.19	15,158.18	9,042.15	165.25	146.89	-83.27	7,402.45	-1,111.31	930.43	619.81	310.63	2.995	
16,000.00	9,152.58	15,258.18	9,043.62	167.31	148.92	-83.27	7,502.44	-1,110.94	930.42	615.71	314.70	2.956	
16,100.00	9,153.97	15,358.18	9,045.08	169.37	150.95	-83.28	7,602.43	-1,110.56	930.41	611.62	318.79	2.919	
16,200.00	9,155.35	15,458.18	9,046.54	171.44	152.99	-83.28	7,702.42	-1,110.18	930.40	607.52	322.88	2.882	
16,300.00	9,156.74	15,558.18	9,048.00	173.50	155.03	-83.29	7,802.41	-1,109.80	930.38	603.41	326.97	2.845	
16,400.00	9,158.13	15,658.18	9,049.46	175.57	157.07	-83.29	7,902.40	-1,109.43	930.37	599.30	331.07	2.810	
16,500.00	9,159.52	15,758.18	9,050.92	177.64	159.12	-83.30	8,002.39	-1,109.05	930.36	595.18	335.18	2.776	
16,600.00	9,160.91	15,858.18	9,052.38	179.71	161.17	-83.30	8,102.37	-1,108.67	930.35	591.06	339.29	2.742	
16,700.00	9,162.29	15,958.18	9,053.85	181.79	163.22	-83.31	8,202.36	-1,108.30	930.33	586.93	343.40	2.709	
16,800.00	9,163.68	16,058.18	9,055.31	183.86	165.28	-83.31	8,302.35	-1,107.92	930.32	582.80	347.52	2.677	
16,900.00	9,165.07	16,158.18	9,056.77	185.94	167.33	-83.31	8,402.34	-1,107.54	930.31	578.67	351.64	2.646	
17,000.00	9,166.46	16,258.18	9,058.23	188.02	169.39	-83.32	8,502.33	-1,107.16	930.30	574.53	355.77	2.615	
17,100.00	9,167.85	16,358.18	9,059.69	190.10	171.46	-83.32	8,602.32	-1,106.79	930.29	570.39	359.90	2.585	
17,200.00	9,169.23	16,458.18	9,061.15	192.19	173.52	-83.33	8,702.31	-1,106.41	930.27	566.24	364.03	2.555	
17,300.00	9,170.62	16,558.18	9,062.62	194.27	175.59	-83.33	8,802.29	-1,106.03	930.26	562.09	368.17	2.527	
17,400.00	9,172.01	16,658.18	9,064.08	196.36	177.65	-83.34	8,902.28	-1,105.66	930.25	557.94	372.31	2.499	
17,500.00	9,173.40	16,758.18	9,065.54	198.44	179.72	-83.34	9,002.27	-1,105.28	930.24	553.78	376.46	2.471	
17,600.00	9,174.79	16,858.18	9,067.00	200.53	181.80	-83.35	9,102.26	-1,104.90	930.23	549.62	380.60	2.444	
17,700.00	9,176.17	16,958.18	9,068.46	202.62	183.87	-83.35	9,202.25	-1,104.52	930.21	545.46	384.75	2.418	
17,800.00	9,177.56	17,058.18	9,069.92	204.71	185.95	-83.35	9,302.24	-1,104.15	930.20	541.29	388.91	2.392	
17,900.00	9,178.95	17,158.18	9,071.39	206.81	188.02	-83.36	9,402.23	-1,103.77	930.19	537.13	393.07	2.367	
18,000.00	9,180.34	17,258.18	9,072.85	208.90	190.10	-83.36	9,502.21	-1,103.39	930.18	532.95	397.22	2.342	
18,100.00	9,181.73	17,358.18	9,074.31	211.00	192.18	-83.37	9,602.20	-1,103.02	930.17	528.78	401.39	2.317	
18,200.00	9,183.11	17,458.18	9,075.77	213.09	194.27	-83.37	9,702.19	-1,102.64	930.16	524.60	405.55	2.294	
18,300.00	9,184.50	17,558.18	9,077.23	215.19	196.35	-83.38	9,802.18	-1,102.26	930.14	520.42	409.72	2.270	
18,400.00	9,185.89	17,658.18	9,078.69	217.29	198.44	-83.38	9,902.17	-1,101.88	930.13	516.24	413.89	2.247	
18,500.00	9,187.28	17,758.18	9,080.15	219.39	200.52	-83.39	10,002.16	-1,101.51	930.12	512.06	418.06	2.225	
18,600.00	9,188.66	17,858.18	9,081.62	221.49	202.61	-83.39	10,102.15	-1,101.13	930.11	507.87	422.24	2.203	
18,700.00	9,190.05	17,958.18	9,083.08	223.59	204.70	-83.39	10,202.13	-1,100.75	930.10	503.68	426.42	2.181	
18,800.00	9,191.44	18,058.18	9,084.54	225.69	206.79	-83.40	10,302.12	-1,100.38	930.08	499.49	430.59	2.160	
18,900.00	9,192.83	18,158.18	9,086.00	227.79	208.88	-83.40	10,402.11	-1,100.00	930.07	495.29	434.78	2.139	
19,000.00	9,194.22	18,258.18	9,087.46	229.90	210.98	-83.41	10,502.10	-1,099.62	930.06	491.10	438.96	2.119	
19,100.00	9,195.60	18,358.18	9,088.92	232.00	213.07	-83.41	10,602.09	-1,099.24	930.05	486.90	443.15	2.099	
19,200.00	9,196.99	18,458.18	9,090.39	234.11	215.17	-83.42	10,702.08	-1,098.87	930.04	482.70	447.33	2.079	
19,300.00	9,198.38	18,558.18	9,091.85	236.22	217.26	-83.42	10,802.07	-1,098.49	930.02	478.50	451.52	2.060	
19,400.00	9,199.77	18,658.18	9,093.31	238.33	219.36	-83.43	10,902.05	-1,098.11	930.01	474.30	455.72	2.041	
19,416.71	9,200.00	18,674.88	9,093.55	238.68	219.71	-83.43	10,918.76	-1,098.05	930.01	473.59	456.42	2.038 ES, 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 12H - OH - Plan 1 11-01-16												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDSM												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)					
0.00	0.00	0.00	10.00	0.00	0.00	-26.20	910.37	-447.89	1,014.63				
100.00	100.00	90.00	100.00	0.19	0.17	-26.20	910.37	-447.89	1,014.58	1,014.22	0.37	2,758.576	
200.00	200.00	190.00	200.00	0.73	0.68	-26.20	910.37	-447.89	1,014.58	1,013.17	1.41	720.179	
300.00	300.00	290.00	300.00	1.27	1.22	-26.20	910.37	-447.89	1,014.58	1,012.10	2.48	408.413	
400.00	400.00	390.00	400.00	1.81	1.75	-26.20	910.37	-447.89	1,014.58	1,011.02	3.56	285.025	
500.00	500.00	490.00	500.00	2.34	2.29	-26.20	910.37	-447.89	1,014.58	1,009.95	4.64	218.894	
600.00	600.00	590.00	600.00	2.88	2.83	-26.20	910.37	-447.89	1,014.58	1,008.87	5.71	177.671	
700.00	699.98	689.98	699.98	3.42	3.37	-5.64	910.37	-447.89	1,012.85	1,006.06	6.79	149.146	
800.00	799.84	789.84	799.84	3.96	3.90	-5.68	910.37	-447.89	1,007.64	999.77	7.87	127.982	
899.93	899.39	889.39	899.39	4.50	4.44	-5.75	910.37	-447.89	998.97	990.02	8.95	111.639	
1,000.00	998.90	988.90	998.90	5.05	4.97	-5.81	910.37	-447.89	988.57	978.56	10.01	98.734	
1,100.00	1,098.36	1,088.36	1,098.36	5.60	5.51	-5.87	910.37	-447.89	978.17	967.09	11.08	88.287	
1,200.00	1,197.81	1,187.81	1,197.81	6.16	6.04	-5.94	910.37	-447.89	967.78	955.63	12.15	79.659	
1,300.00	1,297.26	1,287.26	1,297.26	6.72	6.58	-6.00	910.37	-447.89	957.38	944.16	13.22	72.417	
1,400.00	1,396.71	1,386.71	1,396.71	7.28	7.11	-6.07	910.37	-447.89	946.99	932.69	14.29	66.254	
1,500.00	1,496.17	1,486.17	1,496.17	7.84	7.65	-6.13	910.37	-447.89	936.60	921.23	15.37	60.947	
1,600.00	1,595.62	1,572.90	1,582.90	8.41	8.11	-6.24	910.47	-448.81	926.79	910.43	16.37	56.629	
1,700.00	1,695.07	1,657.68	1,667.60	8.98	8.55	-6.48	910.81	-452.20	918.58	901.23	17.35	52.949	
1,800.00	1,794.52	1,742.42	1,752.13	9.54	8.99	-6.86	911.42	-458.08	912.00	893.67	18.33	49.749	
1,900.00	1,893.98	1,826.96	1,836.25	10.11	9.43	-7.37	912.27	-466.43	907.11	887.79	19.32	46.951	
2,000.00	1,993.43	1,911.17	1,919.76	10.68	9.88	-8.01	913.38	-477.19	903.99	883.68	20.31	44.504	
2,100.00	2,092.88	2,000.00	2,007.47	11.25	10.37	-8.83	914.81	-491.18	902.74	881.40	21.34	42.306	
2,117.82	2,110.60	2,009.76	2,017.08	11.35	10.42	-8.93	914.99	-492.88	902.70	881.21	21.49	42.006 CC	
2,200.00	2,192.33	2,078.02	2,084.11	11.82	10.81	-9.66	916.30	-505.70	903.40	881.09	22.32	40.482 ES	
2,300.00	2,291.79	2,160.39	2,164.56	12.39	11.28	-10.65	918.10	-523.27	906.14	882.81	23.33	38.844	
2,400.00	2,391.24	2,249.65	2,251.22	12.96	11.81	-11.84	920.28	-544.54	910.84	886.45	24.39	37.348	
2,500.00	2,490.69	2,347.25	2,345.89	13.53	12.41	-13.13	922.70	-568.14	916.27	890.77	25.51	35.923	
2,600.00	2,590.14	2,444.85	2,440.56	14.10	13.02	-14.41	925.12	-591.74	922.19	895.55	26.63	34.627	
2,700.00	2,689.60	2,542.45	2,535.24	14.67	13.65	-15.67	927.54	-615.33	928.57	900.81	27.76	33.446	
2,800.00	2,789.05	2,640.05	2,629.91	15.24	14.28	-16.92	929.96	-638.93	935.42	906.52	28.90	32.368	
2,900.00	2,888.50	2,737.65	2,724.59	15.81	14.92	-18.15	932.38	-662.53	942.72	912.69	30.04	31.384	
3,000.00	2,987.95	2,835.25	2,819.26	16.39	15.57	-19.36	934.80	-686.13	950.47	919.29	31.18	30.484	
3,100.00	3,087.41	2,932.85	2,913.93	16.96	16.23	-20.55	937.22	-709.72	958.65	926.33	32.32	29.659	
3,200.00	3,186.86	3,030.45	3,008.61	17.53	16.90	-21.72	939.64	-733.32	967.25	933.78	33.46	28.903	
3,300.00	3,286.31	3,128.05	3,103.28	18.10	17.57	-22.87	942.06	-756.92	976.26	941.65	34.61	28.209	
3,400.00	3,385.76	3,225.65	3,197.96	18.68	18.24	-24.00	944.48	-780.52	985.66	949.91	35.75	27.571	
3,500.00	3,485.22	3,323.26	3,292.63	19.25	18.92	-25.11	946.90	-804.11	995.46	958.57	36.89	26.983	
3,600.00	3,584.67	3,420.86	3,387.30	19.82	19.60	-26.19	949.32	-827.71	1,005.63	967.60	38.03	26.441	
3,700.00	3,684.12	3,518.46	3,481.98	20.39	20.29	-27.26	951.74	-851.31	1,016.17	976.99	39.17	25.941	
3,800.00	3,783.57	3,616.06	3,576.65	20.97	20.97	-28.30	954.16	-874.91	1,027.05	986.74	40.31	25.479	
3,900.00	3,883.02	3,713.66	3,671.33	21.54	21.67	-29.33	956.58	-898.50	1,038.29	996.84	41.45	25.051	
4,000.00	3,982.48	3,811.26	3,766.00	22.11	22.36	-30.33	959.00	-922.10	1,049.85	1,007.27	42.58	24.654	
4,100.00	4,081.93	3,908.86	3,860.67	22.68	23.06	-31.31	961.42	-945.70	1,061.74	1,018.02	43.72	24.287	
4,200.00	4,181.38	4,006.46	3,955.35	23.26	23.76	-32.27	963.84	-969.30	1,073.93	1,029.08	44.85	23.945	
4,300.00	4,280.83	4,104.06	4,050.02	23.83	24.46	-33.20	966.26	-992.90	1,086.42	1,040.44	45.98	23.628	
4,400.00	4,380.35	4,201.65	4,144.69	24.40	25.16	-34.20	968.68	-1,016.49	1,099.72	1,052.63	47.10	23.351	
4,500.00	4,480.12	4,299.15	4,239.26	24.95	25.86	-35.17	971.09	-1,040.06	1,115.89	1,067.73	48.15	23.173	
4,600.00	4,580.07	4,396.44	4,333.63	25.48	26.56	-36.06	973.50	-1,063.59	1,135.04	1,085.88	49.16	23.090	
4,700.00	4,680.07	4,493.47	4,427.76	25.99	27.27	-37.29	975.91	-1,087.05	1,156.59	1,106.37	50.22	23.033	
4,800.00	4,780.07	4,590.47	4,521.85	26.50	27.97	-37.82	978.31	-1,110.50	1,178.45	1,127.15	51.30	22.970	
4,900.00	4,880.07	4,687.47	4,615.94	27.01	28.68	-38.33	980.72	-1,133.95	1,200.41	1,148.01	52.39	22.911	
5,000.00	4,980.07	4,784.47	4,710.03	27.52	29.38	-38.83	983.12	-1,157.40	1,222.45	1,168.97	53.48	22.857	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 12H - OH - Plan 1 11-01-16													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	5,080.07	4,881.48	4,804.13	28.03	30.09	-59.30	985.53	-1,180.86	1,244.59	1,190.01	54.57	22.807	
5,200.00	5,180.07	4,978.48	4,898.22	28.55	30.80	-59.76	987.93	-1,204.31	1,266.80	1,211.14	55.66	22.760	
5,300.00	5,280.07	5,075.48	4,992.31	29.06	31.51	-60.21	990.34	-1,227.76	1,289.08	1,232.33	56.75	22.716	
5,400.00	5,380.07	5,172.48	5,086.41	29.58	32.22	-60.63	992.74	-1,251.22	1,311.44	1,253.60	57.84	22.675	
5,500.00	5,480.07	5,269.48	5,180.50	30.10	32.93	-61.05	995.15	-1,274.67	1,333.87	1,274.94	58.93	22.636	
5,600.00	5,580.07	5,366.48	5,274.59	30.61	33.64	-61.45	997.55	-1,298.12	1,356.36	1,296.34	60.01	22.601	
5,700.00	5,680.07	5,463.48	5,368.68	31.13	34.35	-61.84	999.96	-1,321.57	1,378.91	1,317.81	61.10	22.567	
5,800.00	5,780.07	5,560.49	5,462.78	31.65	35.06	-62.21	1,002.36	-1,345.03	1,401.52	1,339.33	62.19	22.536	
5,900.00	5,880.07	5,657.49	5,556.87	32.17	35.78	-62.58	1,004.77	-1,368.48	1,424.19	1,360.91	63.28	22.506	
6,000.00	5,980.07	5,754.49	5,650.96	32.69	36.49	-62.93	1,007.17	-1,391.93	1,446.91	1,382.54	64.37	22.479	
6,100.00	6,080.07	5,851.49	5,745.06	33.21	37.20	-63.27	1,009.58	-1,415.39	1,469.68	1,404.22	65.46	22.453	
6,200.00	6,180.07	5,948.49	5,839.15	33.73	37.92	-63.60	1,011.98	-1,438.84	1,492.49	1,425.95	66.54	22.428	
6,300.00	6,280.07	6,045.49	5,933.24	34.25	38.63	-63.92	1,014.39	-1,462.29	1,515.36	1,447.73	67.63	22.405	
6,400.00	6,380.07	6,142.50	6,027.33	34.77	39.35	-64.24	1,016.79	-1,485.74	1,538.27	1,469.55	68.72	22.384	
6,500.00	6,480.07	6,239.50	6,121.43	35.30	40.07	-64.54	1,019.20	-1,509.20	1,561.22	1,491.41	69.81	22.363	
6,600.00	6,580.07	6,336.50	6,215.52	35.82	40.78	-64.83	1,021.60	-1,532.65	1,584.21	1,513.31	70.90	22.344	
6,700.00	6,680.07	6,433.50	6,309.61	36.34	41.50	-65.12	1,024.01	-1,556.10	1,607.24	1,535.25	71.99	22.326	
6,800.00	6,780.07	6,530.50	6,403.71	36.87	42.22	-65.40	1,026.41	-1,579.56	1,630.31	1,557.23	73.08	22.309	
6,900.00	6,880.07	6,627.50	6,497.80	37.39	42.93	-65.67	1,028.82	-1,603.01	1,653.41	1,579.24	74.17	22.293	
7,000.00	6,980.07	6,724.50	6,591.89	37.92	43.65	-65.93	1,031.22	-1,626.46	1,676.55	1,601.29	75.26	22.277	
7,100.00	7,080.07	6,821.51	6,685.98	38.44	44.37	-66.18	1,033.62	-1,649.91	1,699.72	1,623.37	76.35	22.263	
7,200.00	7,180.07	6,918.51	6,780.08	38.97	45.09	-66.43	1,036.03	-1,673.37	1,722.92	1,645.48	77.44	22.249	
7,300.00	7,280.07	7,015.51	6,874.17	39.49	45.81	-66.67	1,038.43	-1,696.82	1,746.15	1,667.62	78.53	22.236	
7,400.00	7,380.07	7,112.51	6,968.26	40.02	46.53	-66.91	1,040.84	-1,720.27	1,769.41	1,689.79	79.62	22.224	
7,500.00	7,480.07	7,209.51	7,062.36	40.54	47.25	-67.14	1,043.24	-1,743.73	1,792.70	1,711.99	80.71	22.212	
7,600.00	7,580.07	7,306.51	7,156.45	41.07	47.97	-67.36	1,045.65	-1,767.18	1,816.01	1,734.21	81.80	22.201	
7,700.00	7,680.07	7,403.51	7,250.54	41.60	48.69	-67.58	1,048.05	-1,790.63	1,839.35	1,756.46	82.89	22.190	
7,800.00	7,780.07	7,500.52	7,344.63	42.13	49.41	-67.79	1,050.46	-1,814.08	1,862.71	1,778.73	83.98	22.180	
7,900.00	7,880.07	7,597.52	7,438.73	42.65	50.13	-68.00	1,052.86	-1,837.54	1,886.10	1,801.03	85.07	22.171	
8,000.00	7,980.07	7,694.52	7,532.82	43.18	50.85	-68.20	1,055.27	-1,860.99	1,909.51	1,823.35	86.16	22.162	
8,100.00	8,080.07	7,791.52	7,626.91	43.71	51.57	-68.40	1,057.67	-1,884.44	1,932.95	1,845.69	87.25	22.153	
8,200.00	8,180.07	7,907.83	7,739.78	44.24	52.43	-68.63	1,060.54	-1,912.42	1,956.35	1,867.89	88.46	22.116	
8,300.00	8,280.07	8,199.23	8,026.11	44.77	53.35	-69.05	1,065.99	-1,965.55	1,974.08	1,883.47	90.62	22.175	
8,400.00	8,380.07	8,498.79	8,324.54	45.29	55.92	-69.23	1,068.47	-1,989.74	1,981.94	1,889.22	92.72	21.377	
8,500.00	8,480.07	8,654.33	8,480.07	45.82	56.59	-69.24	1,068.59	-1,990.94	1,982.32	1,888.33	93.99	21.090	
8,600.00	8,579.96	8,741.78	8,567.52	46.36	56.96	-68.82	1,068.68	-1,990.94	1,981.29	1,886.14	95.15	20.822	
8,700.00	8,678.03	8,785.93	8,611.59	46.93	57.15	-69.43	1,071.14	-1,990.96	1,976.48	1,880.45	96.03	20.583	
8,800.00	8,771.34	8,829.91	8,655.17	47.54	57.34	-70.47	1,076.96	-1,991.02	1,968.40	1,871.80	96.60	20.376	
8,900.00	8,857.03	8,873.61	8,697.91	48.17	57.53	-71.91	1,086.04	-1,991.11	1,957.43	1,860.35	97.07	20.165	
9,000.00	8,932.52	8,916.92	8,739.46	48.82	57.71	-73.71	1,098.22	-1,991.24	1,944.05	1,846.41	97.64	19.911	
9,100.00	8,995.51	8,950.00	8,770.51	49.51	57.86	-75.65	1,109.62	-1,991.35	1,928.95	1,830.58	98.36	19.610	
9,200.00	9,044.08	9,000.00	8,816.06	50.22	58.06	-78.10	1,130.19	-1,991.56	1,912.75	1,813.30	99.46	19.232	
9,300.00	9,076.76	9,050.00	8,859.64	50.96	58.26	-80.72	1,154.66	-1,991.81	1,896.49	1,795.79	100.70	18.833	
9,400.00	9,092.55	9,082.42	8,866.70	51.72	58.39	-83.01	1,172.53	-1,991.99	1,880.98	1,779.17	101.81	18.475	
9,500.00	9,094.47	9,122.09	8,918.36	52.50	58.54	-84.50	1,196.41	-1,992.24	1,867.61	1,764.77	102.84	18.160	
9,600.00	9,095.21	9,168.93	8,953.50	53.35	58.71	-85.58	1,227.36	-1,992.55	1,857.93	1,754.00	103.93	17.877	
9,700.00	9,095.95	9,225.24	8,992.23	54.27	58.90	-86.76	1,268.20	-1,992.97	1,851.66	1,746.56	105.10	17.619	
9,800.00	9,096.69	9,292.72	9,033.09	55.27	59.13	-88.02	1,321.85	-1,993.51	1,848.22	1,741.87	106.35	17.378	
9,900.00	9,097.43	9,372.59	9,072.89	56.33	59.39	-89.24	1,391.02	-1,994.22	1,846.85	1,739.15	107.71	17.147	
9,967.52	9,097.93	9,433.49	9,096.56	57.08	59.58	-89.96	1,447.09	-1,994.79	1,846.67	1,737.97	108.70	16.988	
10,000.00	9,098.17	9,464.60	9,106.32	57.45	59.69	-90.25	1,476.63	-1,995.09	1,846.70	1,737.50	109.20	16.912	
10,100.00	9,098.91	9,566.05	9,126.79	58.62	60.05	-90.87	1,575.85	-1,996.10	1,846.92	1,736.06	110.86	16.660	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 12H - OH - Plan 1 11-01-16													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	
10,200.00	9,099.65	9,669.48	9,130.47	59.86	60.47	-90.96	1,679.14	-1,997.15	1,846.99	1,734.28	112.71	16.388	
10,300.00	9,100.39	9,769.48	9,130.23	61.14	60.95	-90.93	1,779.13	-1,998.16	1,847.00	1,732.32	114.68	16.106	
10,400.00	9,101.13	9,869.47	9,129.98	62.47	61.51	-90.90	1,879.12	-1,999.18	1,847.01	1,730.23	116.77	15.817	
10,500.00	9,101.87	9,969.47	9,129.74	63.85	62.14	-90.86	1,979.11	-2,000.20	1,847.02	1,728.03	118.99	15.522	
10,600.00	9,102.61	10,069.46	9,129.50	65.27	62.86	-90.83	2,079.10	-2,001.22	1,847.03	1,725.71	121.32	15.225	
10,700.00	9,103.35	10,169.46	9,129.25	66.73	63.64	-90.80	2,179.09	-2,002.23	1,847.04	1,723.29	123.75	14.925	
10,800.00	9,104.09	10,269.45	9,129.01	68.23	64.50	-90.77	2,279.08	-2,003.25	1,847.06	1,720.76	126.29	14.625	
10,900.00	9,104.83	10,369.45	9,128.76	69.76	65.43	-90.74	2,379.07	-2,004.27	1,847.07	1,718.14	128.93	14.327	
11,000.00	9,105.57	10,469.45	9,128.52	71.33	66.42	-90.71	2,479.05	-2,005.28	1,847.08	1,715.43	131.65	14.030	
11,100.00	9,106.31	10,569.44	9,128.27	72.92	67.48	-90.68	2,579.04	-2,006.30	1,847.10	1,712.64	134.46	13.737	
11,200.00	9,107.05	10,669.44	9,128.03	74.55	68.59	-90.65	2,679.03	-2,007.32	1,847.11	1,709.77	137.35	13.449	
11,300.00	9,107.79	10,769.43	9,127.78	76.20	69.76	-90.62	2,779.02	-2,008.34	1,847.13	1,706.82	140.31	13.165	
11,400.00	9,108.53	10,869.43	9,127.54	77.87	70.97	-90.59	2,879.01	-2,009.35	1,847.14	1,703.80	143.34	12.886	
11,500.00	9,109.27	10,969.42	9,127.30	79.57	72.24	-90.56	2,979.00	-2,010.37	1,847.16	1,700.72	146.44	12.614	
11,600.00	9,110.01	11,069.42	9,127.05	81.29	73.55	-90.53	3,078.99	-2,011.39	1,847.18	1,697.57	149.60	12.347	
11,700.00	9,110.75	11,169.41	9,126.81	83.03	74.90	-90.50	3,178.98	-2,012.40	1,847.19	1,694.37	152.82	12.087	
11,800.00	9,111.49	11,269.41	9,126.56	84.79	76.30	-90.47	3,278.97	-2,013.42	1,847.21	1,691.11	156.10	11.834	
11,900.00	9,112.24	11,369.40	9,126.32	86.57	77.72	-90.44	3,378.96	-2,014.44	1,847.23	1,687.81	159.42	11.587	
12,000.00	9,112.98	11,469.40	9,126.07	88.36	79.19	-90.41	3,478.95	-2,015.46	1,847.25	1,684.45	162.79	11.347	
12,100.00	9,113.72	11,569.39	9,125.83	90.18	80.69	-90.38	3,578.94	-2,016.47	1,847.27	1,681.06	166.21	11.114	
12,200.00	9,114.46	11,669.39	9,125.59	92.00	82.21	-90.35	3,678.93	-2,017.49	1,847.29	1,677.62	169.67	10.887	
12,300.00	9,115.20	11,769.38	9,125.34	93.84	83.77	-90.31	3,778.92	-2,018.51	1,847.31	1,674.14	173.17	10.667	
12,400.00	9,115.94	11,869.38	9,125.10	95.70	85.36	-90.28	3,878.91	-2,019.53	1,847.33	1,670.62	176.71	10.454	
12,500.00	9,116.68	11,969.37	9,124.85	97.56	86.97	-90.25	3,978.90	-2,020.54	1,847.35	1,667.07	180.28	10.247	
12,600.00	9,117.42	12,069.37	9,124.61	99.44	88.60	-90.22	4,078.89	-2,021.56	1,847.37	1,663.49	183.89	10.046	
12,700.00	9,118.16	12,169.36	9,124.36	101.33	90.26	-90.19	4,178.88	-2,022.58	1,847.40	1,659.87	187.52	9.852	
12,800.00	9,118.90	12,269.36	9,124.12	103.23	91.93	-90.16	4,278.87	-2,023.59	1,847.42	1,656.23	191.19	9.663	
12,900.00	9,119.64	12,369.35	9,123.88	105.14	93.63	-90.13	4,378.86	-2,024.61	1,847.44	1,652.56	194.88	9.480	
13,000.00	9,120.38	12,469.35	9,123.63	107.06	95.35	-90.10	4,478.85	-2,025.63	1,847.47	1,648.87	198.60	9.302	
13,100.00	9,121.12	12,569.34	9,123.39	108.99	97.09	-90.07	4,578.84	-2,026.65	1,847.49	1,645.15	202.34	9.130	
13,200.00	9,121.86	12,669.34	9,123.14	110.93	98.84	-90.04	4,678.83	-2,027.66	1,847.52	1,641.41	206.11	8.964	
13,300.00	9,122.60	12,769.33	9,122.90	112.87	100.61	-90.01	4,778.82	-2,028.68	1,847.54	1,637.64	209.90	8.802	
13,400.00	9,123.34	12,869.33	9,122.65	114.83	102.39	-89.98	4,878.81	-2,029.70	1,847.57	1,633.86	213.71	8.645	
13,500.00	9,124.08	12,969.32	9,122.41	116.79	104.19	-89.95	4,978.80	-2,030.72	1,847.60	1,630.06	217.54	8.493	
13,600.00	9,124.82	13,069.32	9,122.17	118.76	106.00	-89.92	5,078.79	-2,031.73	1,847.62	1,626.24	221.39	8.346	
13,700.00	9,125.56	13,169.31	9,121.92	120.73	107.83	-89.89	5,178.78	-2,032.75	1,847.65	1,622.40	225.25	8.203	
13,800.00	9,126.30	13,269.31	9,121.68	122.71	109.66	-89.86	5,278.77	-2,033.77	1,847.68	1,618.55	229.13	8.064	
13,900.00	9,127.04	13,369.30	9,121.43	124.70	111.51	-89.83	5,378.76	-2,034.78	1,847.71	1,614.68	233.03	7.929	
14,000.00	9,127.78	13,469.30	9,121.19	126.69	113.37	-89.80	5,478.75	-2,035.80	1,847.74	1,610.79	236.94	7.798	
14,100.00	9,128.52	13,569.29	9,120.94	128.69	115.24	-89.77	5,578.73	-2,036.82	1,847.77	1,606.90	240.87	7.671	
14,200.00	9,129.26	13,669.29	9,120.70	130.69	117.12	-89.73	5,678.72	-2,037.84	1,847.80	1,602.99	244.81	7.548	
14,300.00	9,130.00	13,769.29	9,120.45	132.70	119.01	-89.70	5,778.71	-2,038.85	1,847.83	1,599.06	248.77	7.428	
14,400.00	9,130.74	13,869.28	9,120.21	134.71	120.91	-89.67	5,878.70	-2,039.87	1,847.86	1,595.13	252.73	7.312	
14,500.00	9,131.48	13,969.27	9,120.00	136.72	122.81	-89.64	5,978.69	-2,040.88	1,847.89	1,591.19	256.74	7.196	
14,600.00	9,132.22	14,069.26	9,120.00	138.73	124.72	-89.61	6,078.68	-2,041.89	1,847.92	1,587.26	260.81	7.086	
14,700.00	9,132.96	14,169.25	9,120.00	140.74	126.63	-89.58	6,178.67	-2,042.90	1,847.95	1,583.31	264.89	6.980	
14,800.00	9,133.70	14,269.24	9,120.00	142.75	128.54	-89.55	6,278.66	-2,043.91	1,847.98	1,579.36	268.99	6.876	
14,900.00	9,134.44	14,369.23	9,120.00	144.76	130.45	-89.52	6,378.65	-2,044.92	1,848.01	1,575.41	273.11	6.775	
15,000.00	9,135.18	14,469.22	9,120.00	146.77	132.36	-89.49	6,478.64	-2,045.93	1,848.04	1,571.46	277.24	6.677	
15,100.00	9,135.92	14,569.21	9,120.00	148.78	134.27	-89.46	6,578.63	-2,046.94	1,848.07	1,567.51	281.38	6.581	
15,200.00	9,136.66	14,669.20	9,120.00	150.79	136.18	-89.43	6,678.62	-2,047.95	1,848.10	1,563.56	285.53	6.488	
15,300.00	9,137.40	14,769.19	9,120.00	152.80	138.09	-89.40	6,778.61	-2,048.96	1,848.13	1,559.61	289.69	6.397	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P5 - 12H - OH - Plan 1 11-01-16													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	9,144.25	14,895.29	9,134.13	154.99	140.73	-89.69	6,904.60	-2,037.28	1,848.15	1,555.22	292.93	6.309		
15,500.00	9,145.64	14,995.29	9,135.65	157.04	142.70	-89.69	7,004.58	-2,036.90	1,848.14	1,551.16	296.99	6.223		
15,600.00	9,147.03	15,095.29	9,137.16	159.09	144.67	-89.69	7,104.57	-2,036.53	1,848.14	1,547.09	301.05	6.139		
15,700.00	9,148.41	15,195.29	9,138.68	161.14	146.64	-89.70	7,204.56	-2,036.15	1,848.13	1,543.02	305.11	6.057		
15,800.00	9,149.80	15,295.29	9,140.20	163.19	148.63	-89.70	7,304.55	-2,035.77	1,848.12	1,538.94	309.19	5.977		
15,900.00	9,151.19	15,395.29	9,141.72	165.25	150.61	-89.71	7,404.53	-2,035.39	1,848.12	1,534.85	313.27	5.900		
16,000.00	9,152.58	15,495.29	9,143.23	167.31	152.60	-89.71	7,504.52	-2,035.01	1,848.11	1,530.76	317.35	5.824		
16,100.00	9,153.97	15,595.29	9,144.75	169.37	154.60	-89.71	7,604.51	-2,034.63	1,848.11	1,526.66	321.44	5.749		
16,200.00	9,155.35	15,695.29	9,146.27	171.44	156.60	-89.72	7,704.50	-2,034.25	1,848.10	1,522.56	325.54	5.677		
16,300.00	9,156.74	15,795.29	9,147.78	173.50	158.60	-89.72	7,804.48	-2,033.87	1,848.09	1,518.45	329.64	5.606		
16,400.00	9,158.13	15,895.29	9,149.30	175.57	160.61	-89.73	7,904.47	-2,033.49	1,848.09	1,514.34	333.75	5.537		
16,500.00	9,159.52	15,995.29	9,150.82	177.64	162.62	-89.73	8,004.46	-2,033.11	1,848.08	1,510.22	337.86	5.470		
16,600.00	9,160.91	16,095.29	9,152.34	179.71	164.64	-89.73	8,104.45	-2,032.73	1,848.07	1,506.09	341.98	5.404		
16,700.00	9,162.29	16,195.29	9,153.85	181.79	166.66	-89.74	8,204.44	-2,032.35	1,848.07	1,501.97	346.10	5.340		
16,800.00	9,163.68	16,295.29	9,155.37	183.86	168.68	-89.74	8,304.42	-2,031.97	1,848.06	1,497.83	350.23	5.277		
16,900.00	9,165.07	16,395.29	9,156.89	185.94	170.70	-89.75	8,404.41	-2,031.59	1,848.05	1,493.70	354.36	5.215		
17,000.00	9,166.46	16,495.29	9,158.41	188.02	172.73	-89.75	8,504.40	-2,031.21	1,848.05	1,489.56	358.49	5.155		
17,100.00	9,167.85	16,595.29	9,159.92	190.10	174.76	-89.75	8,604.39	-2,030.83	1,848.04	1,485.41	362.63	5.096		
17,200.00	9,169.23	16,695.29	9,161.44	192.19	176.80	-89.76	8,704.37	-2,030.45	1,848.03	1,481.26	366.77	5.039		
17,300.00	9,170.62	16,795.29	9,162.96	194.27	178.83	-89.76	8,804.36	-2,030.07	1,848.03	1,477.11	370.92	4.982		
17,400.00	9,172.01	16,895.29	9,164.47	196.36	180.87	-89.77	8,904.35	-2,029.69	1,848.02	1,472.95	375.07	4.927		
17,500.00	9,173.40	16,995.29	9,165.99	198.44	182.92	-89.77	9,004.34	-2,029.31	1,848.01	1,468.79	379.22	4.873		
17,600.00	9,174.79	17,095.29	9,167.51	200.53	184.96	-89.77	9,104.32	-2,028.93	1,848.01	1,464.63	383.38	4.820		
17,700.00	9,176.17	17,195.29	9,169.03	202.62	187.01	-89.78	9,204.31	-2,028.55	1,848.00	1,460.46	387.54	4.769		
17,800.00	9,177.56	17,295.29	9,170.54	204.71	189.06	-89.78	9,304.30	-2,028.18	1,848.00	1,456.29	391.70	4.718		
17,900.00	9,178.95	17,395.29	9,172.06	206.81	191.11	-89.79	9,404.29	-2,027.80	1,847.99	1,452.12	395.87	4.668		
18,000.00	9,180.34	17,495.29	9,173.58	208.90	193.16	-89.79	9,504.28	-2,027.42	1,847.98	1,447.94	400.04	4.619		
18,100.00	9,181.73	17,595.29	9,175.10	211.00	195.22	-89.79	9,604.26	-2,027.04	1,847.98	1,443.76	404.21	4.572		
18,200.00	9,183.11	17,695.29	9,176.61	213.09	197.28	-89.80	9,704.25	-2,026.66	1,847.97	1,439.58	408.39	4.525		
18,300.00	9,184.50	17,795.29	9,178.13	215.19	199.34	-89.80	9,804.24	-2,026.28	1,847.96	1,435.40	412.57	4.479		
18,400.00	9,185.89	17,895.29	9,179.65	217.29	201.40	-89.81	9,904.23	-2,025.90	1,847.96	1,431.21	416.75	4.434		
18,500.00	9,187.28	17,995.29	9,181.17	219.39	203.46	-89.81	10,004.21	-2,025.52	1,847.95	1,427.02	420.93	4.390		
18,600.00	9,188.66	18,095.29	9,182.68	221.49	205.53	-89.81	10,104.20	-2,025.14	1,847.95	1,422.83	425.11	4.347		
18,700.00	9,190.05	18,195.29	9,184.20	223.59	207.60	-89.82	10,204.19	-2,024.76	1,847.94	1,418.64	429.30	4.305		
18,800.00	9,191.44	18,295.29	9,185.72	225.69	209.67	-89.82	10,304.18	-2,024.38	1,847.93	1,414.44	433.49	4.263		
18,900.00	9,192.83	18,395.29	9,187.23	227.79	211.74	-89.83	10,404.16	-2,024.00	1,847.93	1,410.24	437.69	4.222		
19,000.00	9,194.22	18,495.29	9,188.75	229.90	213.81	-89.83	10,504.15	-2,023.62	1,847.92	1,406.04	441.88	4.182		
19,100.00	9,195.60	18,595.29	9,190.27	232.00	215.88	-89.83	10,604.14	-2,023.24	1,847.91	1,401.84	446.08	4.143		
19,200.00	9,196.99	18,695.29	9,191.79	234.11	217.96	-89.84	10,704.13	-2,022.86	1,847.91	1,397.63	450.28	4.104		
19,300.00	9,198.38	18,795.29	9,193.30	236.22	220.04	-89.84	10,804.11	-2,022.48	1,847.90	1,393.42	454.48	4.066		
19,400.00	9,199.77	18,895.29	9,194.82	238.33	222.12	-89.85	10,904.10	-2,022.10	1,847.90	1,389.22	458.68	4.029		
19,416.71	9,200.00	18,911.99	9,195.07	238.68	222.46	-89.85	10,920.81	-2,022.04	1,847.89	1,388.51	459.38	4.023 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 19H - OH - Plan 2 11-17-16												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)	Reference	Offset	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
0.00	0.00	0.00	9.00	0.00	0.00	-26.83	885.37	-447.89	992.25				
100.00	100.00	91.00	100.00	0.19	0.18	-26.83	885.37	-447.89	992.21	991.84	0.37	2,683.627	
200.00	200.00	191.00	200.00	0.73	0.68	-26.83	885.37	-447.89	992.21	990.80	1.41	701.621	
300.00	300.00	291.00	300.00	1.27	1.22	-26.83	885.37	-447.89	992.21	989.72	2.49	398.545	
400.00	400.00	391.00	400.00	1.81	1.76	-26.83	885.37	-447.89	992.21	988.65	3.56	278.320	
500.00	500.00	491.00	500.00	2.34	2.30	-26.83	885.37	-447.89	992.21	987.57	4.64	213.820	
600.00	600.00	591.00	600.00	2.88	2.83	-26.83	885.37	-447.89	992.21	986.50	5.72	173.590	
700.00	699.98	690.98	699.98	3.42	3.37	-6.28	885.37	-447.89	990.48	983.68	6.80	145.738	
800.00	799.84	790.84	799.84	3.96	3.91	-6.33	885.37	-447.89	985.28	977.40	7.88	125.058	
899.93	899.39	890.39	899.39	4.50	4.44	-6.40	885.37	-447.89	976.62	967.67	8.95	109.077	
1,000.00	998.90	989.90	998.90	5.05	4.98	-6.47	885.37	-447.89	966.23	956.21	10.02	96.452	
1,100.00	1,098.36	1,089.36	1,098.36	5.60	5.51	-6.54	885.37	-447.89	955.84	944.76	11.08	86.231	
1,200.00	1,197.81	1,188.81	1,197.81	6.16	6.05	-6.62	885.37	-447.89	945.46	933.31	12.15	77.789	
1,300.00	1,297.26	1,288.26	1,297.26	6.72	6.58	-6.69	885.37	-447.89	935.08	921.86	13.23	70.702	
1,400.00	1,396.71	1,387.71	1,396.71	7.28	7.12	-6.76	885.37	-447.89	924.70	910.40	14.30	64.670	
1,500.00	1,496.17	1,487.17	1,496.17	7.84	7.65	-6.84	885.37	-447.89	914.32	898.95	15.37	59.477	
1,600.00	1,595.62	1,586.62	1,595.62	8.41	8.19	-6.92	885.37	-447.89	903.95	887.50	16.45	54.958	
1,700.00	1,695.07	1,686.07	1,695.07	8.98	8.72	-7.00	885.37	-447.89	893.57	876.05	17.52	50.992	
1,800.00	1,794.52	1,773.17	1,782.16	9.54	9.18	-7.12	885.46	-448.82	883.80	865.27	18.53	47.707	
1,900.00	1,893.98	1,858.34	1,867.26	10.11	9.63	-7.39	885.79	-452.24	875.64	856.13	19.51	44.879	
2,000.00	1,993.43	1,950.82	1,959.54	10.68	10.11	-7.81	886.39	-458.36	868.95	848.41	20.54	42.315	
2,100.00	2,092.88	2,050.36	2,058.83	11.25	10.63	-8.28	887.06	-465.28	862.51	840.91	21.60	39.931	
2,200.00	2,192.33	2,149.89	2,158.11	11.82	11.15	-8.77	887.73	-472.19	856.14	833.47	22.67	37.766	
2,300.00	2,291.79	2,249.42	2,257.40	12.39	11.68	-9.26	888.40	-479.11	849.82	826.08	23.74	35.795	
2,400.00	2,391.24	2,348.95	2,356.69	12.96	12.21	-9.76	889.07	-486.02	843.57	818.76	24.82	33.993	
2,500.00	2,490.69	2,448.48	2,455.98	13.53	12.74	-10.27	889.75	-492.93	837.39	811.49	25.89	32.340	
2,600.00	2,590.14	2,548.01	2,555.27	14.10	13.27	-10.78	890.42	-499.85	831.27	804.30	26.97	30.820	
2,700.00	2,689.60	2,647.54	2,654.56	14.67	13.81	-11.30	891.09	-506.76	825.22	797.17	28.05	29.418	
2,800.00	2,789.05	2,747.07	2,753.84	15.24	14.35	-11.83	891.76	-513.68	819.24	790.10	29.13	28.120	
2,900.00	2,888.50	2,846.60	2,853.13	15.81	14.88	-12.37	892.43	-520.59	813.33	783.11	30.22	26.916	
3,000.00	2,987.95	2,946.13	2,952.42	16.39	15.42	-12.91	893.10	-527.51	807.49	776.19	31.30	25.797	
3,100.00	3,087.41	3,045.66	3,051.71	16.96	15.96	-13.47	893.77	-534.42	801.73	769.34	32.39	24.754	
3,200.00	3,186.86	3,145.20	3,151.00	17.53	16.50	-14.03	894.44	-541.34	796.04	762.56	33.47	23.780	
3,300.00	3,286.31	3,244.73	3,250.28	18.10	17.05	-14.60	895.12	-548.25	790.43	755.87	34.56	22.870	
3,400.00	3,385.76	3,344.26	3,349.57	18.68	17.59	-15.17	895.79	-555.17	784.90	749.25	35.65	22.016	
3,500.00	3,485.22	3,443.79	3,448.86	19.25	18.13	-15.76	896.46	-562.08	779.45	742.71	36.74	21.215	
3,600.00	3,584.67	3,543.32	3,548.15	19.82	18.68	-16.35	897.13	-568.99	774.08	736.25	37.83	20.462	
3,700.00	3,684.12	3,642.85	3,647.44	20.39	19.22	-16.95	897.80	-575.91	768.80	729.88	38.92	19.752	
3,800.00	3,783.57	3,742.38	3,746.73	20.97	19.76	-17.56	898.47	-582.82	763.60	723.59	40.01	19.083	
3,900.00	3,883.02	3,841.91	3,846.01	21.54	20.31	-18.18	899.14	-589.74	758.49	717.39	41.11	18.452	
4,000.00	3,982.48	3,941.44	3,945.30	22.11	20.86	-18.80	899.81	-596.65	753.47	711.27	42.20	17.855	
4,100.00	4,081.93	4,040.97	4,044.59	22.68	21.40	-19.44	900.49	-603.57	748.55	705.25	43.29	17.290	
4,200.00	4,181.38	4,140.50	4,143.88	23.26	21.95	-20.08	901.16	-610.48	743.71	699.32	44.39	16.754	
4,300.00	4,280.83	4,240.04	4,243.17	23.83	22.50	-20.73	901.83	-617.40	738.97	693.49	45.48	16.247	
4,400.00	4,380.35	4,339.61	4,342.50	24.40	23.04	-21.35	902.50	-624.31	734.91	688.31	46.61	15.768	
4,479.79	4,459.94	4,419.18	4,421.88	24.84	23.48	-21.80	903.04	-629.84	733.86	686.37	47.49	15.454	
4,500.00	4,480.12	4,439.34	4,441.99	24.95	23.59	-21.90	903.17	-631.24	733.93	686.22	47.70	15.385	
4,600.00	4,580.07	4,539.14	4,541.54	25.48	24.14	-22.37	903.85	-638.18	736.24	687.49	48.74	15.105	
4,700.00	4,680.07	4,638.91	4,641.06	25.99	24.69	-43.32	904.52	-645.11	741.23	691.45	49.78	14.890	
4,800.00	4,780.07	4,738.66	4,740.58	26.50	25.24	-43.67	905.19	-652.04	746.50	695.65	50.85	14.681	
4,900.00	4,880.07	4,838.42	4,840.09	27.01	25.79	-44.02	905.86	-658.97	751.81	699.89	51.92	14.481	
5,000.00	4,980.07	4,938.17	4,939.60	27.52	26.34	-44.36	906.54	-665.90	757.14	704.15	52.99	14.289	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 19H - OH - Plan 2 11-17-16												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)					
5,100.00	5,080.07	5,037.93	5,039.11	28.03	26.89	-44.70	907.21	-672.83	762.50	708.44	54.06	14.105	
5,200.00	5,180.07	5,137.69	5,138.63	28.55	27.44	-45.03	907.88	-679.76	767.88	712.75	55.13	13.929	
5,300.00	5,280.07	5,237.44	5,238.14	29.06	27.99	-45.36	908.55	-686.69	773.29	717.09	56.20	13.760	
5,400.00	5,380.07	5,337.20	5,337.65	29.58	28.54	-45.68	909.23	-693.62	778.72	721.45	57.27	13.597	
5,500.00	5,480.07	5,436.95	5,437.17	30.10	29.09	-46.00	909.90	-700.55	784.18	725.84	58.34	13.441	
5,600.00	5,580.07	5,536.71	5,536.68	30.61	29.65	-46.31	910.57	-707.48	789.66	730.25	59.41	13.291	
5,700.00	5,680.07	5,636.47	5,636.19	31.13	30.20	-46.62	911.25	-714.41	795.17	734.68	60.49	13.146	
5,800.00	5,780.07	5,736.22	5,735.70	31.65	30.75	-46.93	911.92	-721.34	800.70	739.14	61.56	13.007	
5,900.00	5,880.07	5,855.14	5,854.40	32.17	31.40	-47.23	912.60	-728.33	805.46	742.73	62.73	12.844	
6,000.00	5,980.07	5,980.83	5,980.07	32.69	32.07	-47.33	912.82	-730.62	806.88	742.95	63.93	12.622	
6,100.00	6,080.07	6,080.83	6,080.07	33.21	32.58	-47.33	912.82	-730.62	806.88	741.90	64.98	12.418	
6,200.00	6,180.07	6,180.83	6,180.07	33.73	33.10	-47.33	912.82	-730.62	806.88	740.85	66.03	12.220	
6,300.00	6,280.07	6,280.83	6,280.07	34.25	33.62	-47.33	912.82	-730.62	806.88	739.80	67.08	12.029	
6,400.00	6,380.07	6,380.83	6,380.07	34.77	34.14	-47.33	912.82	-730.62	806.88	738.75	68.13	11.844	
6,500.00	6,480.07	6,480.83	6,480.07	35.30	34.66	-47.33	912.82	-730.62	806.88	737.70	69.18	11.664	
6,600.00	6,580.07	6,580.83	6,580.07	35.82	35.18	-47.33	912.82	-730.62	806.88	736.65	70.23	11.489	
6,700.00	6,680.07	6,680.83	6,680.07	36.34	35.70	-47.33	912.82	-730.62	806.88	735.60	71.29	11.319	
6,800.00	6,780.07	6,780.83	6,780.07	36.87	36.22	-47.33	912.82	-730.62	806.88	734.54	72.34	11.154	
6,900.00	6,880.07	6,880.83	6,880.07	37.39	36.75	-47.33	912.82	-730.62	806.88	733.49	73.39	10.994	
7,000.00	6,980.07	6,980.83	6,980.07	37.92	37.27	-47.33	912.82	-730.62	806.88	732.43	74.45	10.838	
7,100.00	7,080.07	7,080.83	7,080.07	38.44	37.79	-47.33	912.82	-730.62	806.88	731.38	75.50	10.686	
7,200.00	7,180.07	7,180.83	7,180.07	38.97	38.31	-47.33	912.82	-730.62	806.88	730.32	76.56	10.539	
7,300.00	7,280.07	7,280.83	7,280.07	39.49	38.84	-47.33	912.82	-730.62	806.88	729.26	77.62	10.396	
7,400.00	7,380.07	7,380.83	7,380.07	40.02	39.36	-47.33	912.82	-730.62	806.88	728.21	78.68	10.256	
7,500.00	7,480.07	7,480.83	7,480.07	40.54	39.89	-47.33	912.82	-730.62	806.88	727.15	79.73	10.120	
7,600.00	7,580.07	7,580.83	7,580.07	41.07	40.41	-47.33	912.82	-730.62	806.88	726.09	80.79	9.987	
7,700.00	7,680.07	7,680.83	7,680.07	41.60	40.94	-47.33	912.82	-730.62	806.88	725.03	81.85	9.858	
7,800.00	7,780.07	7,780.83	7,780.07	42.13	41.46	-47.33	912.82	-730.62	806.88	723.97	82.91	9.732	
7,900.00	7,880.07	7,880.83	7,880.07	42.65	41.99	-47.33	912.82	-730.62	806.88	722.91	83.97	9.609	
8,000.00	7,980.07	7,980.83	7,980.07	43.18	42.51	-47.33	912.82	-730.62	806.88	721.85	85.03	9.490	
8,100.00	8,080.07	8,080.83	8,080.07	43.71	43.04	-47.33	912.82	-730.62	806.88	720.79	86.09	9.373	
8,200.00	8,180.07	8,180.83	8,180.07	44.24	43.57	-47.33	912.82	-730.62	806.88	719.73	87.15	9.259	
8,300.00	8,280.07	8,280.83	8,280.07	44.77	44.09	-47.33	912.82	-730.62	806.88	718.67	88.21	9.147	
8,400.00	8,380.07	8,380.83	8,380.07	45.29	44.62	-47.33	912.82	-730.62	806.88	717.61	89.27	9.039	
8,500.00	8,480.07	8,480.83	8,480.07	45.82	45.15	-47.33	912.82	-730.62	806.88	716.55	90.33	8.932	
8,600.00	8,579.96	8,580.73	8,579.96	46.36	45.67	-47.07	912.82	-730.62	804.81	713.41	91.39	8.806	
8,700.00	8,678.03	8,678.80	8,678.03	46.93	46.19	-49.03	912.82	-730.62	792.03	700.40	91.63	8.644	
8,800.00	8,771.34	8,772.10	8,771.34	47.54	46.69	-52.85	912.82	-730.62	768.60	677.29	91.32	8.417	
8,900.00	8,857.03	8,857.80	8,857.03	48.17	47.14	-58.55	912.82	-730.62	736.61	645.20	91.41	8.058	
9,000.00	8,932.52	8,933.28	8,932.52	48.82	47.54	-65.87	912.82	-730.62	699.15	606.43	92.72	7.540	
9,100.00	8,995.51	8,996.27	8,995.51	49.51	47.87	-73.99	912.82	-730.62	660.42	565.34	95.08	6.946	
9,200.00	9,044.08	9,037.29	9,036.53	50.22	48.09	-80.89	913.18	-730.62	625.66	528.44	97.22	6.436	
9,300.00	9,076.76	9,066.98	9,066.15	50.96	48.24	-86.12	914.99	-730.64	600.37	501.67	98.70	6.083	
9,400.00	9,092.55	9,090.25	9,089.29	51.72	48.37	-89.51	917.48	-730.66	588.41	488.75	99.66	5.904	
9,426.07	9,094.20	9,095.20	9,094.20	51.92	48.39	-90.00	918.14	-730.67	587.86	487.98	99.88	5.886 CC	
9,500.00	9,094.47	9,107.03	9,105.90	52.50	48.45	-91.17	919.86	-730.69	592.39	491.94	100.45	5.897	
9,600.00	9,095.21	9,130.38	9,128.89	53.35	48.58	-93.40	923.98	-730.73	612.34	511.14	101.20	6.051	
9,700.00	9,095.95	9,168.77	9,166.24	54.27	48.77	-97.00	932.78	-730.81	646.34	544.67	101.67	6.357	
9,800.00	9,096.69	9,242.39	9,235.87	55.27	49.14	-103.55	956.55	-731.05	691.03	590.12	100.91	6.848	
9,900.00	9,097.43	9,425.79	9,391.24	56.33	49.92	-116.75	1,052.50	-732.01	739.73	644.73	95.00	7.786	
10,000.00	9,098.17	9,922.50	9,589.29	57.45	52.18	-129.88	1,491.16	-736.37	766.03	680.05	85.98	8.909	
10,100.00	9,098.91	10,022.49	9,589.47	58.62	52.74	-129.84	1,591.15	-737.36	765.67	678.21	87.46	8.755	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 19H - OH - Plan 2 11-17-16													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	
10,200.00	9,099.65	10,122.49	9,589.64	59.86	53.37	-129.81	1,691.14	-738.36	765.31	676.26	89.05	8.594	
10,300.00	9,100.39	10,222.49	9,589.82	61.14	54.08	-129.78	1,791.14	-739.35	764.95	674.18	90.77	8.427	
10,400.00	9,101.13	10,322.49	9,589.99	62.47	54.87	-129.74	1,891.13	-740.35	764.59	671.99	92.60	8.257	
10,500.00	9,101.87	10,422.49	9,590.17	63.85	55.73	-129.71	1,991.12	-741.34	764.24	669.70	94.54	8.084	
10,600.00	9,102.61	10,522.49	9,590.34	65.27	56.66	-129.68	2,091.12	-742.34	763.88	667.30	96.58	7.909	
10,700.00	9,103.35	10,622.49	9,590.51	66.73	57.65	-129.65	2,191.11	-743.33	763.52	664.81	98.71	7.735	
10,800.00	9,104.09	10,722.48	9,590.69	68.23	58.70	-129.61	2,291.10	-744.33	763.16	662.23	100.94	7.561	
10,900.00	9,104.83	10,822.48	9,590.86	69.76	59.82	-129.58	2,391.10	-745.32	762.80	659.56	103.25	7.388	
11,000.00	9,105.57	10,922.48	9,591.04	71.33	60.99	-129.55	2,491.09	-746.32	762.45	656.81	105.64	7.218	
11,100.00	9,106.31	11,022.48	9,591.21	72.92	62.21	-129.51	2,591.08	-747.31	762.09	653.99	108.10	7.050	
11,200.00	9,107.05	11,122.48	9,591.39	74.55	63.49	-129.48	2,691.08	-748.31	761.73	651.10	110.63	6.885	
11,300.00	9,107.79	11,222.48	9,591.56	76.20	64.81	-129.45	2,791.07	-749.30	761.38	648.15	113.23	6.724	
11,400.00	9,108.53	11,322.47	9,591.74	77.87	66.17	-129.42	2,891.06	-750.30	761.02	645.13	115.89	6.567	
11,500.00	9,109.27	11,422.47	9,591.91	79.57	67.58	-129.38	2,991.06	-751.29	760.66	642.06	118.61	6.413	
11,600.00	9,110.01	11,522.47	9,592.09	81.29	69.02	-129.35	3,091.05	-752.29	760.31	638.93	121.38	6.264	
11,700.00	9,110.75	11,622.47	9,592.26	83.03	70.50	-129.32	3,191.04	-753.28	759.95	635.75	124.20	6.119	
11,800.00	9,111.49	11,722.47	9,592.43	84.79	72.02	-129.28	3,291.04	-754.28	759.60	632.53	127.07	5.978	
11,900.00	9,112.24	11,822.47	9,592.61	86.57	73.57	-129.25	3,391.03	-755.27	759.24	629.26	129.98	5.841	
12,000.00	9,112.98	11,922.46	9,592.78	88.36	75.15	-129.22	3,491.02	-756.27	758.89	625.95	132.94	5.709	
12,100.00	9,113.72	12,022.46	9,592.96	90.18	76.75	-129.18	3,591.02	-757.26	758.53	622.61	135.93	5.580	
12,200.00	9,114.46	12,122.46	9,593.13	92.00	78.39	-129.15	3,691.01	-758.26	758.18	619.22	138.96	5.456	
12,300.00	9,115.20	12,222.46	9,593.31	93.84	80.04	-129.12	3,791.00	-759.25	757.83	615.81	142.02	5.336	
12,400.00	9,115.94	12,322.46	9,593.48	95.70	81.72	-129.08	3,891.00	-760.25	757.47	612.36	145.12	5.220	
12,500.00	9,116.68	12,422.46	9,593.66	97.56	83.43	-129.05	3,990.99	-761.24	757.12	608.88	148.24	5.107	
12,600.00	9,117.42	12,522.45	9,593.83	99.44	85.15	-129.02	4,090.98	-762.24	756.77	605.37	151.39	4.999	
12,700.00	9,118.16	12,622.45	9,594.01	101.33	86.90	-128.98	4,190.98	-763.23	756.41	601.84	154.58	4.893	
12,800.00	9,118.90	12,722.45	9,594.18	103.23	88.66	-128.95	4,290.97	-764.23	756.06	598.28	157.78	4.792	
12,900.00	9,119.64	12,822.45	9,594.35	105.14	90.44	-128.92	4,390.96	-765.22	755.71	594.69	161.01	4.693	
13,000.00	9,120.38	12,922.45	9,594.53	107.06	92.23	-128.88	4,490.96	-766.22	755.35	591.09	164.27	4.598	
13,100.00	9,121.12	13,022.45	9,594.70	108.99	94.05	-128.85	4,590.95	-767.21	755.00	587.46	167.54	4.506	
13,200.00	9,121.86	13,122.45	9,594.88	110.93	95.87	-128.81	4,690.94	-768.21	754.65	583.81	170.84	4.417	
13,300.00	9,122.60	13,222.44	9,595.05	112.87	97.71	-128.78	4,790.94	-769.20	754.30	580.15	174.15	4.331	
13,400.00	9,123.34	13,322.44	9,595.23	114.83	99.56	-128.75	4,890.93	-770.20	753.95	576.46	177.48	4.248	
13,500.00	9,124.08	13,422.44	9,595.40	116.79	101.43	-128.71	4,990.92	-771.19	753.60	572.76	180.83	4.167	
13,600.00	9,124.82	13,522.44	9,595.58	118.76	103.30	-128.68	5,090.92	-772.19	753.25	569.05	184.20	4.089	
13,700.00	9,125.56	13,622.44	9,595.75	120.73	105.19	-128.65	5,190.91	-773.18	752.90	565.31	187.58	4.014	
13,800.00	9,126.30	13,722.44	9,595.92	122.71	107.09	-128.61	5,290.90	-774.18	752.55	561.56	190.98	3.940	
13,900.00	9,127.04	13,822.43	9,596.10	124.70	108.99	-128.58	5,390.90	-775.17	752.20	557.80	194.40	3.869	
14,000.00	9,127.78	13,922.43	9,596.27	126.69	110.91	-128.54	5,490.89	-776.17	751.85	554.03	197.82	3.801	
14,100.00	9,128.52	14,022.43	9,596.45	128.69	112.83	-128.51	5,590.88	-777.16	751.50	550.24	201.26	3.734	
14,200.00	9,129.26	14,122.43	9,596.62	130.69	114.77	-128.48	5,690.88	-778.16	751.15	546.43	204.71	3.669	
14,300.00	9,130.00	14,222.43	9,596.80	132.70	116.71	-128.44	5,790.87	-779.15	750.80	542.62	208.18	3.607	
14,400.00	9,130.74	14,322.43	9,596.97	134.71	118.66	-128.41	5,890.86	-780.15	750.45	538.80	211.65	3.546	
14,500.00	9,131.76	14,425.24	9,597.52	136.72	120.67	-128.38	5,993.67	-780.73	750.27	535.15	215.13	3.488	
14,600.00	9,133.15	14,525.24	9,598.82	138.74	122.62	-128.37	6,093.66	-780.35	750.22	531.66	218.56	3.433	
14,700.00	9,134.54	14,625.24	9,600.12	140.76	124.59	-128.37	6,193.65	-779.97	750.16	528.16	222.00	3.379	
14,800.00	9,135.92	14,725.24	9,601.42	142.78	126.56	-128.36	6,293.64	-779.60	750.11	524.66	225.45	3.327	
14,900.00	9,137.31	14,825.24	9,602.72	144.81	128.53	-128.36	6,393.63	-779.22	750.05	521.14	228.91	3.277	
15,000.00	9,138.70	14,925.24	9,604.03	146.84	130.52	-128.35	6,493.62	-778.85	750.00	517.62	232.37	3.228	
15,100.00	9,140.09	15,025.24	9,605.33	148.87	132.50	-128.35	6,593.61	-778.47	749.94	514.10	235.85	3.180	
15,200.00	9,141.48	15,125.24	9,606.63	150.91	134.50	-128.34	6,693.60	-778.10	749.89	510.56	239.33	3.133	
15,300.00	9,142.86	15,225.24	9,607.93	152.95	136.49	-128.34	6,793.59	-777.72	749.83	507.02	242.81	3.088	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P5 - 19H - OH - Plan 2 11-17-16													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	9,144.25	15,325.23	9,609.23	154.99	138.49	-128.33	6,893.58	-777.35	749.78	503.47	246.30	3.044		
15,500.00	9,145.64	15,425.23	9,610.53	157.04	140.50	-128.33	6,993.57	-776.97	749.72	499.92	249.80	3.001		
15,600.00	9,147.03	15,525.23	9,611.83	159.09	142.51	-128.32	7,093.57	-776.60	749.67	496.36	253.31	2.960		
15,700.00	9,148.41	15,625.23	9,613.13	161.14	144.53	-128.32	7,193.56	-776.22	749.61	492.80	256.82	2.919		
15,800.00	9,149.80	15,725.23	9,614.44	163.19	146.54	-128.31	7,293.55	-775.84	749.56	489.23	260.33	2.879		
15,900.00	9,151.19	15,825.23	9,615.74	165.25	148.57	-128.31	7,393.54	-775.47	749.50	485.65	263.85	2.841		
16,000.00	9,152.58	15,925.23	9,617.04	167.31	150.59	-128.30	7,493.53	-775.09	749.45	482.07	267.38	2.803		
16,100.00	9,153.97	16,025.23	9,618.34	169.37	152.62	-128.30	7,593.52	-774.72	749.39	478.48	270.91	2.766		
16,200.00	9,155.35	16,125.23	9,619.64	171.44	154.66	-128.29	7,693.51	-774.34	749.34	474.89	274.44	2.730		
16,300.00	9,156.74	16,225.23	9,620.94	173.50	156.69	-128.29	7,793.50	-773.97	749.28	471.30	277.98	2.695		
16,400.00	9,158.13	16,325.23	9,622.24	175.57	158.73	-128.28	7,893.49	-773.59	749.23	467.70	281.53	2.661		
16,500.00	9,159.52	16,425.23	9,623.54	177.64	160.77	-128.28	7,993.48	-773.22	749.17	464.10	285.07	2.628		
16,600.00	9,160.91	16,525.23	9,624.85	179.71	162.82	-128.27	8,093.47	-772.84	749.12	460.49	288.63	2.595		
16,700.00	9,162.29	16,625.23	9,626.15	181.79	164.87	-128.26	8,193.46	-772.46	749.06	456.88	292.18	2.564		
16,800.00	9,163.68	16,725.23	9,627.45	183.86	166.92	-128.26	8,293.45	-772.09	749.01	453.26	295.74	2.533		
16,900.00	9,165.07	16,825.23	9,628.75	185.94	168.97	-128.25	8,393.45	-771.71	748.95	449.65	299.31	2.502		
17,000.00	9,166.46	16,925.23	9,630.05	188.02	171.03	-128.25	8,493.44	-771.34	748.90	446.02	302.87	2.473		
17,100.00	9,167.85	17,025.23	9,631.35	190.10	173.08	-128.24	8,593.43	-770.96	748.84	442.40	306.44	2.444		
17,200.00	9,169.23	17,125.23	9,632.65	192.19	175.14	-128.24	8,693.42	-770.59	748.79	438.77	310.02	2.415		
17,300.00	9,170.62	17,225.23	9,633.96	194.27	177.21	-128.23	8,793.41	-770.21	748.73	435.14	313.59	2.388		
17,400.00	9,172.01	17,325.23	9,635.26	196.36	179.27	-128.23	8,893.40	-769.84	748.68	431.50	317.17	2.360		
17,500.00	9,173.40	17,425.23	9,636.56	198.44	181.34	-128.22	8,993.39	-769.46	748.62	427.87	320.76	2.334		
17,600.00	9,174.79	17,525.23	9,637.86	200.53	183.41	-128.22	9,093.38	-769.09	748.57	424.22	324.34	2.308		
17,700.00	9,176.17	17,625.23	9,639.16	202.62	185.48	-128.21	9,193.37	-768.71	748.51	420.58	327.93	2.283		
17,800.00	9,177.56	17,725.23	9,640.46	204.71	187.55	-128.21	9,293.36	-768.33	748.46	416.93	331.52	2.258		
17,900.00	9,178.95	17,825.23	9,641.76	206.81	189.62	-128.20	9,393.35	-767.96	748.40	413.29	335.11	2.233		
18,000.00	9,180.34	17,925.23	9,643.06	208.90	191.70	-128.20	9,493.34	-767.58	748.35	409.63	338.71	2.209		
18,100.00	9,181.73	18,025.23	9,644.37	211.00	193.78	-128.19	9,593.34	-767.21	748.29	405.98	342.31	2.186		
18,200.00	9,183.11	18,125.23	9,645.67	213.09	195.86	-128.19	9,693.33	-766.83	748.24	402.32	345.91	2.163		
18,300.00	9,184.50	18,225.23	9,646.97	215.19	197.94	-128.18	9,793.32	-766.46	748.18	398.66	349.52	2.141		
18,400.00	9,185.89	18,325.23	9,648.27	217.29	200.02	-128.18	9,893.31	-766.08	748.13	395.00	353.12	2.119		
18,500.00	9,187.28	18,425.23	9,649.57	219.39	202.10	-128.17	9,993.30	-765.71	748.07	391.34	356.73	2.097		
18,600.00	9,188.66	18,525.23	9,650.87	221.49	204.19	-128.17	10,093.29	-765.33	748.02	387.67	360.34	2.076		
18,700.00	9,190.05	18,625.23	9,652.17	223.59	206.28	-128.16	10,193.28	-764.96	747.96	384.01	363.95	2.055		
18,800.00	9,191.44	18,725.23	9,653.47	225.69	208.36	-128.16	10,293.27	-764.58	747.91	380.34	367.57	2.035		
18,900.00	9,192.83	18,825.23	9,654.78	227.79	210.45	-128.15	10,393.26	-764.20	747.85	376.66	371.19	2.015		
19,000.00	9,194.22	18,925.23	9,656.08	229.90	212.54	-128.15	10,493.25	-763.83	747.80	372.99	374.81	1.995		
19,100.00	9,195.60	19,025.23	9,657.38	232.00	214.64	-128.14	10,593.24	-763.45	747.74	369.31	378.43	1.976		
19,200.00	9,196.99	19,125.23	9,658.68	234.11	216.73	-128.14	10,693.23	-763.08	747.69	365.64	382.05	1.957		
19,300.00	9,198.38	19,225.23	9,659.98	236.22	218.82	-128.13	10,793.22	-762.70	747.63	361.96	385.67	1.939		
19,400.00	9,199.77	19,325.23	9,661.28	238.33	220.92	-128.13	10,893.22	-762.33	747.58	358.28	389.30	1.920		
19,416.71	9,200.00	19,341.94	9,661.50	238.68	221.27	-128.13	10,909.92	-762.26	747.57	357.66	389.91	1.917 ES, SF		



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 20H - OH - Plan 2 11-17-16												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HOGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (")	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)					
0.00	0.00	0.00	9.00	0.00	0.00	-27.50	860.37	-447.89	970.01				
100.00	100.00	91.00	100.00	0.19	0.18	-27.50	860.37	-447.89	969.97	969.60	0.37	2,623.468	
200.00	200.00	191.00	200.00	0.73	0.68	-27.50	860.37	-447.89	969.97	968.56	1.41	685.893	
300.00	300.00	291.00	300.00	1.27	1.22	-27.50	860.37	-447.89	969.97	967.48	2.49	389.611	
400.00	400.00	391.00	400.00	1.81	1.76	-27.50	860.37	-447.89	969.97	966.40	3.56	272.081	
500.00	500.00	491.00	500.00	2.34	2.30	-27.50	860.37	-447.89	969.97	965.33	4.64	209.027	
600.00	600.00	591.00	600.00	2.88	2.83	-27.50	860.37	-447.89	969.97	964.25	5.72	169.699	
700.00	699.98	690.98	699.98	3.42	3.37	-6.95	860.37	-447.89	968.24	961.44	6.80	142.466	
800.00	799.84	790.84	799.84	3.96	3.91	-7.00	860.37	-447.89	963.04	955.16	7.88	122.237	
899.93	899.39	890.39	899.39	4.50	4.44	-7.09	860.37	-447.89	954.40	945.45	8.95	106.597	
1,000.00	998.90	989.90	998.90	5.05	4.98	-7.16	860.37	-447.89	944.02	934.00	10.02	94.236	
1,100.00	1,098.36	1,089.36	1,098.36	5.60	5.51	-7.24	860.37	-447.89	933.65	922.57	11.08	84.229	
1,200.00	1,197.81	1,188.81	1,197.81	6.16	6.05	-7.33	860.37	-447.89	923.29	911.13	12.15	75.964	
1,300.00	1,297.26	1,288.26	1,297.26	6.72	6.58	-7.41	860.37	-447.89	912.92	899.70	13.23	69.026	
1,400.00	1,396.71	1,387.71	1,396.71	7.28	7.12	-7.50	860.37	-447.89	902.56	888.26	14.30	63.121	
1,500.00	1,496.17	1,487.17	1,496.17	7.84	7.65	-7.58	860.37	-447.89	892.20	876.82	15.37	58.037	
1,600.00	1,595.62	1,574.42	1,583.41	8.41	8.11	-7.72	860.44	-448.85	882.44	866.06	16.37	53.893	
1,700.00	1,695.07	1,659.93	1,668.85	8.98	8.56	-7.99	860.68	-452.34	874.26	856.90	17.36	50.362	
1,800.00	1,794.52	1,745.39	1,754.09	9.54	9.00	-8.41	861.09	-458.36	867.73	849.38	18.35	47.297	
1,900.00	1,893.98	1,830.63	1,838.90	10.11	9.45	-8.97	861.68	-466.90	862.90	843.56	19.34	44.621	
2,000.00	1,993.43	1,915.51	1,923.05	10.68	9.91	-9.68	862.44	-477.89	859.85	839.52	20.33	42.286	
2,100.00	2,092.88	2,000.00	2,006.47	11.25	10.37	-10.52	863.36	-491.30	858.68	837.34	21.34	40.245	
2,109.98	2,102.80	2,008.26	2,014.60	11.31	10.41	-10.61	863.46	-492.75	858.67	837.23	21.44	40.056 CC	
2,200.00	2,192.33	2,083.60	2,088.57	11.82	10.84	-11.48	864.44	-506.98	859.49	837.15	22.34	38.465 ES	
2,300.00	2,291.79	2,169.63	2,172.57	12.39	11.33	-12.60	865.72	-525.54	862.37	838.99	23.38	36.891	
2,400.00	2,391.24	2,267.51	2,267.94	12.96	11.91	-13.90	867.23	-547.50	866.26	841.77	24.49	35.378	
2,500.00	2,490.69	2,365.39	2,363.31	13.53	12.51	-15.20	868.74	-569.46	870.61	845.01	25.60	34.005	
2,600.00	2,590.14	2,463.27	2,458.69	14.10	13.11	-16.48	870.25	-591.42	875.42	848.69	26.72	32.757	
2,700.00	2,689.60	2,561.15	2,554.06	14.67	13.72	-17.75	871.76	-613.38	880.68	852.83	27.85	31.620	
2,800.00	2,789.05	2,659.03	2,649.43	15.24	14.35	-19.00	873.27	-635.34	886.38	857.40	28.98	30.583	
2,900.00	2,888.50	2,756.91	2,744.80	15.81	14.98	-20.24	874.79	-657.30	892.51	862.40	30.12	29.635	
3,000.00	2,987.95	2,854.79	2,840.18	16.39	15.61	-21.46	876.30	-679.26	899.07	867.82	31.25	28.769	
3,100.00	3,087.41	2,952.67	2,935.55	16.96	16.26	-22.66	877.81	-701.22	906.05	873.66	32.39	27.975	
3,200.00	3,186.86	3,050.55	3,030.92	17.53	16.90	-23.84	879.32	-723.18	913.43	879.91	33.52	27.247	
3,300.00	3,286.31	3,148.43	3,126.29	18.10	17.56	-25.01	880.83	-745.14	921.21	886.55	34.66	26.578	
3,400.00	3,385.76	3,246.31	3,221.67	18.68	18.21	-26.16	882.34	-767.10	929.38	893.58	35.80	25.962	
3,500.00	3,485.22	3,344.19	3,317.04	19.25	18.87	-27.28	883.85	-789.05	937.92	900.99	36.93	25.395	
3,600.00	3,584.67	3,442.07	3,412.41	19.82	19.53	-28.39	885.37	-811.01	946.83	908.76	38.07	24.872	
3,700.00	3,684.12	3,539.95	3,507.78	20.39	20.20	-29.48	886.88	-832.97	956.09	916.89	39.20	24.389	
3,800.00	3,783.57	3,637.83	3,603.16	20.97	20.87	-30.54	888.39	-854.93	965.70	925.36	40.33	23.943	
3,900.00	3,883.02	3,735.71	3,698.53	21.54	21.54	-31.59	889.90	-876.89	975.64	934.18	41.47	23.529	
4,000.00	3,982.48	3,833.59	3,793.90	22.11	22.21	-32.61	891.41	-898.85	985.91	943.32	42.60	23.146	
4,100.00	4,081.93	3,931.47	3,889.28	22.68	22.89	-33.61	892.92	-920.81	996.50	952.77	43.72	22.790	
4,200.00	4,181.38	4,029.35	3,984.65	23.26	23.56	-34.60	894.44	-942.77	1,007.39	962.53	44.85	22.460	
4,300.00	4,280.83	4,127.23	4,080.02	23.83	24.24	-35.56	895.95	-964.73	1,018.57	972.59	45.98	22.153	
4,400.00	4,380.35	4,225.11	4,175.39	24.40	24.92	-36.57	897.46	-986.69	1,030.55	983.45	47.09	21.884	
4,500.00	4,480.12	4,322.95	4,270.73	24.95	25.60	-37.55	898.97	-1,008.64	1,045.31	997.15	48.15	21.708	
4,600.00	4,580.07	4,420.63	4,365.90	25.48	26.28	-38.43	900.48	-1,030.55	1,062.97	1,013.81	49.16	21.622	
4,700.00	4,680.07	4,518.09	4,460.87	25.99	26.96	-39.64	901.98	-1,052.42	1,082.95	1,032.74	50.22	21.566	
4,800.00	4,780.07	4,615.53	4,555.81	26.50	27.64	-40.16	903.49	-1,074.28	1,103.24	1,051.94	51.30	21.505	
4,900.00	4,880.07	4,712.97	4,650.75	27.01	28.33	-40.66	904.99	-1,096.14	1,123.61	1,071.22	52.39	21.448	
5,000.00	4,980.07	4,810.40	4,745.70	27.52	29.01	-41.14	906.50	-1,118.00	1,144.05	1,090.58	53.47	21.396	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 20H - OH - Plan 2 11-17-16													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	5,080.07	4,907.84	4,840.64	28.03	29.70	-61.60	908.00	-1,139.86	1,164.58	1,110.02	54.56	21.346	
5,200.00	5,180.07	5,005.28	4,935.58	28.55	30.38	-62.05	909.51	-1,161.72	1,185.17	1,129.53	55.64	21.300	
5,300.00	5,280.07	5,102.72	5,030.53	29.06	31.07	-62.48	911.01	-1,183.58	1,205.83	1,149.11	56.73	21.257	
5,400.00	5,380.07	5,200.16	5,125.47	29.58	31.75	-62.90	912.51	-1,205.44	1,226.56	1,168.75	57.81	21.216	
5,500.00	5,480.07	5,297.60	5,220.41	30.10	32.44	-63.31	914.02	-1,227.30	1,247.35	1,188.45	58.90	21.178	
5,600.00	5,580.07	5,395.04	5,315.35	30.61	33.13	-63.70	915.52	-1,249.17	1,268.19	1,208.21	59.98	21.143	
5,700.00	5,680.07	5,492.47	5,410.30	31.13	33.82	-64.08	917.03	-1,271.03	1,289.09	1,228.02	61.07	21.109	
5,800.00	5,780.07	5,589.91	5,505.24	31.65	34.51	-64.44	918.53	-1,292.89	1,310.05	1,247.89	62.15	21.078	
5,900.00	5,880.07	5,687.35	5,600.18	32.17	35.20	-64.80	920.04	-1,314.75	1,331.05	1,267.81	63.24	21.048	
6,000.00	5,980.07	5,784.79	5,695.13	32.69	35.89	-65.14	921.54	-1,336.61	1,352.10	1,287.77	64.32	21.020	
6,100.00	6,080.07	5,882.23	5,790.07	33.21	36.58	-65.48	923.05	-1,358.47	1,373.20	1,307.79	65.41	20.994	
6,200.00	6,180.07	5,979.67	5,885.01	33.73	37.27	-65.80	924.55	-1,380.33	1,394.34	1,327.84	66.50	20.969	
6,300.00	6,280.07	6,077.11	5,979.95	34.25	37.96	-66.12	926.06	-1,402.19	1,415.52	1,347.94	67.58	20.945	
6,400.00	6,380.07	6,174.54	6,074.90	34.77	38.65	-66.42	927.56	-1,424.05	1,436.74	1,368.07	68.67	20.923	
6,500.00	6,480.07	6,271.98	6,169.84	35.30	39.35	-66.72	929.07	-1,445.91	1,458.00	1,388.24	69.75	20.902	
6,600.00	6,580.07	6,369.42	6,264.78	35.82	40.04	-67.01	930.57	-1,467.77	1,479.29	1,408.45	70.84	20.882	
6,700.00	6,680.07	6,466.86	6,359.73	36.34	40.73	-67.28	932.08	-1,489.63	1,500.62	1,428.70	71.93	20.863	
6,800.00	6,780.07	6,564.30	6,454.68	36.87	41.43	-67.70	934.37	-1,522.93	1,520.72	1,447.36	73.36	20.729	
6,900.00	6,880.07	6,661.74	6,549.62	37.39	42.13	-68.05	936.41	-1,552.54	1,534.80	1,459.80	75.00	20.465	
7,000.00	6,980.07	6,759.18	6,644.56	37.92	42.83	-68.23	937.49	-1,568.36	1,542.20	1,465.60	76.60	20.134	
7,100.00	7,080.07	6,856.62	6,739.50	38.44	43.53	-68.26	937.67	-1,570.90	1,543.38	1,465.45	77.93	19.804	
7,200.00	7,180.07	6,954.06	6,834.44	38.97	44.23	-68.26	937.67	-1,570.90	1,543.38	1,464.44	78.95	19.550	
7,300.00	7,280.07	7,051.50	6,929.38	39.49	44.93	-68.26	937.67	-1,570.90	1,543.38	1,463.42	79.96	19.302	
7,400.00	7,380.07	7,148.94	7,024.32	40.02	45.63	-68.26	937.67	-1,570.90	1,543.38	1,462.41	80.98	19.060	
7,500.00	7,480.07	7,246.38	7,119.26	40.54	46.33	-68.26	937.67	-1,570.90	1,543.38	1,461.39	81.99	18.824	
7,600.00	7,580.07	7,343.82	7,214.20	41.07	47.03	-68.26	937.67	-1,570.90	1,543.38	1,460.37	83.01	18.593	
7,700.00	7,680.07	7,441.26	7,309.14	41.60	47.73	-68.26	937.67	-1,570.90	1,543.38	1,459.35	84.03	18.367	
7,800.00	7,780.07	7,538.70	7,404.08	42.13	48.43	-68.26	937.67	-1,570.90	1,543.38	1,458.33	85.05	18.147	
7,900.00	7,880.07	7,636.14	7,500.02	42.65	49.13	-68.26	937.67	-1,570.90	1,543.38	1,457.31	86.07	17.931	
8,000.00	7,980.07	7,733.58	7,595.96	43.18	49.83	-68.26	937.67	-1,570.90	1,543.38	1,456.29	87.10	17.720	
8,100.00	8,080.07	7,831.02	7,691.90	43.71	50.53	-68.26	937.67	-1,570.90	1,543.38	1,455.26	88.12	17.514	
8,200.00	8,180.07	7,928.46	7,787.84	44.24	51.23	-68.26	937.67	-1,570.90	1,543.38	1,454.24	89.15	17.313	
8,300.00	8,280.07	8,025.90	7,883.78	44.77	51.93	-68.26	937.67	-1,570.90	1,543.38	1,453.21	90.18	17.115	
8,400.00	8,380.07	8,123.34	7,979.72	45.29	52.63	-68.26	937.67	-1,570.90	1,543.38	1,452.18	91.20	16.922	
8,500.00	8,480.07	8,220.78	8,075.66	45.82	53.33	-68.26	937.67	-1,570.90	1,543.38	1,451.15	92.23	16.734	
8,600.00	8,579.96	8,318.22	8,171.60	46.36	54.03	-67.90	937.67	-1,570.90	1,542.23	1,448.81	93.42	16.508	
8,700.00	8,678.03	8,415.66	8,267.54	46.93	54.73	-69.20	937.67	-1,570.90	1,535.20	1,440.75	94.45	16.254	
8,800.00	8,771.34	8,513.10	8,363.48	47.54	55.43	-71.59	937.67	-1,570.90	1,522.47	1,427.23	95.24	15.986	
8,900.00	8,857.03	8,609.54	8,459.42	48.17	56.13	-74.86	937.67	-1,570.90	1,505.44	1,409.36	96.07	15.670	
9,000.00	8,932.52	8,706.98	8,555.36	48.82	56.83	-78.66	937.67	-1,570.90	1,486.01	1,388.91	97.10	15.303	
9,100.00	8,995.51	8,804.42	8,651.30	49.51	57.53	-82.53	937.67	-1,570.90	1,466.43	1,368.20	98.23	14.928	
9,200.00	9,044.08	8,901.86	8,747.24	50.22	58.23	-85.96	937.67	-1,570.90	1,449.04	1,349.78	99.26	14.598	
9,300.00	9,076.76	8,999.30	8,843.18	50.96	58.93	-88.38	937.81	-1,570.90	1,436.00	1,335.91	100.09	14.348	
9,400.00	9,092.55	9,096.69	8,939.07	51.72	59.63	-89.73	938.41	-1,570.91	1,428.91	1,328.08	100.82	14.173	
9,455.02	9,095.52	9,201.15	9,095.52	52.15	60.00	-90.00	938.73	-1,570.91	1,427.66	1,326.61	101.25	14.102	
9,500.00	9,094.47	9,210.99	9,097.35	52.50	60.35	-90.13	938.84	-1,570.91	1,428.57	1,326.97	101.60	14.061	
9,600.00	9,095.21	9,220.53	9,106.86	53.35	61.05	-90.51	939.53	-1,570.92	1,435.17	1,332.72	102.45	14.009	
9,700.00	9,095.95	9,235.85	9,122.12	54.27	61.75	-91.12	940.97	-1,570.94	1,448.59	1,345.22	103.37	14.014	
9,800.00	9,096.69	9,264.42	9,150.43	55.27	62.45	-92.26	944.74	-1,570.97	1,468.53	1,364.21	104.33	14.077	
9,900.00	9,097.43	9,335.68	9,219.94	56.33	63.15	-95.03	960.24	-1,571.13	1,494.37	1,389.23	105.14	14.213	
10,000.00	9,098.17	9,417.41	9,292.05	57.45	63.85	-106.76	1,176.33	-1,573.27	1,521.96	1,418.91	103.05	14.768	
10,100.00	9,098.91	9,499.19	9,363.46	58.62	64.55	-110.52	1,585.27	-1,577.33	1,524.65	1,421.00	103.65	14.710	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 20H - OH - Plan 2 11-17-16													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	
10,200.00	9,099.65	10,249.01	9,633.16	59.86	58.20	-110.49	1,685.26	-1,578.32	1,524.28	1,418.88	105.40	14.462	
10,300.00	9,100.39	10,349.00	9,632.86	61.14	58.79	-110.45	1,785.25	-1,579.31	1,523.92	1,416.64	107.28	14.205	
10,400.00	9,101.13	10,449.00	9,632.57	62.47	59.46	-110.41	1,885.24	-1,580.31	1,523.56	1,414.27	109.29	13.940	
10,500.00	9,101.87	10,548.99	9,632.27	63.85	60.22	-110.38	1,985.23	-1,581.30	1,523.20	1,411.78	111.42	13.671	
10,600.00	9,102.61	10,648.98	9,631.97	65.27	61.05	-110.34	2,085.22	-1,582.29	1,522.84	1,409.19	113.65	13.399	
10,700.00	9,103.35	10,748.98	9,631.68	66.73	61.96	-110.30	2,185.21	-1,583.28	1,522.48	1,406.48	116.00	13.125	
10,800.00	9,104.09	10,848.97	9,631.38	68.23	62.93	-110.27	2,285.20	-1,584.28	1,522.12	1,403.68	118.44	12.851	
10,900.00	9,104.83	10,948.97	9,631.08	69.76	63.97	-110.23	2,385.19	-1,585.27	1,521.77	1,400.79	120.98	12.579	
11,000.00	9,105.57	11,048.96	9,630.79	71.33	65.06	-110.19	2,485.18	-1,586.26	1,521.41	1,397.80	123.61	12.308	
11,100.00	9,106.31	11,148.96	9,630.49	72.92	66.22	-110.16	2,585.17	-1,587.25	1,521.05	1,394.73	126.32	12.041	
11,200.00	9,107.05	11,248.95	9,630.19	74.55	67.42	-110.12	2,685.16	-1,588.24	1,520.70	1,391.59	129.11	11.778	
11,300.00	9,107.79	11,348.95	9,629.90	76.20	68.67	-110.08	2,785.14	-1,589.24	1,520.34	1,388.37	131.97	11.520	
11,400.00	9,108.53	11,448.94	9,629.60	77.87	69.97	-110.05	2,885.13	-1,590.23	1,519.99	1,385.08	134.91	11.267	
11,500.00	9,109.27	11,548.94	9,629.30	79.57	71.31	-110.01	2,985.12	-1,591.22	1,519.63	1,381.73	137.91	11.019	
11,600.00	9,110.01	11,648.93	9,629.01	81.29	72.69	-109.97	3,085.11	-1,592.21	1,519.28	1,378.31	140.97	10.778	
11,700.00	9,110.75	11,748.93	9,628.71	83.03	74.11	-109.94	3,185.10	-1,593.21	1,518.93	1,374.84	144.08	10.542	
11,800.00	9,111.49	11,848.92	9,628.41	84.79	75.57	-109.90	3,285.09	-1,594.20	1,518.57	1,371.32	147.25	10.313	
11,900.00	9,112.24	11,948.91	9,628.12	86.57	77.06	-109.86	3,385.08	-1,595.19	1,518.22	1,367.75	150.47	10.090	
12,000.00	9,112.98	12,048.91	9,627.82	88.36	78.58	-109.83	3,485.07	-1,596.18	1,517.87	1,364.13	153.74	9.873	
12,100.00	9,113.72	12,148.90	9,627.52	90.18	80.13	-109.79	3,585.06	-1,597.17	1,517.52	1,360.47	157.06	9.662	
12,200.00	9,114.46	12,248.90	9,627.23	92.00	81.71	-109.75	3,685.05	-1,598.17	1,517.17	1,356.76	160.41	9.458	
12,300.00	9,115.20	12,348.89	9,626.93	93.84	83.31	-109.72	3,785.04	-1,599.16	1,516.82	1,353.02	163.80	9.260	
12,400.00	9,115.94	12,448.89	9,626.63	95.70	84.94	-109.68	3,885.03	-1,600.15	1,516.47	1,349.24	167.23	9.068	
12,500.00	9,116.68	12,548.88	9,626.34	97.56	86.60	-109.64	3,985.02	-1,601.14	1,516.13	1,345.43	170.70	8.882	
12,600.00	9,117.42	12,648.88	9,626.04	99.44	88.27	-109.61	4,085.00	-1,602.14	1,515.78	1,341.58	174.20	8.701	
12,700.00	9,118.16	12,748.87	9,625.74	101.33	89.97	-109.57	4,184.99	-1,603.13	1,515.43	1,337.70	177.73	8.527	
12,800.00	9,118.90	12,848.87	9,625.45	103.23	91.68	-109.53	4,284.98	-1,604.12	1,515.09	1,333.80	181.29	8.357	
12,900.00	9,119.64	12,948.86	9,625.15	105.14	93.42	-109.49	4,384.97	-1,605.11	1,514.74	1,329.87	184.87	8.193	
13,000.00	9,120.38	13,048.86	9,624.85	107.06	95.17	-109.46	4,484.96	-1,606.10	1,514.40	1,325.91	188.48	8.035	
13,100.00	9,121.12	13,148.85	9,624.56	108.99	96.94	-109.42	4,584.95	-1,607.10	1,514.05	1,321.93	192.12	7.881	
13,200.00	9,121.86	13,248.84	9,624.26	110.93	98.72	-109.38	4,684.94	-1,608.09	1,513.71	1,317.93	195.78	7.732	
13,300.00	9,122.60	13,348.84	9,623.96	112.87	100.52	-109.35	4,784.93	-1,609.08	1,513.37	1,313.90	199.46	7.587	
13,400.00	9,123.34	13,448.83	9,623.67	114.83	102.34	-109.31	4,884.92	-1,610.07	1,513.02	1,309.86	203.17	7.447	
13,500.00	9,124.08	13,548.83	9,623.37	116.79	104.16	-109.27	4,984.91	-1,611.07	1,512.68	1,305.80	206.89	7.312	
13,600.00	9,124.82	13,648.82	9,623.07	118.76	106.00	-109.24	5,084.90	-1,612.06	1,512.34	1,301.71	210.63	7.180	
13,700.00	9,125.56	13,748.82	9,622.78	120.73	107.85	-109.20	5,184.89	-1,613.05	1,512.00	1,297.61	214.39	7.053	
13,800.00	9,126.30	13,848.81	9,622.48	122.71	109.71	-109.16	5,284.88	-1,614.04	1,511.66	1,293.50	218.16	6.929	
13,900.00	9,127.04	13,948.81	9,622.18	124.70	111.59	-109.12	5,384.87	-1,615.04	1,511.32	1,289.37	221.96	6.809	
14,000.00	9,127.78	14,048.80	9,621.89	126.69	113.47	-109.09	5,484.85	-1,616.03	1,510.99	1,285.22	225.77	6.693	
14,100.00	9,128.52	14,148.80	9,621.59	128.69	115.36	-109.05	5,584.84	-1,617.02	1,510.65	1,281.06	229.59	6.580	
14,200.00	9,129.26	14,248.79	9,621.29	130.69	117.27	-109.01	5,684.83	-1,618.01	1,510.31	1,276.89	233.42	6.470	
14,300.00	9,130.00	14,348.79	9,621.00	132.70	119.18	-108.97	5,784.82	-1,619.00	1,509.97	1,272.70	237.28	6.364	
14,400.00	9,130.74	14,448.78	9,620.70	134.71	121.10	-108.94	5,884.81	-1,620.00	1,509.64	1,268.50	241.14	6.260	
14,436.31	9,131.05	14,485.09	9,620.59	135.44	121.79	-108.92	5,921.12	-1,620.36	1,509.59	1,267.13	242.46	6.226	
14,500.00	9,131.76	14,554.61	9,620.79	136.72	123.13	-108.91	5,990.64	-1,620.80	1,509.68	1,264.80	244.88	6.165	
14,600.00	9,133.15	14,657.28	9,622.72	138.74	125.11	-108.92	6,093.29	-1,620.47	1,509.88	1,261.14	248.74	6.070	
14,700.00	9,134.54	14,757.28	9,624.68	140.76	127.05	-108.94	6,193.27	-1,620.09	1,510.07	1,257.51	252.56	5.979	
14,800.00	9,135.92	14,857.28	9,626.65	142.78	128.99	-108.96	6,293.25	-1,619.71	1,510.25	1,253.86	256.38	5.891	
14,900.00	9,137.31	14,957.28	9,628.61	144.81	130.93	-108.99	6,393.23	-1,619.33	1,510.43	1,250.21	260.22	5.804	
15,000.00	9,138.70	15,057.28	9,630.57	146.84	132.89	-109.01	6,493.20	-1,618.96	1,510.62	1,246.56	264.06	5.721	
15,100.00	9,140.09	15,157.27	9,632.54	148.87	134.85	-109.03	6,593.18	-1,618.58	1,510.80	1,242.89	267.91	5.639	
15,200.00	9,141.48	15,257.27	9,634.50	150.91	136.81	-109.05	6,693.16	-1,618.20	1,510.98	1,239.22	271.77	5.560	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 20H - OH - Plan 2 11-17-16												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
15,300.00	9,142.86	15,357.27	9,636.46	152.95	138.78	-109.07	6,793.14	-1,617.82	1,511.17	1,235.54	275.63	5.483	
15,400.00	9,144.25	15,457.27	9,638.43	154.99	140.76	-109.09	6,893.12	-1,617.44	1,511.35	1,231.85	279.50	5.407	
15,500.00	9,145.64	15,557.27	9,640.39	157.04	142.74	-109.11	6,993.10	-1,617.07	1,511.54	1,228.16	283.38	5.334	
15,600.00	9,147.03	15,657.27	9,642.35	159.09	144.73	-109.13	7,093.07	-1,616.69	1,511.72	1,224.46	287.26	5.263	
15,700.00	9,148.41	15,757.26	9,644.32	161.14	146.72	-109.15	7,193.05	-1,616.31	1,511.91	1,220.76	291.15	5.193	
15,800.00	9,149.80	15,857.26	9,646.28	163.19	148.72	-109.17	7,293.03	-1,615.93	1,512.09	1,217.05	295.04	5.125	
15,900.00	9,151.19	15,957.26	9,648.24	165.25	150.72	-109.19	7,393.01	-1,615.56	1,512.28	1,213.33	298.94	5.059	
16,000.00	9,152.58	16,057.26	9,650.21	167.31	152.72	-109.21	7,492.99	-1,615.18	1,512.46	1,209.62	302.85	4.994	
16,100.00	9,153.97	16,157.26	9,652.17	169.37	154.73	-109.23	7,592.97	-1,614.80	1,512.65	1,205.89	306.76	4.931	
16,200.00	9,155.35	16,257.26	9,654.14	171.44	156.74	-109.25	7,692.94	-1,614.42	1,512.83	1,202.16	310.67	4.870	
16,300.00	9,156.74	16,357.25	9,656.10	173.50	158.76	-109.27	7,792.92	-1,614.05	1,513.02	1,198.43	314.59	4.810	
16,400.00	9,158.13	16,457.25	9,658.06	175.57	160.78	-109.30	7,892.90	-1,613.67	1,513.21	1,194.69	318.51	4.751	
16,500.00	9,159.52	16,557.25	9,660.03	177.64	162.80	-109.32	7,992.88	-1,613.29	1,513.39	1,190.95	322.44	4.694	
16,600.00	9,160.91	16,657.25	9,661.99	179.71	164.82	-109.34	8,092.86	-1,612.91	1,513.58	1,187.21	326.37	4.638	
16,700.00	9,162.29	16,757.25	9,663.95	181.79	166.85	-109.36	8,192.84	-1,612.53	1,513.77	1,183.46	330.30	4.583	
16,800.00	9,163.68	16,857.25	9,665.92	183.86	168.89	-109.38	8,292.81	-1,612.16	1,513.95	1,179.71	334.24	4.530	
16,900.00	9,165.07	16,957.24	9,667.88	185.94	170.92	-109.40	8,392.79	-1,611.78	1,514.14	1,175.96	338.18	4.477	
17,000.00	9,166.46	17,057.24	9,669.84	188.02	172.96	-109.42	8,492.77	-1,611.40	1,514.33	1,172.20	342.13	4.426	
17,100.00	9,167.85	17,157.24	9,671.81	190.10	175.00	-109.44	8,592.75	-1,611.02	1,514.52	1,168.44	346.07	4.376	
17,200.00	9,169.23	17,257.24	9,673.77	192.19	177.04	-109.46	8,692.73	-1,610.65	1,514.70	1,164.68	350.02	4.327	
17,300.00	9,170.62	17,357.24	9,675.73	194.27	179.09	-109.48	8,792.71	-1,610.27	1,514.89	1,160.91	353.98	4.280	
17,400.00	9,172.01	17,457.24	9,677.70	196.36	181.14	-109.50	8,892.68	-1,609.89	1,515.08	1,157.15	357.93	4.233	
17,500.00	9,173.40	17,557.23	9,679.66	198.44	183.19	-109.52	8,992.66	-1,609.51	1,515.27	1,153.38	361.89	4.187	
17,600.00	9,174.79	17,657.23	9,681.62	200.53	185.24	-109.54	9,092.64	-1,609.14	1,515.46	1,149.60	365.85	4.142	
17,700.00	9,176.17	17,757.23	9,683.59	202.62	187.30	-109.56	9,192.62	-1,608.76	1,515.65	1,145.83	369.82	4.098	
17,800.00	9,177.56	17,857.23	9,685.55	204.71	189.35	-109.58	9,292.60	-1,608.38	1,515.83	1,142.05	373.78	4.055	
17,900.00	9,178.95	17,957.23	9,687.51	206.81	191.41	-109.60	9,392.58	-1,608.00	1,516.02	1,138.27	377.75	4.013	
18,000.00	9,180.34	18,057.23	9,689.48	208.90	193.48	-109.62	9,492.55	-1,607.63	1,516.21	1,134.49	381.72	3.972	
18,100.00	9,181.73	18,157.22	9,691.44	211.00	195.54	-109.65	9,592.53	-1,607.25	1,516.40	1,130.71	385.69	3.932	
18,200.00	9,183.11	18,257.22	9,693.40	213.09	197.61	-109.67	9,692.51	-1,606.87	1,516.59	1,126.93	389.67	3.892	
18,300.00	9,184.50	18,357.22	9,695.37	215.19	199.67	-109.69	9,792.49	-1,606.49	1,516.78	1,123.14	393.64	3.853	
18,400.00	9,185.89	18,457.22	9,697.33	217.29	201.74	-109.71	9,892.47	-1,606.11	1,516.97	1,119.35	397.62	3.815	
18,500.00	9,187.28	18,557.22	9,699.29	219.39	203.81	-109.73	9,992.45	-1,605.74	1,517.16	1,115.57	401.60	3.778	
18,600.00	9,188.66	18,657.22	9,701.26	221.49	205.89	-109.75	10,092.42	-1,605.36	1,517.35	1,111.78	405.58	3.741	
18,700.00	9,190.05	18,757.21	9,703.22	223.59	207.96	-109.77	10,192.40	-1,604.98	1,517.54	1,107.98	409.56	3.705	
18,800.00	9,191.44	18,857.21	9,705.18	225.69	210.04	-109.79	10,292.38	-1,604.60	1,517.74	1,104.19	413.54	3.670	
18,900.00	9,192.83	18,957.21	9,707.15	227.79	212.11	-109.81	10,392.36	-1,604.23	1,517.93	1,100.40	417.53	3.635	
19,000.00	9,194.22	19,057.21	9,709.11	229.90	214.19	-109.83	10,492.34	-1,603.85	1,518.12	1,096.60	421.52	3.602	
19,100.00	9,195.60	19,157.21	9,711.07	232.00	216.27	-109.85	10,592.32	-1,603.47	1,518.31	1,092.81	425.50	3.568	
19,200.00	9,196.99	19,257.21	9,713.04	234.11	218.35	-109.87	10,692.29	-1,603.09	1,518.50	1,089.01	429.49	3.536	
19,300.00	9,198.38	19,357.20	9,715.00	236.22	220.44	-109.89	10,792.27	-1,602.72	1,518.69	1,085.21	433.48	3.503	
19,400.00	9,199.77	19,457.20	9,716.96	238.33	222.52	-109.91	10,892.25	-1,602.34	1,518.89	1,081.41	437.47	3.472	
19,416.71	9,200.00	19,473.91	9,717.29	238.68	222.87	-109.92	10,908.95	-1,602.27	1,518.92	1,080.78	438.14	3.467 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 27H - OH - Plan 2 11-17-16												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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	9.00	0.00	0.00	-28.20	835.37	-447.89	947.91				
100.00	100.00	91.00	100.00	0.19	0.18	-28.20	835.37	-447.89	947.86	947.50	0.37	2,563.681	
200.00	200.00	191.00	200.00	0.73	0.68	-28.20	835.37	-447.89	947.86	946.45	1.41	670.262	
300.00	300.00	291.00	300.00	1.27	1.22	-28.20	835.37	-447.89	947.86	945.38	2.49	380.732	
400.00	400.00	391.00	400.00	1.81	1.76	-28.20	835.37	-447.89	947.86	944.30	3.56	265.881	
500.00	500.00	491.00	500.00	2.34	2.30	-28.20	835.37	-447.89	947.86	943.22	4.64	204.263	
600.00	600.00	591.00	600.00	2.88	2.83	-28.20	835.37	-447.89	947.86	942.15	5.72	165.832	
700.00	699.98	690.98	699.98	3.42	3.37	-7.65	835.37	-447.89	946.14	939.34	6.80	139.214	
800.00	799.84	790.84	799.84	3.96	3.91	-7.71	835.37	-447.89	940.95	933.07	7.88	119.434	
899.93	899.39	890.39	899.39	4.50	4.44	-7.80	835.37	-447.89	932.32	923.37	8.95	104.132	
1,000.00	998.90	989.90	998.90	5.05	4.98	-7.89	835.37	-447.89	921.96	911.94	10.02	92.034	
1,100.00	1,098.36	1,089.36	1,098.36	5.60	5.51	-7.98	835.37	-447.89	911.61	900.52	11.08	82.241	
1,200.00	1,197.81	1,188.81	1,197.81	6.16	6.05	-8.07	835.37	-447.89	901.26	889.10	12.15	74.152	
1,300.00	1,297.26	1,288.26	1,297.26	6.72	6.58	-8.17	835.37	-447.89	890.91	877.69	13.23	67.362	
1,400.00	1,396.71	1,387.71	1,396.71	7.28	7.12	-8.26	835.37	-447.89	880.57	866.27	14.30	61.583	
1,500.00	1,496.17	1,487.17	1,496.17	7.84	7.65	-8.36	835.37	-447.89	870.22	854.85	15.37	56.607	
1,600.00	1,595.62	1,575.57	1,584.56	8.41	8.12	-8.51	835.37	-448.88	860.44	844.06	16.38	52.532	
1,700.00	1,695.07	1,662.38	1,671.29	8.98	8.57	-8.81	835.38	-452.49	852.14	834.76	17.37	49.057	
1,800.00	1,794.52	1,749.08	1,757.77	9.54	9.02	-9.28	835.39	-458.71	845.37	827.00	18.36	46.037	
1,900.00	1,893.98	1,835.53	1,843.76	10.11	9.47	-9.90	835.41	-467.51	840.20	820.84	19.36	43.397	
2,000.00	1,993.43	1,921.56	1,929.04	10.68	9.93	-10.67	835.44	-478.85	836.73	816.37	20.36	41.092	
2,100.00	2,092.88	2,007.02	2,013.37	11.25	10.40	-11.59	835.47	-492.63	835.07	813.70	21.37	39.075	
2,136.89	2,129.57	2,038.37	2,044.21	11.46	10.57	-11.96	835.48	-498.32	834.94	813.19	21.75	38.396 CC	
2,200.00	2,192.33	2,091.77	2,096.57	11.82	10.87	-12.65	835.50	-508.79	835.34	812.95	22.39	37.315 ES	
2,300.00	2,291.79	2,185.64	2,188.30	12.39	11.42	-13.93	835.54	-528.73	837.26	813.79	23.46	35.684	
2,400.00	2,391.24	2,283.59	2,283.98	12.96	11.99	-15.27	835.58	-549.66	839.73	815.16	24.57	34.172	
2,500.00	2,490.69	2,381.53	2,379.67	13.53	12.58	-16.60	835.63	-570.58	842.68	816.99	25.69	32.801	
2,600.00	2,590.14	2,479.48	2,475.35	14.10	13.18	-17.93	835.67	-591.51	846.09	819.28	26.81	31.555	
2,700.00	2,689.60	2,577.42	2,571.03	14.67	13.79	-19.24	835.72	-612.43	849.98	822.04	27.94	30.421	
2,800.00	2,789.05	2,675.37	2,666.72	15.24	14.41	-20.54	835.76	-633.35	854.32	825.25	29.07	29.388	
2,900.00	2,888.50	2,773.31	2,762.40	15.81	15.03	-21.82	835.80	-654.28	859.11	828.91	30.20	28.444	
3,000.00	2,987.95	2,871.26	2,858.09	16.39	15.66	-23.10	835.85	-675.20	864.35	833.01	31.34	27.582	
3,100.00	3,087.41	2,969.20	2,953.77	16.96	16.29	-24.35	835.89	-696.12	870.02	837.55	32.47	26.792	
3,200.00	3,186.86	3,067.15	3,049.46	17.53	16.92	-25.59	835.93	-717.05	876.12	842.51	33.61	26.068	
3,300.00	3,286.31	3,165.09	3,145.14	18.10	17.57	-26.82	835.98	-737.97	882.64	847.89	34.74	25.404	
3,400.00	3,385.76	3,263.04	3,240.82	18.68	18.21	-28.02	836.02	-758.90	889.57	853.69	35.88	24.794	
3,500.00	3,485.22	3,360.98	3,336.51	19.25	18.86	-29.21	836.07	-779.82	896.90	859.88	37.01	24.232	
3,600.00	3,584.67	3,458.93	3,432.19	19.82	19.51	-30.38	836.11	-800.74	904.61	866.47	38.15	23.714	
3,700.00	3,684.12	3,556.87	3,527.88	20.39	20.16	-31.52	836.15	-821.67	912.71	873.43	39.28	23.236	
3,800.00	3,783.57	3,654.82	3,623.56	20.97	20.82	-32.65	836.20	-842.59	921.18	880.77	40.41	22.795	
3,900.00	3,883.02	3,752.76	3,719.24	21.54	21.47	-33.76	836.24	-863.51	930.01	888.47	41.54	22.388	
4,000.00	3,982.48	3,850.71	3,814.93	22.11	22.13	-34.85	836.28	-884.44	939.19	896.52	42.67	22.010	
4,100.00	4,081.93	3,948.65	3,910.61	22.68	22.80	-35.91	836.33	-905.36	948.71	904.92	43.80	21.661	
4,200.00	4,181.38	4,046.60	4,006.30	23.26	23.46	-36.96	836.37	-926.28	958.56	913.64	44.93	21.337	
4,300.00	4,280.83	4,144.55	4,101.98	23.83	24.12	-37.99	836.41	-947.21	968.73	922.68	46.05	21.036	
4,400.00	4,380.35	4,242.50	4,197.68	24.40	24.79	-39.05	836.46	-968.13	979.70	932.53	47.16	20.772	
4,500.00	4,480.12	4,340.47	4,293.39	24.95	25.46	-40.08	836.50	-989.06	993.39	945.16	48.23	20.597	
4,600.00	4,580.07	4,438.35	4,389.00	25.48	26.12	-40.99	836.55	-1,009.97	1,009.90	960.66	49.24	20.509	
4,700.00	4,680.07	4,536.06	4,484.46	25.99	26.79	-62.22	836.59	-1,030.85	1,028.67	978.37	50.30	20.451	
4,800.00	4,780.07	4,633.75	4,579.90	26.50	27.46	-62.76	836.63	-1,051.72	1,047.73	996.35	51.38	20.391	
4,900.00	4,880.07	4,731.44	4,675.33	27.01	28.13	-63.28	836.68	-1,072.59	1,066.88	1,014.41	52.47	20.334	
5,000.00	4,980.07	4,829.14	4,770.77	27.52	28.80	-63.79	836.72	-1,093.45	1,086.11	1,032.56	53.55	20.282	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 27H - OH - Plan 2 11-17-16												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HOGM												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)					
5,100.00	5,080.07	4,926.83	4,866.20	28.03	29.47	-64.27	836.76	-1,114.32	1,105.42	1,050.78	54.63	20.233	
5,200.00	5,180.07	5,024.52	4,961.64	28.55	30.15	-64.74	836.81	-1,135.19	1,124.80	1,069.08	55.72	20.188	
5,300.00	5,280.07	5,122.21	5,057.08	29.06	30.82	-65.19	836.85	-1,156.06	1,144.25	1,087.45	56.80	20.145	
5,400.00	5,380.07	5,219.90	5,152.51	29.58	31.49	-65.63	836.89	-1,176.93	1,163.77	1,105.89	57.88	20.105	
5,500.00	5,480.07	5,317.59	5,247.95	30.10	32.17	-66.05	836.94	-1,197.80	1,183.36	1,124.39	58.97	20.068	
5,600.00	5,580.07	5,415.29	5,343.39	30.61	32.84	-66.46	836.98	-1,218.67	1,203.00	1,142.95	60.05	20.033	
5,700.00	5,680.07	5,512.98	5,438.82	31.13	33.52	-66.86	837.02	-1,239.54	1,222.71	1,161.57	61.13	20.000	
5,800.00	5,780.07	5,610.67	5,534.26	31.65	34.19	-67.24	837.07	-1,260.41	1,242.46	1,180.25	62.22	19.969	
5,900.00	5,880.07	5,708.36	5,629.70	32.17	34.87	-67.62	837.11	-1,281.28	1,262.27	1,198.97	63.30	19.940	
6,000.00	5,980.07	5,806.05	5,725.13	32.69	35.54	-67.98	837.16	-1,302.15	1,282.13	1,217.75	64.39	19.913	
6,100.00	6,080.07	5,903.74	5,820.57	33.21	36.22	-68.33	837.20	-1,323.02	1,302.04	1,236.57	65.47	19.888	
6,200.00	6,180.07	6,001.43	5,916.00	33.73	36.90	-68.67	837.24	-1,343.89	1,321.99	1,255.44	66.55	19.864	
6,300.00	6,280.07	6,099.13	6,011.44	34.25	37.58	-68.99	837.29	-1,364.76	1,341.99	1,274.35	67.64	19.841	
6,400.00	6,380.07	6,196.82	6,106.88	34.77	38.26	-69.31	837.33	-1,385.63	1,362.03	1,293.30	68.72	19.819	
6,500.00	6,480.07	6,294.51	6,202.31	35.30	38.93	-69.62	837.37	-1,406.50	1,382.10	1,312.30	69.81	19.799	
6,600.00	6,580.07	6,392.20	6,297.75	35.82	39.61	-69.93	837.42	-1,427.37	1,402.22	1,331.33	70.89	19.780	
6,700.00	6,680.07	6,489.89	6,393.19	36.34	40.29	-70.22	837.46	-1,448.24	1,422.37	1,350.39	71.98	19.762	
6,800.00	6,780.07	6,587.58	6,488.62	36.87	40.97	-70.50	837.50	-1,469.11	1,442.56	1,369.50	73.06	19.745	
6,900.00	6,880.07	6,685.28	6,584.06	37.39	41.65	-70.78	837.55	-1,489.98	1,462.78	1,388.63	74.15	19.729	
7,000.00	6,980.07	6,782.97	6,679.50	37.92	42.33	-71.05	837.59	-1,510.84	1,483.03	1,407.80	75.23	19.713	
7,100.00	7,080.07	6,880.66	6,774.93	38.44	43.01	-71.31	837.63	-1,531.71	1,503.31	1,427.00	76.32	19.699	
7,200.00	7,180.07	6,978.35	6,870.37	38.97	43.69	-71.57	837.68	-1,552.58	1,523.62	1,446.22	77.40	19.685	
7,300.00	7,280.07	7,076.04	6,965.80	39.49	44.37	-71.82	837.72	-1,573.45	1,543.96	1,465.48	78.49	19.672	
7,400.00	7,380.07	7,173.73	7,061.24	40.02	45.05	-72.06	837.77	-1,594.32	1,564.33	1,484.76	79.57	19.659	
7,500.00	7,480.07	7,271.42	7,156.68	40.54	45.74	-72.29	837.81	-1,615.19	1,584.73	1,504.07	80.66	19.647	
7,600.00	7,580.07	7,369.12	7,252.11	41.07	46.42	-72.52	837.85	-1,636.06	1,605.14	1,523.40	81.74	19.636	
7,700.00	7,680.07	7,466.81	7,347.55	41.60	47.10	-72.75	837.90	-1,656.93	1,625.59	1,542.76	82.83	19.625	
7,800.00	7,780.07	7,564.50	7,442.99	42.13	47.78	-72.97	837.94	-1,677.80	1,646.05	1,562.14	83.92	19.615	
7,900.00	7,880.07	7,662.19	7,538.42	42.65	48.46	-73.18	837.98	-1,698.67	1,666.54	1,581.54	85.00	19.605	
8,000.00	7,980.07	7,759.88	7,633.86	43.18	49.14	-73.39	838.03	-1,719.54	1,687.06	1,600.96	86.09	19.596	
8,100.00	8,080.07	7,857.57	7,729.30	43.71	49.83	-73.59	838.07	-1,740.41	1,707.59	1,620.41	87.18	19.587	
8,200.00	8,180.07	7,955.27	7,824.73	44.24	50.51	-73.79	838.11	-1,761.28	1,728.14	1,639.87	88.27	19.579	
8,300.00	8,280.07	8,052.96	7,920.17	44.77	51.19	-73.98	838.16	-1,782.15	1,748.71	1,659.36	89.35	19.571	
8,400.00	8,380.07	8,150.65	8,015.60	45.29	51.87	-74.17	838.20	-1,803.02	1,769.30	1,678.86	90.44	19.563	
8,500.00	8,480.07	8,248.34	8,111.04	45.82	52.56	-74.36	838.24	-1,823.89	1,789.91	1,698.38	91.53	19.556	
8,600.00	8,579.96	8,345.94	8,206.39	46.36	53.24	-74.56	838.29	-1,844.74	1,809.69	1,716.84	92.62	19.549	
8,700.00	8,678.03	8,441.79	8,300.03	46.93	53.91	-74.75	838.33	-1,865.59	1,825.02	1,730.85	93.71	19.542	
8,800.00	8,771.34	8,533.03	8,389.16	47.54	54.55	-74.93	838.37	-1,884.70	1,835.64	1,740.47	94.80	19.535	
8,900.00	8,857.03	8,616.88	8,471.08	48.17	55.13	-75.10	838.41	-1,902.62	1,842.19	1,746.24	95.89	19.528	
9,000.00	8,932.52	8,690.80	8,543.28	48.82	55.65	-75.27	838.44	-1,918.41	1,845.70	1,749.01	96.98	19.521	
9,100.00	8,995.51	8,762.41	8,620.30	49.51	56.17	-75.43	838.50	-1,934.17	1,846.69	1,748.63	98.06	19.514	
9,200.00	9,044.08	8,854.65	8,702.92	50.22	56.77	-75.58	838.54	-1,949.88	1,844.92	1,745.24	99.15	19.507	
9,300.00	9,076.76	8,945.91	8,793.57	50.96	57.39	-75.73	838.58	-1,965.59	1,843.33	1,742.35	100.24	19.500	
9,320.74	9,081.44	8,959.06	8,806.65	51.12	57.57	-75.84	838.58	-1,976.67	1,843.27	1,742.06	101.21	19.493	
9,400.00	9,092.55	9,090.32	8,937.79	51.72	58.14	-75.99	838.57	-1,979.46	1,844.35	1,742.37	101.97	19.486	
9,500.00	9,094.47	9,095.96	8,943.41	52.50	58.17	-76.14	838.57	-1,979.93	1,849.44	1,746.66	102.78	19.479	
9,600.00	9,095.21	9,098.29	8,945.74	53.35	58.18	-76.29	838.57	-1,980.12	1,859.80	1,756.16	103.64	19.472	
9,700.00	9,095.95	9,100.63	8,948.07	54.27	58.20	-76.44	838.57	-1,980.31	1,875.45	1,770.87	104.58	19.465	
9,800.00	9,096.69	9,102.96	8,950.39	55.27	58.21	-76.59	838.57	-1,980.50	1,896.25	1,790.66	105.58	19.458	
9,900.00	9,097.43	9,105.28	8,952.71	56.33	58.22	-76.74	838.57	-1,980.68	1,922.02	1,815.37	106.65	19.451	
10,000.00	9,098.17	9,107.60	8,955.02	57.45	58.23	-76.89	838.57	-1,980.86	1,952.59	1,844.81	107.78	19.444	
10,100.00	9,098.91	9,109.92	8,957.33	58.62	58.24	-77.04	838.57	-1,981.04	1,987.72	1,878.75	108.97	19.437	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 27H - OH - Plan 2 11-17-16													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
10,200.00	9,099.65	10,642.83	9,903.30	59.86	63.70	-113.51	1,673.20	-1,997.93	2,014.80	1,910.05	104.75	19.235	
10,300.00	9,100.39	10,742.83	9,904.07	61.14	64.22	-113.51	1,773.19	-1,998.93	2,014.82	1,908.27	106.55	18.909	
10,400.00	9,101.13	10,842.83	9,904.84	62.47	64.82	-113.51	1,873.18	-1,999.93	2,014.84	1,906.36	108.48	18.574	
10,500.00	9,101.87	10,942.83	9,905.60	63.85	65.49	-113.51	1,973.17	-2,000.93	2,014.86	1,904.34	110.51	18.232	
10,600.00	9,102.61	11,042.83	9,906.37	65.27	66.24	-113.51	2,073.17	-2,001.93	2,014.87	1,902.21	112.66	17.884	
10,700.00	9,103.35	11,142.83	9,907.14	66.73	67.07	-113.51	2,173.16	-2,002.93	2,014.89	1,899.98	114.92	17.533	
10,800.00	9,104.09	11,242.83	9,907.91	68.23	67.96	-113.51	2,273.15	-2,003.93	2,014.91	1,897.65	117.27	17.182	
10,900.00	9,104.83	11,342.83	9,908.68	69.76	68.92	-113.51	2,373.14	-2,004.93	2,014.93	1,895.22	119.71	16.832	
11,000.00	9,105.57	11,442.83	9,909.44	71.33	69.94	-113.51	2,473.13	-2,005.93	2,014.95	1,892.71	122.24	16.483	
11,100.00	9,106.31	11,542.83	9,910.21	72.92	71.02	-113.51	2,573.13	-2,006.93	2,014.97	1,890.12	124.85	16.139	
11,200.00	9,107.05	11,642.83	9,910.98	74.55	72.15	-113.51	2,673.12	-2,007.93	2,014.99	1,887.45	127.54	15.798	
11,300.00	9,107.79	11,742.83	9,911.75	76.20	73.33	-113.52	2,773.11	-2,008.93	2,015.01	1,884.70	130.31	15.464	
11,400.00	9,108.53	11,842.83	9,912.52	77.87	74.56	-113.52	2,873.10	-2,009.93	2,015.03	1,881.89	133.14	15.135	
11,500.00	9,109.27	11,942.83	9,913.28	79.57	75.83	-113.52	2,973.09	-2,010.93	2,015.05	1,879.02	136.03	14.813	
11,600.00	9,110.01	12,042.83	9,914.05	81.29	77.15	-113.52	3,073.09	-2,011.93	2,015.07	1,876.08	138.99	14.498	
11,700.00	9,110.75	12,142.83	9,914.82	83.03	78.51	-113.52	3,173.08	-2,012.93	2,015.09	1,873.09	142.00	14.191	
11,800.00	9,111.49	12,242.83	9,915.59	84.79	79.90	-113.52	3,273.07	-2,013.93	2,015.11	1,870.05	145.06	13.892	
11,900.00	9,112.24	12,342.83	9,916.36	86.57	81.33	-113.52	3,373.06	-2,014.93	2,015.13	1,866.96	148.17	13.600	
12,000.00	9,112.98	12,442.83	9,917.12	88.36	82.79	-113.52	3,473.06	-2,015.93	2,015.15	1,863.82	151.33	13.316	
12,100.00	9,113.72	12,542.83	9,917.89	90.18	84.29	-113.52	3,573.05	-2,016.93	2,015.16	1,860.63	154.53	13.040	
12,200.00	9,114.46	12,642.83	9,918.66	92.00	85.81	-113.52	3,673.04	-2,017.93	2,015.18	1,857.41	157.78	12.772	
12,300.00	9,115.20	12,742.83	9,919.43	93.84	87.36	-113.52	3,773.03	-2,018.93	2,015.20	1,854.15	161.06	12.512	
12,400.00	9,115.94	12,842.83	9,920.19	95.70	88.93	-113.52	3,873.02	-2,019.93	2,015.22	1,850.85	164.37	12.260	
12,500.00	9,116.68	12,942.83	9,920.96	97.56	90.54	-113.52	3,973.02	-2,020.93	2,015.24	1,847.52	167.73	12.015	
12,600.00	9,117.42	13,042.83	9,921.73	99.44	92.16	-113.52	4,073.01	-2,021.93	2,015.26	1,844.15	171.11	11.778	
12,700.00	9,118.16	13,142.83	9,922.50	101.33	93.81	-113.52	4,173.00	-2,022.93	2,015.28	1,840.76	174.52	11.547	
12,800.00	9,118.90	13,242.83	9,923.27	103.23	95.47	-113.52	4,272.99	-2,023.93	2,015.30	1,837.34	177.96	11.324	
12,900.00	9,119.64	13,342.83	9,924.03	105.14	97.16	-113.53	4,372.98	-2,024.93	2,015.32	1,833.89	181.43	11.108	
13,000.00	9,120.38	13,442.83	9,924.80	107.06	98.86	-113.53	4,472.98	-2,025.93	2,015.34	1,830.41	184.92	10.898	
13,100.00	9,121.12	13,542.83	9,925.57	108.99	100.59	-113.53	4,572.97	-2,026.93	2,015.36	1,826.92	188.44	10.695	
13,200.00	9,121.86	13,642.83	9,926.34	110.93	102.33	-113.53	4,672.96	-2,027.93	2,015.38	1,823.40	191.98	10.498	
13,300.00	9,122.60	13,742.83	9,927.11	112.87	104.08	-113.53	4,772.95	-2,028.93	2,015.40	1,819.86	195.54	10.307	
13,400.00	9,123.34	13,842.83	9,927.87	114.83	105.85	-113.53	4,872.94	-2,029.93	2,015.42	1,816.30	199.12	10.122	
13,500.00	9,124.08	13,942.83	9,928.64	116.79	107.64	-113.53	4,972.94	-2,030.93	2,015.44	1,812.72	202.72	9.942	
13,600.00	9,124.82	14,042.83	9,929.41	118.76	109.44	-113.53	5,072.93	-2,031.93	2,015.46	1,809.12	206.34	9.768	
13,700.00	9,125.56	14,142.83	9,930.18	120.73	111.25	-113.53	5,172.92	-2,032.93	2,015.47	1,805.50	209.97	9.599	
13,800.00	9,126.30	14,242.83	9,930.95	122.71	113.07	-113.53	5,272.91	-2,033.93	2,015.49	1,801.87	213.62	9.435	
13,900.00	9,127.04	14,342.83	9,931.71	124.70	114.91	-113.53	5,372.90	-2,034.93	2,015.51	1,798.23	217.29	9.276	
14,000.00	9,127.78	14,442.83	9,932.48	126.69	116.76	-113.53	5,472.90	-2,035.93	2,015.53	1,794.57	220.97	9.121	
14,100.00	9,128.52	14,542.83	9,933.25	128.69	118.61	-113.53	5,572.89	-2,036.93	2,015.55	1,790.89	224.66	8.972	
14,200.00	9,129.26	14,642.83	9,934.02	130.69	120.48	-113.53	5,672.88	-2,037.93	2,015.57	1,787.21	228.37	8.826	
14,300.00	9,130.00	14,742.83	9,934.79	132.70	122.36	-113.53	5,772.87	-2,038.93	2,015.59	1,783.51	232.09	8.685	
14,400.00	9,130.74	14,842.83	9,935.55	134.71	124.24	-113.53	5,872.86	-2,039.93	2,015.61	1,779.79	235.82	8.547	
14,500.00	9,131.48	14,942.83	9,936.32	136.72	126.10	-113.54	5,972.85	-2,040.93	2,015.63	1,776.07	239.53	8.416	
14,600.00	9,132.22	15,042.83	9,937.09	138.74	128.00	-113.55	6,072.84	-2,041.93	2,015.65	1,772.30	243.29	8.287	
14,700.00	9,132.96	15,142.83	9,937.86	140.76	130.00	-113.57	6,172.83	-2,042.93	2,015.67	1,768.51	247.02	8.163	
14,800.00	9,133.70	15,242.83	9,938.63	142.78	132.00	-113.59	6,272.82	-2,043.93	2,015.69	1,764.69	250.76	8.042	
14,900.00	9,134.44	15,342.83	9,939.40	144.81	134.00	-113.60	6,372.81	-2,044.93	2,015.71	1,760.86	254.51	7.925	
15,000.00	9,135.18	15,442.83	9,940.17	146.84	136.00	-113.62	6,472.80	-2,045.93	2,015.73	1,757.01	258.26	7.810	
15,100.00	9,135.92	15,542.83	9,940.94	148.87	138.00	-113.63	6,572.79	-2,046.93	2,015.75	1,753.15	262.03	7.699	
15,200.00	9,136.66	15,642.83	9,941.71	150.91	140.00	-113.65	6,672.78	-2,047.93	2,015.77	1,749.28	265.80	7.591	
15,300.00	9,137.40	15,742.83	9,942.48	152.95	142.00	-113.67	6,772.77	-2,048.93	2,015.79	1,745.40	269.58	7.485	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 27H - OH - Plan 2 11-17-16													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	9,144.25	15,858.41	9,954.70	154.99	143.74	-113.68	6,888.25	-2,037.37	2,018.10	1,744.74	273.36	7.383	
15,500.00	9,145.64	15,958.41	9,956.70	157.04	145.69	-113.70	6,988.23	-2,036.99	2,018.34	1,741.19	277.15	7.282	
15,600.00	9,147.03	16,058.40	9,958.69	159.09	147.66	-113.71	7,088.21	-2,036.61	2,018.58	1,737.63	280.95	7.185	
15,700.00	9,148.41	16,158.40	9,960.69	161.14	149.62	-113.73	7,188.18	-2,036.23	2,018.82	1,734.06	284.75	7.090	
15,800.00	9,149.80	16,258.40	9,962.69	163.19	151.59	-113.75	7,288.16	-2,035.85	2,019.06	1,730.50	288.56	6.997	
15,900.00	9,151.19	16,358.40	9,964.69	165.25	153.57	-113.76	7,388.14	-2,035.47	2,019.30	1,726.92	292.38	6.906	
16,000.00	9,152.58	16,458.40	9,966.69	167.31	155.55	-113.78	7,488.11	-2,035.09	2,019.54	1,723.34	296.20	6.818	
16,100.00	9,153.97	16,558.40	9,968.69	169.37	157.53	-113.79	7,588.09	-2,034.71	2,019.78	1,719.76	300.02	6.732	
16,200.00	9,155.35	16,658.39	9,970.69	171.44	159.52	-113.81	7,688.07	-2,034.33	2,020.02	1,716.17	303.85	6.648	
16,300.00	9,156.74	16,758.39	9,972.68	173.50	161.52	-113.83	7,788.05	-2,033.95	2,020.26	1,712.58	307.68	6.566	
16,400.00	9,158.13	16,858.39	9,974.68	175.57	163.52	-113.84	7,888.02	-2,033.57	2,020.50	1,708.98	311.52	6.486	
16,500.00	9,159.52	16,958.39	9,976.68	177.64	165.52	-113.86	7,988.00	-2,033.19	2,020.74	1,705.38	315.36	6.408	
16,600.00	9,160.91	17,058.39	9,978.68	179.71	167.52	-113.87	8,087.98	-2,032.81	2,020.98	1,701.77	319.21	6.331	
16,700.00	9,162.29	17,158.38	9,980.68	181.79	169.53	-113.89	8,187.96	-2,032.43	2,021.23	1,698.16	323.06	6.256	
16,800.00	9,163.68	17,258.38	9,982.68	183.86	171.54	-113.91	8,287.93	-2,032.05	2,021.47	1,694.55	326.91	6.183	
16,900.00	9,165.07	17,358.38	9,984.68	185.94	173.56	-113.92	8,387.91	-2,031.67	2,021.71	1,690.94	330.77	6.112	
17,000.00	9,166.46	17,458.38	9,986.67	188.02	175.58	-113.94	8,487.89	-2,031.29	2,021.95	1,687.32	334.63	6.042	
17,100.00	9,167.85	17,558.38	9,988.67	190.10	177.60	-113.95	8,587.87	-2,030.91	2,022.19	1,683.70	338.49	5.974	
17,200.00	9,169.23	17,658.38	9,990.67	192.19	179.63	-113.97	8,687.84	-2,030.53	2,022.43	1,680.07	342.36	5.907	
17,300.00	9,170.62	17,758.37	9,992.67	194.27	181.66	-113.98	8,787.82	-2,030.15	2,022.68	1,676.45	346.23	5.842	
17,400.00	9,172.01	17,858.37	9,994.67	196.36	183.69	-114.00	8,887.80	-2,029.77	2,022.92	1,672.82	350.10	5.778	
17,500.00	9,173.40	17,958.37	9,996.67	198.44	185.72	-114.02	8,987.78	-2,029.39	2,023.16	1,669.18	353.98	5.716	
17,600.00	9,174.79	18,058.37	9,998.67	200.53	187.76	-114.03	9,087.75	-2,029.01	2,023.41	1,665.55	357.85	5.654	
17,700.00	9,176.17	18,158.37	10,000.66	202.62	189.80	-114.05	9,187.73	-2,028.63	2,023.65	1,661.91	361.73	5.594	
17,800.00	9,177.56	18,258.36	10,002.66	204.71	191.84	-114.06	9,287.71	-2,028.25	2,023.89	1,658.27	365.62	5.536	
17,900.00	9,178.95	18,358.36	10,004.66	206.81	193.88	-114.08	9,387.69	-2,027.87	2,024.13	1,654.63	369.50	5.478	
18,000.00	9,180.34	18,458.36	10,006.66	208.90	195.93	-114.10	9,487.66	-2,027.49	2,024.38	1,650.99	373.39	5.422	
18,100.00	9,181.73	18,558.36	10,008.66	211.00	197.98	-114.11	9,587.64	-2,027.11	2,024.62	1,647.34	377.28	5.366	
18,200.00	9,183.11	18,658.36	10,010.66	213.09	200.03	-114.13	9,687.62	-2,026.73	2,024.87	1,643.70	381.17	5.312	
18,300.00	9,184.50	18,758.35	10,012.66	215.19	202.08	-114.14	9,787.60	-2,026.35	2,025.11	1,640.05	385.06	5.259	
18,400.00	9,185.89	18,858.35	10,014.65	217.29	204.13	-114.16	9,887.57	-2,025.97	2,025.35	1,636.40	388.95	5.207	
18,500.00	9,187.28	18,958.35	10,016.65	219.39	206.19	-114.17	9,987.55	-2,025.59	2,025.60	1,632.75	392.85	5.156	
18,600.00	9,188.66	19,058.35	10,018.65	221.49	208.25	-114.19	10,087.53	-2,025.21	2,025.84	1,629.09	396.75	5.106	
18,700.00	9,190.05	19,158.35	10,020.65	223.59	210.31	-114.21	10,187.51	-2,024.83	2,026.09	1,625.44	400.65	5.057	
18,800.00	9,191.44	19,258.35	10,022.65	225.69	212.37	-114.22	10,287.48	-2,024.45	2,026.33	1,621.78	404.55	5.009	
18,900.00	9,192.83	19,358.34	10,024.65	227.79	214.44	-114.24	10,387.46	-2,024.07	2,026.58	1,618.12	408.45	4.962	
19,000.00	9,194.22	19,458.34	10,026.65	229.90	216.50	-114.25	10,487.44	-2,023.69	2,026.82	1,614.47	412.36	4.915	
19,100.00	9,195.60	19,558.34	10,028.64	232.00	218.57	-114.27	10,587.42	-2,023.31	2,027.07	1,610.81	416.26	4.870	
19,200.00	9,196.99	19,658.34	10,030.64	234.11	220.64	-114.29	10,687.39	-2,022.93	2,027.31	1,607.14	420.17	4.825	
19,300.00	9,198.38	19,758.34	10,032.64	236.22	222.71	-114.30	10,787.37	-2,022.55	2,027.56	1,603.48	424.08	4.781	
19,400.00	9,199.77	19,858.33	10,034.64	238.33	224.78	-114.32	10,887.35	-2,022.17	2,027.80	1,599.82	427.98	4.738	
19,416.71	9,200.00	19,875.04	10,034.97	238.68	225.13	-114.32	10,904.05	-2,022.10	2,027.84	1,599.21	428.64	4.731 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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 28H - OH - Plan 2 11-17-16												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toelface (°)	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	0.00	9.00	0.00	0.00	-28.93	810.37	-447.89	925.95				
100.00	100.00	91.00	100.00	0.19	0.18	-28.93	810.37	-447.89	925.91	925.54	0.37	2,504.293	
200.00	200.00	191.00	200.00	0.73	0.68	-28.93	810.37	-447.89	925.91	924.49	1.41	654.735	
300.00	300.00	291.00	300.00	1.27	1.22	-28.93	810.37	-447.89	925.91	923.42	2.49	371.912	
400.00	400.00	391.00	400.00	1.81	1.76	-28.93	810.37	-447.89	925.91	922.34	3.56	259.722	
500.00	500.00	491.00	500.00	2.34	2.30	-28.93	810.37	-447.89	925.91	921.27	4.64	199.531	
600.00	600.00	591.00	600.00	2.88	2.83	-28.93	810.37	-447.89	925.91	920.19	5.72	161.990	
700.00	699.98	690.98	699.98	3.42	3.37	-8.38	810.37	-447.89	924.18	917.38	6.80	135.985	
800.00	799.84	790.84	799.84	3.96	3.91	-8.45	810.37	-447.89	919.00	911.13	7.88	116.649	
899.93	899.39	890.39	899.39	4.50	4.44	-8.55	810.37	-447.89	910.39	901.44	8.95	101.684	
1,000.00	998.90	989.90	998.90	5.05	4.98	-8.65	810.37	-447.89	900.05	890.03	10.02	89.848	
1,100.00	1,098.36	1,089.36	1,098.36	5.60	5.51	-8.75	810.37	-447.89	889.72	878.63	11.08	80.266	
1,200.00	1,197.81	1,188.81	1,197.81	6.16	6.05	-8.86	810.37	-447.89	879.39	867.23	12.15	72.352	
1,300.00	1,297.26	1,288.26	1,297.26	6.72	6.58	-8.96	810.37	-447.89	869.06	855.84	13.23	65.709	
1,400.00	1,396.71	1,387.71	1,396.71	7.28	7.12	-9.07	810.37	-447.89	858.74	844.44	14.30	60.056	
1,500.00	1,496.17	1,487.17	1,496.17	7.84	7.65	-9.18	810.37	-447.89	848.42	833.05	15.37	55.188	
1,600.00	1,595.62	1,575.69	1,584.68	8.41	8.12	-9.34	810.37	-448.88	838.67	822.29	16.38	51.200	
1,700.00	1,695.07	1,662.64	1,671.55	8.98	8.57	-9.66	810.35	-452.50	830.42	813.04	17.37	47.802	
1,800.00	1,794.52	1,749.48	1,758.16	9.54	9.02	-10.15	810.32	-458.74	823.73	805.36	18.37	44.853	
1,900.00	1,893.98	1,836.05	1,844.28	10.11	9.48	-10.79	810.27	-467.57	818.67	799.31	19.36	42.279	
2,000.00	1,993.43	1,922.20	1,929.67	10.68	9.94	-11.59	810.21	-478.94	815.34	794.98	20.37	40.034	
2,100.00	2,092.88	2,009.41	2,015.73	11.25	10.41	-12.56	810.14	-493.03	813.84	792.46	21.38	38.059	
2,200.00	2,192.33	2,107.99	2,112.83	11.82	10.96	-13.73	810.05	-510.06	813.29	790.82	22.47	36.190	
2,300.00	2,291.79	2,206.57	2,209.93	12.39	11.52	-14.89	809.96	-527.09	813.08	789.52	23.57	34.497	
2,309.41	2,301.14	2,215.84	2,219.07	12.44	11.57	-15.00	809.95	-528.69	813.08	789.41	23.67	34.346 CC	
2,400.00	2,391.24	2,305.15	2,307.03	12.96	12.09	-16.06	809.87	-544.11	813.23	788.55	24.67	32.961	
2,500.00	2,490.69	2,403.74	2,404.13	13.53	12.66	-17.22	809.79	-561.14	813.71	787.93	25.78	31.563	
2,600.00	2,590.14	2,502.32	2,501.24	14.10	13.24	-18.38	809.70	-578.17	814.54	787.65	26.89	30.289 ES	
2,700.00	2,689.60	2,600.90	2,598.34	14.67	13.82	-19.54	809.61	-595.20	815.72	787.71	28.01	29.126	
2,800.00	2,789.05	2,699.49	2,695.44	15.24	14.41	-20.70	809.52	-612.23	817.24	788.11	29.12	28.060	
2,900.00	2,888.50	2,798.07	2,792.54	15.81	15.01	-21.85	809.43	-629.25	819.10	788.85	30.24	27.083	
3,000.00	2,987.95	2,896.65	2,889.64	16.39	15.60	-23.00	809.35	-646.28	821.29	789.93	31.36	26.185	
3,100.00	3,087.41	2,995.23	2,986.74	16.96	16.21	-24.14	809.26	-663.31	823.83	791.34	32.49	25.359	
3,200.00	3,186.86	3,093.82	3,083.84	17.53	16.81	-25.27	809.17	-680.34	826.69	793.09	33.61	24.597	
3,300.00	3,286.31	3,192.40	3,180.94	18.10	17.41	-26.39	809.08	-697.37	829.89	795.16	34.73	23.894	
3,400.00	3,385.76	3,290.98	3,278.04	18.68	18.02	-27.51	808.99	-714.39	833.41	797.56	35.86	23.244	
3,500.00	3,485.22	3,389.57	3,375.15	19.25	18.63	-28.61	808.91	-731.42	837.25	800.28	36.98	22.642	
3,600.00	3,584.67	3,488.15	3,472.25	19.82	19.25	-29.71	808.82	-748.45	841.41	803.31	38.10	22.084	
3,700.00	3,684.12	3,586.73	3,569.35	20.39	19.86	-30.80	808.73	-765.48	845.88	806.66	39.22	21.565	
3,800.00	3,783.57	3,685.32	3,666.45	20.97	20.48	-31.87	808.64	-782.51	850.66	810.32	40.35	21.084	
3,900.00	3,883.02	3,783.90	3,763.55	21.54	21.09	-32.93	808.55	-799.53	855.74	814.28	41.47	20.636	
4,000.00	3,982.48	3,882.48	3,860.65	22.11	21.71	-33.98	808.46	-816.56	861.12	818.53	42.59	20.219	
4,100.00	4,081.93	3,981.06	3,957.75	22.68	22.33	-35.01	808.38	-833.59	866.79	823.08	43.71	19.830	
4,200.00	4,181.38	4,079.65	4,054.85	23.26	22.95	-36.04	808.29	-850.62	872.75	827.92	44.83	19.467	
4,300.00	4,280.83	4,178.23	4,151.96	23.83	23.57	-37.04	808.20	-867.64	878.98	833.03	45.95	19.129	
4,400.00	4,380.35	4,276.84	4,249.08	24.40	24.19	-38.07	808.11	-884.68	885.98	838.92	47.07	18.824	
4,500.00	4,480.12	4,375.51	4,346.27	24.95	24.82	-39.02	808.02	-901.72	895.73	847.59	48.14	18.606	
4,600.00	4,580.07	4,474.14	4,443.42	25.48	25.44	-39.86	807.94	-918.76	908.32	859.16	49.16	18.475	
4,700.00	4,680.07	4,572.65	4,540.45	25.99	26.07	-41.04	807.85	-935.77	923.20	872.98	50.21	18.385	
4,800.00	4,780.07	4,671.15	4,637.46	26.50	26.69	-41.55	807.76	-952.79	938.36	887.06	51.29	18.294	
4,900.00	4,880.07	4,769.65	4,734.48	27.01	27.32	-42.05	807.67	-969.80	953.59	901.22	52.37	18.208	
5,000.00	4,980.07	4,868.14	4,831.50	27.52	27.94	-42.53	807.58	-986.81	968.89	915.44	53.45	18.126	

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 28H - OH - Plan 2 11-17-16												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)	
5,100.00	5,080.07	4,966.64	4,928.51	28.03	28.57	-63.00	807.50	-1,003.82	984.26	929.73	54.53	18.049
5,200.00	5,180.07	5,065.14	5,025.53	28.55	29.20	-63.45	807.41	-1,020.84	999.69	944.08	55.61	17.976
5,300.00	5,280.07	5,163.63	5,122.55	29.06	29.83	-63.89	807.32	-1,037.85	1,015.17	958.48	56.69	17.907
5,400.00	5,380.07	5,262.13	5,219.56	29.58	30.45	-64.32	807.23	-1,054.86	1,030.72	972.95	57.77	17.842
5,500.00	5,480.07	5,360.63	5,316.58	30.10	31.08	-64.73	807.14	-1,071.88	1,046.32	987.47	58.85	17.779
5,600.00	5,580.07	5,459.12	5,413.60	30.61	31.71	-65.13	807.06	-1,088.89	1,061.97	1,002.04	59.93	17.720
5,700.00	5,680.07	5,557.62	5,510.61	31.13	32.34	-65.52	806.97	-1,105.90	1,077.67	1,016.66	61.01	17.664
5,800.00	5,780.07	5,706.75	5,658.07	31.65	33.26	-66.01	806.85	-1,128.01	1,091.22	1,028.85	62.36	17.498
5,900.00	5,880.07	5,859.74	5,810.34	32.17	34.13	-66.33	806.78	-1,142.69	1,099.98	1,036.27	63.72	17.264
6,000.00	5,980.07	6,013.87	5,964.32	32.69	34.93	-66.46	806.74	-1,149.24	1,103.87	1,038.82	65.05	16.969
6,100.00	6,080.07	6,129.62	6,080.07	33.21	35.49	-66.47	806.74	-1,149.59	1,104.08	1,037.92	66.16	16.689
6,200.00	6,180.07	6,229.62	6,180.07	33.73	35.96	-66.47	806.74	-1,149.59	1,104.08	1,036.90	67.18	16.434
6,300.00	6,280.07	6,329.62	6,280.07	34.25	36.44	-66.47	806.74	-1,149.59	1,104.08	1,035.87	68.21	16.187
6,400.00	6,380.07	6,429.62	6,380.07	34.77	36.92	-66.47	806.74	-1,149.59	1,104.08	1,034.84	69.23	15.947
6,500.00	6,480.07	6,529.62	6,480.07	35.30	37.40	-66.47	806.74	-1,149.59	1,104.08	1,033.81	70.26	15.714
6,600.00	6,580.07	6,629.62	6,580.07	35.82	37.88	-66.47	806.74	-1,149.59	1,104.08	1,032.78	71.29	15.487
6,700.00	6,680.07	6,729.62	6,680.07	36.34	38.37	-66.47	806.74	-1,149.59	1,104.08	1,031.75	72.32	15.266
6,800.00	6,780.07	6,829.62	6,780.07	36.87	38.85	-66.47	806.74	-1,149.59	1,104.08	1,030.72	73.36	15.051
6,900.00	6,880.07	6,929.62	6,880.07	37.39	39.34	-66.47	806.74	-1,149.59	1,104.08	1,029.69	74.39	14.842
7,000.00	6,980.07	7,029.62	6,980.07	37.92	39.83	-66.47	806.74	-1,149.59	1,104.08	1,028.65	75.43	14.638
7,100.00	7,080.07	7,129.62	7,080.07	38.44	40.32	-66.47	806.74	-1,149.59	1,104.08	1,027.61	76.46	14.440
7,200.00	7,180.07	7,229.62	7,180.07	38.97	40.81	-66.47	806.74	-1,149.59	1,104.08	1,026.58	77.50	14.246
7,300.00	7,280.07	7,329.62	7,280.07	39.49	41.30	-66.47	806.74	-1,149.59	1,104.08	1,025.54	78.54	14.058
7,400.00	7,380.07	7,429.62	7,380.07	40.02	41.80	-66.47	806.74	-1,149.59	1,104.08	1,024.50	79.58	13.874
7,500.00	7,480.07	7,529.62	7,480.07	40.54	42.29	-66.47	806.74	-1,149.59	1,104.08	1,023.46	80.62	13.695
7,600.00	7,580.07	7,629.62	7,580.07	41.07	42.79	-66.47	806.74	-1,149.59	1,104.08	1,022.42	81.66	13.521
7,700.00	7,680.07	7,729.62	7,680.07	41.60	43.28	-66.47	806.74	-1,149.59	1,104.08	1,021.38	82.70	13.351
7,800.00	7,780.07	7,829.62	7,780.07	42.13	43.78	-66.47	806.74	-1,149.59	1,104.08	1,020.33	83.74	13.184
7,900.00	7,880.07	7,929.62	7,880.07	42.65	44.28	-66.47	806.74	-1,149.59	1,104.08	1,019.29	84.79	13.022
8,000.00	7,980.07	8,029.62	7,980.07	43.18	44.78	-66.47	806.74	-1,149.59	1,104.08	1,018.25	85.83	12.864
8,100.00	8,080.07	8,129.62	8,080.07	43.71	45.28	-66.47	806.74	-1,149.59	1,104.08	1,017.20	86.87	12.709
8,200.00	8,180.07	8,229.62	8,180.07	44.24	45.78	-66.47	806.74	-1,149.59	1,104.08	1,016.16	87.92	12.558
8,300.00	8,280.07	8,329.62	8,280.07	44.77	46.28	-66.47	806.74	-1,149.59	1,104.08	1,015.11	88.97	12.410
8,400.00	8,380.07	8,429.62	8,380.07	45.29	46.78	-66.47	806.74	-1,149.59	1,104.08	1,014.06	90.01	12.266
8,500.00	8,480.07	8,529.62	8,480.07	45.82	47.29	-66.47	806.74	-1,149.59	1,104.08	1,013.01	91.06	12.124
8,600.00	8,579.96	8,629.52	8,579.96	46.36	47.79	-66.16	806.74	-1,149.59	1,102.84	1,010.63	92.21	11.960
8,700.00	8,678.03	8,727.59	8,678.03	46.93	48.28	-67.74	806.74	-1,149.59	1,095.31	1,002.16	93.14	11.759
8,800.00	8,771.34	8,820.89	8,771.34	47.54	48.76	-70.66	806.74	-1,149.59	1,081.85	987.95	93.90	11.521
8,900.00	8,857.03	8,906.59	8,857.03	48.17	49.19	-74.63	806.74	-1,149.59	1,064.28	969.47	94.81	11.225
9,000.00	8,932.52	8,982.08	8,932.52	48.82	49.57	-79.19	806.74	-1,149.59	1,045.11	949.13	95.98	10.888
9,100.00	8,995.51	9,045.06	8,995.51	49.51	49.89	-83.68	806.74	-1,149.59	1,027.33	930.10	97.23	10.566
9,200.00	9,044.08	9,093.64	9,044.08	50.22	50.14	-87.41	806.74	-1,149.59	1,014.04	915.75	98.29	10.317
9,300.00	9,076.76	9,126.31	9,076.76	50.96	50.30	-89.76	806.74	-1,149.59	1,008.01	908.88	99.13	10.169
9,317.87	9,080.84	9,130.40	9,080.84	51.10	50.32	-90.00	806.74	-1,149.59	1,007.86	908.59	99.27	10.153
9,400.00	9,092.55	9,142.11	9,092.55	51.72	50.38	-90.33	806.74	-1,149.59	1,011.13	911.20	99.93	10.119
9,500.00	9,094.47	9,144.03	9,094.47	52.50	50.39	-90.08	806.74	-1,149.59	1,024.01	923.28	100.74	10.165
9,600.00	9,095.21	9,144.77	9,095.21	53.35	50.40	-90.12	806.74	-1,149.59	1,046.35	944.76	101.59	10.300
9,700.00	9,095.95	9,145.51	9,095.95	54.27	50.40	-90.16	806.74	-1,149.59	1,077.53	975.02	102.51	10.511
9,800.00	9,096.69	9,146.25	9,096.69	55.27	50.40	-90.20	806.74	-1,149.59	1,116.83	1,013.32	103.51	10.790
9,900.00	9,097.43	9,146.99	9,097.43	56.33	50.41	-90.24	806.74	-1,149.59	1,163.42	1,058.85	104.57	11.126
10,000.00	9,098.17	9,147.73	9,098.17	57.45	50.41	-90.29	806.74	-1,149.59	1,216.46	1,110.77	105.69	11.510
10,100.00	9,098.91	9,148.47	9,098.91	58.62	50.42	-90.33	806.74	-1,149.59	1,275.15	1,168.28	106.87	11.932

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 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 2H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
 TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
 MD Reference: GL + KB @ 3295.00usft (Patterson 815)
 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 8 P5 - 28H - OH - Plan 2 11-17-16												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)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
10,200.00	9,099.65	10,649.64	9,964.04	59.86	56.99	-130.62	1,688.44	-1,158.34	1,327.77	1,238.90	88.87	14.940	
10,300.00	9,100.39	10,749.64	9,963.97	61.14	57.71	-130.59	1,788.44	-1,159.33	1,327.24	1,236.66	90.58	14.653	
10,400.00	9,101.13	10,849.63	9,963.90	62.47	58.51	-130.56	1,888.43	-1,160.33	1,326.72	1,234.32	92.40	14.359	
10,500.00	9,101.87	10,949.63	9,963.83	63.85	59.38	-130.54	1,988.42	-1,161.32	1,326.19	1,231.87	94.32	14.060	
10,600.00	9,102.61	11,049.63	9,963.76	65.27	60.31	-130.51	2,088.41	-1,162.31	1,325.67	1,229.32	96.35	13.759	
10,700.00	9,103.35	11,149.62	9,963.69	66.73	61.31	-130.48	2,188.40	-1,163.31	1,325.14	1,226.68	98.46	13.458	
10,800.00	9,104.09	11,249.62	9,963.62	68.23	62.36	-130.46	2,288.39	-1,164.30	1,324.62	1,223.95	100.67	13.158	
10,900.00	9,104.83	11,349.62	9,963.55	69.76	63.47	-130.43	2,388.39	-1,165.29	1,324.10	1,221.14	102.96	12.860	
11,000.00	9,105.57	11,449.61	9,963.48	71.33	64.64	-130.40	2,488.38	-1,166.28	1,323.57	1,218.25	105.33	12.566	
11,100.00	9,106.31	11,549.61	9,963.41	72.92	65.86	-130.38	2,588.37	-1,167.28	1,323.05	1,215.28	107.77	12.277	
11,200.00	9,107.05	11,649.61	9,963.34	74.55	67.12	-130.35	2,688.36	-1,168.27	1,322.53	1,212.25	110.28	11.993	
11,300.00	9,107.79	11,749.60	9,963.27	76.20	68.43	-130.32	2,788.35	-1,169.26	1,322.00	1,209.15	112.85	11.715	
11,400.00	9,108.53	11,849.60	9,963.20	77.87	69.78	-130.30	2,888.34	-1,170.26	1,321.48	1,206.00	115.48	11.443	
11,500.00	9,109.27	11,949.60	9,963.13	79.57	71.17	-130.27	2,988.34	-1,171.25	1,320.96	1,202.79	118.17	11.178	
11,600.00	9,110.01	12,049.59	9,963.06	81.29	72.60	-130.24	3,088.33	-1,172.24	1,320.44	1,199.52	120.92	10.920	
11,700.00	9,110.75	12,149.59	9,962.99	83.03	74.06	-130.22	3,188.32	-1,173.24	1,319.91	1,196.21	123.71	10.670	
11,800.00	9,111.49	12,249.59	9,962.92	84.79	75.56	-130.19	3,288.31	-1,174.23	1,319.39	1,192.85	126.55	10.426	
11,900.00	9,112.24	12,349.58	9,962.85	86.57	77.08	-130.16	3,388.30	-1,175.22	1,318.87	1,189.44	129.43	10.190	
12,000.00	9,112.98	12,449.58	9,962.78	88.36	78.64	-130.13	3,488.30	-1,176.21	1,318.35	1,186.00	132.35	9.961	
12,100.00	9,113.72	12,549.58	9,962.71	90.18	80.23	-130.11	3,588.29	-1,177.21	1,317.83	1,182.52	135.31	9.739	
12,200.00	9,114.46	12,649.57	9,962.64	92.00	81.84	-130.08	3,688.28	-1,178.20	1,317.31	1,179.00	138.31	9.525	
12,300.00	9,115.20	12,749.57	9,962.57	93.84	83.48	-130.05	3,788.27	-1,179.19	1,316.79	1,175.45	141.34	9.317	
12,400.00	9,115.94	12,849.57	9,962.50	95.70	85.14	-130.03	3,888.26	-1,180.19	1,316.27	1,171.87	144.40	9.116	
12,500.00	9,116.68	12,949.56	9,962.43	97.56	86.82	-130.00	3,988.25	-1,181.18	1,315.75	1,168.26	147.49	8.921	
12,600.00	9,117.42	13,049.56	9,962.36	99.44	88.52	-129.97	4,088.25	-1,182.17	1,315.23	1,164.62	150.61	8.733	
12,700.00	9,118.16	13,149.56	9,962.29	101.33	90.24	-129.95	4,188.24	-1,183.17	1,314.71	1,160.96	153.75	8.551	
12,800.00	9,118.90	13,249.55	9,962.22	103.23	91.99	-129.92	4,288.23	-1,184.16	1,314.19	1,157.27	156.92	8.375	
12,900.00	9,119.64	13,349.55	9,962.15	105.14	93.74	-129.89	4,388.22	-1,185.15	1,313.68	1,153.56	160.12	8.204	
13,000.00	9,120.38	13,449.55	9,962.08	107.06	95.52	-129.86	4,488.21	-1,186.14	1,313.16	1,149.82	163.33	8.040	
13,100.00	9,121.12	13,549.54	9,962.01	108.99	97.31	-129.84	4,588.20	-1,187.14	1,312.64	1,146.07	166.57	7.880	
13,200.00	9,121.86	13,649.54	9,961.94	110.93	99.11	-129.81	4,688.20	-1,188.13	1,312.12	1,142.29	169.83	7.726	
13,300.00	9,122.60	13,749.54	9,961.87	112.87	100.93	-129.78	4,788.19	-1,189.12	1,311.61	1,138.50	173.11	7.577	
13,400.00	9,123.34	13,849.53	9,961.80	114.83	102.76	-129.75	4,888.18	-1,190.12	1,311.09	1,134.69	176.40	7.432	
13,500.00	9,124.08	13,949.53	9,961.73	116.79	104.61	-129.73	4,988.17	-1,191.11	1,310.57	1,130.86	179.71	7.293	
13,600.00	9,124.82	14,049.53	9,961.66	118.76	106.47	-129.70	5,088.16	-1,192.10	1,310.06	1,127.02	183.04	7.157	
13,700.00	9,125.56	14,149.52	9,961.59	120.73	108.33	-129.67	5,188.16	-1,193.10	1,309.54	1,123.16	186.38	7.026	
13,800.00	9,126.30	14,249.52	9,961.52	122.71	110.21	-129.65	5,288.15	-1,194.09	1,309.03	1,119.29	189.74	6.899	
13,900.00	9,127.04	14,349.52	9,961.45	124.70	112.10	-129.62	5,388.14	-1,195.08	1,308.51	1,115.40	193.11	6.776	
14,000.00	9,127.78	14,449.51	9,961.38	126.69	114.00	-129.59	5,488.13	-1,196.07	1,308.00	1,111.50	196.50	6.657	
14,100.00	9,128.52	14,549.51	9,961.31	128.69	115.91	-129.56	5,588.12	-1,197.07	1,307.48	1,107.59	199.89	6.541	
14,200.00	9,129.26	14,649.51	9,961.24	130.69	117.82	-129.54	5,688.11	-1,198.06	1,306.97	1,103.66	203.31	6.429	
14,300.00	9,130.00	14,749.50	9,961.17	132.70	119.75	-129.51	5,788.11	-1,199.05	1,306.45	1,099.73	206.73	6.320	
14,400.00	9,130.74	14,849.50	9,961.10	134.71	121.68	-129.48	5,888.10	-1,200.05	1,305.94	1,095.78	210.16	6.214	
14,466.02	9,131.37	14,914.35	9,961.10	136.04	122.94	-129.46	5,952.95	-1,200.67	1,305.75	1,093.38	212.37	6.148	
14,500.00	9,131.76	14,945.99	9,961.38	136.72	123.55	-129.45	5,984.58	-1,200.81	1,305.77	1,092.31	213.46	6.117	
14,600.00	9,133.15	15,043.71	9,963.47	138.74	125.45	-129.48	6,082.28	-1,200.52	1,306.31	1,089.55	216.76	6.026	
14,700.00	9,134.54	15,143.71	9,965.77	140.76	127.40	-129.51	6,182.25	-1,200.14	1,306.89	1,086.79	220.10	5.938	
14,800.00	9,135.92	15,243.70	9,968.06	142.78	129.35	-129.54	6,282.22	-1,199.77	1,307.46	1,084.02	223.44	5.852	
14,900.00	9,137.31	15,343.70	9,970.35	144.81	131.31	-129.57	6,382.19	-1,199.39	1,308.03	1,081.25	226.78	5.768	
15,000.00	9,138.70	15,443.69	9,972.64	146.84	133.28	-129.60	6,482.15	-1,199.01	1,308.61	1,078.47	230.14	5.686	
15,100.00	9,140.09	15,543.69	9,974.94	148.87	135.25	-129.63	6,582.12	-1,198.63	1,309.18	1,075.68	233.49	5.607	
15,200.00	9,141.48	15,643.69	9,977.23	150.91	137.23	-129.66	6,682.09	-1,198.25	1,309.75	1,072.90	236.86	5.530	

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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 8 P5 - 28H - OH - Plan 2 11-17-16													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance				Separation Factor	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 Centras (usft)	Between Ellipses (usft)			Minimum Separation (usft)
15,300.00	9,142.86	15,743.68	9,979.52	152.95	139.21	-129.69	6,782.06	-1,197.88	1,310.33	1,070.10	240.22	5.455	
15,400.00	9,144.25	15,843.68	9,981.81	154.99	141.20	-129.72	6,882.03	-1,197.50	1,310.90	1,067.31	243.59	5.381	
15,500.00	9,145.64	15,943.67	9,984.11	157.04	143.19	-129.75	6,982.00	-1,197.12	1,311.48	1,064.51	246.97	5.310	
15,600.00	9,147.03	16,043.67	9,986.40	159.09	145.19	-129.78	7,081.97	-1,196.74	1,312.05	1,061.70	250.35	5.241	
15,700.00	9,148.41	16,143.67	9,988.69	161.14	147.19	-129.81	7,181.94	-1,196.36	1,312.63	1,058.90	253.73	5.173	
15,800.00	9,149.80	16,243.66	9,990.98	163.19	149.19	-129.84	7,281.91	-1,195.99	1,313.20	1,056.09	257.12	5.107	
15,900.00	9,151.19	16,343.66	9,993.28	165.25	151.20	-129.88	7,381.88	-1,195.61	1,313.78	1,053.27	260.51	5.043	
16,000.00	9,152.58	16,443.65	9,995.57	167.31	153.22	-129.91	7,481.84	-1,195.23	1,314.36	1,050.46	263.90	4.980	
16,100.00	9,153.97	16,543.65	9,997.86	169.37	155.23	-129.94	7,581.81	-1,194.85	1,314.94	1,047.64	267.30	4.919	
16,200.00	9,155.35	16,643.65	10,000.16	171.44	157.25	-129.97	7,681.78	-1,194.47	1,315.51	1,044.82	270.69	4.860	
16,300.00	9,156.74	16,743.64	10,002.45	173.50	159.28	-130.00	7,781.75	-1,194.10	1,316.09	1,042.00	274.09	4.802	
16,400.00	9,158.13	16,843.64	10,004.74	175.57	161.31	-130.03	7,881.72	-1,193.72	1,316.67	1,039.17	277.50	4.745	
16,500.00	9,159.52	16,943.63	10,007.03	177.64	163.34	-130.06	7,981.69	-1,193.34	1,317.25	1,036.35	280.90	4.689	
16,600.00	9,160.91	17,043.63	10,009.33	179.71	165.37	-130.09	8,081.66	-1,192.96	1,317.83	1,033.52	284.31	4.635	
16,700.00	9,162.29	17,143.62	10,011.62	181.79	167.41	-130.12	8,181.63	-1,192.58	1,318.41	1,030.69	287.72	4.582	
16,800.00	9,163.68	17,243.62	10,013.91	183.86	169.45	-130.15	8,281.60	-1,192.21	1,318.99	1,027.86	291.13	4.531	
16,900.00	9,165.07	17,343.62	10,016.20	185.94	171.49	-130.18	8,381.56	-1,191.83	1,319.57	1,025.03	294.54	4.480	
17,000.00	9,166.46	17,443.61	10,018.50	188.02	173.53	-130.21	8,481.53	-1,191.45	1,320.15	1,022.20	297.95	4.431	
17,100.00	9,167.85	17,543.61	10,020.79	190.10	175.58	-130.24	8,581.50	-1,191.07	1,320.73	1,019.36	301.37	4.382	
17,200.00	9,169.23	17,643.60	10,023.08	192.19	177.63	-130.27	8,681.47	-1,190.69	1,321.31	1,016.53	304.78	4.335	
17,300.00	9,170.62	17,743.60	10,025.37	194.27	179.68	-130.30	8,781.44	-1,190.32	1,321.89	1,013.69	308.20	4.289	
17,400.00	9,172.01	17,843.60	10,027.67	196.36	181.74	-130.33	8,881.41	-1,189.94	1,322.48	1,010.85	311.62	4.244	
17,500.00	9,173.40	17,943.59	10,029.96	198.44	183.80	-130.36	8,981.38	-1,189.56	1,323.06	1,008.02	315.04	4.200	
17,600.00	9,174.79	18,043.59	10,032.25	200.53	185.85	-130.39	9,081.35	-1,189.18	1,323.64	1,005.18	318.46	4.156	
17,700.00	9,176.17	18,143.58	10,034.54	202.62	187.92	-130.42	9,181.32	-1,188.80	1,324.22	1,002.34	321.88	4.114	
17,800.00	9,177.56	18,243.58	10,036.84	204.71	189.98	-130.45	9,281.28	-1,188.43	1,324.81	999.51	325.30	4.073	
17,900.00	9,178.95	18,343.58	10,039.13	206.81	192.04	-130.48	9,381.25	-1,188.05	1,325.39	996.67	328.72	4.032	
18,000.00	9,180.34	18,443.57	10,041.42	208.90	194.11	-130.51	9,481.22	-1,187.67	1,325.98	993.83	332.15	3.992	
18,100.00	9,181.73	18,543.57	10,043.72	211.00	196.18	-130.54	9,581.19	-1,187.29	1,326.56	990.99	335.57	3.953	
18,200.00	9,183.11	18,643.56	10,046.01	213.09	198.25	-130.57	9,681.16	-1,186.91	1,327.15	988.15	338.99	3.915	
18,300.00	9,184.50	18,743.56	10,048.30	215.19	200.32	-130.60	9,781.13	-1,186.54	1,327.73	985.31	342.42	3.878	
18,400.00	9,185.89	18,843.55	10,050.59	217.29	202.40	-130.63	9,881.10	-1,186.16	1,328.32	982.47	345.84	3.841	
18,500.00	9,187.28	18,943.55	10,052.89	219.39	204.47	-130.66	9,981.07	-1,185.78	1,328.90	979.64	349.27	3.805	
18,600.00	9,188.66	19,043.55	10,055.18	221.49	206.55	-130.69	10,081.04	-1,185.40	1,329.49	976.80	352.69	3.770	
18,700.00	9,190.05	19,143.54	10,057.47	223.59	208.63	-130.72	10,181.00	-1,185.02	1,330.08	973.96	356.12	3.735	
18,800.00	9,191.44	19,243.54	10,059.76	225.69	210.71	-130.75	10,280.97	-1,184.65	1,330.66	971.12	359.54	3.701	
18,900.00	9,192.83	19,343.53	10,062.06	227.79	212.79	-130.78	10,380.94	-1,184.27	1,331.25	968.29	362.97	3.668	
19,000.00	9,194.22	19,443.53	10,064.35	229.90	214.87	-130.81	10,480.91	-1,183.89	1,331.84	965.45	366.39	3.635	
19,100.00	9,195.60	19,543.53	10,066.64	232.00	216.96	-130.83	10,580.88	-1,183.51	1,332.43	962.61	369.81	3.603	
19,200.00	9,196.99	19,643.52	10,068.93	234.11	219.04	-130.86	10,680.85	-1,183.13	1,333.02	959.78	373.24	3.571	
19,300.00	9,198.38	19,743.52	10,071.23	236.22	221.13	-130.89	10,780.82	-1,182.76	1,333.60	956.94	376.66	3.541	
19,400.00	9,199.77	19,843.51	10,073.52	238.33	223.22	-130.92	10,880.79	-1,182.38	1,334.19	954.11	380.09	3.510	
19,416.71	9,200.00	19,860.22	10,073.90	238.68	223.57	-130.93	10,897.49	-1,182.32	1,334.29	953.63	380.66	3.505 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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 3.00 sigma
Database: Compass 5000 GCR
Offset TVD Reference: Reference Datum

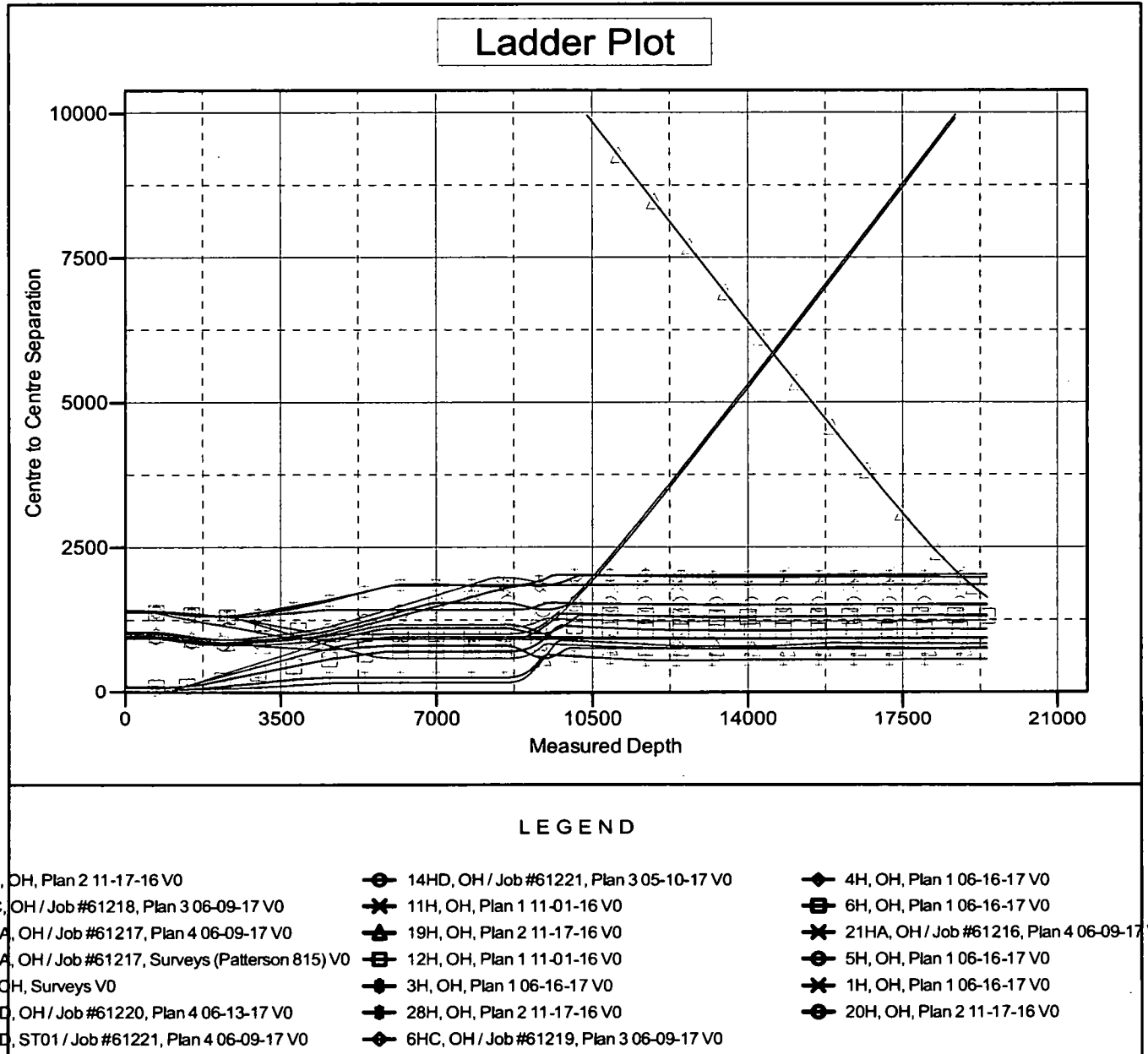
Reference Depths are relative to GL + KB @ 3295.00usft (Patterson 815) Coordinates are relative to: 2H

Offset Depths are relative to Offset Datum

Central Meridian is 104° 19' 60.00000 W

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.06°



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 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 2H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 2H
TVD Reference: GL + KB @ 3295.00usft (Patterson 815)
MD Reference: GL + KB @ 3295.00usft (Patterson 815)
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 GL + KB @ 3295.00usft (Patterson 815) Coordinates are relative to: 2H

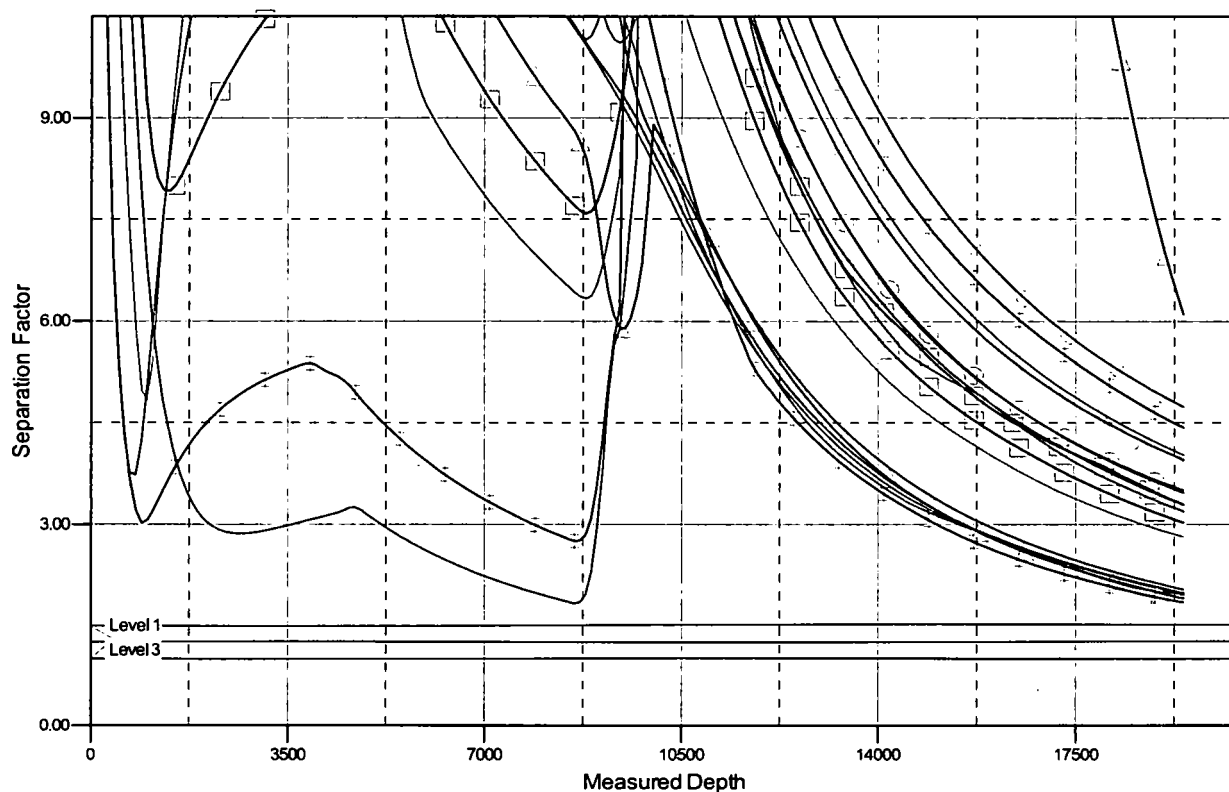
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Central Meridian is 104° 19' 60.00000 W

Grid Convergence at Surface is: 0.06°

Separation Factor Plot



LEGEND

1, OH, Plan 2 11-17-16 V0	14HD, OH / Job #61221, Plan 3 05-10-17 V0	4H, OH, Plan 1 06-16-17 V0
C, OH / Job #61218, Plan 3 06-09-17 V0	11H, OH, Plan 1 11-01-16 V0	6H, OH, Plan 1 06-16-17 V0
1A, OH / Job #61217, Plan 4 06-09-17 V0	19H, OH, Plan 2 11-17-16 V0	21HA, OH / Job #61216, Plan 4 06-09-17 V
1A, OH / Job #61217, Surveys (Patterson 815) V0	12H, OH, Plan 1 11-01-16 V0	5H, OH, Plan 1 06-16-17 V0
CH, Surveys V0	3H, OH, Plan 1 06-16-17 V0	1H, OH, Plan 1 06-16-17 V0
1D, OH / Job #61220, Plan 4 06-13-17 V0	28H, OH, Plan 2 11-17-16 V0	20H, OH, Plan 2 11-17-16 V0
1D, ST01 / Job #61221, Plan 4 06-09-17 V0	6HC, OH / Job #61219, Plan 3 06-09-17 V0	

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



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

SUPO Data Report

07/16/2018

APD ID: 10400014947

Submission Date: 07/12/2017

Highlighted data
reflects the most
recent changes

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

HH_SO_8_5_FED_003_2H_Road_Plat_07-12-2017.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 improvement project, culverts, etc. will be properly repaired or replaced 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 Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

HH_SO_8_5_FED_003_2H_New_Road_Plat_20180713063731.pdf

New road type: LOCAL

Length: 5148

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: ditches, sidehill out-sloping and in-sloping, lead-off ditches, culvert installation, or low water crossings.

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

New road access plan or profile prepared? NO

New road access plan attachment:

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:

Access miscellaneous information: Exclosure 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.

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage 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 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

HH_SO_8_5_FED_003_2H_1_Mile_06-27-2017.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Existing production facilities located in the NE corner of section 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

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

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 determine prior to construction of any water transfer pipeline. Until permanent water takeaway is available, produced water will be hauled off location in trunks. Notification will be provided to BLM upon site selection and survey - plats (including SWD well information) will be provided. Pipelines Include: 4583 of flowlines carrying production (buried), 4600' Gas lift line carrying pressurized gas (buried), 4608' 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

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION 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): 775006.3

Source volume (acre-feet): 99.89297

Source volume (gal): 32550266

Water source and transportation map:

HH_SO_8_5_FED_003_2H_Aerial_detail_07-10-2017.pdf

Water source comments: 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.

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.):

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

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 in Eddy County, NM.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly in an NMOCD 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 in an State approved disposal facility. will be collected in a trash container and disposed of at a state approved facility.

Amount of waste: 200 pounds

Waste disposal frequency : Daily

Safe containment description: Drill fluids and produced oil and water from the well during drilling and completion operations will be stored safely, collected in a trash container and disposed of properly n an NMOCD approved 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.

Safe containmant attachment:

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

Disposal type description:

Disposal location description: State approved facility

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

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location 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.

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_8_5_FED_003_2H_Well_Plat_07-10-2017.pdf

Comments: Exterior well pad dimensions are 380' x 545' Interior well pad dimensions from point of entry (well head) are N-310, S-235, E-120, W-260. The length to the west includes 25' spacing for next well on multi-well pad. Total disturbance area needed for construction of well pad will be 4.75 acres. Topsoil placement where reclamation is planned to be completed upon completion of well and evaluation of best management practices. cut and fill will be minimal.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: HH SO 8 5 FED 003

Multiple Well Pad Number: 1H 2H 3H 4H 5H 6H

Recontouring attachment:

HH_SO_8_5_FED_003_2H_Reclamation_06-27-2017.pdf

HH_SO_8_5_FED_003_2H_Cut_Fill_06-27-2017.pdf

HH_SO_8_5_FED_003_2H_APD_SUP_07-12-2017.pdf

HH_SO_8_5_FED_003_2H_Fac_Layout_07-12-2017.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff,

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

and siltation of the surrounding area.

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 or build roads and well pads. All disturbed areas will be re-contoured to the contour existing prior to initial construction. The areas will be seeded with the proper BLM seed mixture (BLM #2), free of noxious weeds.

Wellpad long term disturbance (acres): 1.49

Wellpad short term disturbance (acres): 3.26

Access road long term disturbance (acres): 0.06

Access road short term disturbance (acres): 0.06

Pipeline long term disturbance (acres): 0.08953168

Pipeline short term disturbance (acres): 0.08953168

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 1.6395317

Total short term disturbance: 3.4095316

Disturbance Comments: All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be re-contoured to the contour existing prior to initial construction.

Reconstruction method: reducing the pad size to approximately 1.5 acres from the proposed size of 4.75 acres. within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of all materials, trash, and equipment not required for production.

Topsoil redistribution: Topsoil will be evenly re-spread and aggressively re-vegetated over the entire disturbed area not needed for all-weather operations including cuts and fills.

Soil treatment: To seed the area, the proper BLM mixture free of noxious weeds, will be used.

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

Existing Vegetation at the well pad attachment:

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

Existing Vegetation Community at the road attachment:

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

Existing Vegetation Community at the pipeline attachment:

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

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:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

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:

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:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

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:

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:

Use a previously conducted onsite? YES

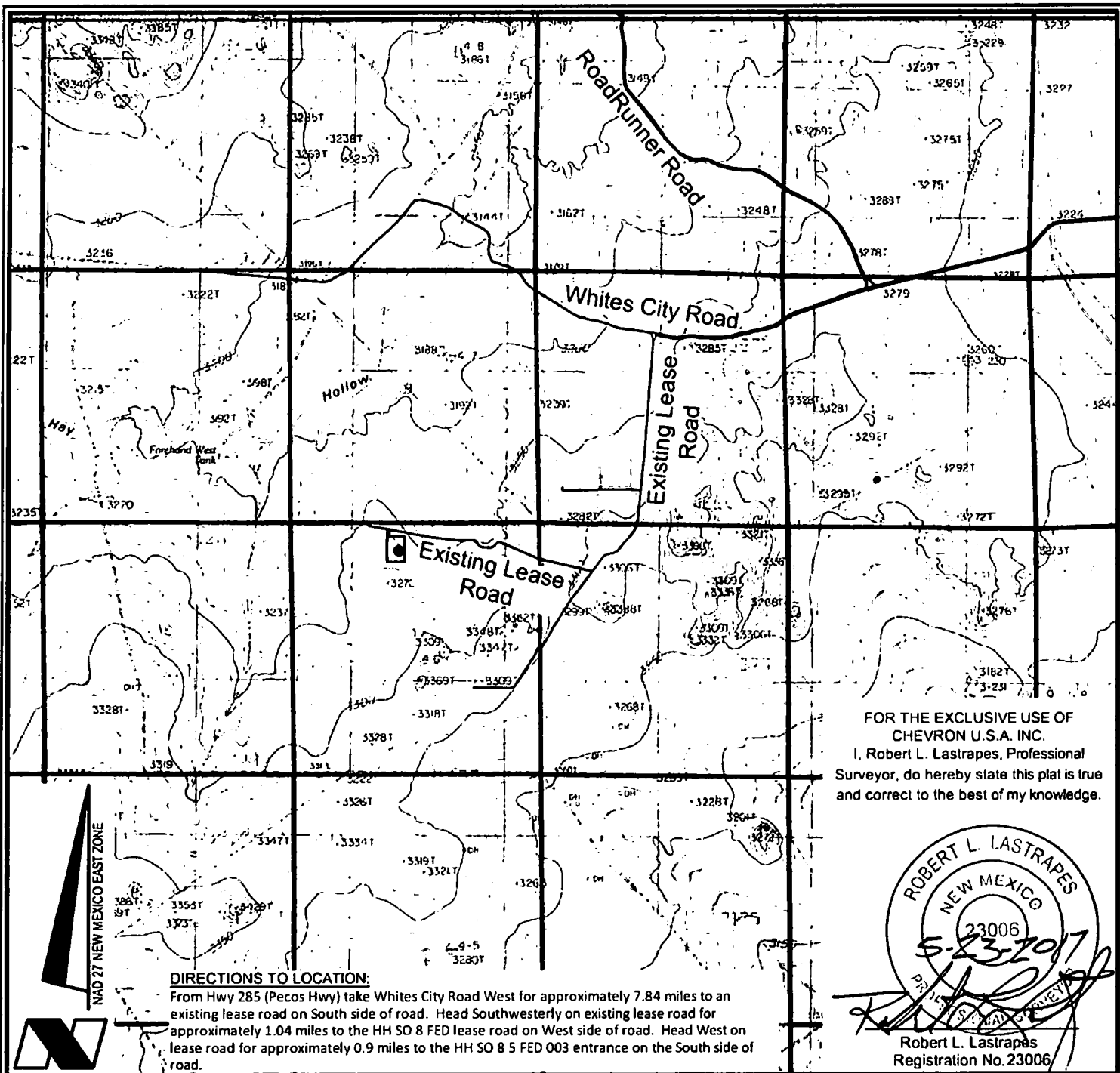
Previous Onsite information: On-site performed by BLM NRS Paul Murphy 01/06/2017

Other SUPO Attachment

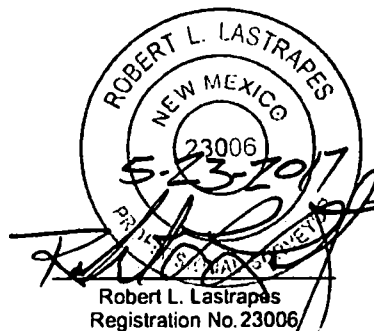
Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 2H

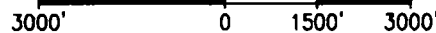


FOR THE EXCLUSIVE USE OF
 CHEVRON U.S.A. INC.
 I, Robert L. Lastrapes, Professional
 Surveyor, do hereby state this plat is true
 and correct to the best of my knowledge.



ROAD PLAT

SCALE: 1" = 3000'



LEGEND

- Proposed Well
- Proposed Access Road
- Proposed Drillsite
- Existing Road
- Section Line
- Proposed Frac Pond

CHEVRON U.S.A. INC.
 HH SO 8 5 FED 003 NO. 2H WELL
 LOCATED 604' FNL AND 2,308' FWL
 SECTION 17, T26S-R27E
 EDDY COUNTY, NEW MEXICO



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

DRAWN BY: DBM		REVISIONS	
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 2H_Road Plat_041217.dwg			

HH SO 8 5 FED 003 NO. 2H

WELL

X= 537,306 NAD 27
Y= 381,202
LAT. 32.047981
LONG. 104.212927

X= 537,489 NAD 83
Y= 381,259
LAT. 32.048103
LONG. 104.213421

ELEVATION +3267' NAVD 88

NW PAD CORNER

X= 537,046 NAD 27
Y= 381,512

ELEVATION +3266' NAVD 88

SW PAD CORNER

X= 537,045 NAD 27
Y= 380,967

ELEVATION +3273' NAVD 88

NE PAD CORNER

X= 537,426 NAD 27
Y= 381,511

ELEVATION +3257' NAVD 88

SE PAD CORNER

X= 537,425 NAD 27
Y= 380,966

ELEVATION +3269' NAVD 88

LEGEND

- Proposed Pad
- Centerline Access
- - - Section Line
- - - Existing Road/Pad
- Found Monument

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.



R 27 E

Sec. 8

Existing
HH SO 8 P5
Pad

S 85° 24' 31" E 2,096.26'

Point of
Commencement/
Fnd. 2" Iron Pipe
w/Cap @ the NW
Corner of Section 17

**CENTERLINE
PROPOSED
ACCESS ROAD**
20' x ±130.93'
±7.94 Rods
±0.06 Acres

Existing
HH SO 8 P5
Access Road

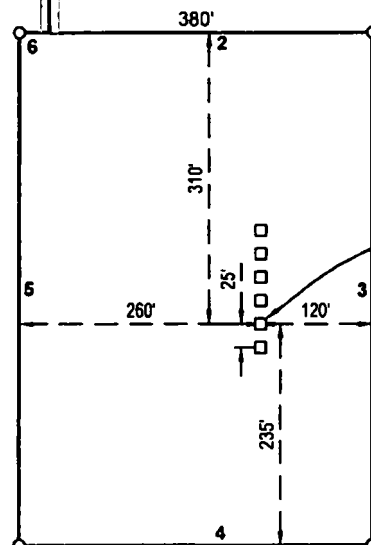
T
26
S

Sec. 17

Bureau of Land Management
Proposed Pad- ±4.75 Acres

HH SO 8 5 FED 003
No. 2H Well
604' FNL
2,308' FWL

PROPOSED PAD
±4.75 Acres



PAGE 1 OF 2

WELL PLAT

Scale: 1" = 200'

200' 0 100' 200'

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 2H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO



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

DRAWN BY: DBM

REVISIONS

PROJ. MGR.: GDG

No.

DATE:

REVISED BY:

DATE: 04/12/2017

No.

DATE:

REVISED BY:

FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 2H_Well Plat_041217.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.

CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	S 00° 16' 28" E	130.93'

NOTE:

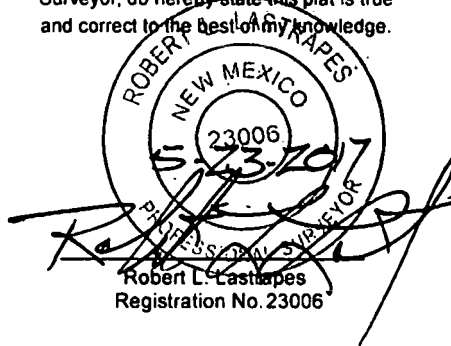
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards,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

PROPOSED PAD		
COURSE	BEARING	DISTANCE
2	S 89° 52' 43" E	348.07'
3	S 00° 07' 17" W	545.00'
4	N 89° 52' 43" W	380.00'
5	N 00° 07' 17" E	545.00'
6	S 89° 52' 43" E	31.93'

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.



PAGE 2 OF 2

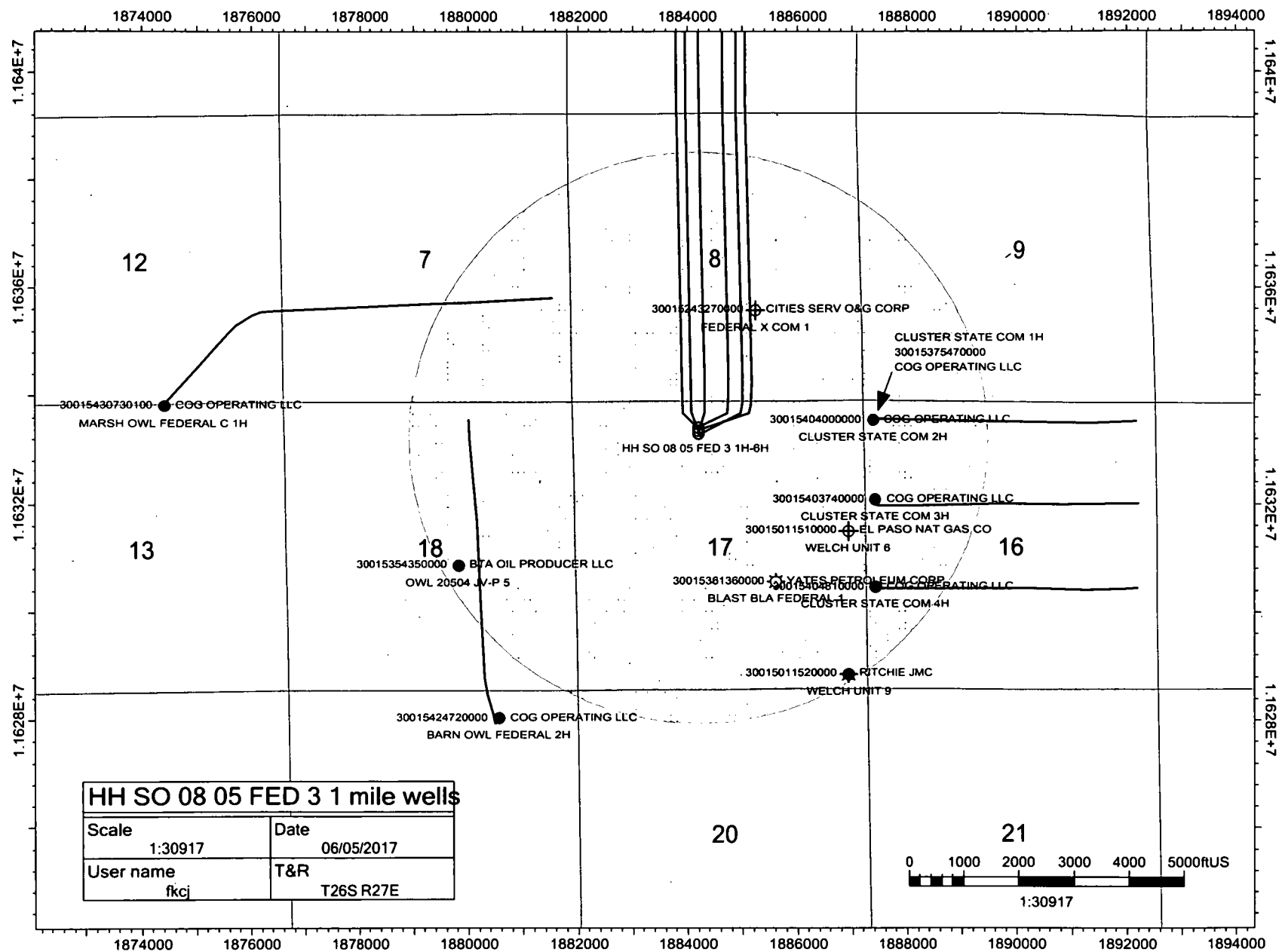
WELL PLAT

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED NO. 2H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO



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

DRAWN BY: DBM		REVISIONS	
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 2H Well Plat_041217.dwg			



R 27 E

Sec. 8

Bureau of Land Management
Proposed WFMP Flowline(Cluster) ±931', ±56.42 Rods
Proposed Gas Lift Flowline ±914', ±55.39 Rods
Proposed Temporary Water Line ±911', ±55.21 Rods

Sec. 9

Bureau of Land Management
Proposed WFMP Flowline(Cluster) ±612', ±37.09 Rods
Proposed Gas Lift Flowline ±613', ±37.15 Rods
Proposed Temporary Water Line ±613', ±37.15 Rods

SEE INSET B

T
26
S

Sec. 16

State of New Mexico

Sec. 17

Bureau of Land Management
Proposed 65' ROW ±75.79', ±4.59 Rods, ±0.12 Acres
Proposed WFMP Flowline(Cluster) ±3,101' ±187.94 Rods
Proposed Gas Lift Flowline ±3,019', ±182.97 Rods
Proposed Temporary Water Line ±3,016', ±182.79 Rods
Proposed Utility Line ±87' ±5.27 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.

Not to be used for construction,
bidding, recordation, conveyance,
sales, or engineering design

PRELIMINARY

Robert L. Lastrapes
Registration No. 23006



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

DETAIL

PAGE 1 OF 2

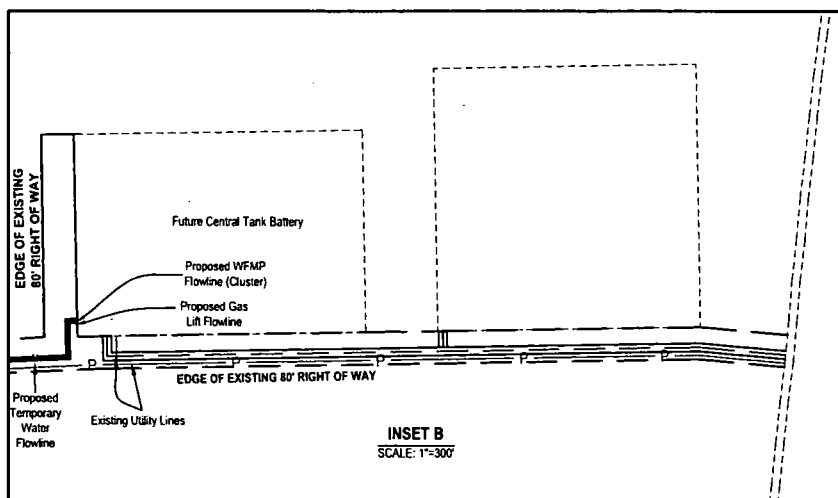
CHEVRON U.S.A. INC.

PROPOSED 65' RIGHT OF WAY EASEMENT & EXISTING 80' ROW TO BE USED FOR FLOWLINE
HH SO 8 5 FED 003 ROW
SECTIONS 8, 9 & 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR		REVISIONS	
PROJ. MGR.: GDG	No. 1	DATE: 09/19/2016	REVISED BY: GDG
DATE: 09/01/2016	No. 2	DATE: 05/24/2017	REVISED BY: AMT
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 ROW2.dwg			

LEGEND	
---	Section Line
---	Right of Way
---	WFMP Flowline
---	Gas Lift Flowline
---	Centerline Access
---	Utility Line
---	Temporary Water Line
---	Fence Line
---	Loose Road/Pads
●	Found Monument

NOTE: No field work was performed by C.H. Fenstermaker & Associates, L.L.C. on the proposed pipelines depicted in these drawings. Pipelines shown are preliminary and are based on previous survey data and digitized client-furnished information. Pipeline positions and distances should be considered approximate. Following final staking, revised plats will reflect as-staked pipeline positions, bearings and distances.

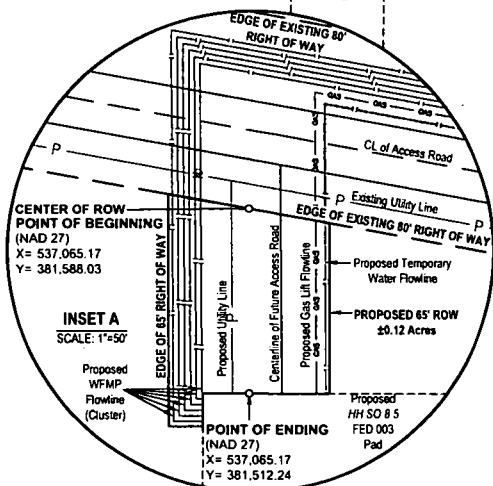


INSET B
SCALE: 1"=300'

S 83° 52' 27" E 2,088.90'
To a Fnd. 2" Iron Pipe w/Cap
@ the NW Corner of Sec. 17

SEE INSET A
PROPOSED 65' ROW
±75.79', ±4.59 Rods,
±0.12 Acres

Proposed
HH SO 8 5
FED 003
PAD



INSET A
SCALE: 1"=50'

NAD 27 NEW MEXICO EAST ZONE



Scale: 1" = 500'

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:

1. 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.
2. 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
3. No field work was performed by C.H. Fenstermaker & Associates, L.L.C. on the proposed pipelines depicted in these drawings. Pipelines shown are preliminary and are based on previous survey data and digitized client-furnished information. Pipeline positions and distances should be considered approximate. Following final staking, revised plats will reflect as-staked pipeline positions, bearings and distances.

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.

Not to be used for construction,
bidding, recordation, conveyance,
sales, or engineering design



Robert L. Lastrapes
Registration No. 23006

**METES AND BOUNDS DESCRIPTION OF A
PROPOSED RIGHT OF WAY EASEMENT LOCATED IN
SECTIONS 8, 9 AND 17 OF T26S-R27E
EDDY COUNTY, NEW MEXICO**

HH SO 8 5 FED 003 RIGHT OF WAY

Description of the centerline of a proposed 65 feet wide by 75.79 feet or 4.59 rods right of way easement (40 feet each side of centerline) across Bureau of Land Management property located in section 17 of Township 26 South, Range 27 East, and described as follows:

Commencing at the Northwest corner of said section 17 Township 26 South Range 27 East at a found 2" Iron Pipe; Thence South 83 degrees 52 minutes 27 seconds East 2,088.90 feet to the Point of Beginning. Said Point of Beginning having the following coordinates: X = 537,065.17 Y = 381,588.03 (New Mexico State Plane Coordinate System, East Zone, NAD 27).

Thence South 75.79 feet to the Point of Ending, having the following coordinates X=537,065.17 and Y=381,512.24 (New Mexico State Plane Coordinate System, East Zone, NAD 27).

The bearings recited herein are oriented to New Mexico State Plane Coordinate System, East Zone, NAD 27.

This description represents a survey made on the ground for a right of way easement and intended solely for that purpose. This description does not represent a boundary survey.

DETAIL

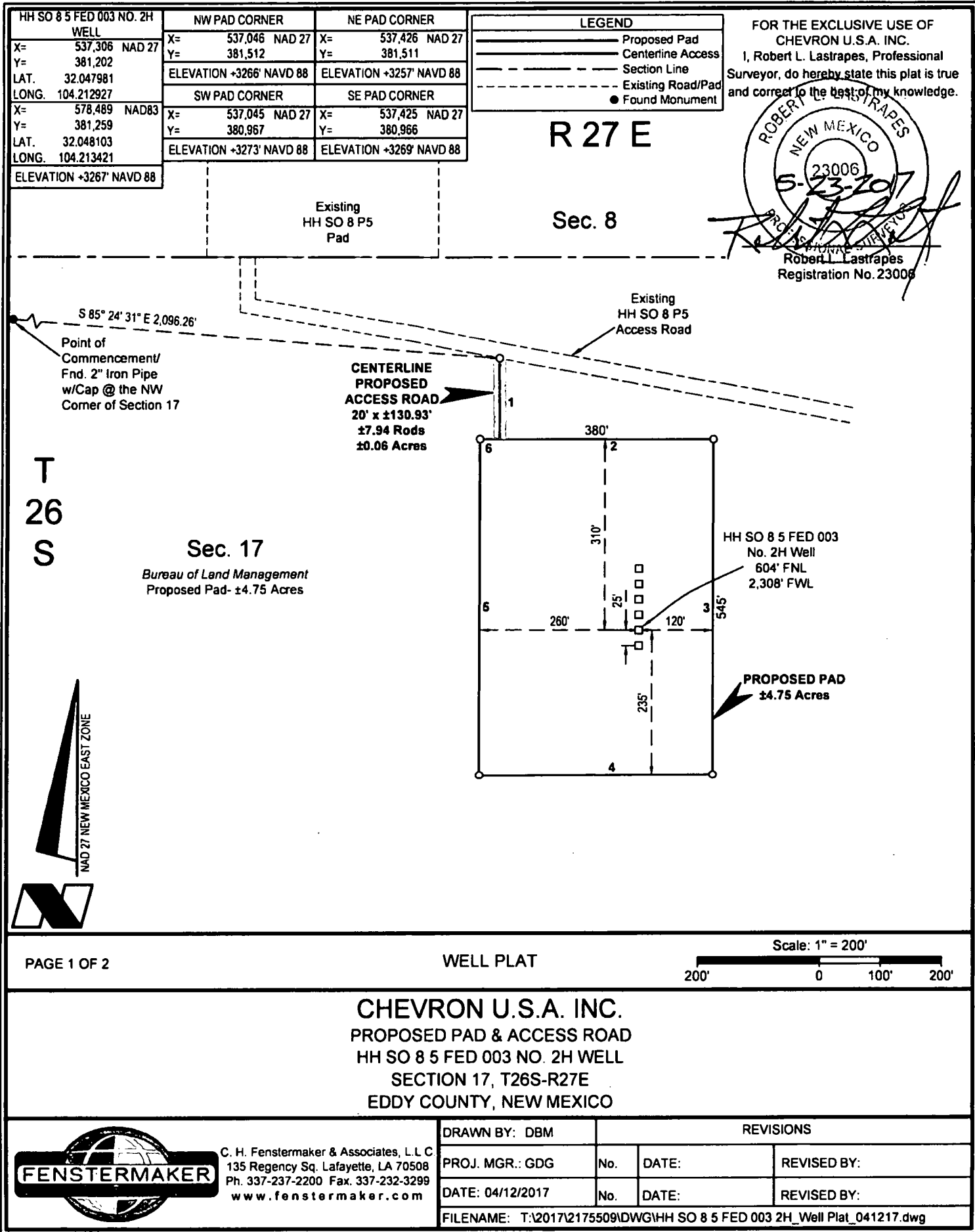
PAGE 2 OF 2

CHEVRON U.S.A. INC.
PROPOSED 65' RIGHT OF WAY EASEMENT & EXISTING 80' ROW TO BE USED FOR FLOWLINE
HH SO 8 5 FED 003 ROW
SECTIONS 8, 9 & 17, T26S-R27E
EDDY COUNTY, NEW MEXICO



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

DRAWN BY: BOR		REVISIONS	
PROJ. MGR.: GDG	No. 1	DATE: 09/19/2016	REVISED BY: GDG
DATE: 09/01/2016	No. 2	DATE: 05/24/2017	REVISED BY: AMT
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 ROW2.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.

CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	S 00° 16' 28" E	130.93'

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.

PROPOSED PAD		
COURSE	BEARING	DISTANCE
2	S 89° 52' 43" E	348.07'
3	S 00° 07' 17" W	545.00'
4	N 89° 52' 43" W	380.00'
5	N 00° 07' 17" E	545.00'
6	S 89° 52' 43" E	31.93'

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.



PAGE 2 OF 2

WELL PLAT

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED NO. 2H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO



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

DRAWN BY: DBM		REVISIONS	
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 2H_Well Plat_041217.dwg			

HH SO 8 5 FED 003 NO. 1H WELL	
X=	537,306 NAD 27
Y=	381,177
LAT.	32.047913
LONG.	104.212928
X=	578,489 NAD83
Y=	381,234
LAT.	32.048034
LONG.	104.213421
ELEVATION +3267' NAVD 88	

NW PAD CORNER		NE PAD CORNER	
X=	537,046 NAD 27	X=	537,426 NAD 27
Y=	381,512	Y=	381,511
ELEVATION +3266' NAVD 88		ELEVATION +3257' NAVD 88	
SW PAD CORNER		SE PAD CORNER	
X=	537,045 NAD 27	X=	537,425 NAD 27
Y=	380,967	Y=	380,966
ELEVATION +3273' NAVD 88		ELEVATION +3269' NAVD 88	

LEGEND	
	Proposed Pad
	Centerline Access
	Section Line
	Existing Road/Pad
	Found Monument

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.

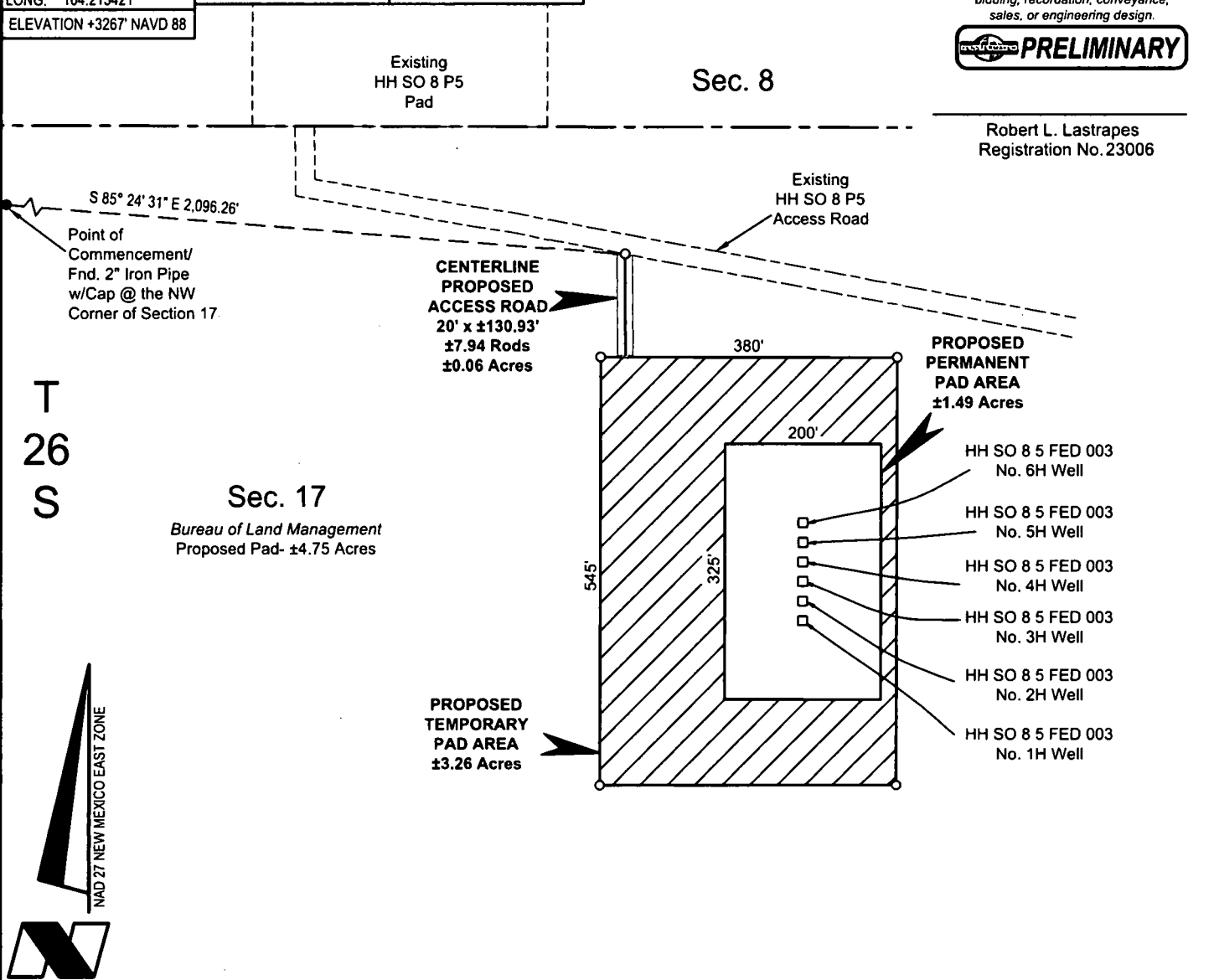
Not to be used for construction,
bidding, recordation, conveyance,
sales, or engineering design.



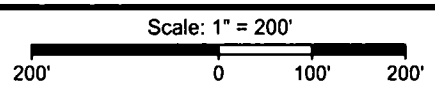
Robert L. Lastrapes
Registration No. 23006

R 27 E

Sec. 8



- HH SO 8 5 FED 003 No. 6H Well
- HH SO 8 5 FED 003 No. 5H Well
- HH SO 8 5 FED 003 No. 4H Well
- HH SO 8 5 FED 003 No. 3H Well
- HH SO 8 5 FED 003 No. 2H Well
- HH SO 8 5 FED 003 No. 1H Well



CHEVRON U.S.A. INC.
INTERIM RECLAMATION
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO



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

DRAWN BY: GDG		REVISIONS	
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 06/19/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 Reclamation.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.nmonccall.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.

*Not to be used for construction,
bidding, recordation, conveyance,
sales, or engineering design.*



Robert L. Lastrapes
Registration No. 23006

PAGE 2 OF 2

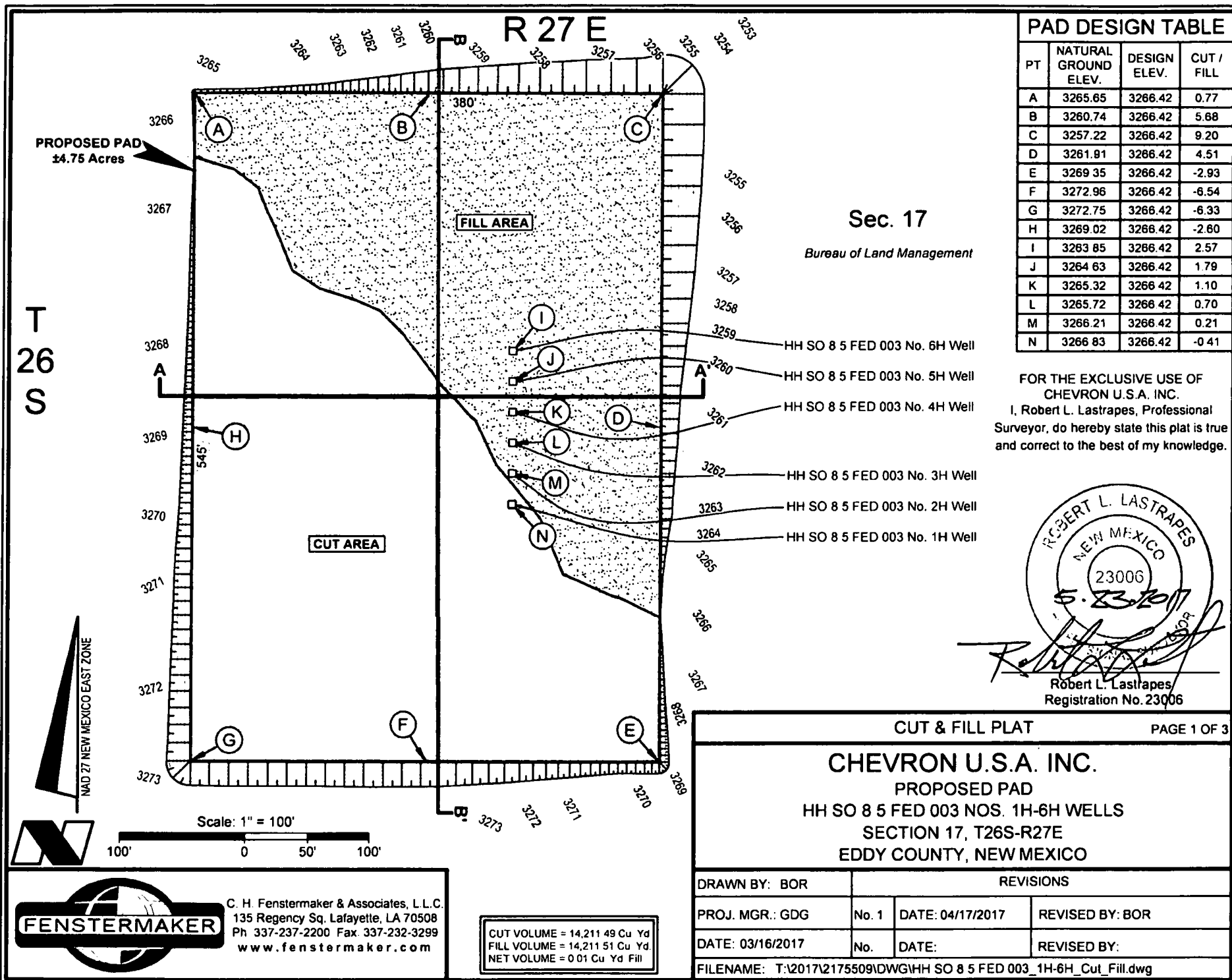
WELL PLAT

CHEVRON U.S.A. INC.
INTERIM RECLAMATION
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

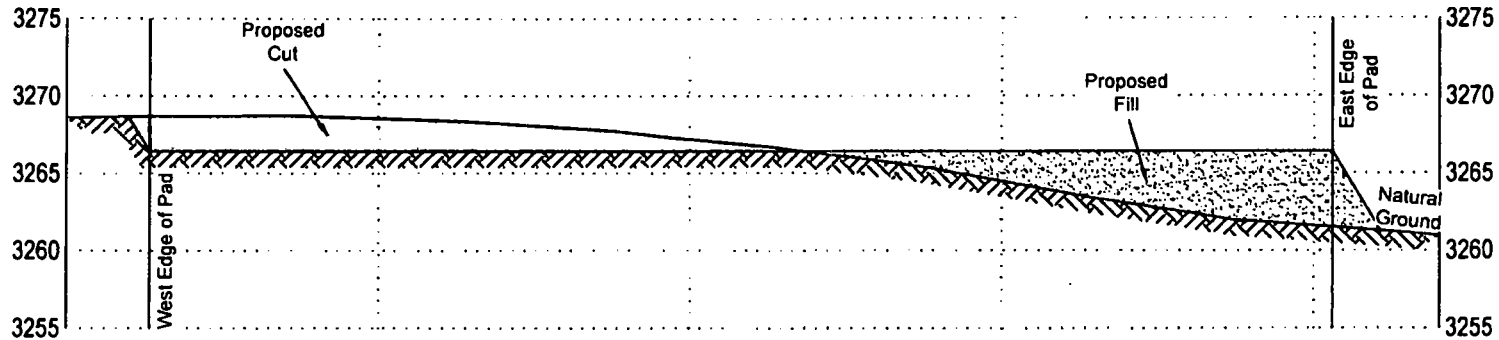


C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

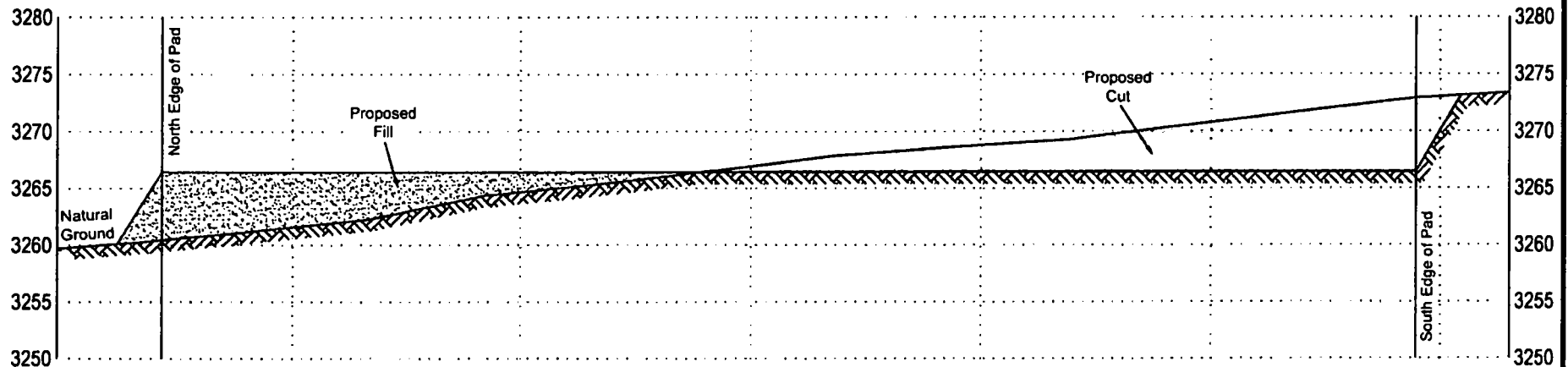
DRAWN BY: GDG		REVISIONS	
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 06/19/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 Reclamation.dwg			



CROSS SECTION A-A'



CROSS SECTION B-B'



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.



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

Robert L. Lastrapes
Registration No. 23006

CUT & FILL PLAT

PAGE 2 OF 3

CHEVRON U.S.A. INC.

PROPOSED PAD

HH SO 8 5 FED 003 NOS. 1H-6H WELLS

SECTION 17, T26S-R27E

EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR

REVISIONS

PROJ. MGR.: GDG

No. 1

DATE: 04/17/2017

REVISED BY: BOR

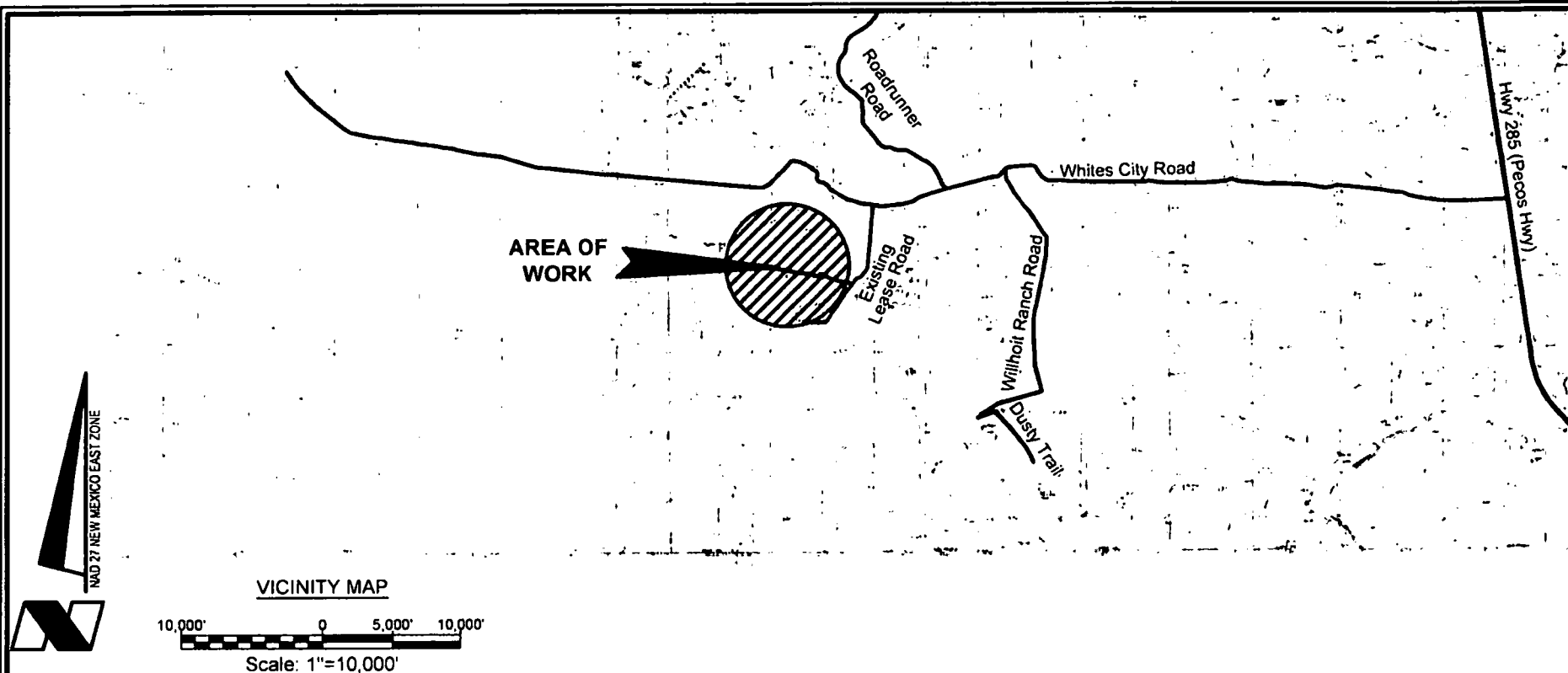
DATE: 03/16/2017

No.

DATE:

REVISED BY:

FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003_1H-6H_Cut_Fill.dwg



NOTE:

1. 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.nmonccall.org.

2. The design pad elevation recommendation is based solely on a cut and fill (1:1 ratio) balance of the pad and does not include material required for the access roads. A detailed soil test and slope stability analysis shall be performed prior to construction to ensure proper compaction and working performance of the pad under the anticipated loadings. This material balance sheet does not constitute a foundation design and C. H. Fenstermaker & Associates, L.L.C. makes no warranty to the structural integrity of the site layout as shown. Fenstermaker also makes no recommendation or warranty about the layout relative to flood hazards, erosion control, or soil stability issues. Elevations refer to the North American Vertical Datum of 1988.

3 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.

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.

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.

CUT & FILL PLAT

PAGE 3 OF 3

CHEVRON U.S.A. INC.

PROPOSED PAD

HH SO 8 5 FED 003 NOS. 1H-6H WELLS

SECTION 17, T26S-R27E

EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR

REVISIONS

PROJ. MGR.: GDG

No. 1

DATE: 04/17/2017

REVISED BY: BOR

DATE: 03/16/2017

No.

DATE:

REVISED BY:

FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003_1H-6H_Cut_Fill.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



Robert L. Lastrapes
Registration No. 23006

APD Surface Use Plan of Operations

This Surface Use Plan of Operations has been designed to be reviewed in conjunction with Hayhurst Development Area (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 8 5 FED 003 2H

NMNM 118108

SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E

SHL 604' FNL & 2308' FWL

BHL 280' FNL & 2178' FWL

Location of Existing and/or Proposed Production Facilities (MDP SUP Pg. 2)

- **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 (MDP SUP Pg. 5)

- 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 8 5 FED 003 2H
NMNM 118108
SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E
SHL 604' FNL & 2308' FWL BHL 280' FNL & 2178' FWL

Construction Materials (MDP SUP0 Pg. 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 380'
 - Interior well pad dimensions from point of entry (well head) of the well are N-310', S-235', E-120', 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 (MDP SUPA Pg. 8)

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.

HH SO 8 5 FED 003 2H

NMNM 118108

SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E

SHL 604' FNL & 2308' FWL

BHL 280' FNL & 2178' 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

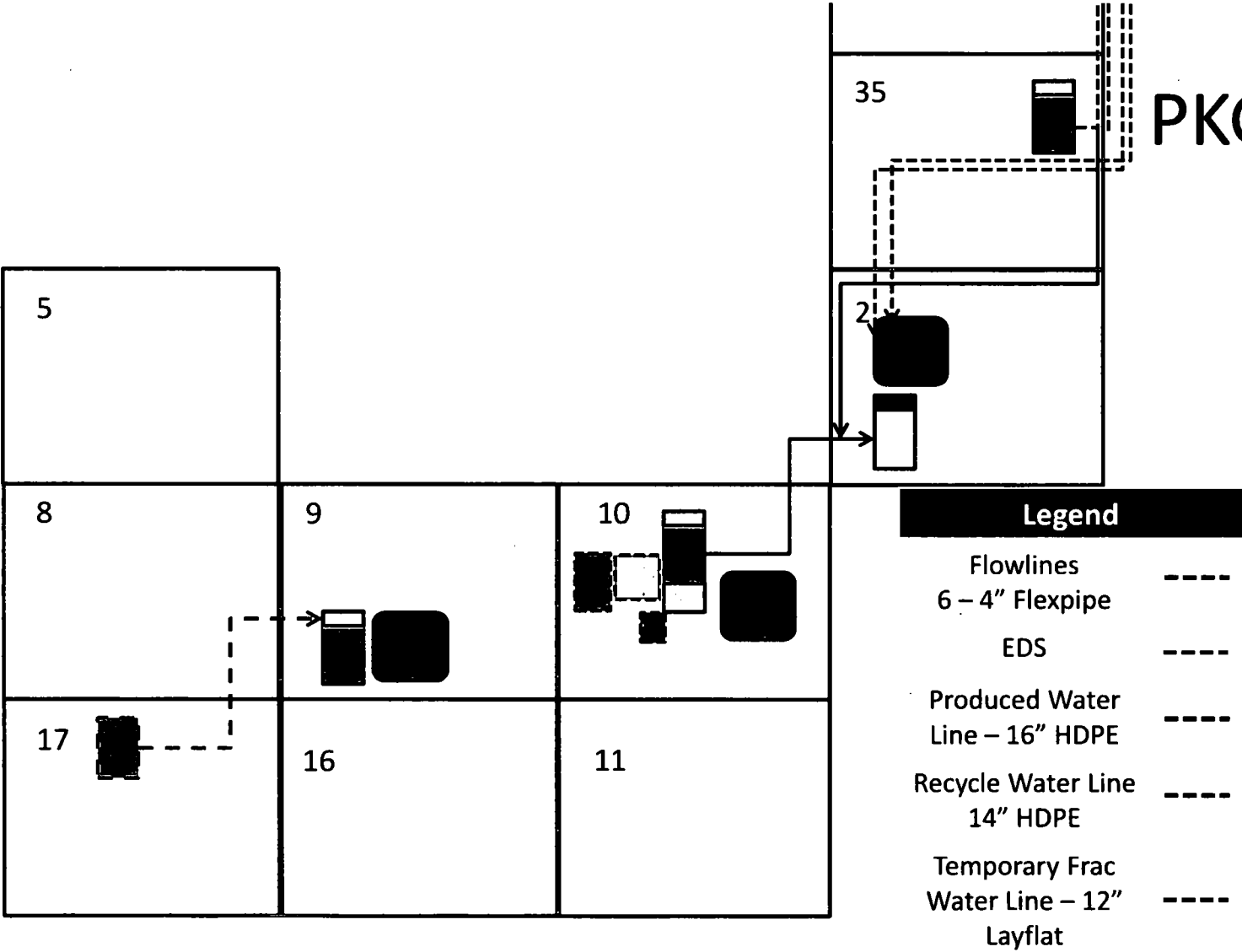
M- 432-270-8753

CHEVRON U.S.A. INC.
HH SO 8 5 FED 003 2H
NMNM 118108
SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E
SHL 604' FNL & 2308' FWL BHL 280' FNL & 2178' FWL

Chevron Functional Contacts

Project Manager Name: Justin Freeman Address: 1400 Smith Street Houston, TX 77002 Phone: 713-372-2151 Email: FreemJ@chevron.com	Drilling 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

PKG 5 DETAILS



Legend	
Wellpad	
Gravitas SWD wellpad	
IT Tower	
CTB 35	
Electric Compressor	
Electric Sub-station	
Gravitas SWD Facility	
Recycle	

HHNM Rig 2/3

Facilities Scope – 2017/8

HH SO 8/5 P3 (6 wells x 10,000 ft) PKG 6

- SPUD:
- CTB 9: *Upgrade Adding HP Header, LP Header VRU, LACT, LP Tester*
- New SWD Sec 26:
 - 2-Trains; 7 H-pumps
 - 10,000 BBL recycle Train ~ \$850,000
 - SWD WellPad
 - SWD Injection Line
 - Recycle Water P/L from SWD 26 to Pond 4
 - EDS from CTB 35 to SWD 26
 - P/L: 1.0 Mile (Produced Water from CTB 35 to SWD 26)
- Electrical Compressor
 - Sub-Station
 - Sub-Station Transformer Upgrade for EDS
 - Compressor Pad
- Well: Pad, 2.0 mi F/L x 6 well
- Gas Lift: 0.5 mi
- IT Towers (2)
 - Pad Locations
 - Fiber Optic Cable ROW ~ 1.5 miles





U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

PWD Data Report

07/16/2018

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:

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:

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?

Other regulatory requirements attachment:



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

07/16/2018

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: