

Carlsbad Field Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

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

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 6H 322146
3b. Phone No. (include area code) (432)687-7866		9. API Well No. 30-015-45120
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NENW / 504 FNL / 2310 FWL / LAT 32.048378 / LONG -104.21342 At proposed prod. zone NWNE / 280 FNL / 2430 FEL / LAT 32.078244 / LONG -104.211701		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* 12.8 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, 4300 feet applied for, on this lease, ft.	19. Proposed Depth 10029 feet / 20402 feet	20. BLM/BIA Bond No. on file FED: CA0329
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3265 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		
Office 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

RW. 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.

(Continued on page 3)

(Form 3160-3, page 2)

Approval Date: 07/13/2018

Additional Operator Remarks

Location of Well

1. SHL: NENW / 504 FNL / 2310 FWL / TWSP: 26S / RANGE: 27E / SECTION: 17 / LAT: 32.048378 / LONG: -104.21342 (TVD: 0 feet, MD: 0 feet)
PPP: SWSE / 330 FSL / 2430 FEL / TWSP: 26S / RANGE: 27E / SECTION: 8 / LAT: 32.050666 / LONG: -104.211604 (TVD: 10029 feet, MD: 20402 feet)
BHL: NWNE / 280 FNL / 2430 FEL / TWSP: 26S / RANGE: 27E / SECTION: 5 / LAT: 32.078244 / LONG: -104.211701 (TVD: 10029 feet, MD: 20402 feet)

BLM Point of Contact

Name: Judith Yeager

Title: Legal Instruments Examiner

Phone: 5752345936

Email: jyeager@blm.gov

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.:	NMNM118108
WELL NAME & NO.:	HH SO 8 5 FED 003 6H
SURFACE HOLE FOOTAGE:	504'/N & 2310'/W
BOTTOM HOLE FOOTAGE:	280'/N & 2430'/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 5%.**
 - 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

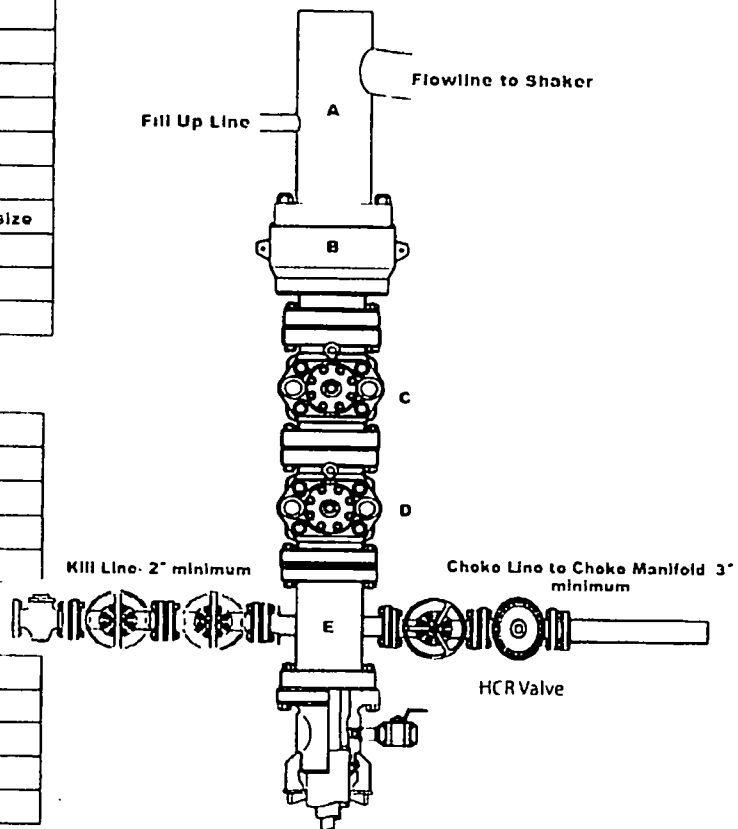
SIZE	PRESSURE	DESCRIPTION
A	N/A	Bell Nipple
B	13 5/8"	5,000 psi Annular
C	13 5/8"	5,000 psi Pipe Ram
D	13 5/8"	5,000 psi Blind Ram
E	13 5/8"	5,000 psi Mud Cross
F		
DSA	As required for each hole size	
C-Sec		
B-Sec	13-5/8" 5K x 11" 5K	
A-Sec	13-3/8" SOW x 13-5/8" 5K	

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 toe blocks or are targeted with running tool, 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 8 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.

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 diller 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 choke 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 envall BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

**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 6H
SURFACE HOLE FOOTAGE:	504'/N & 2310'/W
BOTTOM HOLE FOOTAGE:	280'/N & 2430'/E
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

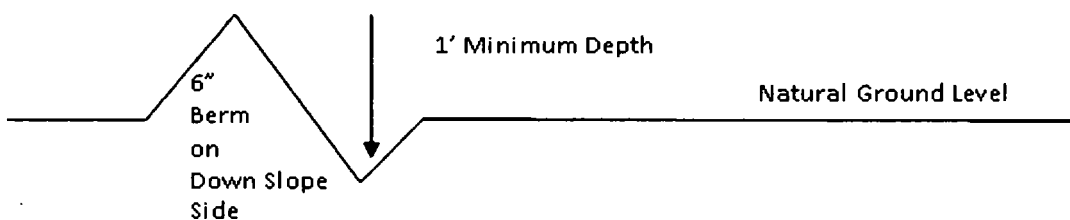
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

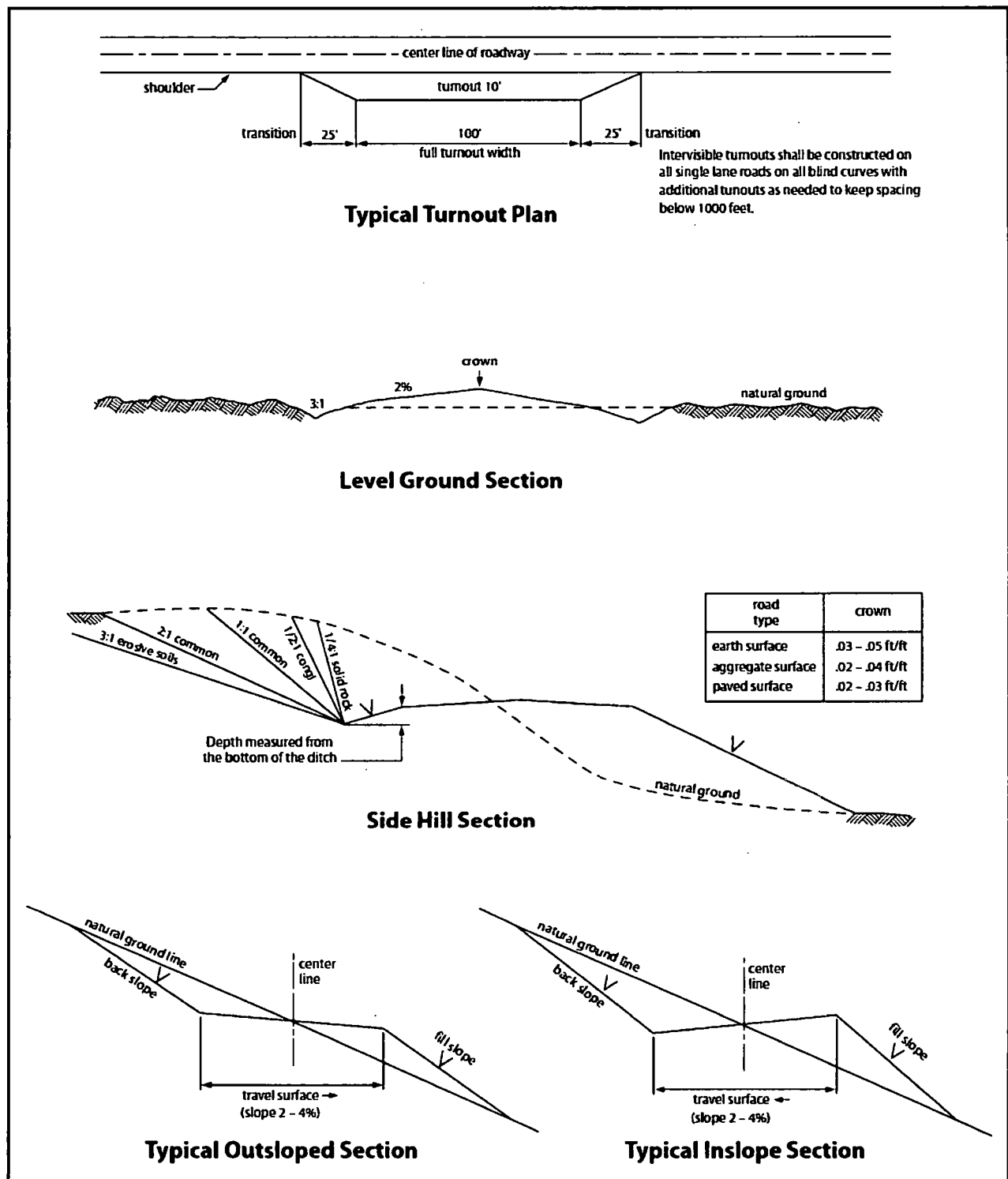


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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.

(X) 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: 07/06/2017

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: 10400014951

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: 6H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400014951

Tie to previous NOS? 10400009710

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: 6H

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: 6H

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: 12.8 Miles

Distance to nearest well: 4300 FT

Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: HH_SO_8_5_FED_003_6H_C_102_07-06-2017.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	504	FNL	231 0	FWL	26S	27E	17	Aliquot NENW	32.04837 8	- 104.2134 2	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 100549	326 5	0	0
KOP Leg #1	504	FNL	231 0	FWL	26S	27E	17	Aliquot NENW	32.04837 8	- 104.2134 2	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 100549	326 5	0	0
PPP Leg #1	330	FSL	243 0	FEL	26S	27E	8	Aliquot SWSE	32.05066 6	- 104.2116 04	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 118108	- 676 4	204 02	100 29

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	330	FNL	243 0	FEL	26S	27E	5	Aliquot NWNE	32.07810 6	- 104.2117 03	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 113399	- 676 4	204 02	100 29
BHL Leg #1	280	FNL	243 0	FEL	26S	27E	5	Aliquot NWNE	32.07824 4	- 104.2117 01	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 113399	- 676 4	204 02	100 29

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

Choke Diagram Attachment:

HH_SO_8_5_FED_003_6H_Choke_Diagram_07-10-2017.pdf

BOP Diagram Attachment:

10K_UHS_Wellhead_schematics_20180713064938.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	-5735	-6185	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	9300	0	9300	-5735	-14750	9300	L-80	43.5	OTHER - TXP	1.32	1.45	DRY	1.84	DRY	1.78
3	PRODUCTION	8.5	5.5	NEW	API	N	0	20402	0	20402	-5735	-24454	20402	P-110	20	OTHER - TXP	1.5	1.26	DRY	1.35	DRY	2.43

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_6H_9pt_plan_07-10-2017.pdf

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

HH_SO_8_5_FED_003_6H_9.625_TXP_07-10-2017.pdf

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_6H_9.625_TXP_07-10-2017.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_6H_P110_TXP_07-10-2017.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	6.37	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: 6H

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	9300	285	1.21	15.6	5.54	50	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	2040 2	2643	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	9300	OIL-BASED MUD	9	9.5							

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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
9300	2040 2	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

Logs

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: 6780

Anticipated Surface Pressure: 4800

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: 6H

HH_SO_8_5_FED_003_6H_H2S_07-10-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

HH_SO_8_5_FED_003_6H_Drilling_Plan_07-10-2017.pdf

HH_SO_8_5_FED_003_6H_Rig_Layout_07-10-2017.pdf

HH_SO_8_5_FED_003_6h_AC_Report_07-10-2017.pdf

Other proposed operations facets description:

The FTP on the drilling plan reflects the FTP on the C-102

Other proposed operations facets attachment:

Other Variance attachment:

CHOKE MANIFOLD SCHEMATIC

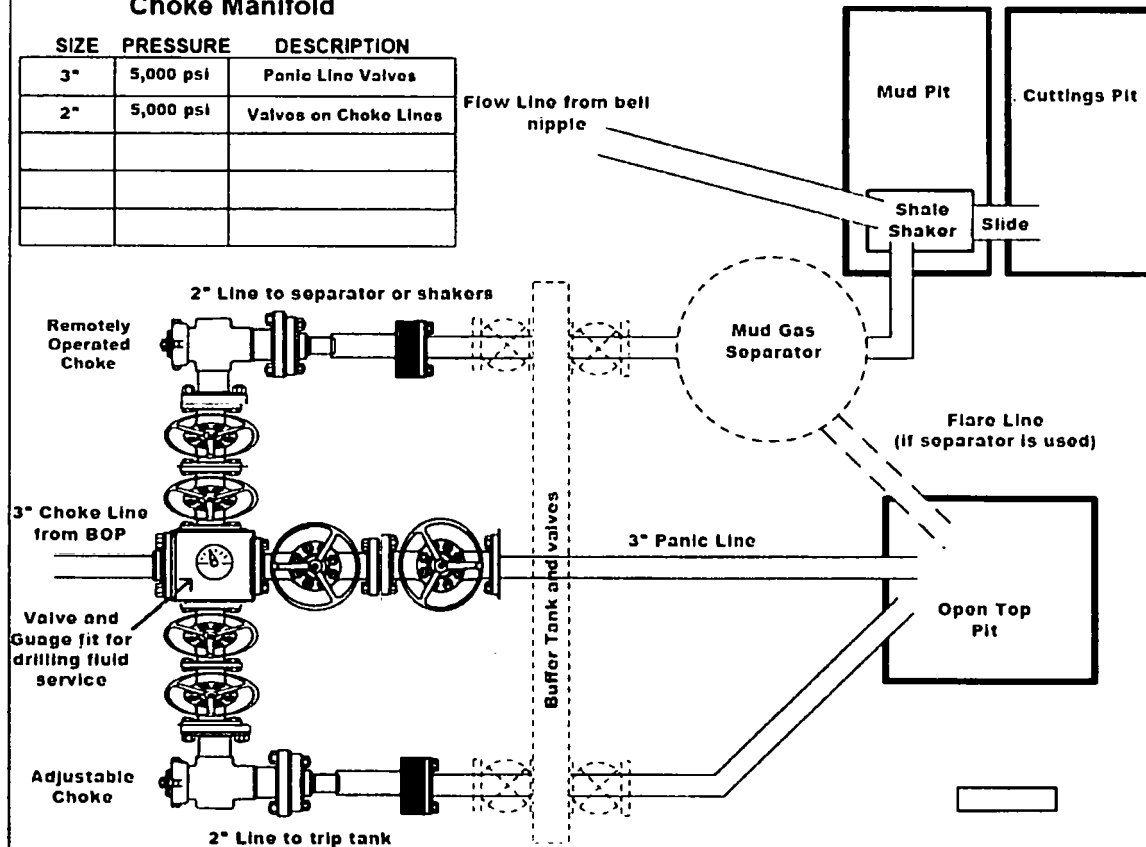
Minimum Requirements

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.

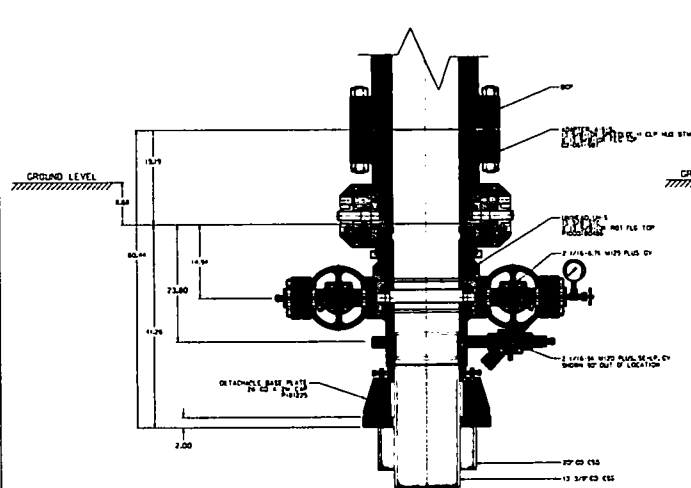
- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum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

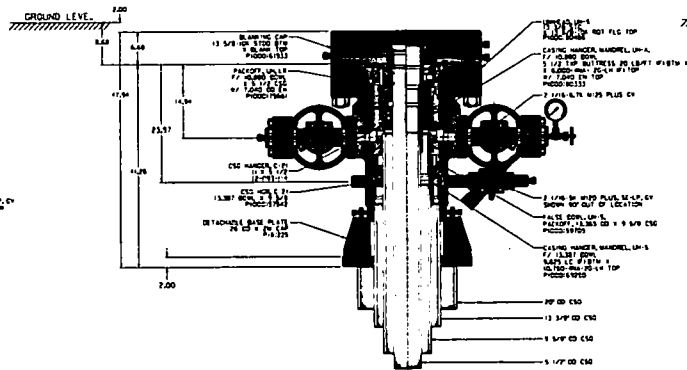
Wellname: _____

Representative: _____

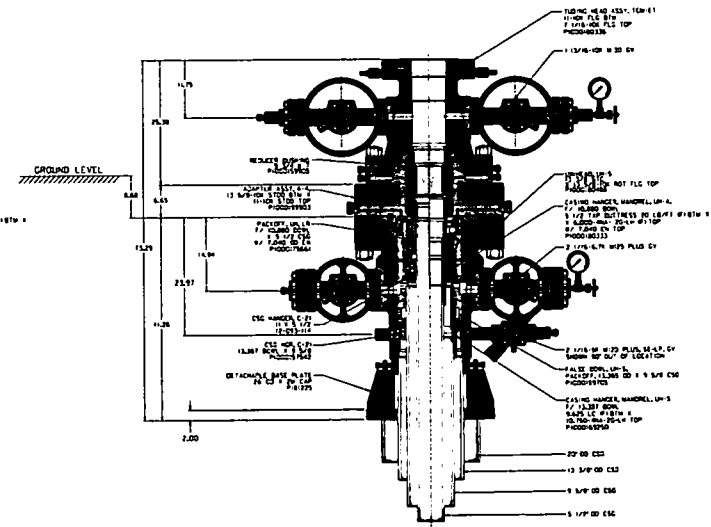
Date: _____



DRILLING MODE



CAPPING MODE



COMPLETION MODE

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

PRIVATE AND CONFIDENTIAL		DATE	BY	REVISION
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	1
		11/10/77	J. J. JONES	2
		11/10/77	J. J. JONES	3
		11/10/77	J. J. JONES	4
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	5
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	6
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	7
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	8
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	9
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO THE PUBLIC OR TO OTHERS WITHOUT THE WRITTEN AUTHORIZATION OF THE COMPANY. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE COMPANY'S USE.		11/10/77	J. J. JONES	10

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	KBVD	MD
Gravel		505	
Lerner		2285	
Ball		2310	
Cherry		2508	
Brinky		4450	
Bone Spring/Arden		4550	
First Bone Spring Sand		4585	
First Bone Spring Shale		4914	
Second Bone Spring Sand		7621	
Honey Sand		8121	
Third Bone Spring Sand		8817	
Wolfcamp A		9343	
Wolfcamp D		10020	
Lateral TVD Wolfcamp D		10020 (2450 RIG)	

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
Water	Deepest Expected Beneath of Fresh Water	450
Water	Gravel	505
Water	Cherry Canyon	2508
Water	Brinky Canyon	4450
Water	Bone Spring Lenses	4585
Oil/Gas	First Bone Spring Shale	4914
Oil/Gas	Second Bone Spring Sand	7621
Oil/Gas	Honey Sand	8121
Oil/Gas	Wolfcamp A	9343
Oil/Gas	Wolfcamp D	10020

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

3. BOP EQUIPMENT

Will have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack 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 LHM 2 backdoor wellhead, which will be run through the rig floor on surface casing. BOPE will be needed up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The 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 wellhead schematic. An installation manual has been placed on file with the BLU office and remains unchanged from previous schematic.

ONSHORE ORDER NO. 1

Chevron
Hayhurst SO & P3 GH
Edy County, NM

CONFIDENTIAL - TIGHT HOLE
DRILLING PLAN
PAGE: 2

4. CASING PROGRAM

Purpose	From	To	Hole Size	Csg. Size	Weight	Grade	Thread	Condition
Surface	450'		12-1/2"	12-1/2"	34.5 #	S-55	STC	New
Intermediate	0	8,300'	10-1/2"	8-5/8"	43.5 #	K-90	1XP	New
Production	0	20481.50'	8-1/2"	5-1/2"	20.0 #	P-110	1XP	New

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

Surface Casing:	450'			
Intermediate Casing:	8300'			
Production Casing:	20481.50' (20481.50' - 8300' = 12181.50')			
Casing String	Min BF Burst	Min BF Collapse	Min BF Tension	Min BF Tri-Axial
Surface	1.82	5.11	3.97	2.31
Intermediate	1.45	1.32	1.78	1.04
Production	1.26	1.5	2.43	1.35

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

	Surf	Int	Prod
Burst Design			
Pressure Tests: Surface, Int, Prod Csg	X	X	X
P external Water			
P internal: Test seal - next section, heaviest mud in csg			
Displace to Case: Surf Csg	X		
P external Water			
P internal: Dry Gas from Next Case Press			
Frac at Show: Gas to Surf: Int Csg		X	
P external Water			
P internal: Dry Gas: 13,000 Frac Gradient			
Simulation (Frac) Pressure: Prod Csg			X
P external Water			
P internal: Max oil pressure of heaviest injected fluid			
Tubing tests: Prod Csg (packer at KOP)			X
P external Water			
P internal: Leak hole below surf: 8.7, 200, 200 psi 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 Water cement			
P internal: water			
Tension Design	X	X	X
100% in overpull			

ONSHORE ORDER NO. 1

Chevron
Hayhurst SO & P3 GH
Edy County, NM

CONFIDENTIAL - TIGHT HOLE
DRILLING PLAN
PAGE: 3

5. CEMENTING PROGRAM

Slurry	Type	Cement Top	Cement Bottom	Weight (lbm)	Yield (bbl)	%Access (Dry Bulk)	Backs (Dry Bulk)	Water (m³/H)
Surface	Tail	Class C	0	450	14.8	1.33	50	5.37
Intermediate	Stage 2 Lead	50 50 Poz. Class C + Arden, Extender, Salt, Retarder	0	1,100	11.9	2.43	50	14.21
	Stage 2 Tail	Class C + Arden, Retarder, Viscosifier	1,100	2,100	14.8	1.33	6	6.37
Production	Stage 1 Lead	50 50 Poz. Class C + Extender, Arden, Retarder, Salt, Viscosifier	2,100	8,015	13.8	2.43	50	13.78
	Stage 1 Tail	Class H + Retarder, Extender, Dispersant	8,015	8,300	15.6	1.21	50	5.54
Production	Lead	50 50 Poz. Class H + Extender, Arden, Dispersant, Retarder	7,015	8,015	14.5	1.21	50	5.54
	Tail	Class H + Viscosifier, Arden, Dispersant, Fluid Loss, Retarder, Expanding Agent	8,015	20481.50'	15.6	1.2	50	5.50

ONSHORE ORDER NO. 1

Chevron
Hayhurst SO & P3 GH
Edy County, NM

CONFIDENTIAL - TIGHT HOLE
DRILLING PLAN
PAGE: 4

6. MUD PROGRAM

From	To	Type	Weight	F. Vts	F. Vts
0	450'	Spud Mud	0	0	0
450'	8,300'	OBM	8.0 - 8.5	50 - 70	5.0 - 10
8,300'	20481.50'	OBM	10.0 - 13.0	50 - 70	5.0 - 10

7. TESTING, LOGGING, AND CORING

TYPE	Loss	Interval	Interval	Vendor
Wellbore	2 min circulation	Int. Case to TD	On-Site at Int. Case	TBD
LVDT	Min 30 min	Int. and Prod. Hole	Wells Drilling	TBD

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

BLANKING DIMENSIONS

Blanking Dimensions

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

H₂S Preparedness and Contingency Plan Summary



- Hayhurst Eddy County, New Mexico

Training

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

Awareness Level

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

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

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

Advanced Level H₂S Training

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

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

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

H₂S Preparedness and Contingency Plan Summary



H₂S Training Certification

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

Briefing Area

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

H₂S Equipment

Respiratory Protection

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

Visual Warning System

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

H₂S Detection and Monitoring System

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



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

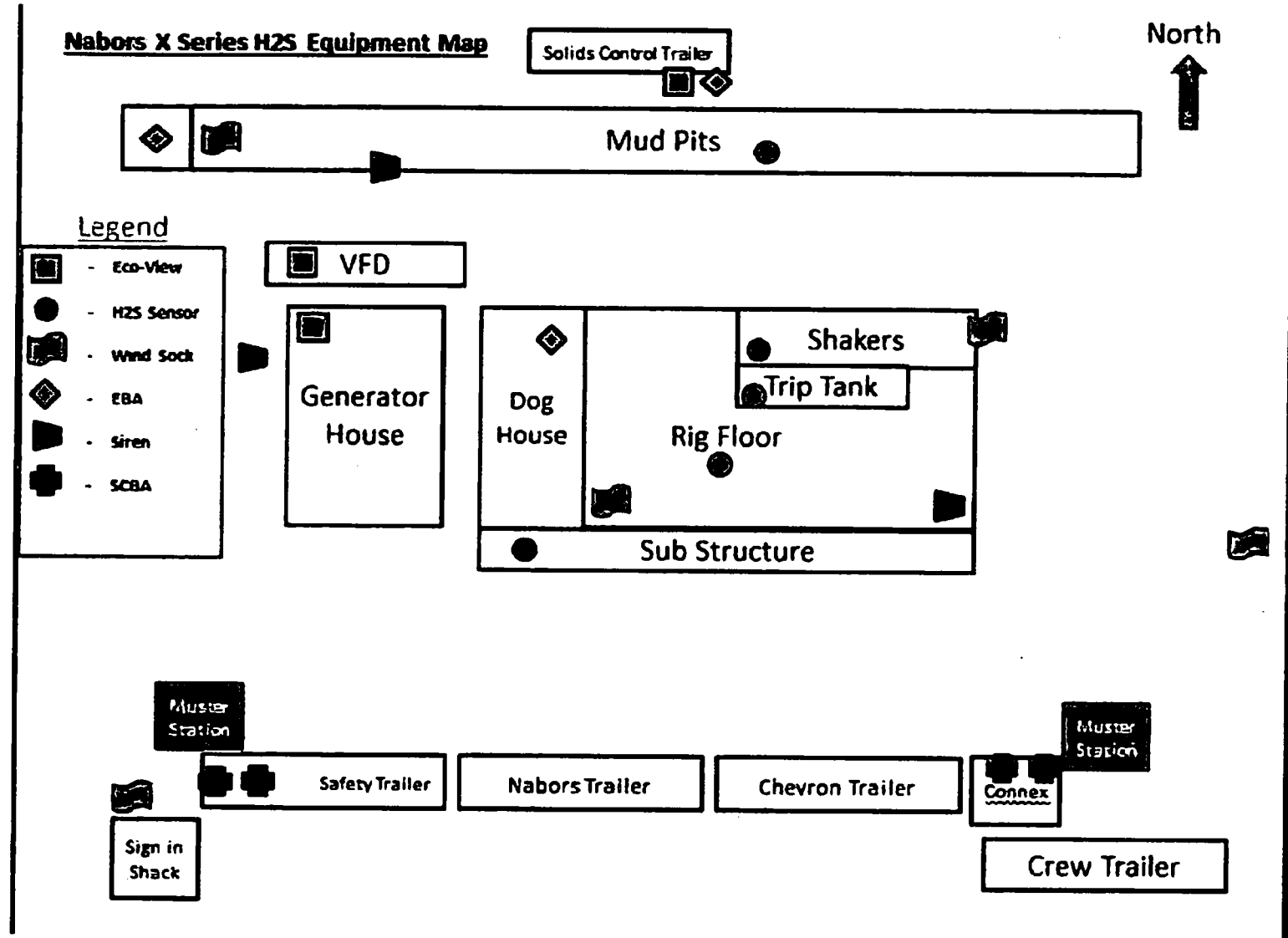
In the event of drilling, completions, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater the following shall be considered:

- 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





Project: Eddy County, NM (NAD27 NME)
Site: HH SO 8 5 Fed 003
Well: 6H
Wellbore: OH
Design: Plan 1 06-16-17
Rig: Patterson 815

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well 6H, Grid North

Latitude: 32° 2' 53.72160 N
Longitude: 104° 12' 46.53360 W

Grid East: 537306.08
Grid North: 381301.66
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 15-Jun-17
Magnetic Declination: 7.42°
Dip Angle from Horizontal: 59.77°
Magnetic Field Strength: 47992
To convert a Magnetic Direction to a Grid Direction, Add 7.35°
To convert a Magnetic Direction to a True Direction, Add 7.42° East
To convert a True Direction to a Grid Direction, Subtract 0.06°

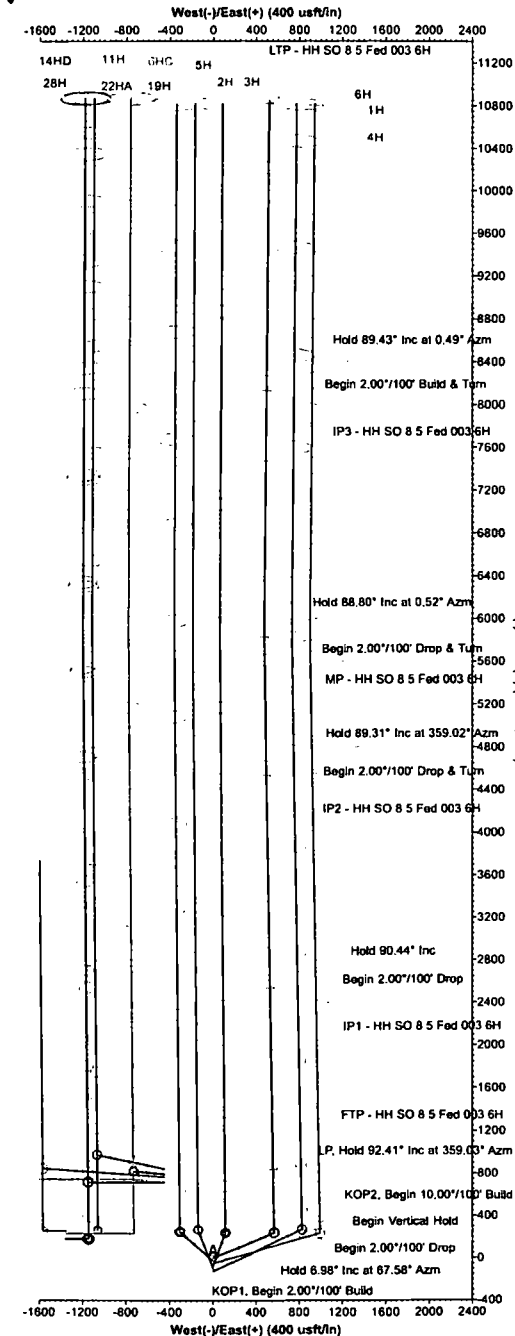
LEGEND

- 27H, OH, Plan 2 11-17-16 V0
- 5HC, OH / Job #81218, Plan 3 06-09-17 V0
- 22HA, OH / Job #61217, Plan 4 06-09-17 V0
- 14HD, ST01 / Job #61221, Plan 4 06-09-17 V0
- 14HD, OH / Job #61221, Plan 3 05-10-17 V0
- 11H, OH, Plan 1 11-01-16 V0
- 19H, OH, Plan 2 11-17-16 V0
- 2H, OH, Plan 1 06-16-17 V0
- 3H, OH, Plan 1 06-16-17 V0
- 28H, OH, Plan 2 11-17-16 V0
- 6HC, OH / Job #61219, Plan 3 06-09-17 V0
- 4H, OH, Plan 1 06-16-17 V0
- 5H, OH, Plan 1 06-16-17 V0
- 1H, OH, Plan 1 06-16-17 V0
- 20H, OH, Plan 2 11-17-16 V0
- Plan 1 06-16-17

PHOENIX
TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.06°
Magnetic North: 7.35°

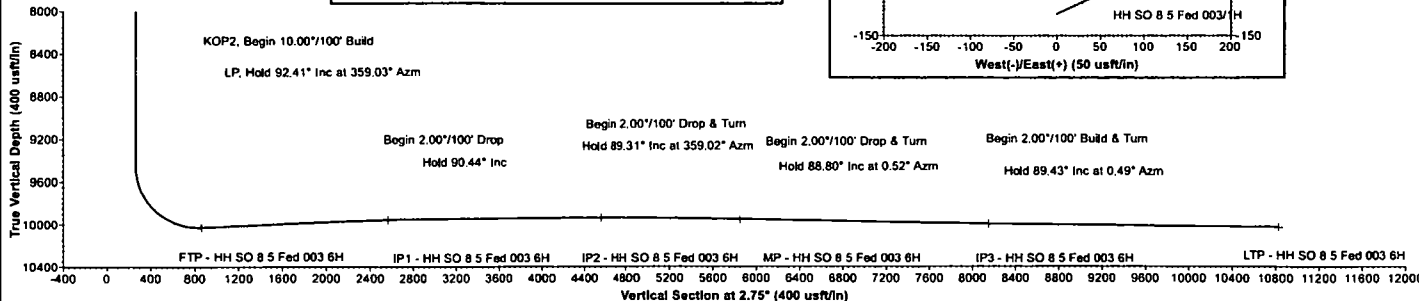
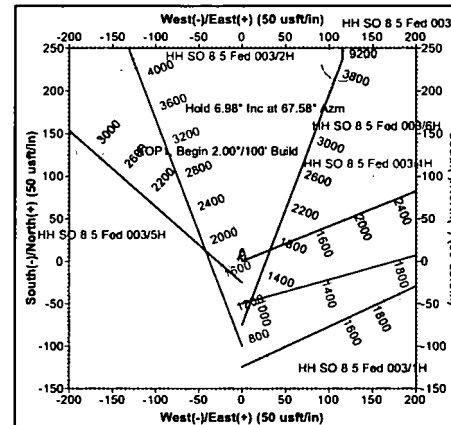
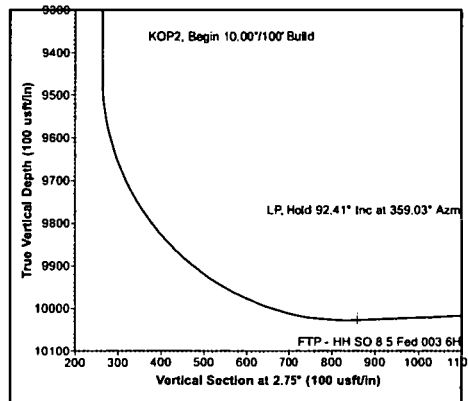
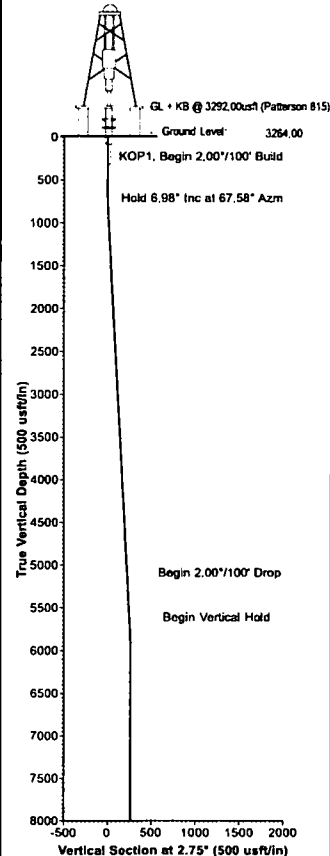
Magnetic Field
Strength: 47992.2nT
Dip Angle: 59.77°
Date: 8/15/2017
Model: HDGM



WELL DETAILS						
	Ground Level:	3264.00				
+N/S	+E/W	Northing	Eastings	Latitude	Longitude	
0.00	0.00	381301.66	537306.08	32° 2' 53.72160 N	104° 12' 46.53360 W	

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSec	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	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
3	949.14	6.98	67.58	948.28	8.11	19.64	2.00	67.58	9.04		Hold 6.98' Inc at 67.58° Azm
4	5687.73	6.98	67.58	5651.72	227.85	552.17	0.00	0.00	254.09		Begin 2.00'/100' Drop
5	6036.88	0.00	0.00	6000.00	235.95	571.81	2.00	180.00	263.13		Begin Vertical Hold
6	9492.43	0.00	0.00	9455.55	235.95	571.81	0.00	0.00	263.13		KOP2, Begin 10.00'/100' Build
7	10416.56	92.41	359.03	10028.00	832.95	581.72	10.00	359.03	858.96		LP, Hold 92.41' Inc at 359.03° Azm
8	12126.47	92.41	359.03	9956.00	2541.10	532.83	0.00	0.00	2563.75		IP1 - HH SO 8 5 Fed 003 6H
9	12225.15	90.44	359.03	9953.54	2639.73	531.15	2.00	-179.88	2662.19		Hold 90.44' Inc
10	14120.58	90.44	359.03	9939.00	4534.83	498.97	0.00	0.00	4553.56		IP2 - HH SO 8 5 Fed 003 6H
11	14178.96	89.31	359.02	9939.12	4591.20	498.01	2.00	-179.49	4609.81		Hold 89.31' Inc at 359.02° Azm
12	15416.19	89.31	359.02	9954.00	5830.16	476.75	0.00	0.00	5846.32		MP - HH SO 8 5 Fed 003 6H
13	15495.79	88.80	0.52	9955.31	5909.75	476.43	2.00	108.88	5925.81		Hold 88.80' Inc at 0.52° Azm
14	17719.78	88.80	0.52	10002.00	8133.15	496.76	0.00	0.00	8147.62		IP3 - HH SO 8 5 Fed 003 6H
15	17751.31	89.43	0.49	10002.49	8164.68	497.04	2.00	-3.00	8179.12		Hold 89.43' Inc at 0.49° Azm
16	20401.69	89.43	0.49	10029.00	10814.83	519.75	0.00	0.00	10827.31		LTP - HH SO 8 5 Fed 003 6H

DESIGN TARGET DETAILS											
Name	TVD	+N/S	+E/W	Northing	Eastings	Latitude	Longitude				
IP2 - HH SO 8 5 Fed 003 6H	9939.00	4534.83	498.97	385836.49	537805.06	32° 3' 38.59560 N	104° 12' 40.67640 W				
MP - HH SO 8 5 Fed 003 6H	9954.00	5830.16	476.75	387131.82	537782.84	32° 3' 51.41520 N	104° 12' 40.91760 W				
IP1 - HH SO 8 5 Fed 003 6H	9956.00	2541.10	532.83	383842.76	537838.91	32° 3' 18.86400 N	104° 12' 40.30920 W				
IP3 - HH SO 8 5 Fed 003 6H	10002.00	8133.15	496.76	389434.81	537807.85	32° 4' 14.20680 N	104° 12' 40.65480 W				
FTP - HH SO 8 5 Fed 003 6H	10028.00	832.91	561.71	382134.58	537867.80	32° 3' 1.95840 N	104° 12' 39.99600 W				
LTP - HH SO 8 5 Fed 003 6H	10029.00	10814.83	519.75	392116.49	537825.83	32° 4' 40.74600 N	104° 12' 40.35240 W				





NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 17 2018

RECEIVED

Chevron

Eddy County, NM (NAD27 NME)

HH SO 8 5 Fed 003

6H

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: 6H
Wellbore: OH
Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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
From:	Lat/Long	Easting:	537,305.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 52.48680 N
		Longitude:	104° 12' 46.54080 W
		Grid Convergence:	0.06 °

Well	6H		
Well Position	+N/-S	124.77 usft	Northing:
	+E/-W	0.48 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 2' 53.72160 N
		Longitude:	104° 12' 46.53360 W
		Ground Level:	3,264.00 usft

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

Design	Plan 1 06-16-17		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			2.75

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		
949.14	6.98	67.58	948.28	8.11	19.64	2.00	2.00	0.00	67.58		
5,687.73	6.98	67.58	5,651.72	227.85	552.17	0.00	0.00	0.00	0.00		
6,036.88	0.00	0.00	6,000.00	235.95	571.81	2.00	-2.00	0.00	180.00		
9,492.43	0.00	0.00	9,455.55	235.95	571.81	0.00	0.00	0.00	0.00		
10,416.56	92.41	359.03	10,028.00	832.95	561.72	10.00	10.00	0.00	359.03		
12,126.47	92.41	359.03	9,956.00	2,541.10	532.83	0.00	0.00	0.00	0.00	IP1 - HH SO 8 5 Fe	
12,225.15	90.44	359.03	9,953.54	2,639.73	531.15	2.00	-2.00	0.00	-179.88		
14,120.58	90.44	359.03	9,939.00	4,534.83	498.97	0.00	0.00	0.00	0.00	IP2 - HH SO 8 5 Fe	
14,176.96	89.31	359.02	9,939.12	4,591.20	498.01	2.00	-2.00	-0.02	-179.49		
15,416.19	89.31	359.02	9,954.00	5,830.16	476.75	0.00	0.00	0.00	0.00	MP - HH SO 8 5 Fe	
15,495.79	88.80	0.52	9,955.31	5,909.75	476.43	2.00	-0.65	1.89	108.88		
17,719.78	88.80	0.52	10,002.00	8,133.15	496.76	0.00	0.00	0.00	0.00	IP3 - HH SO 8 5 Fe	
17,751.31	89.43	0.49	10,002.49	8,164.68	497.04	2.00	2.00	-0.10	-3.00		
20,401.69	89.43	0.49	10,029.00	10,814.83	519.75	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: 6H
 Wellbore: OH
 Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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	67.58	699.98	0.67	1.61	0.74	2.00	2.00	0.00
800.00	4.00	67.58	799.84	2.66	6.45	2.97	2.00	2.00	0.00
900.00	6.00	67.58	899.45	5.99	14.51	6.68	2.00	2.00	0.00
949.14	6.98	67.58	948.28	8.11	19.64	9.04	2.00	2.00	0.00
Hold 6.98° Inc at 67.58° Azm									
1,000.00	6.98	67.58	998.76	10.46	25.36	11.67	0.00	0.00	0.00
1,100.00	6.98	67.58	1,098.02	15.10	36.60	16.84	0.00	0.00	0.00
1,200.00	6.98	67.58	1,197.28	19.74	47.83	22.01	0.00	0.00	0.00
1,300.00	6.98	67.58	1,296.53	24.38	59.07	27.18	0.00	0.00	0.00
1,400.00	6.98	67.58	1,395.79	29.01	70.31	32.35	0.00	0.00	0.00
1,500.00	6.98	67.58	1,495.05	33.65	81.55	37.53	0.00	0.00	0.00
1,600.00	6.98	67.58	1,594.31	38.29	92.79	42.70	0.00	0.00	0.00
1,700.00	6.98	67.58	1,693.57	42.92	104.02	47.87	0.00	0.00	0.00
1,800.00	6.98	67.58	1,792.83	47.56	115.26	53.04	0.00	0.00	0.00
1,900.00	6.98	67.58	1,892.08	52.20	126.50	58.21	0.00	0.00	0.00
2,000.00	6.98	67.58	1,991.34	56.84	137.74	63.38	0.00	0.00	0.00
2,100.00	6.98	67.58	2,090.60	61.47	148.98	68.55	0.00	0.00	0.00
2,200.00	6.98	67.58	2,189.86	66.11	160.22	73.73	0.00	0.00	0.00
2,300.00	6.98	67.58	2,289.12	70.75	171.45	78.90	0.00	0.00	0.00
2,400.00	6.98	67.58	2,388.37	75.39	182.69	84.07	0.00	0.00	0.00
2,500.00	6.98	67.58	2,487.63	80.02	193.93	89.24	0.00	0.00	0.00
2,600.00	6.98	67.58	2,586.89	84.66	205.17	94.41	0.00	0.00	0.00
2,700.00	6.98	67.58	2,686.15	89.30	216.41	99.58	0.00	0.00	0.00
2,800.00	6.98	67.58	2,785.41	93.94	227.64	104.75	0.00	0.00	0.00
2,900.00	6.98	67.58	2,884.67	98.57	238.88	109.93	0.00	0.00	0.00
3,000.00	6.98	67.58	2,983.92	103.21	250.12	115.10	0.00	0.00	0.00
3,100.00	6.98	67.58	3,083.18	107.85	261.36	120.27	0.00	0.00	0.00
3,200.00	6.98	67.58	3,182.44	112.48	272.60	125.44	0.00	0.00	0.00
3,300.00	6.98	67.58	3,281.70	117.12	283.83	130.61	0.00	0.00	0.00
3,400.00	6.98	67.58	3,380.96	121.76	295.07	135.78	0.00	0.00	0.00
3,500.00	6.98	67.58	3,480.22	126.40	306.31	140.95	0.00	0.00	0.00
3,600.00	6.98	67.58	3,579.47	131.03	317.55	146.13	0.00	0.00	0.00
3,700.00	6.98	67.58	3,678.73	135.67	328.79	151.30	0.00	0.00	0.00
3,800.00	6.98	67.58	3,777.99	140.31	340.02	156.47	0.00	0.00	0.00
3,900.00	6.98	67.58	3,877.25	144.95	351.26	161.64	0.00	0.00	0.00
4,000.00	6.98	67.58	3,976.51	149.58	362.50	166.81	0.00	0.00	0.00
4,100.00	6.98	67.58	4,075.77	154.22	373.74	171.98	0.00	0.00	0.00
4,200.00	6.98	67.58	4,175.02	158.86	384.98	177.15	0.00	0.00	0.00
4,300.00	6.98	67.58	4,274.28	163.49	396.22	182.33	0.00	0.00	0.00
4,400.00	6.98	67.58	4,373.54	168.13	407.45	187.50	0.00	0.00	0.00
4,500.00	6.98	67.58	4,472.80	172.77	418.69	192.67	0.00	0.00	0.00
4,600.00	6.98	67.58	4,572.06	177.41	429.93	197.84	0.00	0.00	0.00
4,700.00	6.98	67.58	4,671.31	182.04	441.17	203.01	0.00	0.00	0.00
4,800.00	6.98	67.58	4,770.57	186.68	452.41	208.18	0.00	0.00	0.00
4,900.00	6.98	67.58	4,869.83	191.32	463.64	213.35	0.00	0.00	0.00
5,000.00	6.98	67.58	4,969.09	195.96	474.88	218.53	0.00	0.00	0.00
5,100.00	6.98	67.58	5,068.35	200.59	486.12	223.70	0.00	0.00	0.00
5,200.00	6.98	67.58	5,167.61	205.23	497.36	228.87	0.00	0.00	0.00
5,300.00	6.98	67.58	5,266.86	209.87	508.60	234.04	0.00	0.00	0.00
5,400.00	6.98	67.58	5,366.12	214.50	519.83	239.21	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: 6H
 Wellbore: OH
 Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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)
5,500.00	6.98	67.58	5,465.38	219.14	531.07	244.38	0.00	0.00	0.00
5,600.00	6.98	67.58	5,564.64	223.78	542.31	249.55	0.00	0.00	0.00
5,687.73	6.98	67.58	5,651.72	227.85	552.17	254.09	0.00	0.00	0.00
Begin 2.00°/100' Drop									
5,700.00	6.74	67.58	5,663.90	228.41	553.52	254.71	2.00	-2.00	0.00
5,800.00	4.74	67.58	5,763.39	232.22	562.77	258.97	2.00	-2.00	0.00
5,900.00	2.74	67.58	5,863.18	234.71	568.79	261.74	2.00	-2.00	0.00
6,000.00	0.74	67.58	5,963.13	235.86	571.59	263.03	2.00	-2.00	0.00
6,036.88	0.00	0.00	6,000.00	235.95	571.81	263.13	2.00	-2.00	0.00
Begin Vertical Hold									
9,492.43	0.00	0.00	9,455.55	235.95	571.81	263.13	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
9,500.00	0.76	359.03	9,463.12	236.00	571.81	263.18	10.00	10.00	0.00
9,600.00	10.76	359.03	9,562.49	246.02	571.64	273.18	10.00	10.00	0.00
9,700.00	20.76	359.03	9,658.61	273.14	571.18	300.24	10.00	10.00	0.00
9,800.00	30.76	359.03	9,748.56	316.53	570.45	343.55	10.00	10.00	0.00
9,900.00	40.76	359.03	9,829.61	374.89	569.46	401.79	10.00	10.00	0.00
10,000.00	50.76	359.03	9,899.29	446.42	568.25	473.19	10.00	10.00	0.00
10,100.00	60.76	359.03	9,955.49	528.97	566.86	555.58	10.00	10.00	0.00
10,200.00	70.76	359.03	9,996.50	620.03	565.32	646.45	10.00	10.00	0.00
10,300.00	80.76	359.03	10,021.07	716.82	563.68	743.05	10.00	10.00	0.00
10,400.00	90.76	359.03	10,028.46	816.40	562.00	842.44	10.00	10.00	0.00
10,416.56	92.41	359.03	10,028.00	832.95	561.72	858.96	10.00	10.00	0.00
LP, Hold 92.41° Inc at 359.03° Azm									
10,500.00	92.41	359.03	10,024.49	916.31	560.31	942.15	0.00	0.00	0.00
10,600.00	92.41	359.03	10,020.28	1,016.20	558.62	1,041.85	0.00	0.00	0.00
10,700.00	92.41	359.03	10,016.07	1,116.10	556.93	1,141.55	0.00	0.00	0.00
10,800.00	92.41	359.03	10,011.85	1,216.00	555.24	1,241.25	0.00	0.00	0.00
10,900.00	92.41	359.03	10,007.64	1,315.89	553.55	1,340.95	0.00	0.00	0.00
11,000.00	92.41	359.03	10,003.43	1,415.79	551.86	1,440.65	0.00	0.00	0.00
11,100.00	92.41	359.03	9,999.22	1,515.69	550.17	1,540.35	0.00	0.00	0.00
11,200.00	92.41	359.03	9,995.01	1,615.59	548.48	1,640.05	0.00	0.00	0.00
11,300.00	92.41	359.03	9,990.80	1,715.48	546.79	1,739.75	0.00	0.00	0.00
11,400.00	92.41	359.03	9,986.59	1,815.38	545.10	1,839.45	0.00	0.00	0.00
11,500.00	92.41	359.03	9,982.38	1,915.28	543.41	1,939.15	0.00	0.00	0.00
11,600.00	92.41	359.03	9,978.17	2,015.17	541.72	2,038.85	0.00	0.00	0.00
11,700.00	92.41	359.03	9,973.96	2,115.07	540.03	2,138.56	0.00	0.00	0.00
11,800.00	92.41	359.03	9,969.75	2,214.97	538.34	2,238.26	0.00	0.00	0.00
11,900.00	92.41	359.03	9,965.54	2,314.86	536.65	2,337.96	0.00	0.00	0.00
12,000.00	92.41	359.03	9,961.33	2,414.76	534.96	2,437.66	0.00	0.00	0.00
12,100.00	92.41	359.03	9,957.11	2,514.66	533.27	2,537.36	0.00	0.00	0.00
12,126.47	92.41	359.03	9,956.00	2,541.10	532.83	2,563.75	0.00	0.00	0.00
Begin 2.00°/100' Drop									
12,200.00	90.94	359.03	9,953.85	2,614.59	531.58	2,637.09	2.00	-2.00	0.00
12,225.15	90.44	359.03	9,953.54	2,639.73	531.15	2,662.19	2.00	-2.00	0.00
Hold 90.44° Inc									
12,300.00	90.44	359.03	9,952.97	2,714.57	529.88	2,736.88	0.00	0.00	0.00
12,400.00	90.44	359.03	9,952.20	2,814.55	528.19	2,836.66	0.00	0.00	0.00
12,500.00	90.44	359.03	9,951.43	2,914.53	526.49	2,936.45	0.00	0.00	0.00
12,600.00	90.44	359.03	9,950.67	3,014.52	524.79	3,036.23	0.00	0.00	0.00
12,700.00	90.44	359.03	9,949.90	3,114.50	523.09	3,136.02	0.00	0.00	0.00
12,800.00	90.44	359.03	9,949.13	3,214.48	521.39	3,235.80	0.00	0.00	0.00
12,900.00	90.44	359.03	9,948.37	3,314.46	519.70	3,335.59	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: 6H
 Wellbore: OH
 Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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)
13,000.00	90.44	359.03	9,947.60	3,414.45	518.00	3,435.38	0.00	0.00	0.00
13,100.00	90.44	359.03	9,946.83	3,514.43	516.30	3,535.16	0.00	0.00	0.00
13,200.00	90.44	359.03	9,946.06	3,614.41	514.60	3,634.95	0.00	0.00	0.00
13,300.00	90.44	359.03	9,945.30	3,714.40	512.90	3,734.73	0.00	0.00	0.00
13,400.00	90.44	359.03	9,944.53	3,814.38	511.21	3,834.52	0.00	0.00	0.00
13,500.00	90.44	359.03	9,943.76	3,914.36	509.51	3,934.31	0.00	0.00	0.00
13,600.00	90.44	359.03	9,942.99	4,014.34	507.81	4,034.09	0.00	0.00	0.00
13,700.00	90.44	359.03	9,942.23	4,114.33	506.11	4,133.88	0.00	0.00	0.00
13,800.00	90.44	359.03	9,941.46	4,214.31	504.42	4,233.66	0.00	0.00	0.00
13,900.00	90.44	359.03	9,940.69	4,314.29	502.72	4,333.45	0.00	0.00	0.00
14,000.00	90.44	359.03	9,939.93	4,414.27	501.02	4,433.24	0.00	0.00	0.00
14,100.00	90.44	359.03	9,939.16	4,514.26	499.32	4,533.02	0.00	0.00	0.00
14,120.58	90.44	359.03	9,939.00	4,534.83	498.97	4,553.56	0.00	0.00	0.00
Begin 2.00°/100' Drop & Turn									
14,176.96	89.31	359.02	9,939.12	4,591.20	498.01	4,609.81	2.00	-2.00	-0.02
Hold 89.31° Inc at 359.02° Azm									
14,200.00	89.31	359.02	9,939.40	4,614.24	497.61	4,632.81	0.00	0.00	0.00
14,300.00	89.31	359.02	9,940.60	4,714.22	495.90	4,732.59	0.00	0.00	0.00
14,400.00	89.31	359.02	9,941.80	4,814.19	494.18	4,832.37	0.00	0.00	0.00
14,500.00	89.31	359.02	9,943.00	4,914.17	492.47	4,932.15	0.00	0.00	0.00
14,600.00	89.31	359.02	9,944.20	5,014.15	490.75	5,031.93	0.00	0.00	0.00
14,700.00	89.31	359.02	9,945.40	5,114.13	489.04	5,131.71	0.00	0.00	0.00
14,800.00	89.31	359.02	9,946.60	5,214.11	487.32	5,231.49	0.00	0.00	0.00
14,900.00	89.31	359.02	9,947.80	5,314.09	485.61	5,331.27	0.00	0.00	0.00
15,000.00	89.31	359.02	9,949.00	5,414.06	483.89	5,431.05	0.00	0.00	0.00
15,100.00	89.31	359.02	9,950.20	5,514.04	482.18	5,530.83	0.00	0.00	0.00
15,200.00	89.31	359.02	9,951.40	5,614.02	480.46	5,630.61	0.00	0.00	0.00
15,300.00	89.31	359.02	9,952.61	5,714.00	478.75	5,730.39	0.00	0.00	0.00
15,400.00	89.31	359.02	9,953.81	5,813.98	477.03	5,830.17	0.00	0.00	0.00
15,416.19	89.31	359.02	9,954.00	5,830.16	476.75	5,846.32	0.00	0.00	0.00
Begin 2.00°/100' Drop & Turn									
15,495.79	88.80	0.52	9,955.31	5,909.75	476.43	5,925.81	2.00	-0.65	1.89
Hold 88.80° Inc at 0.52° Azm									
15,500.00	88.80	0.52	9,955.40	5,913.96	476.47	5,930.01	0.00	0.00	0.00
15,600.00	88.80	0.52	9,957.50	6,013.93	477.39	6,029.91	0.00	0.00	0.00
15,700.00	88.80	0.52	9,959.60	6,113.90	478.30	6,129.82	0.00	0.00	0.00
15,800.00	88.80	0.52	9,961.70	6,213.88	479.21	6,229.72	0.00	0.00	0.00
15,900.00	88.80	0.52	9,963.80	6,313.85	480.13	6,329.62	0.00	0.00	0.00
16,000.00	88.80	0.52	9,965.90	6,413.83	481.04	6,429.52	0.00	0.00	0.00
16,100.00	88.80	0.52	9,968.00	6,513.80	481.96	6,529.43	0.00	0.00	0.00
16,200.00	88.80	0.52	9,970.10	6,613.77	482.87	6,629.33	0.00	0.00	0.00
16,300.00	88.80	0.52	9,972.20	6,713.75	483.78	6,729.23	0.00	0.00	0.00
16,400.00	88.80	0.52	9,974.30	6,813.72	484.70	6,829.13	0.00	0.00	0.00
16,500.00	88.80	0.52	9,976.39	6,913.69	485.61	6,929.04	0.00	0.00	0.00
16,600.00	88.80	0.52	9,978.49	7,013.67	486.53	7,028.94	0.00	0.00	0.00
16,700.00	88.80	0.52	9,980.59	7,113.64	487.44	7,128.84	0.00	0.00	0.00
16,800.00	88.80	0.52	9,982.69	7,213.62	488.35	7,228.74	0.00	0.00	0.00
16,900.00	88.80	0.52	9,984.79	7,313.59	489.27	7,328.65	0.00	0.00	0.00
17,000.00	88.80	0.52	9,986.89	7,413.56	490.18	7,428.55	0.00	0.00	0.00
17,100.00	88.80	0.52	9,988.99	7,513.54	491.10	7,528.45	0.00	0.00	0.00
17,200.00	88.80	0.52	9,991.09	7,613.51	492.01	7,628.35	0.00	0.00	0.00
17,300.00	88.80	0.52	9,993.19	7,713.48	492.92	7,728.25	0.00	0.00	0.00
17,400.00	88.80	0.52	9,995.29	7,813.46	493.84	7,828.16	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: 6H
 Wellbore: OH
 Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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)
17,500.00	88.80	0.52	9,997.39	7,913.43	494.75	7,928.06	0.00	0.00	0.00
17,600.00	88.80	0.52	9,999.49	8,013.41	495.67	8,027.96	0.00	0.00	0.00
17,700.00	88.80	0.52	10,001.59	8,113.38	496.58	8,127.86	0.00	0.00	0.00
17,719.78	88.80	0.52	10,002.00	8,133.15	496.76	8,147.62	0.00	0.00	0.00
Begin 2.00°/100° Build & Turn									
17,751.31	89.43	0.49	10,002.49	8,164.68	497.04	8,179.12	2.00	2.00	-0.10
Hold 89.43° Inc at 0.49° Azm									
17,800.00	89.43	0.49	10,002.98	8,213.37	497.46	8,227.78	0.00	0.00	0.00
17,900.00	89.43	0.49	10,003.98	8,313.36	498.31	8,327.69	0.00	0.00	0.00
18,000.00	89.43	0.49	10,004.98	8,413.35	499.17	8,427.61	0.00	0.00	0.00
18,100.00	89.43	0.49	10,005.98	8,513.34	500.03	8,527.53	0.00	0.00	0.00
18,200.00	89.43	0.49	10,006.98	8,613.33	500.88	8,627.45	0.00	0.00	0.00
18,300.00	89.43	0.49	10,007.98	8,713.32	501.74	8,727.36	0.00	0.00	0.00
18,400.00	89.43	0.49	10,008.98	8,813.31	502.60	8,827.28	0.00	0.00	0.00
18,500.00	89.43	0.49	10,009.98	8,913.30	503.45	8,927.20	0.00	0.00	0.00
18,600.00	89.43	0.49	10,010.98	9,013.30	504.31	9,027.11	0.00	0.00	0.00
18,700.00	89.43	0.49	10,011.98	9,113.29	505.17	9,127.03	0.00	0.00	0.00
18,800.00	89.43	0.49	10,012.98	9,213.28	506.02	9,226.95	0.00	0.00	0.00
18,900.00	89.43	0.49	10,013.98	9,313.27	506.88	9,326.87	0.00	0.00	0.00
19,000.00	89.43	0.49	10,014.98	9,413.26	507.74	9,426.78	0.00	0.00	0.00
19,100.00	89.43	0.49	10,015.98	9,513.25	508.59	9,526.70	0.00	0.00	0.00
19,200.00	89.43	0.49	10,016.98	9,613.24	509.45	9,626.62	0.00	0.00	0.00
19,300.00	89.43	0.49	10,017.98	9,713.24	510.31	9,726.53	0.00	0.00	0.00
19,400.00	89.43	0.49	10,018.98	9,813.23	511.16	9,826.45	0.00	0.00	0.00
19,500.00	89.43	0.49	10,019.98	9,913.22	512.02	9,926.37	0.00	0.00	0.00
19,600.00	89.43	0.49	10,020.98	10,013.21	512.88	10,026.29	0.00	0.00	0.00
19,700.00	89.43	0.49	10,021.98	10,113.20	513.73	10,126.20	0.00	0.00	0.00
19,800.00	89.43	0.49	10,022.98	10,213.19	514.59	10,226.12	0.00	0.00	0.00
19,900.00	89.43	0.49	10,023.98	10,313.18	515.45	10,326.04	0.00	0.00	0.00
20,000.00	89.43	0.49	10,024.98	10,413.17	516.30	10,425.95	0.00	0.00	0.00
20,100.00	89.43	0.49	10,025.98	10,513.17	517.16	10,525.87	0.00	0.00	0.00
20,200.00	89.43	0.49	10,026.98	10,613.16	518.02	10,625.79	0.00	0.00	0.00
20,300.00	89.43	0.49	10,027.98	10,713.15	518.88	10,725.71	0.00	0.00	0.00
20,400.00	89.43	0.49	10,028.98	10,813.14	519.73	10,825.62	0.00	0.00	0.00
20,401.69	89.43	0.49	10,029.00	10,814.83	519.75	10,827.31	0.00	0.00	0.00
TD at 20401.69									



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: 6H
Wellbore: OH
Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (Patterson 815)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

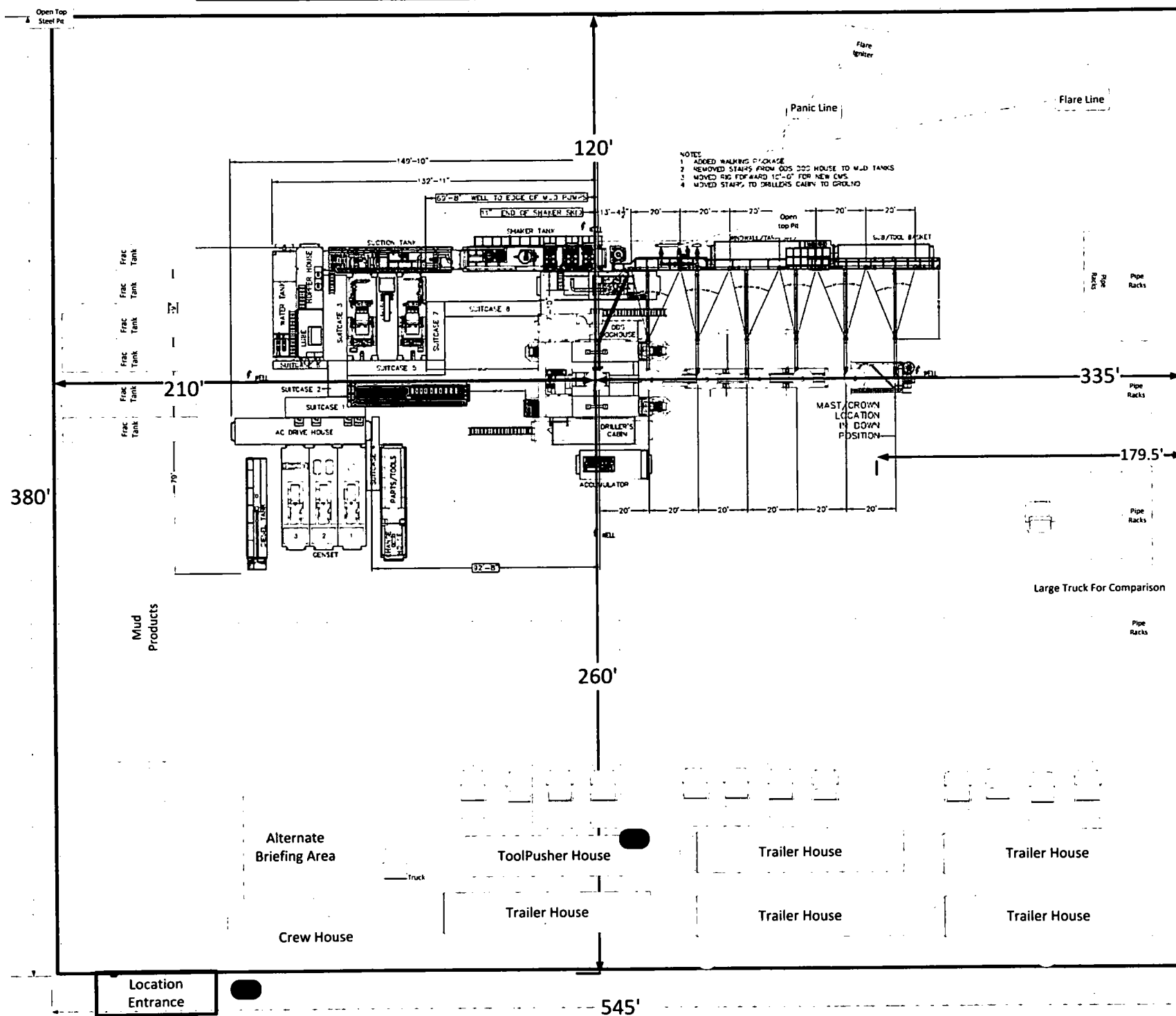
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
IP2 - HH SO 8 5 Fed 1 - plan hits target center - Point	0.00	0.00	9,939.00	4,534.83	498.97	385,836.49	537,805.06	32° 3' 38.59560 N 04° 12' 40.67640 W	
MP - HH SO 8 5 Fed 1 - plan hits target center - Point	0.00	0.00	9,954.00	5,830.16	476.75	387,131.82	537,782.84	32° 3' 51.41520 N 04° 12' 40.91760 W	
IP1 - HH SO 8 5 Fed 1 - plan hits target center - Point	0.00	0.00	9,956.00	2,541.10	532.83	383,842.76	537,838.91	32° 3' 18.86400 N 04° 12' 40.30920 W	
IP3 - HH SO 8 5 Fed 1 - plan hits target center - Point	0.00	0.00	10,002.00	8,133.15	496.76	389,434.81	537,802.85	32° 4' 14.20680 N 04° 12' 40.65480 W	
FTP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	10,028.00	832.91	561.71	382,134.57	537,867.80	32° 3' 1.95840 N 04° 12' 39.99600 W	
LTP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	10,029.00	10,814.83	519.75	392,116.49	537,825.83	32° 4' 40.74600 N 04° 12' 40.35240 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
949.14	948.28	8.11	19.64	Hold 6.98° Inc at 67.58° Azm
5,687.73	5,651.72	227.85	552.17	Begin 2.00°/100' Drop
6,036.88	6,000.00	235.95	571.81	Begin Vertical Hold
9,492.43	9,455.55	235.95	571.81	KOP2, Begin 10.00°/100' Build
10,416.56	10,028.00	832.95	561.72	LP, Hold 92.41° Inc at 359.03° Azm
12,126.47	9,956.00	2,541.10	532.83	Begin 2.00°/100' Drop
12,225.15	9,953.54	2,639.73	531.15	Hold 90.44° Inc
14,120.58	9,939.00	4,534.83	498.97	Begin 2.00°/100' Drop & Turn
14,176.96	9,939.12	4,591.20	498.01	Hold 89.31° Inc at 359.02° Azm
15,416.19	9,954.00	5,830.16	476.75	Begin 2.00°/100' Drop & Turn
15,495.79	9,955.31	5,909.75	476.43	Hold 88.80° Inc at 0.52° Azm
17,719.78	10,002.00	8,133.15	496.76	Begin 2.00°/100' Build & Turn
17,751.31	10,002.49	8,164.68	497.04	Hold 89.43° Inc at 0.49° Azm
20,401.69	10,029.00	10,814.83	519.75	TD at 20401.69

6 well pad Bi-lateral Patterson Mock Pad



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

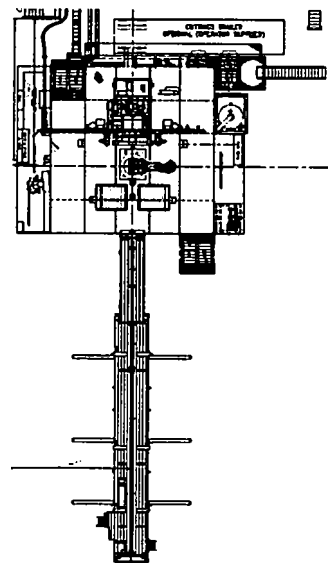
- H2S Monitor Locations
- Bop/Cellar
- Rig Floor
- Shaker Skid
- Bell Nipple

- Sign-in Shack
- Rig Floor
- Dog House

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

- 2 at Briefing Area
- 2 at Alternate Briefing Area

- Legend**
 **H2S Monitor**
 **Flag**





Chevron

**Eddy County, NM (NAD27 NME)
HH SO 8 5 Fed 003
6H**

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

**NM OIL CONSERVATION
ARTESIA DISTRICT**

JUL 17 2018

RECEIVED

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 6/15/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	20,401.58	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						
HH SO 8 5 Fed 003						
1H - OH - Plan 1 06-16-17	2,031.79	2,042.60	104.93	82.58	4.694	CC
1H - OH - Plan 1 06-16-17	2,300.00	2,310.26	106.32	80.80	4.166	ES
1H - OH - Plan 1 06-16-17	8,700.00	8,744.06	254.22	160.92	2.725	SF
2H - OH - Plan 1 06-16-17	970.58	980.96	91.87	82.07	9.372	CC, ES
2H - OH - Plan 1 06-16-17	20,401.69	19,416.71	1,083.52	725.16	3.024	SF
3H - OH - Plan 1 06-16-17	1,218.56	1,226.04	59.22	46.75	4.750	CC
3H - OH - Plan 1 06-16-17	1,300.00	1,307.14	59.69	46.35	4.473	ES
4H - OH - Plan 1 06-16-17	602.62	603.64	49.84	44.04	8.596	CC
4H - OH - Plan 1 06-16-17	1,200.00	1,203.15	53.82	41.47	4.357	ES
5H - OH - Plan 1 06-16-17	715.94	717.47	24.77	17.76	3.534	CC, ES
5H - OH - Plan 1 06-16-17	20,401.69	20,336.04	862.41	386.32	1.811	SF
HH SO 8 P2						
14HD - OH / Job #61221 - Plan 3 05-10-17	600.00	583.00	1,364.65	1,358.98	240.560	CC, ES
14HD - OH / Job #61221 - Plan 3 05-10-17	10,100.00	9,948.84	1,747.64	1,641.13	16.409	SF
14HD - ST01 / Job #61221 - Plan 4 06-09-17	600.00	583.00	1,364.65	1,358.98	240.560	CC
14HD - ST01 / Job #61221 - Plan 4 06-09-17	20,401.69	20,419.34	1,702.00	1,229.20	3.600	ES, SF
22HA - OH / Job #61217 - Plan 4 06-09-17	1,236.39	1,357.05	1,340.32	1,329.07	119.156	CC
22HA - OH / Job #61217 - Plan 4 06-09-17	1,800.00	1,913.00	1,342.02	1,324.69	77.470	ES
22HA - OH / Job #61217 - Plan 4 06-09-17	20,401.69	19,475.92	1,855.39	1,430.78	4.370	SF
5HC - OH / Job #61218 - Plan 3 06-09-17	600.00	581.00	1,377.39	1,371.73	243.267	CC, ES
5HC - OH / Job #61218 - Plan 3 06-09-17	20,401.69	20,002.78	2,155.18	1,690.03	4.633	SF
6HC - OH / Job #61219 - Plan 3 06-09-17	5,625.90	5,773.19	1,296.48	1,235.13	21.130	CC
6HC - OH / Job #61219 - Plan 3 06-09-17	20,401.69	20,097.65	1,321.95	862.30	2.876	ES, SF

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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
Offet Well - Wellbore - Design						
HH SO 8 P5						
11H - OH - Plan 1 11-01-16	600.00	593.00	947.93	942.20	165.531	CC
11H - OH - Plan 1 11-01-16	900.00	892.45	949.64	940.71	106.330	ES
11H - OH - Plan 1 11-01-16	20,401.69	18,690.80	1,870.39	1,456.26	4.516	SF
19H - OH - Plan 2 11-17-16	600.00	594.00	904.18	898.44	157.743	CC
19H - OH - Plan 2 11-17-16	20,401.69	19,356.52	1,334.59	888.72	2.993	ES, SF
20H - OH - Plan 2 11-17-16	600.00	594.00	882.55	876.82	153.970	CC
20H - OH - Plan 2 11-17-16	800.00	793.84	883.56	875.69	112.348	ES
20H - OH - Plan 2 11-17-16	20,401.69	19,494.01	2,145.34	1,688.16	4.693	SF
27H - OH - Plan 2 11-17-16	600.00	594.00	861.10	855.37	150.229	CC
27H - OH - Plan 2 11-17-16	800.00	793.84	862.22	854.35	109.634	ES
27H - OH - Plan 2 11-17-16	20,401.69	19,895.45	2,541.99	2,080.22	5.505	SF
28H - OH - Plan 2 11-17-16	600.00	594.00	839.86	834.12	146.522	CC
28H - OH - Plan 2 11-17-16	800.00	793.84	841.07	833.21	106.946	ES
28H - OH - Plan 2 11-17-16	20,401.69	19,883.06	1,702.71	1,241.27	3.690	SF

Offset Design HH SO 8 5 Fed 003 - 1H - OH - Plan 1 06-16-17

Survey Program: 0-MWD+HDGM

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)			
0.00	0.00	3.00	0.00	0.00	0.01	-179.78	-124.77	-0.48	124.77				
100.00	100.00	103.00	100.00	0.19	0.21	-179.78	-124.77	-0.48	124.77	124.37	0.40	309.390	
200.00	200.00	203.00	200.00	0.73	0.75	-179.78	-124.77	-0.48	124.77	123.29	1.48	84.379	
300.00	300.00	303.00	300.00	1.27	1.29	-179.78	-124.77	-0.48	124.77	122.22	2.55	48.851	
400.00	400.00	403.00	400.00	1.81	1.82	-179.78	-124.77	-0.48	124.77	121.14	3.63	34.377	
500.00	500.00	503.00	500.00	2.34	2.36	-179.78	-124.77	-0.48	124.77	120.07	4.70	26.519	
600.00	600.00	603.06	600.06	2.88	2.90	-179.78	-124.77	-0.48	124.77	118.99	5.78	21.585	
700.00	699.98	704.98	701.95	3.41	3.44	112.60	-123.94	1.26	124.63	117.77	6.85	18.186	
800.00	799.84	806.89	803.71	3.94	3.98	112.58	-121.56	6.26	124.28	116.36	7.92	15.689	
900.00	899.45	908.79	905.20	4.48	4.53	112.56	-117.63	14.53	123.75	114.74	9.01	13.738	
1,000.00	998.76	1,010.68	1,006.27	5.03	5.09	112.34	-112.14	26.05	122.84	112.72	10.12	12.143	
1,100.00	1,098.02	1,112.40	1,106.67	5.58	5.67	110.76	-105.13	40.79	120.62	109.37	11.25	10.721	
1,200.00	1,197.28	1,212.51	1,205.08	6.15	6.26	108.07	-97.23	57.39	117.62	105.22	12.40	9.483	
1,300.00	1,296.53	1,312.31	1,303.17	6.72	6.86	105.23	-89.33	74.00	114.88	101.30	13.57	8.464	
1,400.00	1,395.79	1,412.10	1,401.25	7.29	7.47	102.26	-81.43	90.60	112.43	97.67	14.76	7.619	
1,500.00	1,495.05	1,511.90	1,499.34	7.86	8.09	99.16	-73.53	107.21	110.30	94.34	15.95	6.915	
1,600.00	1,594.31	1,611.69	1,597.43	8.44	8.71	95.96	-65.63	123.81	108.50	91.34	17.15	6.325	
1,700.00	1,693.57	1,711.49	1,695.51	9.02	9.34	92.65	-57.73	140.42	107.05	88.69	18.36	5.831	
1,800.00	1,792.83	1,811.28	1,793.60	9.60	9.97	89.27	-49.83	157.02	105.97	86.40	19.57	5.416	
1,900.00	1,892.08	1,911.08	1,891.69	10.18	10.61	85.83	-41.93	173.63	105.27	84.50	20.77	5.067	
2,000.00	1,991.34	2,010.88	1,989.77	10.76	11.24	82.36	-34.03	190.23	104.95	82.98	21.97	4.776	
2,031.79	2,022.89	2,042.60	2,020.96	10.95	11.45	81.26	-31.52	195.51	104.93	82.58	22.35	4.694	CC
2,100.00	2,090.60	2,110.67	2,087.86	11.34	11.88	78.88	-26.13	206.84	105.02	81.85	23.17	4.533	
2,200.00	2,189.86	2,210.47	2,185.95	11.93	12.52	75.42	-18.23	223.44	105.48	81.13	24.35	4.332	
2,300.00	2,289.12	2,310.26	2,284.04	12.51	13.16	72.00	-10.33	240.04	106.32	80.80	25.52	4.166	ES
2,400.00	2,388.37	2,410.06	2,382.12	13.10	13.80	68.64	-2.43	256.65	107.54	80.85	26.68	4.030	
2,500.00	2,487.63	2,509.85	2,480.21	13.68	14.45	65.37	5.47	273.25	109.11	81.28	27.83	3.921	
2,600.00	2,586.89	2,609.65	2,578.30	14.27	15.09	62.21	13.37	289.86	111.03	82.07	28.97	3.833	
2,700.00	2,686.15	2,709.45	2,676.38	14.85	15.74	59.16	21.27	306.46	113.28	83.20	30.09	3.765	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 (°)	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)										
2,800.00	2,785.41	2,809.24	2,774.47	15.44	16.38	56.23	29.17	323.07	115.84	84.64	31.20	3.713			
2,900.00	2,884.67	2,909.04	2,872.56	16.03	17.03	53.44	37.07	339.67	118.69	86.39	32.31	3.674			
3,000.00	2,983.92	3,008.83	2,970.64	16.61	17.68	50.79	44.97	356.28	121.81	88.41	33.40	3.647			
3,100.00	3,083.18	3,108.63	3,068.73	17.20	18.33	48.27	52.87	372.88	125.17	90.68	34.49	3.629			
3,200.00	3,182.44	3,208.42	3,166.82	17.79	18.97	45.89	60.77	389.49	128.77	93.19	35.58	3.619			
3,300.00	3,281.70	3,308.22	3,264.90	18.38	19.62	43.64	68.67	406.09	132.57	95.91	36.66	3.616			
3,400.00	3,380.96	3,408.02	3,362.99	18.96	20.27	41.52	76.57	422.70	136.57	98.83	37.74	3.619			
3,500.00	3,480.22	3,507.81	3,461.08	19.55	20.92	39.52	84.48	439.30	140.75	101.93	38.82	3.626			
3,600.00	3,579.47	3,607.61	3,559.17	20.14	21.57	37.64	92.38	455.91	145.08	105.19	39.89	3.637			
3,700.00	3,678.73	3,707.40	3,657.25	20.73	22.22	35.87	100.28	472.51	149.57	108.60	40.97	3.651			
3,800.00	3,777.99	3,807.20	3,755.34	21.31	22.87	34.20	108.18	489.12	154.19	112.14	42.05	3.667			
3,900.00	3,877.25	3,906.99	3,853.43	21.90	23.52	32.63	116.08	505.72	158.93	115.80	43.13	3.685			
4,000.00	3,976.51	4,006.79	3,951.51	22.49	24.17	31.16	123.98	522.32	163.78	119.58	44.20	3.705			
4,100.00	4,075.77	4,106.59	4,049.60	23.08	24.82	29.77	131.88	538.93	168.74	123.45	45.28	3.726			
4,200.00	4,175.02	4,206.38	4,147.69	23.67	25.48	28.45	139.78	555.53	173.78	127.42	46.36	3.748			
4,300.00	4,274.28	4,306.18	4,245.77	24.26	26.13	27.22	147.68	572.14	178.92	131.47	47.45	3.771			
4,400.00	4,373.54	4,405.97	4,343.86	24.85	26.78	26.05	155.58	588.74	184.13	135.60	48.53	3.794			
4,500.00	4,472.80	4,505.77	4,441.95	25.43	27.43	24.95	163.48	605.35	189.42	139.80	49.62	3.818			
4,600.00	4,572.06	4,605.56	4,540.03	26.02	28.08	23.91	171.38	621.95	194.77	144.06	50.70	3.841			
4,700.00	4,671.31	4,705.36	4,638.12	26.61	28.73	22.92	179.28	638.56	200.18	148.39	51.79	3.865			
4,800.00	4,770.57	4,805.15	4,736.21	27.20	29.39	21.99	187.18	655.16	205.65	152.77	52.88	3.889			
4,900.00	4,869.83	4,904.95	4,834.30	27.79	30.04	21.10	195.08	671.77	211.17	157.19	53.97	3.912			
5,000.00	4,969.09	5,004.75	4,932.38	28.38	30.69	20.26	202.98	688.37	216.74	161.67	55.07	3.936			
5,100.00	5,068.35	5,104.54	5,030.47	28.97	31.34	19.46	210.88	704.98	222.35	166.19	56.16	3.959			
5,200.00	5,167.61	5,204.34	5,128.56	29.56	32.00	18.70	218.78	721.58	228.00	170.74	57.26	3.982			
5,300.00	5,266.86	5,304.13	5,226.64	30.15	32.65	17.98	226.68	738.19	233.69	175.34	58.36	4.005			
5,400.00	5,366.12	5,403.93	5,324.73	30.73	33.30	17.30	234.58	754.79	239.42	179.96	59.46	4.027			
5,500.00	5,465.38	5,503.72	5,422.82	31.32	33.95	16.64	242.48	771.40	245.18	184.62	60.56	4.049			
5,600.00	5,564.64	5,602.27	5,525.68	31.91	34.63	16.03	250.52	788.28	250.47	188.79	61.68	4.061			
5,700.00	5,663.90	5,717.31	5,633.54	32.50	35.29	15.68	257.34	805.63	252.61	189.78	62.83	4.021			
5,800.00	5,763.39	5,826.43	5,742.02	33.07	35.92	15.50	262.40	813.26	253.21	189.30	63.91	3.962			
5,900.00	5,863.18	5,935.59	5,850.91	33.62	36.49	15.38	265.69	820.16	253.57	188.68	64.90	3.907			
6,000.00	5,963.13	6,044.76	5,960.02	34.14	37.03	15.33	267.19	823.32	253.68	187.89	65.79	3.856			
6,100.00	6,063.12	6,147.87	6,063.12	34.63	37.50	82.90	267.29	823.53	253.66	186.89	66.77	3.799			
6,200.00	6,163.12	6,247.87	6,163.12	35.12	37.96	82.90	267.29	823.53	253.66	185.89	67.77	3.743			
6,300.00	6,263.12	6,347.87	6,263.12	35.61	38.41	82.90	267.29	823.53	253.66	184.88	68.78	3.688			
6,400.00	6,363.12	6,447.87	6,363.12	36.11	38.87	82.90	267.29	823.53	253.66	183.88	69.78	3.635			
6,500.00	6,463.12	6,547.87	6,463.12	36.60	39.33	82.90	267.29	823.53	253.66	182.87	70.79	3.583			
6,600.00	6,563.12	6,647.87	6,563.12	37.10	39.80	82.90	267.29	823.53	253.66	181.86	71.80	3.533			
6,700.00	6,663.12	6,747.87	6,663.12	37.59	40.26	82.90	267.29	823.53	253.66	180.85	72.81	3.484			
6,800.00	6,763.12	6,847.87	6,763.12	38.09	40.73	82.90	267.29	823.53	253.66	179.84	73.82	3.436			
6,900.00	6,863.12	6,947.87	6,863.12	38.59	41.20	82.90	267.29	823.53	253.66	178.82	74.84	3.389			
7,000.00	6,963.12	7,047.87	6,963.12	39.09	41.67	82.90	267.29	823.53	253.66	177.80	75.86	3.344			
7,100.00	7,063.12	7,147.87	7,063.12	39.59	42.14	82.90	267.29	823.53	253.66	176.79	76.88	3.300			
7,200.00	7,163.12	7,247.87	7,163.12	40.09	42.61	82.90	267.29	823.53	253.66	175.77	77.90	3.256			
7,300.00	7,263.12	7,347.87	7,263.12	40.59	43.09	82.90	267.29	823.53	253.66	174.74	78.92	3.214			
7,400.00	7,363.12	7,447.87	7,363.12	41.10	43.56	82.90	267.29	823.53	253.66	173.72	79.94	3.173			
7,500.00	7,463.12	7,547.87	7,463.12	41.60	44.04	82.90	267.29	823.53	253.66	172.70	80.96	3.133			
7,600.00	7,563.12	7,647.87	7,563.12	42.11	44.52	82.90	267.29	823.53	253.66	171.67	81.99	3.094			
7,700.00	7,663.12	7,747.87	7,663.12	42.61	45.00	82.90	267.29	823.53	253.66	170.65	83.02	3.056			
7,800.00	7,763.12	7,847.87	7,763.12	43.12	45.48	82.90	267.29	823.53	253.66	169.62	84.04	3.018			
7,900.00	7,863.12	7,947.87	7,863.12	43.63	45.97	82.90	267.29	823.53	253.66	168.59	85.07	2.982			

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 (°)	Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,000.00	7,963.12	8,047.87	7,963.12	44.14	46.45	82.90	267.29	823.53	253.66	167.56	86.10	2.946		
8,100.00	8,063.12	8,147.87	8,063.12	44.65	46.94	82.90	267.29	823.53	253.66	166.53	87.13	2.911		
8,200.00	8,163.12	8,247.87	8,163.12	45.16	47.42	82.90	267.29	823.53	253.66	165.49	88.17	2.877		
8,300.00	8,263.12	8,347.87	8,263.12	45.67	47.91	82.90	267.29	823.53	253.66	164.46	89.20	2.844		
8,400.00	8,363.12	8,447.87	8,363.12	46.18	48.40	82.90	267.29	823.53	253.66	163.43	90.23	2.811		
8,500.00	8,463.12	8,547.87	8,463.12	46.69	48.89	82.90	267.29	823.53	253.66	162.39	91.27	2.779		
8,600.00	8,563.12	8,647.87	8,563.12	47.20	49.38	82.90	267.29	823.53	253.66	161.36	92.31	2.748		
8,700.00	8,663.12	8,744.06	8,659.12	47.71	49.86	81.88	271.83	823.45	254.22	160.92	93.29	2.725 SF		
8,800.00	8,763.12	8,835.35	8,748.39	48.23	50.35	77.76	290.46	823.14	257.59	163.40	94.19	2.735		
8,900.00	8,863.12	8,918.89	8,826.55	48.74	50.80	71.53	319.72	822.64	266.96	171.91	95.05	2.809		
9,000.00	8,963.12	8,992.60	8,891.36	49.25	51.20	64.61	354.74	822.04	286.14	190.20	95.94	2.983		
9,100.00	9,063.12	9,050.00	8,938.39	49.77	51.51	58.73	387.60	821.48	317.64	220.83	96.81	3.281		
9,200.00	9,163.12	9,110.16	8,983.89	50.28	51.82	52.52	426.91	820.82	361.37	263.62	97.75	3.697		
9,300.00	9,263.12	9,150.00	9,011.65	50.80	52.04	48.55	455.47	820.33	416.16	317.60	98.57	4.222		
9,400.00	9,363.12	9,200.00	9,043.57	51.32	52.30	43.85	493.93	819.67	479.70	380.24	99.45	4.823		
9,500.00	9,463.12	9,227.78	9,059.81	51.83	52.45	41.85	516.46	819.29	550.06	449.74	100.32	5.483		
9,600.00	9,562.49	9,250.00	9,072.01	52.36	52.57	34.18	535.03	818.98	620.71	519.38	101.32	6.126		
9,700.00	9,658.61	9,300.00	9,096.76	52.89	52.84	27.68	578.45	818.24	685.51	585.58	99.93	6.860		
9,800.00	9,748.56	9,330.89	9,110.13	53.39	53.02	23.80	606.29	817.76	743.45	647.68	95.77	7.763		
9,900.00	9,829.61	9,368.26	9,124.26	53.87	53.23	20.95	640.87	817.18	793.49	704.25	89.24	8.892		
10,000.00	9,899.29	9,400.00	9,134.47	54.33	53.42	19.02	670.92	816.66	834.90	754.01	80.88	10.322		
10,100.00	9,955.49	9,450.00	9,147.14	54.79	53.73	17.57	719.26	815.84	866.97	795.42	71.55	12.118		
10,200.00	9,996.50	9,484.75	9,153.44	55.29	53.96	16.74	753.43	815.26	889.39	826.92	62.46	14.238		
10,300.00	10,021.07	9,524.37	9,158.08	55.84	54.22	16.28	792.76	814.59	901.93	846.50	55.42	16.273		
10,400.00	10,028.46	9,564.15	9,160.00	56.42	54.49	16.19	832.48	813.92	904.41	851.88	52.53	17.218		
10,500.00	10,024.49	9,663.86	9,161.33	57.08	55.22	16.31	932.17	812.22	899.30	845.70	53.60	16.778		
10,600.00	10,020.28	9,763.71	9,162.67	57.81	56.03	16.41	1,031.99	810.52	893.98	839.12	54.85	16.298		
10,700.00	10,016.07	9,863.55	9,164.01	58.62	56.92	16.51	1,131.81	808.82	888.65	832.45	56.20	15.812		
10,800.00	10,011.85	9,963.40	9,165.35	59.49	57.87	16.61	1,231.63	807.12	883.33	825.68	57.64	15.324		
10,900.00	10,007.64	10,063.25	9,166.69	60.43	58.90	16.71	1,331.46	805.43	878.01	818.83	59.17	14.838		
11,000.00	10,003.43	10,163.09	9,168.03	61.43	59.98	16.81	1,431.28	803.73	872.69	811.91	60.78	14.358		
11,100.00	9,999.22	10,262.94	9,169.36	62.49	61.13	16.92	1,531.10	802.03	867.37	804.91	62.46	13.886		
11,200.00	9,995.01	10,362.78	9,170.70	63.60	62.32	17.03	1,630.92	800.33	862.06	797.85	64.22	13.424		
11,300.00	9,990.80	10,462.63	9,172.04	64.77	63.57	17.14	1,730.75	798.63	856.75	790.72	66.04	12.974		
11,400.00	9,986.59	10,562.48	9,173.38	65.99	64.87	17.24	1,830.57	796.94	851.45	783.53	67.92	12.537		
11,500.00	9,982.38	10,662.32	9,174.72	67.26	66.22	17.36	1,930.39	795.24	846.14	776.29	69.85	12.113		
11,600.00	9,978.17	10,762.17	9,176.06	68.57	67.61	17.47	2,030.21	793.54	840.85	769.00	71.84	11.704		
11,700.00	9,973.96	10,862.01	9,177.40	69.92	69.03	17.58	2,130.04	791.84	835.55	761.67	73.88	11.309		
11,800.00	9,969.75	10,961.86	9,178.73	71.31	70.50	17.70	2,229.86	790.14	830.26	754.29	75.97	10.929		
11,900.00	9,965.54	11,061.70	9,180.07	72.74	72.00	17.81	2,329.68	788.44	824.97	746.87	78.10	10.563		
12,000.00	9,961.33	11,161.55	9,181.41	74.21	73.53	17.93	2,429.50	786.75	819.68	739.41	80.27	10.211		
12,100.00	9,957.11	11,261.40	9,182.75	75.71	75.09	18.05	2,529.33	785.05	814.40	731.91	82.49	9.873		
12,200.00	9,953.85	11,361.29	9,184.09	77.23	76.69	18.13	2,629.19	783.35	810.02	725.36	84.65	9.569		
12,300.00	9,952.97	11,461.26	9,185.43	78.78	78.31	18.18	2,729.14	781.65	807.91	721.09	86.82	9.305		
12,400.00	9,952.20	11,561.24	9,186.77	80.36	79.96	18.22	2,829.10	779.95	805.90	716.88	89.02	9.053		
12,500.00	9,951.43	11,661.22	9,188.11	81.96	81.63	18.27	2,929.05	778.25	803.90	712.65	91.25	8.810		
12,600.00	9,950.67	11,761.19	9,189.45	83.59	83.33	18.32	3,029.01	776.55	801.90	708.40	93.50	8.576		
12,700.00	9,949.90	11,861.17	9,190.79	85.24	85.04	18.36	3,128.96	774.85	799.90	704.12	95.78	8.352		
12,800.00	9,949.13	11,961.15	9,192.13	86.92	86.78	18.41	3,228.92	773.15	797.90	699.82	98.07	8.136		
12,900.00	9,948.37	12,061.13	9,193.47	88.62	88.53	18.46	3,328.87	771.45	795.89	695.50	100.39	7.928		
13,000.00	9,947.60	12,161.11	9,194.81	90.33	90.31	18.51	3,428.83	769.75	793.89	691.16	102.73	7.728		
13,100.00	9,946.83	12,261.08	9,196.15	92.07	92.10	18.56	3,528.78	768.05	791.90	686.81	105.09	7.535		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 (°)	Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,200.00	9,946.06	12,361.06	9,197.49	93.82	93.90	18.60	3,628.73	766.34	789.90	682.43	107.47	7.350		
13,300.00	9,945.30	12,461.04	9,198.83	95.59	95.72	18.65	3,728.69	764.64	787.90	678.04	109.86	7.172		
13,400.00	9,944.53	12,561.02	9,200.17	97.38	97.55	18.70	3,828.64	762.94	785.90	673.63	112.27	7.000		
13,500.00	9,943.76	12,660.99	9,201.52	99.18	99.40	18.75	3,928.60	761.24	783.90	669.21	114.69	6.835		
13,600.00	9,942.99	12,760.97	9,202.86	100.99	101.26	18.80	4,028.55	759.54	781.91	664.78	117.13	6.676		
13,700.00	9,942.23	12,860.95	9,204.20	102.82	103.13	18.85	4,128.51	757.84	779.91	660.33	119.58	6.522		
13,800.00	9,941.46	12,960.93	9,205.54	104.66	105.02	18.90	4,228.46	756.14	777.91	655.87	122.05	6.374		
13,900.00	9,940.69	13,060.91	9,206.88	106.52	106.91	18.95	4,328.41	754.44	775.92	651.39	124.52	6.231		
14,000.00	9,939.93	13,160.88	9,208.22	108.38	108.81	19.00	4,428.37	752.74	773.92	646.91	127.02	6.093		
14,100.00	9,939.16	13,260.86	9,209.56	110.26	110.73	19.05	4,528.32	751.04	771.93	642.41	129.52	5.960		
14,200.00	9,939.40	13,360.85	9,210.90	112.14	112.65	19.07	4,628.29	749.34	770.89	638.96	131.93	5.843		
14,300.00	9,940.60	13,460.85	9,212.24	114.04	114.58	19.08	4,728.27	747.64	770.77	636.40	134.37	5.736		
14,400.00	9,941.80	13,560.85	9,213.58	115.95	116.52	19.08	4,828.24	745.94	770.64	633.82	136.81	5.633		
14,500.00	9,943.00	13,660.85	9,214.92	117.86	118.47	19.09	4,928.22	744.24	770.51	631.24	139.27	5.533		
14,600.00	9,944.20	13,760.85	9,216.26	119.78	120.42	19.09	5,028.20	742.54	770.38	628.65	141.73	5.436		
14,700.00	9,945.40	13,860.85	9,217.60	121.72	122.38	19.10	5,128.17	740.84	770.25	626.06	144.20	5.342		
14,800.00	9,946.60	13,960.85	9,218.94	123.65	124.35	19.10	5,228.15	739.14	770.13	623.46	146.67	5.251		
14,900.00	9,947.80	14,060.85	9,220.28	125.60	126.32	19.11	5,328.13	737.43	770.00	620.85	149.15	5.163		
15,000.00	9,949.00	14,160.85	9,221.62	127.55	128.30	19.11	5,428.10	735.73	769.87	618.24	151.64	5.077		
15,100.00	9,950.20	14,260.85	9,222.96	129.51	130.29	19.11	5,528.08	734.03	769.74	615.62	154.13	4.994		
15,200.00	9,951.40	14,360.85	9,224.31	131.48	132.28	19.12	5,628.05	732.33	769.62	612.99	156.62	4.914		
15,300.00	9,952.61	14,460.85	9,225.65	133.45	134.28	19.12	5,728.03	730.63	769.49	610.36	159.13	4.836		
15,400.00	9,953.81	14,560.85	9,226.99	135.43	136.28	19.13	5,828.01	728.93	769.36	607.73	161.63	4.760		
15,500.00	9,955.00	14,671.09	9,229.83	137.41	138.49	19.14	5,938.20	728.61	768.51	604.18	164.33	4.677		
15,600.00	9,957.50	14,771.08	9,233.50	139.39	140.50	19.18	6,038.12	729.55	767.04	600.12	166.92	4.595		
15,700.00	9,959.60	14,871.07	9,237.16	141.38	142.51	19.22	6,138.04	730.48	765.57	596.05	169.51	4.516		
15,800.00	9,961.70	14,971.05	9,240.83	143.37	144.53	19.26	6,237.95	731.42	764.10	591.98	172.12	4.439		
15,900.00	9,963.80	15,071.04	9,244.49	145.37	146.55	19.30	6,337.87	732.35	762.63	587.90	174.72	4.365		
16,000.00	9,965.90	15,171.03	9,248.16	147.37	148.57	19.34	6,437.79	733.29	761.15	583.82	177.33	4.292		
16,100.00	9,968.00	15,271.02	9,251.82	149.37	150.60	19.38	6,537.70	734.23	759.68	579.73	179.95	4.222		
16,200.00	9,970.10	15,371.01	9,255.49	151.38	152.63	19.42	6,637.62	735.16	758.21	575.64	182.58	4.153		
16,300.00	9,972.20	15,470.99	9,259.15	153.39	154.66	19.46	6,737.53	736.10	756.75	571.54	185.21	4.086		
16,400.00	9,974.30	15,570.98	9,262.81	155.41	156.70	19.50	6,837.45	737.04	755.28	567.44	187.84	4.021		
16,500.00	9,976.39	15,670.97	9,266.48	157.43	158.74	19.54	6,937.37	737.97	753.81	563.33	190.48	3.957		
16,600.00	9,978.49	15,770.96	9,270.14	159.45	160.78	19.58	7,037.28	738.91	752.34	559.21	193.13	3.896		
16,700.00	9,980.59	15,870.94	9,273.81	161.48	162.82	19.63	7,137.20	739.85	750.87	555.10	195.78	3.835		
16,800.00	9,982.69	15,970.93	9,277.47	163.51	164.87	19.67	7,237.11	740.78	749.40	550.97	198.43	3.777		
16,900.00	9,984.79	16,070.92	9,281.14	165.54	166.92	19.71	7,337.03	741.72	747.94	546.85	201.09	3.719		
17,000.00	9,986.89	16,170.91	9,284.80	167.58	168.97	19.75	7,436.95	742.65	746.47	542.71	203.76	3.664		
17,100.00	9,988.99	16,270.90	9,288.47	169.62	171.03	19.79	7,536.86	743.59	745.00	538.58	206.43	3.609		
17,200.00	9,991.09	16,364.87	9,291.80	171.66	172.96	19.83	7,636.77	744.47	743.66	534.65	209.01	3.558		
17,225.02	9,991.61	16,385.00	9,292.30	172.17	173.38	19.83	7,650.90	744.65	743.58	533.99	209.59	3.548		
17,300.00	9,993.19	16,445.34	9,292.93	173.70	174.62	19.82	7,711.23	745.19	744.32	533.03	211.29	3.523		
17,400.00	9,995.29	16,541.56	9,292.44	175.75	176.60	19.75	7,807.45	746.02	746.74	533.11	213.63	3.496		
17,500.00	9,997.39	16,641.53	9,291.89	177.80	178.66	19.67	7,907.41	746.88	749.21	533.21	216.01	3.468		
17,600.00	9,999.49	16,741.49	9,291.35	179.85	180.73	19.60	8,007.37	747.74	751.69	533.30	218.39	3.442		
17,700.00	10,001.59	16,841.46	9,290.80	181.90	182.79	19.53	8,107.33	748.59	754.16	533.39	220.77	3.416		
17,800.00	10,002.98	16,941.44	9,290.25	183.96	184.86	19.48	8,207.30	749.45	755.98	532.77	223.21	3.387		
17,900.00	10,003.98	17,041.43	9,289.71	186.01	186.93	19.44	8,307.29	750.31	757.44	531.77	225.67	3.356		
18,000.00	10,004.98	17,141.42	9,289.16	188.07	189.00	19.40	8,407.27	751.17	758.90	530.76	228.14	3.326		
18,100.00	10,005.98	17,241.40	9,288.62	190.13	191.08	19.36	8,507.25	752.03	760.36	529.76	230.61	3.297		
18,200.00	10,006.98	17,341.39	9,288.07	192.20	193.15	19.32	8,607.24	752.89	761.82	528.75	233.07	3.269		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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

Survey Program: 0-MWD+HDGM

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)			
18,300.00	10,007.98	17,441.38	9,287.52	194.26	195.23	19.28	8,707.22	753.75	763.28	527.75	235.54	3.241	
18,400.00	10,008.98	17,541.37	9,286.98	196.33	197.31	19.25	8,807.20	754.61	764.74	526.74	238.00	3.213	
18,500.00	10,009.98	17,641.36	9,286.43	198.40	199.39	19.21	8,907.18	755.47	766.21	525.74	240.47	3.186	
18,600.00	10,010.98	17,741.34	9,285.88	200.47	201.47	19.17	9,007.17	756.33	767.67	524.73	242.94	3.160	
18,700.00	10,011.98	17,841.33	9,285.34	202.54	203.55	19.13	9,107.15	757.19	769.13	523.73	245.40	3.134	
18,800.00	10,012.98	17,941.32	9,284.79	204.62	205.64	19.10	9,207.13	758.05	770.59	522.72	247.87	3.109	
18,900.00	10,013.98	18,041.31	9,284.24	206.69	207.73	19.06	9,307.12	758.91	772.06	521.72	250.34	3.084	
19,000.00	10,014.98	18,141.30	9,283.70	208.77	209.81	19.02	9,407.10	759.77	773.52	520.72	252.80	3.060	
19,100.00	10,015.98	18,241.28	9,283.15	210.85	211.90	18.98	9,507.08	760.63	774.98	519.71	255.27	3.036	
19,200.00	10,016.98	18,341.27	9,282.60	212.93	213.99	18.95	9,607.06	761.49	776.45	518.71	257.73	3.013	
19,300.00	10,017.98	18,441.26	9,282.06	215.01	216.08	18.91	9,707.05	762.34	777.91	517.71	260.20	2.990	
19,400.00	10,018.98	18,541.25	9,281.51	217.09	218.18	18.87	9,807.03	763.20	779.37	516.71	262.67	2.967	
19,500.00	10,019.98	18,641.24	9,280.96	219.18	220.27	18.84	9,907.01	764.06	780.84	515.71	265.13	2.945	
19,600.00	10,020.98	18,741.22	9,280.42	221.26	222.36	18.80	10,007.00	764.92	782.30	514.71	267.60	2.923	
19,700.00	10,021.98	18,841.21	9,279.87	223.35	224.46	18.76	10,106.98	765.78	783.77	513.71	270.06	2.902	
19,800.00	10,022.98	18,941.20	9,279.32	225.44	226.56	18.73	10,206.96	766.64	785.23	512.71	272.52	2.881	
19,900.00	10,023.98	19,041.19	9,278.78	227.53	228.65	18.69	10,306.94	767.50	786.70	511.71	274.99	2.861	
20,000.00	10,024.98	19,141.18	9,278.23	229.62	230.75	18.66	10,406.93	768.36	788.17	510.72	277.45	2.841	
20,100.00	10,025.98	19,241.16	9,277.68	231.71	232.85	18.62	10,506.91	769.22	789.63	509.72	279.91	2.821	
20,200.00	10,026.98	19,341.15	9,277.14	233.80	234.95	18.58	10,606.89	770.08	791.10	508.72	282.38	2.802	
20,300.00	10,027.98	19,441.14	9,276.59	235.90	237.06	18.55	10,706.88	770.94	792.57	507.73	284.84	2.783	
20,400.00	10,028.98	19,541.13	9,276.05	237.99	239.16	18.51	10,806.86	771.80	794.04	506.73	287.30	2.764	
20,401.69	10,029.00	19,542.81	9,276.04	238.03	239.19	18.51	10,808.54	771.81	794.06	506.72	287.34	2.763	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 - 2H - 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	3.00	0.00	0.00	0.01	-179.89	-100.03	-0.20	100.03				
100.00	100.00	103.00	100.00	0.19	0.21	-179.89	-100.03	-0.20	100.03	99.63	0.40	248.051	
200.00	200.00	203.00	200.00	0.73	0.75	-179.89	-100.03	-0.20	100.03	98.56	1.48	67.650	
300.00	300.00	303.00	300.00	1.27	1.29	-179.89	-100.03	-0.20	100.03	97.48	2.55	39.166	
400.00	400.00	403.00	400.00	1.81	1.82	-179.89	-100.03	-0.20	100.03	96.40	3.63	27.561	
500.00	500.00	503.00	500.00	2.34	2.36	-179.89	-100.03	-0.20	100.03	95.33	4.70	21.262	
600.00	600.00	603.10	600.10	2.88	2.90	-179.89	-100.03	-0.20	100.03	94.25	5.78	17.304	
700.00	699.98	706.41	703.39	3.41	3.45	113.93	-98.18	-0.89	98.94	92.07	6.87	14.407	
800.00	799.84	809.33	806.15	3.94	4.01	118.18	-92.88	-2.88	96.20	88.25	7.95	12.098	
900.00	899.45	911.18	907.57	4.48	4.56	125.58	-84.25	-6.12	92.92	83.88	9.04	10.278	
970.58	969.60	980.96	976.97	4.87	4.94	132.02	-77.42	-8.68	91.87	82.07	9.80	9.372 CC, ES	
1,000.00	998.76	1,009.98	1,005.83	5.03	5.10	135.02	-74.58	-9.75	92.28	82.16	10.12	9.118	
1,100.00	1,098.02	1,108.74	1,104.05	5.58	5.65	144.47	-64.92	-13.37	94.53	83.33	11.20	8.439	
1,200.00	1,197.28	1,207.49	1,202.26	6.15	6.20	153.25	-55.25	-17.00	99.26	86.97	12.29	8.079	
1,300.00	1,296.53	1,306.25	1,300.48	6.72	6.75	161.10	-45.59	-20.62	106.13	92.76	13.37	7.938	
1,400.00	1,395.79	1,405.00	1,398.69	7.29	7.31	167.89	-35.93	-24.25	114.75	100.30	14.45	7.939	
1,500.00	1,495.05	1,503.76	1,496.91	7.86	7.86	173.68	-26.27	-27.88	124.77	109.23	15.54	8.029	
1,600.00	1,594.31	1,602.52	1,595.12	8.44	8.42	178.59	-16.60	-31.50	135.87	119.24	16.63	8.171	
1,700.00	1,693.57	1,701.27	1,693.34	9.02	8.98	-177.27	-6.94	-35.13	147.82	130.09	17.72	8.341	
1,800.00	1,792.83	1,800.03	1,791.55	9.60	9.54	-173.76	2.72	-38.75	160.41	141.60	18.82	8.526	
1,900.00	1,892.08	1,898.78	1,889.77	10.18	10.10	-170.76	12.39	-42.38	173.52	153.61	19.91	8.714	
2,000.00	1,991.34	1,997.54	1,987.98	10.76	10.67	-168.19	22.05	-46.00	187.04	166.02	21.01	8.902	
2,100.00	2,090.60	2,096.30	2,086.20	11.34	11.23	-165.96	31.71	-49.63	200.87	178.76	22.11	9.084	
2,200.00	2,189.86	2,195.05	2,184.41	11.93	11.79	-164.03	41.37	-53.25	214.97	191.75	23.22	9.260	
2,300.00	2,289.12	2,293.81	2,282.63	12.51	12.35	-162.33	51.04	-56.88	229.27	204.95	24.32	9.428	
2,400.00	2,388.37	2,392.56	2,380.84	13.10	12.92	-160.83	60.70	-60.50	243.76	218.33	25.42	9.587	
2,500.00	2,487.63	2,491.32	2,479.06	13.68	13.48	-159.50	70.36	-64.13	258.38	231.85	26.53	9.739	
2,600.00	2,586.89	2,590.08	2,577.27	14.27	14.04	-158.31	80.03	-67.76	273.13	245.49	27.64	9.882	
2,700.00	2,686.15	2,688.83	2,675.49	14.85	14.61	-157.25	89.69	-71.38	287.98	259.24	28.75	10.018	
2,800.00	2,785.41	2,787.59	2,773.70	15.44	15.17	-156.29	99.35	-75.01	302.92	273.07	29.86	10.146	
2,900.00	2,884.67	2,886.34	2,871.92	16.03	15.74	-155.42	109.01	-78.63	317.94	286.97	30.97	10.268	
3,000.00	2,983.92	2,985.10	2,970.13	16.61	16.30	-154.62	118.68	-82.26	333.02	300.95	32.08	10.382	
3,100.00	3,083.18	3,083.85	3,068.35	17.20	16.87	-153.90	128.34	-85.88	348.16	314.97	33.19	10.491	
3,200.00	3,182.44	3,182.61	3,166.56	17.79	17.43	-153.24	138.00	-89.51	363.35	329.05	34.30	10.594	
3,300.00	3,281.70	3,281.37	3,264.78	18.38	18.00	-152.63	147.67	-93.13	378.58	343.17	35.41	10.692	
3,400.00	3,380.96	3,380.12	3,362.99	18.96	18.56	-152.06	157.33	-96.76	393.85	357.33	36.52	10.784	
3,500.00	3,480.22	3,478.88	3,461.21	19.55	19.13	-151.54	166.99	-100.38	409.16	371.52	37.63	10.872	
3,600.00	3,579.47	3,577.63	3,559.42	20.14	19.69	-151.06	176.65	-104.01	424.49	385.75	38.75	10.956	
3,700.00	3,678.73	3,676.39	3,657.64	20.73	20.26	-150.61	186.32	-107.63	439.86	400.00	39.86	11.035	
3,800.00	3,777.99	3,775.15	3,755.85	21.31	20.82	-150.19	195.98	-111.26	455.24	414.27	40.97	11.111	
3,900.00	3,877.25	3,873.90	3,854.07	21.90	21.39	-149.80	205.64	-114.89	470.65	428.57	42.08	11.183	
4,000.00	3,976.51	3,972.66	3,952.29	22.49	21.95	-149.43	215.31	-118.51	486.08	442.89	43.20	11.252	
4,100.00	4,075.77	4,071.41	4,050.50	23.08	22.52	-149.09	224.97	-122.14	501.53	457.22	44.31	11.318	
4,200.00	4,175.02	4,170.17	4,148.72	23.67	23.09	-148.76	234.63	-125.76	517.00	471.57	45.43	11.381	
4,300.00	4,274.28	4,268.93	4,246.93	24.26	23.65	-148.46	244.29	-129.39	532.48	485.94	46.54	11.441	
4,400.00	4,373.54	4,370.58	4,348.05	24.85	24.23	-148.18	254.09	-133.06	547.90	500.23	47.67	11.494	
4,500.00	4,472.80	4,480.11	4,457.26	25.43	24.84	-148.17	261.76	-135.94	561.94	513.12	48.83	11.509	
4,600.00	4,572.06	4,590.08	4,567.15	26.02	25.42	-148.53	265.53	-137.35	574.11	524.14	49.96	11.490	
4,700.00	4,671.31	4,694.25	4,671.31	26.61	25.96	-149.14	265.94	-137.51	584.72	533.67	51.06	11.453	
4,800.00	4,770.57	4,793.50	4,770.57	27.20	26.46	-149.74	265.94	-137.51	595.21	543.09	52.12	11.420	
4,900.00	4,869.83	4,892.76	4,869.83	27.79	26.97	-150.32	265.94	-137.51	605.76	552.58	53.18	11.390	
5,000.00	4,969.09	4,992.02	4,969.09	28.38	27.48	-150.88	265.94	-137.51	616.37	562.13	54.25	11.363	

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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 - 2H - 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)			
5,100.00	5,068.35	5,091.28	5,068.35	28.97	27.99	-151.42	265.94	-137.51	627.04	571.73	55.31	11.337	
5,200.00	5,167.61	5,190.54	5,167.61	29.56	28.50	-151.94	265.94	-137.51	637.76	581.39	56.37	11.313	
5,300.00	5,266.86	5,289.80	5,266.86	30.15	29.01	-152.44	265.94	-137.51	648.53	591.09	57.44	11.291	
5,400.00	5,366.12	5,389.05	5,366.12	30.73	29.52	-152.93	265.94	-137.51	659.35	600.84	58.51	11.270	
5,500.00	5,465.38	5,488.31	5,465.38	31.32	30.04	-153.40	265.94	-137.51	670.21	610.64	59.57	11.251	
5,600.00	5,564.64	5,587.57	5,564.64	31.91	30.55	-153.86	265.94	-137.51	681.12	620.49	60.64	11.233	
5,700.00	5,663.90	5,686.83	5,663.90	32.50	31.06	-154.31	265.94	-137.51	692.05	630.33	61.72	11.213	
5,800.00	5,763.39	5,786.33	5,763.39	33.07	31.58	-154.74	265.94	-137.51	701.08	638.19	62.89	11.148	
5,900.00	5,863.18	5,886.11	5,863.18	33.62	32.10	-155.02	265.94	-137.51	706.99	642.99	63.99	11.048	
6,000.00	5,963.13	5,986.06	5,963.13	34.14	32.62	-155.15	265.94	-137.51	709.74	644.71	65.03	10.914	
6,100.00	6,063.12	6,086.06	6,063.12	34.63	33.14	-87.58	265.94	-137.51	709.95	643.90	66.05	10.749	
6,200.00	6,163.12	6,186.06	6,163.12	35.12	33.66	-87.58	265.94	-137.51	709.95	642.87	67.08	10.584	
6,300.00	6,263.12	6,286.06	6,263.12	35.61	34.18	-87.58	265.94	-137.51	709.95	641.84	68.11	10.424	
6,400.00	6,363.12	6,386.06	6,363.12	36.11	34.70	-87.58	265.94	-137.51	709.95	640.81	69.14	10.268	
6,500.00	6,463.12	6,486.06	6,463.12	36.60	35.22	-87.58	265.94	-137.51	709.95	639.78	70.17	10.117	
6,600.00	6,563.12	6,586.06	6,563.12	37.10	35.75	-87.58	265.94	-137.51	709.95	638.74	71.21	9.970	
6,700.00	6,663.12	6,686.06	6,663.12	37.59	36.27	-87.58	265.94	-137.51	709.95	637.71	72.24	9.827	
6,800.00	6,763.12	6,786.06	6,763.12	38.09	36.79	-87.58	265.94	-137.51	709.95	636.67	73.28	9.688	
6,900.00	6,863.12	6,886.06	6,863.12	38.59	37.32	-87.58	265.94	-137.51	709.95	635.63	74.32	9.553	
7,000.00	6,963.12	6,986.06	6,963.12	39.09	37.84	-87.58	265.94	-137.51	709.95	634.59	75.36	9.421	
7,100.00	7,063.12	7,086.06	7,063.12	39.59	38.37	-87.58	265.94	-137.51	709.95	633.55	76.40	9.293	
7,200.00	7,163.12	7,186.06	7,163.12	40.09	38.89	-87.58	265.94	-137.51	709.95	632.51	77.44	9.168	
7,300.00	7,263.12	7,286.06	7,263.12	40.59	39.42	-87.58	265.94	-137.51	709.95	631.47	78.48	9.046	
7,400.00	7,363.12	7,386.06	7,363.12	41.10	39.95	-87.58	265.94	-137.51	709.95	630.43	79.52	8.928	
7,500.00	7,463.12	7,486.06	7,463.12	41.60	40.47	-87.58	265.94	-137.51	709.95	629.38	80.57	8.812	
7,600.00	7,563.12	7,586.06	7,563.12	42.11	41.00	-87.58	265.94	-137.51	709.95	628.34	81.61	8.699	
7,700.00	7,663.12	7,686.06	7,663.12	42.61	41.52	-87.58	265.94	-137.51	709.95	627.30	82.66	8.589	
7,800.00	7,763.12	7,786.06	7,763.12	43.12	42.05	-87.58	265.94	-137.51	709.95	626.25	83.70	8.482	
7,900.00	7,863.12	7,886.06	7,863.12	43.63	42.58	-87.58	265.94	-137.51	709.95	625.20	84.75	8.377	
8,000.00	7,963.12	7,986.06	7,963.12	44.14	43.11	-87.58	265.94	-137.51	709.95	624.15	85.80	8.275	
8,100.00	8,063.12	8,086.06	8,063.12	44.65	43.63	-87.58	265.94	-137.51	709.95	623.11	86.85	8.175	
8,200.00	8,163.12	8,186.06	8,163.12	45.16	44.16	-87.58	265.94	-137.51	709.95	622.06	87.89	8.077	
8,300.00	8,263.12	8,286.06	8,263.12	45.67	44.69	-87.58	265.94	-137.51	709.95	621.01	88.94	7.982	
8,400.00	8,363.12	8,386.06	8,363.12	46.18	45.22	-87.58	265.94	-137.51	709.95	619.96	89.99	7.889	
8,500.00	8,463.12	8,486.06	8,463.12	46.69	45.75	-87.58	265.94	-137.51	709.95	618.91	91.04	7.798	
8,540.31	8,503.43	8,526.36	8,503.43	46.89	45.96	-87.58	265.94	-137.51	709.95	618.48	91.47	7.762	
8,600.00	8,563.12	8,583.25	8,560.28	47.20	46.27	-87.45	267.49	-137.52	710.04	617.95	92.09	7.711	
8,700.00	8,663.12	8,674.77	8,650.63	47.71	46.79	-86.33	281.48	-137.66	711.04	617.90	93.14	7.634	
8,800.00	8,763.12	8,759.88	8,731.66	48.23	47.29	-84.26	307.24	-137.92	713.99	619.80	94.19	7.580	
8,900.00	8,863.12	8,835.96	8,800.17	48.74	47.76	-81.65	340.20	-138.24	720.42	625.22	95.21	7.567	
9,000.00	8,963.12	8,900.00	8,854.03	49.25	48.17	-78.94	374.77	-138.59	732.01	635.85	96.16	7.613	
9,100.00	9,063.12	8,958.83	8,899.83	49.77	48.55	-76.12	411.65	-138.95	750.15	653.07	97.08	7.727	
9,200.00	9,163.12	9,000.00	8,929.52	50.28	48.82	-73.98	440.16	-139.23	775.79	677.92	97.87	7.926	
9,300.00	9,263.12	9,050.00	8,962.71	50.80	49.16	-71.24	477.54	-139.60	809.15	710.43	98.73	8.196	
9,400.00	9,363.12	9,082.77	8,982.64	51.32	49.39	-69.39	503.55	-139.86	850.21	750.75	99.46	8.548	
9,500.00	9,463.12	9,112.62	8,999.47	51.83	49.60	-66.30	528.19	-140.11	898.43	798.27	100.16	8.970	
9,600.00	9,562.49	9,150.00	9,018.70	52.36	49.86	-59.16	560.24	-140.42	949.46	848.93	100.53	9.445	
9,700.00	9,658.61	9,174.34	9,030.08	52.89	50.04	-53.51	581.74	-140.64	998.49	898.78	99.71	10.014	
9,800.00	9,748.56	9,200.00	9,041.08	53.39	50.22	-48.73	604.93	-140.87	1,043.88	946.57	97.30	10.728	
9,900.00	9,829.61	9,250.00	9,059.48	53.87	50.59	-44.39	651.40	-141.33	1,083.87	990.70	93.17	11.633	
10,000.00	9,899.29	9,279.69	9,068.46	54.33	50.81	-41.47	679.69	-141.61	1,117.40	1,029.75	87.65	12.748	
10,100.00	9,955.49	9,316.66	9,077.58	54.79	51.09	-39.27	715.51	-141.96	1,143.65	1,062.24	81.41	14.048	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 - 2H - 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	9,996.50	9,350.00	9,083.81	55.29	51.34	-37.84	748.26	-142.29	1,161.96	1,086.51	75.45	15.400		
10,300.00	10,021.07	9,400.00	9,089.55	55.84	51.72	-37.03	797.91	-142.78	1,171.92	1,100.91	71.01	16.504		
10,400.00	10,028.46	9,436.75	9,091.00	56.42	52.00	-36.95	834.62	-143.14	1,173.19	1,103.97	69.22	16.948		
10,500.00	10,024.49	9,518.37	9,091.61	57.08	52.66	-37.09	916.23	-143.95	1,168.86	1,098.72	70.15	16.663		
10,600.00	10,020.28	9,618.24	9,092.35	57.81	53.52	-37.20	1,016.10	-144.94	1,164.50	1,093.08	71.42	16.305		
10,700.00	10,016.07	9,718.12	9,093.08	58.62	54.45	-37.33	1,115.97	-145.93	1,160.13	1,087.31	72.82	15.931		
10,800.00	10,011.85	9,817.99	9,093.82	59.49	55.46	-37.45	1,215.83	-146.92	1,155.77	1,081.43	74.34	15.546		
10,900.00	10,007.64	9,917.86	9,094.56	60.43	56.53	-37.57	1,315.70	-147.91	1,151.42	1,075.43	75.98	15.154		
11,000.00	10,003.43	10,017.74	9,095.30	61.43	57.65	-37.69	1,415.57	-148.90	1,147.07	1,069.33	77.73	14.757		
11,100.00	9,999.22	10,117.61	9,096.04	62.49	58.84	-37.82	1,515.44	-149.89	1,142.72	1,063.14	79.59	14.358		
11,200.00	9,995.01	10,217.49	9,096.78	63.60	60.08	-37.94	1,615.30	-150.88	1,138.39	1,056.85	81.54	13.961		
11,300.00	9,990.80	10,317.36	9,097.52	64.77	61.37	-38.07	1,715.17	-151.87	1,134.05	1,050.47	83.58	13.568		
11,400.00	9,986.59	10,417.24	9,098.26	65.99	62.71	-38.19	1,815.04	-152.86	1,129.73	1,044.01	85.72	13.180		
11,500.00	9,982.38	10,517.11	9,099.00	67.26	64.10	-38.32	1,914.90	-153.85	1,125.40	1,037.47	87.93	12.799		
11,600.00	9,978.17	10,616.99	9,099.74	68.57	65.52	-38.45	2,014.77	-154.84	1,121.09	1,030.87	90.22	12.426		
11,700.00	9,973.96	10,716.86	9,100.48	69.92	66.99	-38.58	2,114.64	-155.83	1,116.78	1,024.19	92.58	12.062		
11,800.00	9,969.75	10,816.74	9,101.22	71.31	68.49	-38.71	2,214.51	-156.82	1,112.47	1,017.46	95.01	11.708		
11,900.00	9,965.54	10,916.61	9,101.96	72.74	70.02	-38.84	2,314.37	-157.81	1,108.17	1,010.66	97.51	11.365		
12,000.00	9,961.33	11,016.49	9,102.70	74.21	71.59	-38.97	2,414.24	-158.80	1,103.88	1,003.82	100.07	11.032		
12,100.00	9,957.11	11,116.36	9,103.43	75.71	73.19	-39.11	2,514.11	-159.79	1,099.59	996.92	102.68	10.709		
12,200.00	9,953.85	11,216.28	9,104.17	77.23	74.81	-39.18	2,614.01	-160.78	1,096.04	990.60	105.44	10.395		
12,300.00	9,952.97	11,316.26	9,104.91	78.78	76.47	-39.20	2,713.99	-161.77	1,094.34	986.29	108.05	10.128		
12,400.00	9,952.20	11,416.25	9,105.65	80.36	78.15	-39.22	2,813.97	-162.76	1,092.73	982.09	110.63	9.877		
12,500.00	9,951.43	11,516.23	9,106.39	81.96	79.85	-39.24	2,913.95	-163.75	1,091.11	977.86	113.26	9.634		
12,600.00	9,950.67	11,616.22	9,107.13	83.59	81.57	-39.26	3,013.93	-164.74	1,089.50	973.59	115.91	9.399		
12,700.00	9,949.90	11,716.21	9,107.87	85.24	83.32	-39.29	3,113.90	-165.73	1,087.88	969.28	118.60	9.172		
12,800.00	9,949.13	11,816.19	9,108.61	86.92	85.08	-39.31	3,213.88	-166.73	1,086.27	964.94	121.33	8.953		
12,900.00	9,948.37	11,916.18	9,109.35	88.62	86.86	-39.33	3,313.86	-167.72	1,084.66	960.57	124.08	8.741		
13,000.00	9,947.60	12,016.17	9,110.09	90.33	88.66	-39.35	3,413.84	-168.71	1,083.04	956.18	126.86	8.537		
13,100.00	9,946.83	12,116.15	9,110.83	92.07	90.47	-39.37	3,513.82	-169.70	1,081.43	951.76	129.67	8.340		
13,200.00	9,946.06	12,216.14	9,111.58	93.82	92.30	-39.39	3,613.80	-170.69	1,079.81	947.31	132.50	8.149		
13,300.00	9,945.30	12,316.12	9,112.32	95.59	94.14	-39.42	3,713.78	-171.68	1,078.20	942.84	135.36	7.965		
13,400.00	9,944.53	12,416.11	9,113.06	97.38	96.00	-39.44	3,813.75	-172.67	1,076.59	938.35	138.24	7.788		
13,500.00	9,943.76	12,516.10	9,113.80	99.18	97.87	-39.46	3,913.73	-173.66	1,074.97	933.83	141.14	7.616		
13,600.00	9,942.99	12,616.08	9,114.54	100.99	99.75	-39.48	4,013.71	-174.65	1,073.36	929.30	144.06	7.451		
13,700.00	9,942.23	12,716.07	9,115.28	102.82	101.64	-39.50	4,113.69	-175.64	1,071.75	924.75	147.00	7.291		
13,800.00	9,941.46	12,816.05	9,116.02	104.66	103.54	-39.53	4,213.67	-176.64	1,070.14	920.18	149.95	7.136		
13,900.00	9,940.69	12,916.04	9,116.76	106.52	105.45	-39.55	4,313.65	-177.63	1,068.52	915.60	152.93	6.987		
14,000.00	9,939.93	13,016.03	9,117.50	108.38	107.37	-39.57	4,413.63	-178.62	1,066.91	910.99	155.92	6.843		
14,100.00	9,939.16	13,116.01	9,118.24	110.26	109.30	-39.59	4,513.60	-179.61	1,065.30	906.38	158.92	6.703		
14,200.00	9,939.40	13,216.01	9,118.98	112.14	111.24	-39.57	4,613.59	-180.60	1,064.46	902.43	162.03	6.570		
14,300.00	9,940.60	13,316.00	9,119.72	114.04	113.19	-39.53	4,713.58	-181.59	1,064.35	899.43	164.92	6.454		
14,400.00	9,941.80	13,416.00	9,120.46	115.95	115.14	-39.48	4,813.57	-182.58	1,064.25	896.42	167.82	6.342		
14,500.00	9,943.00	13,515.99	9,121.20	117.86	117.10	-39.44	4,913.56	-183.57	1,064.14	893.41	170.73	6.233		
14,600.00	9,944.20	13,615.99	9,121.94	119.78	119.07	-39.39	5,013.54	-184.56	1,064.04	890.39	173.65	6.128		
14,700.00	9,945.40	13,715.99	9,122.68	121.72	121.05	-39.34	5,113.53	-185.55	1,063.93	887.36	176.57	6.025		
14,800.00	9,946.60	13,815.98	9,123.42	123.65	123.03	-39.30	5,213.52	-186.55	1,063.83	884.32	179.51	5.926		
14,900.00	9,947.80	13,915.98	9,124.16	125.60	125.01	-39.25	5,313.51	-187.54	1,063.73	881.28	182.44	5.830		
15,000.00	9,949.00	14,015.98	9,124.90	127.55	127.01	-39.21	5,413.50	-188.53	1,063.63	878.24	185.39	5.737		
15,100.00	9,950.20	14,115.97	9,125.64	129.51	129.01	-39.16	5,513.49	-189.52	1,063.52	875.19	188.34	5.647		
15,200.00	9,951.40	14,215.97	9,126.38	131.48	131.01	-39.11	5,613.48	-190.51	1,063.42	872.14	191.29	5.559		
15,300.00	9,952.61	14,315.97	9,127.12	133.45	133.02	-39.07	5,713.46	-191.50	1,063.33	869.08	194.25	5.474		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 - 2H - 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			
15,400.00	9,953.81	14,415.96	9,127.86	135.43	135.03	-39.02	5,813.45	-192.49	1,063.23	866.02	197.21	5.391			
15,462.06	9,954.72	14,492.50	9,128.66	136.66	136.57	-39.01	5,889.99	-192.76	1,063.23	863.82	199.41	5.332			
15,500.00	9,955.40	14,530.44	9,129.18	137.41	137.33	-39.01	5,927.93	-192.62	1,063.26	862.65	200.61	5.300			
15,600.00	9,957.50	14,630.44	9,130.57	139.39	139.35	-39.00	6,027.91	-192.25	1,064.15	860.47	203.68	5.225			
15,700.00	9,959.60	14,730.44	9,131.96	141.38	141.37	-39.00	6,127.90	-191.87	1,065.05	858.29	206.76	5.151			
15,800.00	9,961.70	14,830.43	9,133.35	143.37	143.40	-39.00	6,227.88	-191.50	1,065.94	856.10	209.84	5.080			
15,900.00	9,963.80	14,930.43	9,134.73	145.37	145.42	-39.00	6,327.87	-191.13	1,066.83	853.91	212.93	5.010			
16,000.00	9,965.90	15,030.42	9,136.12	147.37	147.45	-39.00	6,427.85	-190.75	1,067.72	851.71	216.02	4.943			
16,100.00	9,968.00	15,130.42	9,137.51	149.37	149.49	-39.00	6,527.84	-190.38	1,068.62	849.50	219.12	4.877			
16,200.00	9,970.10	15,230.42	9,138.90	151.38	151.53	-39.00	6,627.83	-190.01	1,069.51	847.29	222.22	4.813			
16,300.00	9,972.20	15,330.41	9,140.29	153.39	153.57	-38.99	6,727.81	-189.63	1,070.40	845.08	225.32	4.750			
16,400.00	9,974.30	15,430.41	9,141.67	155.41	155.61	-38.99	6,827.80	-189.26	1,071.30	842.86	228.44	4.690			
16,500.00	9,976.39	15,530.40	9,143.06	157.43	157.66	-38.99	6,927.78	-188.89	1,072.19	840.64	231.55	4.630			
16,600.00	9,978.49	15,630.40	9,144.45	159.45	159.71	-38.99	7,027.77	-188.51	1,073.08	838.41	234.67	4.573			
16,700.00	9,980.59	15,730.40	9,145.84	161.48	161.76	-38.99	7,127.75	-188.14	1,073.98	836.18	237.79	4.516			
16,800.00	9,982.69	15,830.39	9,147.22	163.51	163.82	-38.99	7,227.74	-187.76	1,074.87	833.95	240.92	4.462			
16,900.00	9,984.79	15,930.39	9,148.61	165.54	165.88	-38.99	7,327.73	-187.39	1,075.76	831.71	244.05	4.408			
17,000.00	9,986.89	16,030.38	9,150.00	167.58	167.94	-38.98	7,427.71	-187.02	1,076.65	829.47	247.18	4.356			
17,100.00	9,988.99	16,130.38	9,151.39	169.62	170.00	-38.98	7,527.70	-186.64	1,077.55	827.23	250.32	4.305			
17,200.00	9,991.09	16,230.38	9,152.78	171.66	172.06	-38.98	7,627.68	-186.27	1,078.44	824.98	253.46	4.255			
17,300.00	9,993.19	16,330.37	9,154.16	173.70	174.13	-38.98	7,727.67	-185.90	1,079.33	822.73	256.60	4.206			
17,400.00	9,995.29	16,430.37	9,155.55	175.75	176.20	-38.98	7,827.65	-185.52	1,080.23	820.48	259.75	4.159			
17,500.00	9,997.39	16,530.36	9,156.94	177.80	178.27	-38.98	7,927.64	-185.15	1,081.12	818.23	262.89	4.112			
17,600.00	9,999.49	16,630.36	9,158.33	179.85	180.34	-38.98	8,027.63	-184.78	1,082.01	815.97	266.04	4.067			
17,700.00	10,001.59	16,730.36	9,159.72	181.90	182.42	-38.97	8,127.61	-184.40	1,082.91	813.71	269.20	4.023			
17,800.00	10,002.98	16,830.35	9,161.10	183.96	184.50	-38.99	8,227.60	-184.03	1,083.22	811.86	272.37	3.977			
17,900.00	10,003.98	16,930.35	9,162.49	186.01	186.57	-39.03	8,327.59	-183.65	1,083.23	809.59	275.63	3.930			
18,000.00	10,004.98	17,030.35	9,163.88	188.07	188.65	-39.06	8,427.57	-183.28	1,083.23	807.33	278.90	3.884			
18,100.00	10,005.98	17,130.35	9,165.27	190.13	190.74	-39.09	8,527.56	-182.91	1,083.23	805.06	282.18	3.839			
18,200.00	10,006.98	17,230.35	9,166.65	192.20	192.82	-39.12	8,627.55	-182.53	1,083.24	797.78	285.46	3.795			
18,300.00	10,007.98	17,330.34	9,168.04	194.26	194.90	-39.16	8,727.54	-182.16	1,083.24	794.50	288.74	3.752			
18,400.00	10,008.98	17,430.34	9,169.43	196.33	196.99	-39.19	8,827.52	-181.79	1,083.25	791.22	292.03	3.709			
18,500.00	10,009.98	17,530.34	9,170.82	198.40	199.08	-39.22	8,927.51	-181.41	1,083.25	787.93	295.32	3.668			
18,600.00	10,010.98	17,630.34	9,172.21	200.47	201.17	-39.25	9,027.50	-181.04	1,083.26	784.64	298.62	3.628			
18,700.00	10,011.98	17,730.34	9,173.59	202.54	203.28	-39.29	9,127.49	-180.67	1,083.26	781.35	301.91	3.588			
18,800.00	10,012.98	17,830.33	9,174.98	204.62	205.35	-39.32	9,227.48	-180.29	1,083.27	778.05	305.22	3.549			
18,900.00	10,013.98	17,930.33	9,176.37	206.69	207.44	-39.35	9,327.46	-179.92	1,083.27	774.75	308.53	3.511			
19,000.00	10,014.98	18,030.33	9,177.76	208.77	209.54	-39.39	9,427.45	-179.54	1,083.28	771.44	311.84	3.474			
19,100.00	10,015.98	18,130.33	9,179.15	210.85	211.63	-39.42	9,527.44	-179.17	1,083.29	768.14	315.15	3.437			
19,200.00	10,016.98	18,230.33	9,180.53	212.93	213.73	-39.45	9,627.43	-178.80	1,083.30	764.82	318.47	3.402			
19,300.00	10,017.98	18,330.33	9,181.92	215.01	215.82	-39.48	9,727.41	-178.42	1,083.30	761.51	321.79	3.366			
19,400.00	10,018.98	18,430.32	9,183.31	217.09	217.92	-39.52	9,827.40	-178.05	1,083.31	758.19	325.12	3.332			
19,500.00	10,019.98	18,530.32	9,184.70	219.18	220.02	-39.55	9,927.39	-177.68	1,083.32	754.87	328.45	3.298			
19,600.00	10,020.98	18,630.32	9,186.09	221.26	222.12	-39.58	10,027.38	-177.30	1,083.33	751.55	331.78	3.265			
19,700.00	10,021.98	18,730.32	9,187.47	223.35	224.23	-39.61	10,127.37	-176.93	1,083.34	748.22	335.12	3.233			
19,800.00	10,022.98	18,830.32	9,188.86	225.44	226.33	-39.65	10,227.35	-176.55	1,083.35	744.89	338.46	3.201			
19,900.00	10,023.98	18,930.31	9,190.25	227.53	228.43	-39.68	10,327.34	-176.18	1,083.36	741.55	341.80	3.170			
20,000.00	10,024.98	19,030.31	9,191.64	229.62	230.54	-39.71	10,427.33	-175.81	1,083.37	738.22	345.15	3.139			
20,100.00	10,025.98	19,130.31	9,193.03	231.71	232.64	-39.75	10,527.32	-175.43	1,083.38	734.88	348.50	3.109			
20,200.00	10,026.98	19,230.31	9,194.41	233.80	234.75	-39.78	10,627.30	-175.06	1,083.39	731.53	351.86	3.079			
20,300.00	10,027.98	19,330.31	9,195.80	235.90	236.86	-39.81	10,727.29	-174.69	1,083.40	728.19	355.21	3.050			
20,355.28	10,028.54	19,385.58	9,196.57	237.05	238.02	-39.83	10,782.56	-174.48	1,083.41	726.34	357.07	3.034			

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 - 2H - OH - Plan 1 06-16-17		Offset Site Error:		0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.00 usft			
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					
20,400.00	10,028.98	19,416.71	9,197.00	237.99	238.68	-39.84	10,813.68	-174.36	1,083.50	725.16	358.33	3.024						
20,401.69	10,029.00	19,416.71	9,197.00	238.03	238.68	-39.84	10,813.68	-174.36	1,083.52	725.16	358.36	3.024 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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.00	0.00	0.00	0.00	-179.83	-179.83	-74.93	-0.23	74.94	74.54	0.40	188.325	
100.00	100.00	102.00	100.00	0.19	0.20	-179.83	-179.83	-74.93	-0.23	74.94	73.46	1.47	50.861	
200.00	200.00	202.00	200.00	0.73	0.74	-179.83	-179.83	-74.93	-0.23	74.94	72.39	2.55	29.401	
300.00	300.00	302.00	300.00	1.27	1.28	-179.83	-179.83	-74.93	-0.23	74.94	71.31	3.62	20.677	
400.00	400.00	402.00	400.00	1.81	1.82	-179.83	-179.83	-74.93	-0.23	74.94	70.24	4.70	15.945	
500.00	500.00	502.00	500.00	2.34	2.36	-179.83	-179.83	-74.93	-0.23	74.94	69.16	5.78	12.975	
600.00	600.00	602.05	600.05	2.88	2.89	-179.83	-179.83	-74.93	-0.23	74.93	67.01	6.86	10.772	
700.00	699.98	704.55	702.52	3.41	3.44	113.39	113.39	-73.15	0.43	73.86	62.94	7.94	8.928	
800.00	799.84	806.91	804.73	3.94	4.00	115.94	115.94	-67.93	2.36	70.88	57.27	9.03	7.344	
900.00	899.45	908.81	906.22	4.48	4.55	120.65	120.65	-59.35	5.52	66.29	52.44	10.11	6.187	
1,000.00	998.76	1,008.41	1,005.27	5.03	5.09	127.93	127.93	-49.58	9.12	62.54	49.03	11.19	5.382	
1,100.00	1,098.02	1,107.98	1,104.30	5.58	5.64	136.21	136.21	-39.82	12.72	60.22	46.98	12.27	4.829	
1,200.00	1,197.28	1,207.56	1,203.33	6.15	6.20	144.96	144.96	-30.06	16.32	59.25	46.75	12.47	4.750 CC	
1,218.56	1,215.69	1,226.04	1,221.71	6.25	6.30	146.61	146.61	-28.25	16.98	59.22	46.35	13.35	4.473 ES	
1,300.00	1,296.53	1,307.14	1,302.36	6.72	6.75	153.79	153.79	-20.30	19.91	59.69	47.10	14.43	4.265	
1,400.00	1,395.79	1,406.71	1,401.39	7.29	7.31	162.29	162.29	-10.54	23.51	61.53	49.13	15.51	4.167	
1,500.00	1,495.05	1,506.29	1,500.42	7.86	7.87	170.14	170.14	-0.78	27.11	64.64	52.24	16.61	4.146	
1,600.00	1,594.31	1,605.86	1,599.45	8.44	8.44	177.16	177.16	8.98	30.71	68.84	56.25	17.71	4.176	
1,700.00	1,693.57	1,705.44	1,698.48	9.02	9.00	-176.71	-176.71	18.74	34.31	73.96	60.99	18.82	4.241	
1,800.00	1,792.83	1,805.01	1,797.51	9.60	9.56	-171.42	-171.42	28.50	37.90	79.81	66.31	19.94	4.326	
1,900.00	1,892.08	1,904.59	1,896.55	10.18	10.13	-166.88	-166.88	38.26	41.50	86.25	72.09	21.06	4.423	
2,000.00	1,991.34	2,004.17	1,995.58	10.76	10.69	-162.99	-162.99	48.02	45.10	93.15	78.24	22.19	4.526	
2,100.00	2,090.60	2,103.74	2,094.61	11.34	11.26	-159.64	-159.64	57.78	48.70	100.43	84.67	23.32	4.631	
2,200.00	2,189.86	2,203.32	2,193.64	11.93	11.83	-156.76	-156.76	67.54	52.30	107.99	91.34	24.45	4.735	
2,300.00	2,289.12	2,302.89	2,292.67	12.51	12.39	-154.26	-154.26	77.30	55.89	115.80	98.21	25.59	4.838	
2,400.00	2,388.37	2,402.47	2,391.70	13.10	12.96	-152.07	-152.07	87.06	59.49	123.80	105.22	26.73	4.937	
2,500.00	2,487.63	2,502.04	2,490.73	13.68	13.53	-150.16	-150.16	96.82	63.09	131.95	112.37	27.87	5.033	
2,600.00	2,586.89	2,601.62	2,589.76	14.27	14.10	-148.47	-148.47	106.58	66.69	140.23	119.62	29.00	5.124	
2,700.00	2,686.15	2,701.20	2,688.79	14.85	14.66	-146.96	-146.96	116.35	70.29	148.62	126.96	30.14	5.212	
2,800.00	2,785.41	2,800.77	2,787.82	15.44	15.23	-145.62	-145.62	126.11	73.88	157.11	134.38	31.28	5.296	
2,900.00	2,884.67	2,900.35	2,886.85	16.03	15.80	-144.42	-144.42	135.87	77.48	165.67	141.87	32.42	5.375	
3,000.00	2,983.92	2,999.92	2,985.89	16.61	16.37	-143.33	-143.33	145.63	81.08	174.29	149.41	33.57	5.451	
3,100.00	3,083.18	3,099.50	3,084.92	17.20	16.94	-142.35	-142.35	155.39	84.68	182.97	156.99	34.71	5.524	
3,200.00	3,182.44	3,199.08	3,183.95	17.79	17.51	-141.46	-141.46	165.15	88.28	191.70	164.62	35.85	5.592	
3,300.00	3,281.70	3,298.65	3,282.98	18.38	18.08	-140.64	-140.64	174.91	91.88	200.47	172.29	36.99	5.658	
3,400.00	3,380.96	3,398.23	3,382.01	18.96	18.65	-139.90	-139.90	184.67	95.47	209.28	179.99	38.13	5.720	
3,500.00	3,480.22	3,497.80	3,481.04	19.55	19.22	-139.21	-139.21	194.43	99.07	218.12	187.72	39.27	5.780	
3,600.00	3,579.47	3,597.38	3,580.07	20.14	19.78	-138.58	-138.58	204.19	102.67	226.99	195.47	40.42	5.836	
3,700.00	3,678.73	3,696.95	3,679.10	20.73	20.35	-137.99	-137.99	213.95	106.27	235.89	203.25	41.56	5.891	
3,800.00	3,777.99	3,796.53	3,778.13	21.31	20.92	-137.45	-137.45	223.70	109.86	244.80	211.06	42.68	5.945	
3,900.00	3,877.25	3,896.08	3,877.33	21.90	21.48	-137.41	-137.41	231.53	112.75	253.74	218.95	43.77	6.003	
4,000.00	3,976.51	3,995.53	3,976.65	22.49	22.02	-138.14	-138.14	236.12	114.44	262.72	227.04	44.82	6.066	
4,100.00	4,075.77	4,094.66	4,075.77	23.08	22.53	-139.53	-139.53	237.49	114.95	271.86	235.39	45.86	6.133	
4,200.00	4,175.02	4,193.92	4,175.02	23.67	23.04	-141.13	-141.13	237.49	114.95	281.25	243.94	46.90	6.202	
4,300.00	4,274.28	4,293.17	4,274.28	24.26	23.55	-142.63	-142.63	237.49	114.95	290.84	252.68	47.94	6.271	
4,400.00	4,373.54	4,392.43	4,373.54	24.85	24.06	-144.03	-144.03	237.49	114.95	300.62	261.59	48.98	6.341	
4,500.00	4,472.80	4,491.69	4,472.80	25.43	24.57	-145.35	-145.35	237.49	114.95	310.56	270.64	50.02	6.411	
4,600.00	4,572.06	4,590.95	4,572.06	26.02	25.08	-146.58	-146.58	237.49	114.95	320.66	279.84	51.07	6.480	
4,700.00	4,671.31	4,690.21	4,671.31	26.61	25.59	-147.74	-147.74	237.49	114.95	330.90	289.15	52.11	6.549	
4,800.00	4,770.57	4,789.47	4,770.57	27.20	26.11	-148.83	-148.83	237.49	114.95	341.26	298.58	53.16	6.617	
4,900.00	4,869.83	4,888.72	4,869.83	27.79	26.62	-149.85	-149.85	237.49	114.95	351.74	308.12	54.21	6.684	
5,000.00	4,969.09	4,987.98	4,969.09	28.38	27.14	-150.81	-150.81	237.49	114.95	362.32				

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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)				Between Centres (usft)	Between Ellipses (usft)	
5,100.00	5,068.35	5,087.24	5,068.35	28.97	27.65	-151.72	237.49	114.95	373.00	317.75		55.26	6.750	
5,200.00	5,167.61	5,186.50	5,167.61	29.56	28.17	-152.58	237.49	114.95	383.77	327.46		56.31	6.815	
5,300.00	5,266.86	5,285.76	5,266.86	30.15	28.68	-153.39	237.49	114.95	394.62	337.25		57.36	6.879	
5,400.00	5,366.12	5,385.02	5,366.12	30.73	29.20	-154.16	237.49	114.95	405.54	347.12		58.42	6.942	
5,500.00	5,465.38	5,484.27	5,465.38	31.32	29.72	-154.89	237.49	114.95	416.53	357.06		59.47	7.004	
5,600.00	5,564.64	5,583.53	5,564.64	31.91	30.24	-155.58	237.49	114.95	427.58	367.05		60.53	7.064	
5,700.00	5,663.90	5,682.79	5,663.90	32.50	30.76	-156.24	237.49	114.95	438.67	377.07		61.60	7.121	
5,800.00	5,763.39	5,782.29	5,763.39	33.07	31.28	-156.83	237.49	114.95	447.85	385.13		62.72	7.140	
5,900.00	5,863.18	5,882.07	5,863.18	33.62	31.80	-157.20	237.49	114.95	453.85	390.07		63.78	7.116	
6,000.00	5,963.13	5,982.02	5,963.13	34.14	32.33	-157.37	237.49	114.95	456.65	391.88		64.77	7.050	
6,100.00	6,063.12	6,082.02	6,063.12	34.63	32.85	-89.81	237.49	114.95	456.87	391.07		65.80	6.944	
6,200.00	6,163.12	6,182.02	6,163.12	35.12	33.38	-89.81	237.49	114.95	456.87	390.04		66.83	6.836	
6,300.00	6,263.12	6,282.02	6,263.12	35.61	33.90	-89.81	237.49	114.95	456.87	389.01		67.86	6.732	
6,400.00	6,363.12	6,382.02	6,363.12	36.11	34.43	-89.81	237.49	114.95	456.87	387.97		68.90	6.631	
6,500.00	6,463.12	6,482.02	6,463.12	36.60	34.95	-89.81	237.49	114.95	456.87	386.93		69.94	6.533	
6,600.00	6,563.12	6,582.02	6,563.12	37.10	35.48	-89.81	237.49	114.95	456.87	385.89		70.98	6.437	
6,700.00	6,663.12	6,682.02	6,663.12	37.59	36.01	-89.81	237.49	114.95	456.87	384.85		72.02	6.344	
6,800.00	6,763.12	6,782.02	6,763.12	38.09	36.54	-89.81	237.49	114.95	456.87	383.81		73.06	6.254	
6,900.00	6,863.12	6,882.02	6,863.12	38.59	37.06	-89.81	237.49	114.95	456.87	382.77		74.10	6.166	
7,000.00	6,963.12	6,982.02	6,963.12	39.09	37.59	-89.81	237.49	114.95	456.87	381.73		75.14	6.080	
7,100.00	7,063.12	7,082.02	7,063.12	39.59	38.12	-89.81	237.49	114.95	456.87	380.69		76.18	5.997	
7,200.00	7,163.12	7,182.02	7,163.12	40.09	38.65	-89.81	237.49	114.95	456.87	379.64		77.23	5.916	
7,300.00	7,263.12	7,282.02	7,263.12	40.59	39.18	-89.81	237.49	114.95	456.87	378.60		78.27	5.837	
7,400.00	7,363.12	7,382.02	7,363.12	41.10	39.71	-89.81	237.49	114.95	456.87	377.55		79.32	5.760	
7,500.00	7,463.12	7,482.02	7,463.12	41.60	40.24	-89.81	237.49	114.95	456.87	376.51		80.36	5.685	
7,600.00	7,563.12	7,582.02	7,563.12	42.11	40.76	-89.81	237.49	114.95	456.87	375.46		81.41	5.612	
7,700.00	7,663.12	7,682.02	7,663.12	42.61	41.29	-89.81	237.49	114.95	456.87	374.41		82.46	5.541	
7,800.00	7,763.12	7,782.02	7,763.12	43.12	41.82	-89.81	237.49	114.95	456.87	373.36		83.51	5.471	
7,900.00	7,863.12	7,882.02	7,863.12	43.63	42.35	-89.81	237.49	114.95	456.87	372.31		84.56	5.403	
8,000.00	7,963.12	7,982.02	7,963.12	44.14	42.88	-89.81	237.49	114.95	456.87	371.26		85.61	5.337	
8,100.00	8,063.12	8,082.02	8,063.12	44.65	43.42	-89.81	237.49	114.95	456.87	370.21		86.66	5.272	
8,200.00	8,163.12	8,182.02	8,163.12	45.16	43.95	-89.81	237.49	114.95	456.87	369.16		87.71	5.209	
8,300.00	8,263.12	8,282.02	8,263.12	45.67	44.48	-89.81	237.49	114.95	456.87	368.11		88.76	5.147	
8,400.00	8,363.12	8,382.02	8,363.12	46.18	45.01	-89.81	237.49	114.95	456.87	367.06		89.81	5.087	
8,500.00	8,463.12	8,482.02	8,463.12	46.69	45.54	-89.81	237.49	114.95	456.87	366.00		90.87	5.028	
8,600.00	8,563.12	8,582.02	8,563.12	47.20	46.07	-89.81	237.49	114.95	456.87	364.95		91.92	4.970	
8,700.00	8,663.12	8,682.02	8,663.12	47.71	46.60	-89.81	237.49	114.95	456.87	363.90		92.97	4.914	
8,800.00	8,763.12	8,782.02	8,763.12	48.23	47.13	-89.81	237.49	114.95	456.87	362.84		94.03	4.859	
8,900.00	8,863.12	8,882.02	8,863.12	48.74	47.67	-89.81	237.49	114.95	456.87	361.79		95.08	4.805	
9,000.00	8,963.12	8,982.02	8,963.12	49.25	48.20	-89.81	237.49	114.95	456.87	360.73		96.14	4.752	
9,100.00	9,063.12	9,082.02	9,063.12	49.77	48.73	-89.81	237.49	114.95	456.87	359.68		97.19	4.701	
9,144.69	9,107.81	9,126.71	9,107.81	50.00	48.97	-89.81	237.49	114.95	456.87	359.20		97.67	4.678	
9,200.00	9,163.12	9,181.46	9,163.12	50.28	49.26	-89.59	239.18	114.93	456.90	358.64		98.26	4.650	
9,300.00	9,263.12	9,277.64	9,263.12	50.80	49.80	-87.67	254.56	114.78	457.45	358.09		99.36	4.604	
9,400.00	9,363.12	9,366.43	9,341.49	51.32	50.31	-84.17	282.65	114.50	460.20	359.73		100.47	4.580	
9,500.00	9,463.12	9,445.03	9,411.57	51.83	50.78	-78.78	318.10	114.15	467.82	366.29		101.53	4.608	
9,600.00	9,562.49	9,517.08	9,471.01	52.36	51.21	-73.46	358.74	113.75	480.36	377.99		102.37	4.692	
9,700.00	9,658.61	9,586.50	9,523.02	52.89	51.63	-68.63	404.65	113.29	495.32	392.66		102.66	4.825	
9,800.00	9,748.56	9,650.00	9,565.42	53.39	52.03	-64.56	451.88	112.83	511.15	409.10		102.05	5.009	
9,900.00	9,829.61	9,719.90	9,605.73	53.87	52.48	-60.87	508.93	112.26	526.42	426.04		100.38	5.244	
10,000.00	9,899.29	9,784.75	9,636.67	54.33	52.90	-58.01	565.88	111.70	540.07	442.28		97.79	5.523	
10,100.00	9,955.49	9,850.00	9,661.10	54.79	53.33	-55.83	626.34	111.11	551.23	456.54		94.69	5.821	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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							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	9,996.50	9,912.26	9,677.87	55.29	53.75	-54.36	686.27	110.51	559.25	467.50	91.74	6.096			
10,300.00	10,021.07	9,975.39	9,688.13	55.84	54.18	-53.53	748.52	109.90	563.71	474.04	89.67	6.287			
10,400.00	10,028.46	10,038.37	9,691.48	56.42	54.61	-53.34	811.37	109.28	564.39	475.29	89.10	6.335			
10,500.00	10,024.49	10,125.16	9,688.38	57.08	55.25	-53.36	898.10	108.42	563.47	473.41	90.06	6.257			
10,600.00	10,020.28	10,225.16	9,684.29	57.81	56.05	-53.33	998.01	107.43	562.83	471.56	91.27	6.166			
10,700.00	10,016.07	10,325.16	9,680.21	58.62	56.92	-53.30	1,097.92	106.45	562.19	469.57	92.62	6.070			
10,800.00	10,011.85	10,425.16	9,676.12	59.49	57.86	-53.26	1,197.83	105.46	561.56	467.46	94.10	5.968			
10,900.00	10,007.64	10,525.15	9,672.04	60.43	58.86	-53.23	1,297.74	104.47	560.92	465.22	95.70	5.862			
11,000.00	10,003.43	10,625.15	9,667.95	61.43	59.92	-53.20	1,397.65	103.49	560.28	462.87	97.41	5.752			
11,100.00	9,999.22	10,725.15	9,663.87	62.49	61.04	-53.17	1,497.56	102.50	559.64	460.41	99.23	5.640			
11,200.00	9,995.01	10,825.15	9,659.78	63.60	62.22	-53.13	1,597.47	101.51	559.00	457.85	101.15	5.526			
11,300.00	9,990.80	10,925.14	9,655.70	64.77	63.45	-53.10	1,697.38	100.53	558.36	455.19	103.17	5.412			
11,400.00	9,986.59	11,025.14	9,651.61	65.99	64.73	-53.07	1,797.28	99.54	557.73	452.44	105.29	5.297			
11,500.00	9,982.38	11,125.14	9,647.53	67.26	66.05	-53.03	1,897.19	98.55	557.09	449.61	107.48	5.183			
11,600.00	9,978.17	11,225.13	9,643.45	68.57	67.42	-53.00	1,997.10	97.57	556.45	446.69	109.76	5.070			
11,700.00	9,973.96	11,325.13	9,639.36	69.92	68.82	-52.97	2,097.01	96.58	555.81	443.70	112.11	4.958			
11,800.00	9,969.75	11,425.13	9,635.28	71.31	70.27	-52.93	2,196.92	95.59	555.18	440.64	114.54	4.847			
11,900.00	9,965.54	11,525.13	9,631.19	72.74	71.75	-52.90	2,296.83	94.61	554.54	437.52	117.02	4.739			
12,000.00	9,961.33	11,625.12	9,627.11	74.21	73.27	-52.87	2,396.74	93.62	553.90	434.33	119.57	4.632			
12,100.00	9,957.11	11,725.12	9,623.02	75.71	74.81	-52.83	2,496.65	92.63	553.27	431.09	122.18	4.528			
12,154.57	9,955.20	11,779.69	9,620.79	76.54	75.67	-52.78	2,551.16	92.10	553.15	429.48	123.68	4.473			
12,200.00	9,953.85	11,825.11	9,618.94	77.23	76.39	-52.72	2,596.55	91.65	553.20	428.29	124.91	4.429			
12,300.00	9,952.97	11,925.06	9,614.86	78.78	77.99	-52.42	2,696.41	90.66	554.59	427.28	127.31	4.356			
12,400.00	9,952.20	12,025.00	9,610.77	80.36	79.62	-52.11	2,796.26	89.68	556.06	426.39	129.67	4.288			
12,500.00	9,951.43	12,124.94	9,606.69	81.96	81.28	-51.79	2,896.12	88.69	557.54	425.48	132.06	4.222			
12,600.00	9,950.67	12,224.89	9,602.61	83.59	82.96	-51.48	2,995.97	87.70	559.05	424.56	134.49	4.157			
12,700.00	9,949.90	12,324.83	9,598.53	85.24	84.66	-51.17	3,095.82	86.72	560.57	423.63	136.93	4.094			
12,800.00	9,949.13	12,433.59	9,594.97	86.92	86.53	-50.90	3,204.52	85.64	561.61	422.01	139.60	4.023			
12,900.00	9,948.37	12,543.95	9,595.22	88.62	88.44	-50.94	3,314.87	84.55	560.42	417.66	142.76	3.926			
13,000.00	9,947.60	12,643.93	9,596.56	90.33	90.20	-51.06	3,414.83	83.55	558.55	412.61	145.94	3.827			
13,100.00	9,946.83	12,743.90	9,597.90	92.07	91.97	-51.19	3,514.79	82.55	556.67	407.52	149.15	3.732			
13,200.00	9,946.06	12,843.88	9,599.24	93.82	93.76	-51.31	3,614.75	81.56	554.81	402.40	152.40	3.640			
13,300.00	9,945.30	12,943.85	9,600.59	95.59	95.56	-51.44	3,714.72	80.56	552.94	397.26	155.69	3.552			
13,400.00	9,944.53	13,043.83	9,601.93	97.38	97.38	-51.56	3,814.68	79.57	551.08	392.08	159.00	3.466			
13,500.00	9,943.76	13,143.80	9,603.27	99.18	99.21	-51.69	3,914.64	78.57	549.22	386.87	162.35	3.383			
13,600.00	9,942.99	13,243.78	9,604.61	100.99	101.05	-51.82	4,014.60	77.58	547.36	381.64	165.72	3.303			
13,700.00	9,942.23	13,343.75	9,605.95	102.82	102.91	-51.94	4,114.56	76.58	545.51	376.38	169.13	3.225			
13,800.00	9,941.46	13,443.73	9,607.29	104.66	104.78	-52.07	4,214.52	75.59	543.66	371.10	172.56	3.151			
13,900.00	9,940.69	13,543.70	9,608.64	106.52	106.66	-52.20	4,314.48	74.59	541.81	365.79	176.02	3.078			
14,000.00	9,939.93	13,643.68	9,609.98	108.38	108.55	-52.34	4,414.45	73.59	539.96	360.46	179.50	3.008			
14,100.00	9,939.16	13,743.66	9,611.32	110.26	110.45	-52.47	4,514.41	72.60	538.12	355.11	183.01	2.940			
14,200.00	9,939.40	13,843.64	9,612.66	112.14	112.36	-52.50	4,614.38	71.60	536.88	350.36	186.52	2.878			
14,300.00	9,940.60	13,943.64	9,614.00	114.04	114.27	-52.47	4,714.36	70.61	536.23	346.45	189.77	2.826			
14,400.00	9,941.80	14,043.64	9,615.34	115.95	116.20	-52.43	4,814.35	69.61	535.57	342.53	193.04	2.774			
14,500.00	9,943.00	14,143.64	9,616.69	117.86	118.14	-52.40	4,914.33	68.62	534.91	338.60	196.32	2.725			
14,600.00	9,944.20	14,243.63	9,618.03	119.78	120.08	-52.36	5,014.31	67.62	534.26	334.65	199.60	2.677			
14,700.00	9,945.40	14,343.63	9,619.37	121.72	122.03	-52.33	5,114.30	66.62	533.60	330.70	202.90	2.630			
14,800.00	9,946.60	14,443.63	9,620.71	123.65	123.98	-52.29	5,214.28	65.63	532.94	326.74	206.21	2.584			
14,900.00	9,947.80	14,543.63	9,622.05	125.60	125.95	-52.26	5,314.26	64.63	532.29	322.76	209.53	2.540			
15,000.00	9,949.00	14,643.62	9,623.40	127.55	127.92	-52.22	5,414.25	63.64	531.63	318.78	212.85	2.498			
15,100.00	9,950.20	14,743.62	9,624.74	129.51	129.89	-52.19	5,514.23	62.64	530.98	314.79	216.18	2.456			
15,200.00	9,951.40	14,843.62	9,626.08	131.48	131.87	-52.15	5,614.21	61.65	530.32	310.80	219.53	2.416			

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		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)		+N/-S (usft)	+E/-W (usft)						
15,300.00	9,952.61	14,943.61	9,627.42	133.45	133.86	-52.12	5,714.20	60.65	529.67	306.79	222.88	2.377		
15,400.00	9,953.81	15,043.61	9,628.76	135.43	135.85	-52.08	5,814.18	59.65	529.01	302.78	226.23	2.338		
15,473.45	9,954.93	15,123.35	9,629.91	136.88	137.44	-52.07	5,893.91	59.44	528.78	299.76	229.01	2.309		
15,500.00	9,955.40	15,149.90	9,630.31	137.41	137.97	-52.06	5,920.45	59.54	528.73	298.78	229.96	2.299		
15,600.00	9,957.50	15,249.89	9,631.82	139.39	139.97	-52.05	6,020.44	59.92	529.52	296.16	233.36	2.269		
15,700.00	9,959.60	15,349.89	9,633.33	141.38	141.97	-52.03	6,120.42	60.30	530.30	293.53	236.77	2.240		
15,800.00	9,961.70	15,449.89	9,634.85	143.37	143.98	-52.02	6,220.41	60.67	531.08	290.90	240.19	2.211		
15,900.00	9,963.80	15,549.88	9,636.36	145.37	145.99	-52.00	6,320.39	61.05	531.87	288.25	243.61	2.183		
16,000.00	9,965.90	15,649.88	9,637.87	147.37	148.00	-51.99	6,420.38	61.43	532.65	285.61	247.04	2.156		
16,100.00	9,968.00	15,749.88	9,639.39	149.37	150.02	-51.97	6,520.36	61.81	533.43	282.96	250.48	2.130		
16,200.00	9,970.10	15,849.88	9,640.90	151.38	152.04	-51.96	6,620.35	62.19	534.22	280.30	253.92	2.104		
16,300.00	9,972.20	15,949.87	9,642.41	153.39	154.07	-51.95	6,720.33	62.57	535.00	277.63	257.37	2.079		
16,400.00	9,974.30	16,049.87	9,643.93	155.41	156.10	-51.93	6,820.32	62.94	535.78	274.97	260.82	2.054		
16,500.00	9,976.39	16,149.87	9,645.44	157.43	158.13	-51.92	6,920.30	63.32	536.57	272.29	264.27	2.030		
16,600.00	9,978.49	16,249.86	9,646.95	159.45	160.16	-51.90	7,020.29	63.70	537.35	269.62	267.73	2.007		
16,700.00	9,980.59	16,349.86	9,648.47	161.48	162.20	-51.89	7,120.27	64.08	538.13	266.94	271.20	1.984		
16,800.00	9,982.69	16,449.86	9,649.98	163.51	164.24	-51.88	7,220.25	64.46	538.92	264.25	274.67	1.962		
16,900.00	9,984.79	16,549.85	9,651.49	165.54	166.29	-51.86	7,320.24	64.83	539.70	261.56	278.14	1.940		
17,000.00	9,986.89	16,649.85	9,653.01	167.58	168.33	-51.85	7,420.22	65.21	540.48	258.87	281.62	1.919		
17,100.00	9,988.99	16,749.85	9,654.52	169.62	170.38	-51.83	7,520.21	65.59	541.27	256.17	285.10	1.899		
17,200.00	9,991.09	16,849.84	9,656.03	171.66	172.44	-51.82	7,620.19	65.97	542.05	253.47	288.58	1.878		
17,300.00	9,993.19	16,949.84	9,657.55	173.70	174.49	-51.81	7,720.18	66.35	542.83	250.77	292.07	1.859		
17,400.00	9,995.29	17,049.84	9,659.06	175.75	176.55	-51.79	7,820.16	66.72	543.62	248.06	295.56	1.839		
17,500.00	9,997.39	17,149.83	9,660.57	177.80	178.61	-51.78	7,920.15	67.10	544.40	245.35	299.05	1.820		
17,600.00	9,999.49	17,249.83	9,662.09	179.85	180.67	-51.77	8,020.13	67.48	545.19	242.64	302.55	1.802		
17,700.00	10,001.59	17,349.83	9,663.60	181.90	182.73	-51.75	8,120.12	67.86	545.97	239.92	306.05	1.784		
17,800.00	10,002.98	17,449.83	9,665.11	183.96	184.80	-51.79	8,220.10	68.24	546.29	236.64	309.64	1.764		
17,900.00	10,003.98	17,549.82	9,666.63	186.01	186.86	-51.87	8,320.09	68.61	546.34	232.95	313.39	1.743		
18,000.00	10,004.98	17,649.82	9,668.14	188.07	188.93	-51.94	8,420.07	68.99	546.40	229.26	317.15	1.723		
18,100.00	10,005.98	17,749.82	9,669.65	190.13	191.00	-52.01	8,520.06	69.37	546.47	225.56	320.91	1.703		
18,200.00	10,006.98	17,850.09	9,671.26	192.20	193.08	-52.10	8,620.32	69.73	546.49	221.79	324.70	1.683		
18,300.00	10,007.98	17,950.09	9,672.89	194.26	195.16	-52.18	8,720.30	70.08	546.50	217.99	328.51	1.664		
18,400.00	10,008.98	18,050.08	9,674.52	196.33	197.23	-52.26	8,820.28	70.43	546.52	214.19	332.33	1.645		
18,500.00	10,009.98	18,150.08	9,676.14	198.40	199.31	-52.35	8,920.27	70.79	546.53	210.38	336.15	1.626		
18,600.00	10,010.98	18,250.08	9,677.77	200.47	201.39	-52.43	9,020.25	71.14	546.55	206.57	339.98	1.608		
18,700.00	10,011.98	18,350.07	9,679.40	202.54	203.47	-52.52	9,120.23	71.49	546.57	202.75	343.81	1.590		
18,800.00	10,012.98	18,450.07	9,681.03	204.62	205.56	-52.60	9,220.21	71.84	546.58	198.93	347.65	1.572		
18,900.00	10,013.98	18,550.07	9,682.66	206.69	207.64	-52.69	9,320.20	72.19	546.60	195.10	351.50	1.555		
19,000.00	10,014.98	18,650.06	9,684.29	208.77	209.73	-52.77	9,420.18	72.54	546.62	191.27	355.36	1.538		
19,100.00	10,015.98	18,750.06	9,685.92	210.85	211.81	-52.86	9,520.16	72.90	546.65	187.43	359.22	1.522		
19,200.00	10,016.98	18,850.06	9,687.55	212.93	213.90	-52.94	9,620.15	73.25	546.67	183.58	363.09	1.506		
19,300.00	10,017.98	18,950.05	9,689.17	215.01	215.99	-53.02	9,720.13	73.60	546.70	179.73	366.96	1.490 Level 3		
19,400.00	10,018.98	19,050.05	9,690.80	217.09	218.08	-53.11	9,820.11	73.95	546.72	175.88	370.84	1.474 Level 3		
19,500.00	10,019.98	19,150.05	9,692.43	219.18	220.17	-53.19	9,920.09	74.30	546.75	172.02	374.73	1.459 Level 3		
19,600.00	10,020.98	19,250.04	9,694.06	221.26	222.27	-53.28	10,020.08	74.65	546.78	168.15	378.63	1.444 Level 3		
19,700.00	10,021.98	19,350.04	9,695.69	223.35	224.36	-53.36	10,120.06	75.01	546.81	164.28	382.53	1.429 Level 3		
19,800.00	10,022.98	19,450.04	9,697.32	225.44	226.46	-53.45	10,220.04	75.36	546.84	160.40	386.43	1.415 Level 3		
19,900.00	10,023.98	19,550.03	9,698.95	227.53	228.55	-53.53	10,320.03	75.71	546.87	156.52	390.35	1.401 Level 3		
20,000.00	10,024.98	19,650.03	9,700.58	229.62	230.65	-53.62	10,420.01	76.06	546.90	152.64	394.26	1.387 Level 3		
20,100.00	10,025.98	19,750.03	9,702.21	231.71	232.75	-53.70	10,519.99	76.41	546.93	148.75	398.19	1.374 Level 3		
20,200.00	10,026.98	19,850.03	9,703.83	233.80	234.85	-53.78	10,619.97	76.76	546.97	144.85	402.12	1.360 Level 3		
20,300.00	10,027.98	19,950.02	9,705.46	235.90	236.95	-53.87	10,719.96	77.12	547.01	140.95	406.05	1.347 Level 3		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
20,357.05	10,028.55	20,007.07	9,706.39	237.09	238.13	-53.92	10,777.00	77.32	547.03	138.75	408.28	1.340	Level 3	
20,400.00	10,028.98	20,044.41	9,707.00	237.99	238.80	-53.95	10,814.33	77.45	547.07	137.35	409.72	1.335	Level 3	
20,401.69	10,029.00	20,044.41	9,707.00	238.03	238.80	-53.95	10,814.33	77.45	547.09	137.34	409.75	1.335	Level 3, SF	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		
0.00	0.00	1.00	0.00	0.00	0.00	-179.71	-49.84	-0.25	49.84					
100.00	100.00	101.00	100.00	0.19	0.20	-179.71	-49.84	-0.25	49.84	49.44	0.39	126.962		
200.00	200.00	201.00	200.00	0.73	0.74	-179.71	-49.84	-0.25	49.84	48.37	1.47	33.950		
300.00	300.00	301.00	300.00	1.27	1.27	-179.71	-49.84	-0.25	49.84	47.29	2.54	19.595		
400.00	400.00	401.00	400.00	1.81	1.81	-179.71	-49.84	-0.25	49.84	46.22	3.62	13.772		
500.00	500.00	501.00	500.00	2.34	2.35	-179.71	-49.84	-0.25	49.84	45.14	4.69	10.617		
600.00	600.00	601.00	600.00	2.88	2.89	-179.71	-49.84	-0.25	49.84	44.07	5.77	8.638		
602.62	602.62	603.64	602.64	2.90	2.90	112.71	-49.83	-0.25	49.84	44.04	5.80	8.596 CC		
700.00	699.98	701.49	700.47	3.41	3.42	112.59	-49.34	1.47	50.01	43.18	6.83	7.320		
800.00	799.84	801.97	800.80	3.94	3.95	112.29	-47.89	6.59	50.56	42.67	7.89	6.408		
900.00	899.45	902.44	900.88	4.48	4.49	111.82	-45.48	15.09	51.49	42.52	8.97	5.742		
1,000.00	998.76	1,002.90	1,000.58	5.03	5.04	110.77	-42.11	26.95	52.63	42.56	10.07	5.228		
1,100.00	1,098.02	1,103.22	1,099.63	5.58	5.61	106.52	-37.79	42.15	53.21	42.01	11.19	4.753		
1,200.00	1,197.28	1,203.15	1,197.71	6.15	6.20	98.70	-32.55	60.60	53.82	41.47	12.35	4.357 ES		
1,300.00	1,296.53	1,302.73	1,295.05	6.72	6.82	89.28	-26.82	80.76	55.62	42.09	13.53	4.112		
1,400.00	1,395.79	1,402.31	1,392.40	7.29	7.45	80.66	-21.09	100.93	58.82	44.12	14.70	4.002		
1,500.00	1,495.05	1,501.88	1,489.74	7.86	8.09	73.08	-15.36	121.09	63.20	47.35	15.85	3.987		
1,600.00	1,594.31	1,601.46	1,587.09	8.44	8.73	66.57	-9.63	141.26	68.54	51.55	16.99	4.033		
1,700.00	1,693.57	1,701.04	1,684.43	9.02	9.38	61.05	-3.90	161.43	74.64	56.52	18.13	4.118		
1,800.00	1,792.83	1,800.61	1,781.78	9.60	10.04	56.41	1.83	181.59	81.33	62.08	19.25	4.225		
1,900.00	1,892.08	1,900.19	1,879.12	10.18	10.70	52.48	7.55	201.76	88.46	68.10	20.36	4.344		
2,000.00	1,991.34	1,999.76	1,976.46	10.76	11.37	49.16	13.28	221.93	95.95	74.47	21.48	4.467		
2,100.00	2,090.60	2,099.34	2,073.81	11.34	12.04	46.32	19.01	242.09	103.71	81.12	22.59	4.590		
2,200.00	2,189.86	2,198.92	2,171.15	11.93	12.71	43.88	24.74	262.26	111.69	87.98	23.71	4.712		
2,300.00	2,289.12	2,298.49	2,268.50	12.51	13.38	41.77	30.47	282.43	119.85	95.03	24.82	4.829		
2,400.00	2,388.37	2,398.07	2,365.84	13.10	14.06	39.93	36.20	302.59	128.14	102.21	25.93	4.941		
2,500.00	2,487.63	2,497.65	2,463.19	13.68	14.73	38.31	41.93	322.76	136.55	109.50	27.05	5.049		
2,600.00	2,586.89	2,597.22	2,560.53	14.27	15.41	36.89	47.66	342.93	145.06	116.89	28.16	5.151		
2,700.00	2,686.15	2,696.80	2,657.87	14.85	16.09	35.62	53.39	363.09	153.64	124.36	29.28	5.247		
2,800.00	2,785.41	2,796.37	2,755.22	15.44	16.77	34.49	59.12	383.26	162.30	131.90	30.40	5.339		
2,900.00	2,884.67	2,895.95	2,852.56	16.03	17.45	33.47	64.85	403.43	171.01	139.49	31.52	5.426		
3,000.00	2,983.92	2,995.53	2,949.91	16.61	18.13	32.55	70.57	423.59	179.77	147.13	32.64	5.508		
3,100.00	3,083.18	3,095.10	3,047.25	17.20	18.81	31.71	76.30	443.76	188.57	154.81	33.76	5.586		
3,200.00	3,182.44	3,194.68	3,144.60	17.79	19.49	30.95	82.03	463.93	197.40	162.52	34.88	5.660		
3,300.00	3,281.70	3,294.26	3,241.94	18.38	20.17	30.26	87.76	484.09	206.27	170.27	36.00	5.729		
3,400.00	3,380.96	3,393.83	3,339.28	18.96	20.86	29.62	93.49	504.26	215.16	178.04	37.12	5.796		
3,500.00	3,480.22	3,493.41	3,436.63	19.55	21.54	29.03	99.22	524.43	224.08	185.84	38.25	5.859		
3,600.00	3,579.47	3,592.98	3,533.97	20.14	22.23	28.49	104.95	544.59	233.03	193.65	39.37	5.919		
3,700.00	3,678.73	3,692.56	3,631.32	20.73	22.91	27.99	110.68	564.76	241.99	201.49	40.50	5.975		
3,800.00	3,777.99	3,792.14	3,728.66	21.31	23.60	27.53	116.41	584.93	250.96	209.34	41.62	6.030		
3,900.00	3,877.25	3,891.71	3,826.01	21.90	24.28	27.09	122.14	605.09	259.96	217.21	42.75	6.081		
4,000.00	3,976.51	3,991.29	3,923.35	22.49	24.97	26.69	127.87	625.26	268.96	225.09	43.87	6.130		
4,100.00	4,075.77	4,090.87	4,020.69	23.08	25.65	26.31	133.59	645.43	277.98	232.98	45.00	6.177		
4,200.00	4,175.02	4,190.44	4,118.04	23.67	26.34	25.95	139.32	665.59	287.01	240.88	46.13	6.222		
4,300.00	4,274.28	4,290.02	4,215.38	24.26	27.03	25.62	145.05	685.76	296.05	248.80	47.25	6.265		
4,400.00	4,373.54	4,389.59	4,312.73	24.85	27.71	25.31	150.78	705.93	305.10	256.72	48.38	6.306		
4,500.00	4,472.80	4,489.17	4,410.07	25.43	28.40	25.01	156.51	726.09	314.16	264.65	49.51	6.345		
4,600.00	4,572.06	4,588.75	4,507.41	26.02	29.09	24.73	162.24	746.26	323.22	272.59	50.64	6.383		
4,700.00	4,671.31	4,688.32	4,604.76	26.61	29.77	24.47	167.97	766.43	332.30	280.53	51.77	6.419		
4,800.00	4,770.57	4,787.90	4,702.10	27.20	30.46	24.22	173.70	786.59	341.38	288.48	52.89	6.454		
4,900.00	4,869.83	4,887.48	4,799.45	27.79	31.15	23.98	179.43	806.76	350.46	296.44	54.02	6.487		
5,000.00	4,969.09	4,987.05	4,896.79	28.38	31.84	23.76	185.16	826.93	359.56	304.40	55.15	6.519		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		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	Offset		Offset	Offset							
5,100.00	5,068.35	5,086.63	4,994.14	28.97	32.52	23.55	190.89	847.09	368.65	312.37	56.28	6.550			
5,200.00	5,167.61	5,186.20	5,091.48	29.56	33.21	23.34	196.61	867.26	377.75	320.34	57.41	6.580			
5,300.00	5,266.86	5,285.78	5,188.82	30.15	33.90	23.15	202.34	887.43	386.86	328.32	58.54	6.609			
5,400.00	5,366.12	5,385.36	5,286.17	30.73	34.59	22.97	208.07	907.59	395.97	336.30	59.67	6.636			
5,500.00	5,465.38	5,484.93	5,383.51	31.32	35.28	22.79	213.80	927.76	405.08	344.28	60.80	6.663			
5,600.00	5,564.64	5,584.49	5,484.88	31.91	36.04	22.67	219.86	949.08	412.73	350.72	62.01	6.656			
5,700.00	5,663.90	5,714.56	5,609.52	32.50	36.76	22.72	224.81	966.50	416.56	353.34	63.21	6.590			
5,800.00	5,763.39	5,830.81	5,724.98	33.07	37.42	22.84	228.49	979.45	418.47	354.15	64.32	6.506			
5,900.00	5,863.18	5,947.13	5,840.96	33.62	38.03	22.91	230.88	987.89	419.70	354.37	65.34	6.424			
6,000.00	5,963.13	6,063.50	5,957.25	34.14	38.59	22.95	231.99	991.79	420.26	354.01	66.25	6.344			
6,100.00	6,063.12	6,169.37	6,063.12	34.63	39.05	90.53	232.08	992.09	420.29	353.05	67.25	6.250			
6,200.00	6,163.12	6,269.37	6,163.12	35.12	39.49	90.53	232.08	992.09	420.29	352.06	68.24	6.159			
6,300.00	6,263.12	6,369.37	6,263.12	35.61	39.93	90.53	232.08	992.09	420.29	351.06	69.23	6.071			
6,400.00	6,363.12	6,469.37	6,363.12	36.11	40.37	90.53	232.08	992.09	420.29	350.07	70.22	5.985			
6,500.00	6,463.12	6,569.37	6,463.12	36.60	40.81	90.53	232.08	992.09	420.29	349.07	71.22	5.901			
6,600.00	6,563.12	6,669.37	6,563.12	37.10	41.26	90.53	232.08	992.09	420.29	348.07	72.22	5.820			
6,700.00	6,663.12	6,769.37	6,663.12	37.59	41.71	90.53	232.08	992.09	420.29	347.07	73.22	5.740			
6,800.00	6,763.12	6,869.37	6,763.12	38.09	42.16	90.53	232.08	992.09	420.29	346.07	74.22	5.662			
6,900.00	6,863.12	6,969.37	6,863.12	38.59	42.61	90.53	232.08	992.09	420.29	345.06	75.23	5.587			
7,000.00	6,963.12	7,069.37	6,963.12	39.09	43.06	90.53	232.08	992.09	420.29	344.05	76.24	5.513			
7,100.00	7,063.12	7,169.37	7,063.12	39.59	43.52	90.53	232.08	992.09	420.29	343.04	77.25	5.441			
7,200.00	7,163.12	7,269.37	7,163.12	40.09	43.97	90.53	232.08	992.09	420.29	342.03	78.26	5.371			
7,300.00	7,263.12	7,369.37	7,263.12	40.59	44.43	90.53	232.08	992.09	420.29	341.02	79.27	5.302			
7,400.00	7,363.12	7,469.37	7,363.12	41.10	44.89	90.53	232.08	992.09	420.29	340.01	80.28	5.235			
7,500.00	7,463.12	7,569.37	7,463.12	41.60	45.36	90.53	232.08	992.09	420.29	338.99	81.30	5.170			
7,600.00	7,563.12	7,669.37	7,563.12	42.11	45.82	90.53	232.08	992.09	420.29	337.97	82.32	5.106			
7,700.00	7,663.12	7,769.37	7,663.12	42.61	46.29	90.53	232.08	992.09	420.29	336.95	83.34	5.043			
7,800.00	7,763.12	7,869.37	7,763.12	43.12	46.75	90.53	232.08	992.09	420.29	335.93	84.36	4.982			
7,900.00	7,863.12	7,969.37	7,863.12	43.63	47.22	90.53	232.08	992.09	420.29	334.91	85.38	4.923			
8,000.00	7,963.12	8,069.37	7,963.12	44.14	47.69	90.53	232.08	992.09	420.29	333.89	86.40	4.864			
8,100.00	8,063.12	8,169.37	8,063.12	44.65	48.17	90.53	232.08	992.09	420.29	332.87	87.43	4.807			
8,200.00	8,163.12	8,269.37	8,163.12	45.16	48.64	90.53	232.08	992.09	420.29	331.84	88.45	4.752			
8,300.00	8,263.12	8,369.37	8,263.12	45.67	49.11	90.53	232.08	992.09	420.29	330.81	89.48	4.697			
8,400.00	8,363.12	8,469.37	8,363.12	46.18	49.59	90.53	232.08	992.09	420.29	329.79	90.50	4.644			
8,500.00	8,463.12	8,569.37	8,463.12	46.69	50.07	90.53	232.08	992.09	420.29	328.76	91.53	4.592			
8,600.00	8,563.12	8,669.37	8,563.12	47.20	50.55	90.53	232.08	992.09	420.29	327.73	92.56	4.541			
8,700.00	8,663.12	8,769.37	8,663.12	47.71	51.02	90.53	232.08	992.09	420.29	326.70	93.59	4.491			
8,800.00	8,763.12	8,869.37	8,763.12	48.23	51.51	90.53	232.08	992.09	420.29	325.67	94.63	4.442			
8,900.00	8,863.12	8,969.37	8,863.12	48.74	51.99	90.53	232.08	992.09	420.29	324.63	95.66	4.394			
9,000.00	8,963.12	9,069.37	8,963.12	49.25	52.47	90.53	232.08	992.09	420.29	323.60	96.69	4.347			
9,100.00	9,063.12	9,169.37	9,063.12	49.77	52.95	90.53	232.08	992.09	420.29	322.56	97.73	4.301			
9,200.00	9,163.12	9,269.93	9,163.66	50.28	53.44	90.42	232.86	992.07	420.27	321.51	98.76	4.255			
9,282.57	9,245.69	9,352.67	9,245.69	50.71	53.86	89.02	243.13	991.90	420.15	320.58	99.57	4.220			
9,300.00	9,263.12	9,369.66	9,262.30	50.80	53.94	88.53	246.70	991.84	420.16	320.43	99.73	4.213			
9,400.00	9,363.12	9,462.05	9,350.28	51.32	54.41	84.74	274.59	991.36	421.52	320.92	100.60	4.190			
9,500.00	9,463.12	9,543.78	9,423.49	51.83	54.81	80.78	310.77	990.74	427.39	325.97	101.42	4.214			
9,600.00	9,562.49	9,618.43	9,485.24	52.36	55.15	75.05	352.60	990.03	438.60	336.05	102.56	4.277			
9,700.00	9,658.61	9,690.05	9,538.90	52.89	55.47	69.82	399.95	989.22	452.95	349.45	103.50	4.376			
9,800.00	9,748.56	9,759.40	9,584.85	53.39	55.76	65.22	451.84	988.33	468.76	365.02	103.74	4.519			
9,900.00	9,829.61	9,827.04	9,623.30	53.87	56.04	61.33	507.43	987.38	484.55	381.57	102.98	4.705			
10,000.00	9,899.29	9,900.00	9,657.13	54.33	56.34	58.00	572.01	986.28	499.16	397.88	101.28	4.929			
10,100.00	9,955.49	9,958.78	9,678.24	54.79	56.59	55.73	626.83	985.34	511.45	412.31	99.14	5.159			

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		Minimum Separation		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)	Separation Factor		
10,200.00	9,996.50	10,023.50	9,694.84	55.29	56.88	53.99	689.34	984.27	520.89	423.75	97.14	5.362		
10,300.00	10,021.07	10,087.79	9,704.26	55.84	57.19	52.93	752.89	983.19	526.93	430.87	96.06	5.486		
10,400.00	10,028.46	10,150.00	9,706.54	56.42	57.52	52.53	815.02	982.13	529.28	432.83	96.46	5.487		
10,500.00	10,024.49	10,243.40	9,702.40	57.08	58.07	52.49	908.32	980.53	529.52	431.72	97.80	5.414		
10,600.00	10,020.28	10,343.40	9,697.70	57.81	58.75	52.44	1,008.19	978.83	529.81	430.58	99.23	5.339		
10,700.00	10,016.07	10,443.40	9,692.99	58.62	59.51	52.40	1,108.06	977.12	530.10	429.32	100.78	5.260		
10,800.00	10,011.85	10,543.40	9,688.29	59.49	60.35	52.36	1,207.94	975.41	530.39	427.94	102.44	5.177		
10,900.00	10,007.64	10,643.40	9,683.58	60.43	61.26	52.31	1,307.81	973.71	530.67	426.47	104.20	5.093		
11,000.00	10,003.43	10,743.39	9,678.88	61.43	62.24	52.27	1,407.68	972.00	530.96	424.90	106.06	5.006		
11,100.00	9,999.22	10,843.39	9,674.18	62.49	63.28	52.23	1,507.56	970.30	531.25	423.23	108.02	4.918		
11,200.00	9,995.01	10,943.39	9,669.47	63.60	64.38	52.19	1,607.43	968.59	531.54	421.48	110.06	4.829		
11,300.00	9,990.80	11,043.39	9,664.77	64.77	65.54	52.14	1,707.30	966.88	531.83	419.64	112.19	4.741		
11,400.00	9,986.59	11,143.39	9,660.07	65.99	66.75	52.10	1,807.18	965.18	532.12	417.73	114.39	4.652		
11,500.00	9,982.38	11,243.39	9,655.36	67.26	68.01	52.06	1,907.05	963.47	532.41	415.74	116.67	4.563		
11,600.00	9,978.17	11,343.39	9,650.66	68.57	69.32	52.01	2,006.93	961.77	532.70	413.68	119.02	4.476		
11,700.00	9,973.96	11,443.39	9,645.96	69.92	70.66	51.97	2,106.80	960.06	532.99	411.56	121.43	4.389		
11,800.00	9,969.75	11,543.38	9,641.25	71.31	72.05	51.93	2,206.67	958.35	533.28	409.38	123.90	4.304		
11,900.00	9,965.54	11,655.54	9,637.97	72.74	73.65	52.05	2,318.75	956.45	532.49	405.73	126.76	4.201		
12,000.00	9,961.33	11,758.96	9,637.90	74.21	75.15	52.41	2,422.16	954.71	529.94	400.11	129.83	4.082		
12,100.00	9,957.11	11,858.86	9,638.01	75.71	76.64	52.79	2,522.05	953.02	527.33	394.41	132.92	3.967		
12,200.00	9,953.85	11,958.80	9,638.11	77.23	78.15	53.06	2,621.98	951.34	525.30	389.56	135.74	3.870		
12,300.00	9,952.97	12,058.80	9,638.21	78.78	79.70	53.14	2,721.96	949.66	524.73	386.19	138.54	3.788		
12,400.00	9,952.20	12,158.80	9,638.31	80.36	81.28	53.22	2,821.94	947.98	524.22	382.76	141.45	3.706		
12,500.00	9,951.43	12,258.79	9,638.42	81.96	82.88	53.30	2,921.92	946.29	523.71	379.30	144.41	3.627		
12,600.00	9,950.67	12,358.79	9,638.52	83.59	84.51	53.37	3,021.90	944.61	523.20	375.79	147.41	3.549		
12,700.00	9,949.90	12,458.78	9,638.62	85.24	86.16	53.45	3,121.89	942.93	522.70	372.25	150.45	3.474		
12,800.00	9,949.13	12,558.78	9,638.72	86.92	87.84	53.53	3,221.87	941.24	522.19	368.66	153.53	3.401		
12,900.00	9,948.37	12,658.78	9,638.82	88.62	89.53	53.61	3,321.85	939.56	521.69	365.05	156.64	3.330		
13,000.00	9,947.60	12,758.77	9,638.93	90.33	91.25	53.68	3,421.83	937.88	521.18	361.39	159.79	3.262		
13,100.00	9,946.83	12,862.18	9,639.20	92.07	93.04	53.78	3,525.22	936.13	520.59	357.55	163.04	3.193		
13,200.00	9,946.06	12,962.91	9,640.63	93.82	94.81	53.97	3,625.93	934.41	519.29	352.87	166.42	3.120		
13,300.00	9,945.30	13,062.89	9,642.05	95.59	96.58	54.17	3,725.88	932.71	518.00	348.18	169.82	3.050		
13,400.00	9,944.53	13,162.86	9,643.47	97.38	98.37	54.37	3,825.83	931.00	516.71	343.46	173.25	2.982		
13,500.00	9,943.76	13,262.84	9,644.90	99.18	100.17	54.56	3,925.78	929.30	515.43	338.72	176.72	2.917		
13,600.00	9,942.99	13,362.82	9,646.32	100.99	101.98	54.76	4,025.74	927.59	514.16	333.94	180.21	2.853		
13,700.00	9,942.23	13,462.79	9,647.74	102.82	103.81	54.96	4,125.69	925.88	512.89	329.15	183.74	2.791		
13,800.00	9,941.46	13,562.77	9,649.17	104.66	105.66	55.16	4,225.64	924.18	511.63	324.33	187.30	2.732		
13,900.00	9,940.69	13,662.74	9,650.59	106.52	107.51	55.36	4,325.59	922.47	510.37	319.49	190.88	2.674		
14,000.00	9,939.93	13,762.72	9,652.02	108.38	109.38	55.57	4,425.54	920.76	509.12	314.63	194.49	2.618		
14,100.00	9,939.16	13,862.70	9,653.44	110.26	111.25	55.77	4,525.49	919.06	507.88	309.75	198.13	2.563		
14,200.00	9,939.40	13,962.69	9,654.86	112.14	113.14	55.87	4,625.46	917.35	507.21	305.77	201.45	2.518		
14,300.00	9,940.60	14,062.69	9,656.29	114.04	115.04	55.89	4,725.43	915.64	507.09	302.23	204.87	2.475		
14,400.00	9,941.80	14,162.69	9,657.71	115.95	116.94	55.92	4,825.41	913.94	506.98	298.67	208.30	2.434		
14,500.00	9,943.00	14,262.68	9,659.14	117.86	118.86	55.94	4,925.38	912.23	506.86	295.11	211.75	2.394		
14,600.00	9,944.20	14,362.68	9,660.56	119.78	120.78	55.96	5,025.36	910.52	506.74	291.52	215.22	2.355		
14,700.00	9,945.40	14,462.68	9,661.98	121.72	122.71	55.98	5,125.33	908.82	506.62	287.93	218.70	2.317		
14,800.00	9,946.60	14,562.68	9,663.41	123.65	124.65	56.00	5,225.31	907.11	506.50	284.31	222.19	2.280		
14,900.00	9,947.80	14,662.68	9,664.83	125.60	126.60	56.02	5,325.28	905.40	506.39	280.69	225.69	2.244		
15,000.00	9,949.00	14,762.68	9,666.26	127.55	128.55	56.04	5,425.26	903.70	506.27	277.06	229.21	2.209		
15,100.00	9,950.20	14,862.68	9,667.68	129.51	130.51	56.07	5,525.23	901.99	506.15	273.41	232.74	2.175		
15,200.00	9,951.40	14,962.68	9,669.11	131.48	132.48	56.09	5,625.21	900.28	506.03	269.75	236.28	2.142		
15,300.00	9,952.61	15,062.68	9,670.53	133.45	134.45	56.11	5,725.18	898.58	505.92	266.08	239.83	2.109		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		Distance		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor			
15,400.00	9,953.81	15,162.68	9,671.95	135.43	136.42	56.13	5,825.16	896.87	505.80	262.40	243.40	2.078			
15,417.83	9,954.03	15,179.01	9,672.19	135.78	136.75	56.13	5,841.48	896.62	505.77	261.71	244.06	2.072			
15,500.00	9,955.40	15,253.58	9,673.59	137.41	138.22	56.14	5,916.04	896.60	505.89	258.79	247.10	2.047			
15,600.00	9,957.50	15,353.58	9,675.73	139.39	140.21	56.14	6,016.01	897.54	505.89	255.25	250.64	2.018			
15,700.00	9,959.60	15,453.58	9,677.87	141.38	142.20	56.15	6,115.98	898.48	505.89	251.71	254.18	1.990			
15,800.00	9,961.70	15,553.58	9,680.00	143.37	144.19	56.15	6,215.95	899.42	505.89	248.16	257.74	1.963			
15,900.00	9,963.80	15,653.58	9,682.14	145.37	146.19	56.16	6,315.93	900.35	505.89	244.59	261.30	1.936			
16,000.00	9,965.90	15,753.58	9,684.28	147.37	148.19	56.16	6,415.90	901.29	505.89	241.03	264.86	1.910			
16,100.00	9,968.00	15,853.58	9,686.42	149.37	150.20	56.17	6,515.87	902.23	505.89	237.45	268.44	1.885			
16,200.00	9,970.10	15,953.58	9,688.55	151.38	152.21	56.18	6,615.84	903.17	505.89	233.87	272.02	1.860			
16,300.00	9,972.20	16,053.58	9,690.69	153.39	154.23	56.18	6,715.82	904.11	505.89	230.28	275.61	1.836			
16,400.00	9,974.30	16,153.58	9,692.83	155.41	156.24	56.19	6,815.79	905.05	505.89	226.69	279.20	1.812			
16,500.00	9,976.39	16,253.58	9,694.96	157.43	158.26	56.19	6,915.76	905.99	505.89	223.08	282.80	1.789			
16,600.00	9,978.49	16,353.58	9,697.10	159.45	160.29	56.20	7,015.74	906.93	505.89	219.48	286.41	1.766			
16,700.00	9,980.59	16,453.58	9,699.24	161.48	162.32	56.20	7,115.71	907.87	505.89	215.86	290.02	1.744			
16,800.00	9,982.69	16,553.58	9,701.38	163.51	164.35	56.21	7,215.68	908.80	505.89	212.25	293.64	1.723			
16,900.00	9,984.79	16,653.58	9,703.51	165.54	166.38	56.21	7,315.65	909.74	505.89	208.62	297.26	1.702			
16,905.10	9,984.90	16,658.67	9,703.62	165.65	166.49	56.21	7,320.75	909.79	505.89	208.44	297.45	1.701			
17,000.00	9,986.89	16,749.85	9,704.81	167.58	168.34	56.14	7,411.91	910.60	506.29	205.62	300.66	1.684			
17,100.00	9,988.99	16,849.84	9,705.49	169.62	170.38	56.01	7,511.89	911.46	507.03	203.04	303.99	1.668			
17,200.00	9,991.09	16,949.83	9,706.18	171.66	172.42	55.87	7,611.88	912.31	507.77	200.46	307.31	1.652			
17,300.00	9,993.19	17,049.82	9,706.87	173.70	174.47	55.73	7,711.86	913.16	508.51	197.88	310.63	1.637			
17,400.00	9,995.29	17,149.81	9,707.55	175.75	176.51	55.60	7,811.85	914.02	509.26	195.31	313.95	1.622			
17,500.00	9,997.39	17,249.80	9,708.24	177.80	178.56	55.46	7,911.83	914.87	510.01	192.75	317.26	1.608			
17,600.00	9,999.49	17,349.79	9,708.92	179.85	180.61	55.33	8,011.81	915.73	510.76	190.19	320.57	1.593			
17,700.00	10,001.59	17,449.78	9,709.61	181.90	182.67	55.20	8,111.80	916.58	511.52	187.64	323.88	1.579			
17,800.00	10,002.98	17,549.78	9,710.30	183.96	184.72	55.13	8,211.79	917.43	511.90	184.48	327.42	1.563			
17,900.00	10,003.98	17,649.77	9,710.98	186.01	186.78	55.10	8,311.78	918.29	512.08	181.10	330.98	1.547			
18,000.00	10,004.98	17,749.77	9,711.67	188.07	188.84	55.07	8,411.77	919.14	512.26	177.72	334.53	1.531			
18,100.00	10,005.98	17,849.77	9,712.36	190.13	190.91	55.04	8,511.77	920.00	512.43	174.34	338.09	1.516			
18,200.00	10,006.98	17,949.77	9,713.04	192.20	192.97	55.01	8,611.76	920.85	512.61	170.96	341.65	1.500			
18,300.00	10,007.98	18,049.77	9,713.73	194.26	195.04	54.98	8,711.76	921.70	512.79	167.58	345.21	1.485 Level 3			
18,400.00	10,008.98	18,149.77	9,714.42	196.33	197.10	54.95	8,811.75	922.56	512.97	164.19	348.78	1.471 Level 3			
18,500.00	10,009.98	18,249.77	9,715.10	198.40	199.17	54.92	8,911.74	923.41	513.15	160.81	352.34	1.456 Level 3			
18,600.00	10,010.98	18,349.77	9,715.79	200.47	201.25	54.90	9,011.74	924.27	513.32	157.42	355.91	1.442 Level 3			
18,700.00	10,011.98	18,449.77	9,716.48	202.54	203.32	54.87	9,111.73	925.12	513.50	154.03	359.47	1.428 Level 3			
18,800.00	10,012.98	18,549.77	9,717.16	204.62	205.39	54.84	9,211.72	925.98	513.68	150.64	363.04	1.415 Level 3			
18,900.00	10,013.98	18,649.77	9,717.85	206.69	207.47	54.81	9,311.72	926.83	513.86	147.25	366.61	1.402 Level 3			
19,000.00	10,014.98	18,749.77	9,718.53	208.77	209.55	54.78	9,411.71	927.68	514.04	143.86	370.18	1.389 Level 3			
19,100.00	10,015.98	18,852.40	9,719.44	210.85	211.68	54.77	9,514.33	928.56	514.11	140.27	373.85	1.375 Level 3			
19,200.00	10,016.98	18,952.40	9,721.02	212.93	213.76	54.82	9,614.31	929.42	513.78	136.13	377.65	1.360 Level 3			
19,300.00	10,017.98	19,052.40	9,722.60	215.01	215.85	54.88	9,714.29	930.28	513.45	132.00	381.45	1.346 Level 3			
19,400.00	10,018.98	19,152.39	9,724.18	217.09	217.93	54.93	9,814.28	931.14	513.12	127.86	385.26	1.332 Level 3			
19,500.00	10,019.98	19,252.39	9,725.76	219.18	220.01	54.98	9,914.26	932.00	512.79	123.71	389.08	1.318 Level 3			
19,600.00	10,020.98	19,352.39	9,727.34	221.26	222.10	55.03	10,014.24	932.86	512.46	119.56	392.90	1.304 Level 3			
19,700.00	10,021.98	19,452.39	9,728.92	223.35	224.19	55.09	10,114.22	933.72	512.13	115.40	396.72	1.291 Level 3			
19,800.00	10,022.98	19,552.39	9,730.50	225.44	226.28	55.14	10,214.21	934.58	511.80	111.24	400.55	1.278 Level 3			
19,900.00	10,023.98	19,652.38	9,732.08	227.53	228.37	55.20	10,314.19	935.44	511.47	107.08	404.39	1.265 Level 3			
20,000.00	10,024.98	19,752.38	9,733.66	229.62	230.46	55.25	10,414.17	936.30	511.14	102.91	408.23	1.252 Level 3			
20,100.00	10,025.98	19,852.38	9,735.24	231.71	232.55	55.30	10,514.15	937.15	510.81	98.74	412.07	1.240 Level 2			
20,200.00	10,026.98	19,952.38	9,736.82	233.80	234.65	55.36	10,614.13	938.01	510.48	94.56	415.92	1.227 Level 2			
20,300.00	10,027.98	20,052.38	9,738.40	235.90	236.74	55.41	10,714.12	938.87	510.15	90.38	419.77	1.215 Level 2			

CC - Min centre to centre 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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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)		Between Centres (usft)	Between Ellipses (usft)					
20,400.00	10,028.98	20,152.38	9,739.98	237.99	238.83	55.46	10,814.10	939.73	509.83	86.19	423.63	1.203	Level 2
20,401.69	10,029.00	20,153.58	9,740.00	238.03	238.86	55.46	10,815.30	939.74	509.82	86.13	423.69	1.203	Level 2, 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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
				(usft)	(usft)			+N/-S (usft)						
								+E/-W (usft)						
0.00	0.00	1.00	0.00	0.00	0.00	-179.36	-179.36	-25.10	-0.28	25.10				
100.00	100.00	101.00	100.00	0.19	0.20	-179.36	-179.36	-25.10	-0.28	25.10	24.71	0.39	63.948	
200.00	200.00	201.00	200.00	0.73	0.74	-179.36	-179.36	-25.10	-0.28	25.10	23.63	1.47	17.100	
300.00	300.00	301.00	300.00	1.27	1.27	-179.36	-179.36	-25.10	-0.28	25.10	22.56	2.54	9.869	
400.00	400.00	401.00	400.00	1.81	1.81	-179.36	-179.36	-25.10	-0.28	25.10	21.48	3.62	6.936	
500.00	500.00	501.00	500.00	2.34	2.35	-179.36	-179.36	-25.10	-0.28	25.10	20.41	4.69	5.347	
600.00	600.00	601.01	600.01	2.88	2.89	-179.36	-179.36	-25.10	-0.28	25.10	19.33	5.77	4.351	
700.00	699.98	701.49	700.47	3.41	3.42	-119.95	-119.95	-23.90	-1.62	24.79	17.95	6.84	3.625	
715.94	715.90	717.47	716.44	3.50	3.51	122.32	122.32	-23.50	-2.08	24.77	17.76	7.01	3.534 CC, ES	
800.00	799.84	801.45	800.29	3.94	3.96	139.94	139.94	-20.39	-5.57	26.00	18.10	7.90	3.289	
900.00	899.45	900.36	898.81	4.48	4.50	164.46	164.46	-14.64	-12.03	33.61	24.64	8.98	3.744	
1,000.00	998.76	998.59	996.50	5.03	5.03	-179.64	-179.64	-7.80	-19.70	48.67	38.64	10.03	4.851	
1,100.00	1,098.02	1,096.75	1,094.12	5.58	5.58	-171.56	-171.56	-0.97	-27.36	66.06	54.98	11.09	5.959	
1,200.00	1,197.28	1,194.91	1,191.74	6.15	6.12	-166.89	-166.89	5.85	-35.03	84.20	72.05	12.15	6.933	
1,300.00	1,296.53	1,293.07	1,289.36	6.72	6.67	-163.88	-163.88	12.68	-42.69	102.68	89.47	13.21	7.773	
1,400.00	1,395.79	1,391.22	1,386.98	7.29	7.23	-161.79	-161.79	19.51	-50.36	121.36	107.08	14.28	8.499	
1,500.00	1,495.05	1,489.38	1,484.60	7.86	7.78	-160.26	-160.26	26.34	-58.02	140.15	124.80	15.35	9.128	
1,600.00	1,594.31	1,587.54	1,582.22	8.44	8.34	-159.10	-159.10	33.17	-65.69	159.01	142.59	16.43	9.679	
1,700.00	1,693.57	1,685.70	1,679.85	9.02	8.90	-158.18	-158.18	40.00	-73.35	177.93	160.42	17.51	10.162	
1,800.00	1,792.83	1,783.86	1,777.47	9.60	9.45	-157.43	-157.43	46.82	-81.01	196.88	178.29	18.59	10.591	
1,900.00	1,892.08	1,882.02	1,875.09	10.18	10.01	-156.82	-156.82	53.65	-88.68	215.86	196.18	19.67	10.972	
2,000.00	1,991.34	1,980.18	1,972.71	10.76	10.57	-156.31	-156.31	60.48	-96.34	234.85	214.09	20.76	11.314	
2,100.00	2,090.60	2,078.34	2,070.33	11.34	11.13	-155.87	-155.87	67.31	-104.01	253.86	232.02	21.84	11.622	
2,200.00	2,189.86	2,176.50	2,167.95	11.93	11.69	-155.49	-155.49	74.14	-111.67	272.89	249.96	22.93	11.901	
2,300.00	2,289.12	2,274.66	2,265.57	12.51	12.25	-155.17	-155.17	80.97	-119.34	291.92	267.90	24.02	12.154	
2,400.00	2,388.37	2,372.82	2,363.19	13.10	12.82	-154.88	-154.88	87.79	-127.00	310.96	285.86	25.11	12.386	
2,500.00	2,487.63	2,470.97	2,460.81	13.68	13.38	-154.62	-154.62	94.62	-134.67	330.01	303.82	26.20	12.598	
2,600.00	2,586.89	2,569.13	2,558.43	14.27	13.94	-154.40	-154.40	101.45	-142.33	349.07	321.78	27.29	12.793	
2,700.00	2,686.15	2,667.29	2,656.05	14.85	14.50	-154.20	-154.20	108.28	-150.00	368.13	339.75	28.38	12.973	
2,800.00	2,785.41	2,765.45	2,753.67	15.44	15.07	-154.01	-154.01	115.11	-157.66	387.19	357.72	29.47	13.140	
2,900.00	2,884.67	2,863.61	2,851.30	16.03	15.63	-153.85	-153.85	121.94	-165.33	406.26	375.70	30.56	13.295	
3,000.00	2,983.92	2,961.77	2,948.92	16.61	16.19	-153.70	-153.70	128.76	-172.99	425.32	393.68	31.65	13.439	
3,100.00	3,083.18	3,059.93	3,046.54	17.20	16.76	-153.56	-153.56	135.59	-180.66	444.40	411.66	32.74	13.573	
3,200.00	3,182.44	3,158.09	3,144.16	17.79	17.32	-153.43	-153.43	142.42	-188.32	463.47	429.64	33.83	13.698	
3,300.00	3,281.70	3,256.25	3,241.78	18.38	17.88	-153.32	-153.32	149.25	-195.98	482.55	447.62	34.93	13.816	
3,400.00	3,380.96	3,354.41	3,339.40	18.96	18.45	-153.21	-153.21	156.08	-203.65	501.63	465.61	36.02	13.926	
3,500.00	3,480.22	3,452.56	3,437.02	19.55	19.01	-153.11	-153.11	162.91	-211.31	520.70	483.59	37.11	14.030	
3,600.00	3,579.47	3,550.72	3,534.64	20.14	19.57	-153.02	-153.02	169.73	-218.98	539.79	501.58	38.21	14.128	
3,700.00	3,678.73	3,648.88	3,632.26	20.73	20.14	-152.93	-152.93	176.56	-226.64	558.87	519.57	39.30	14.221	
3,800.00	3,777.99	3,747.04	3,729.88	21.31	20.70	-152.85	-152.85	183.39	-234.31	577.95	537.56	40.39	14.308	
3,900.00	3,877.25	3,845.20	3,827.50	21.90	21.27	-152.77	-152.77	190.22	-241.97	597.04	555.55	41.49	14.391	
4,000.00	3,976.51	3,943.36	3,925.13	22.49	21.83	-152.70	-152.70	197.05	-249.64	616.12	573.54	42.58	14.469	
4,100.00	4,075.77	4,041.52	4,022.75	23.08	22.39	-152.64	-152.64	203.88	-257.30	635.21	591.53	43.68	14.544	
4,200.00	4,175.02	4,139.68	4,120.37	23.67	22.96	-152.57	-152.57	210.70	-264.97	654.29	609.52	44.77	14.614	
4,300.00	4,274.28	4,237.84	4,217.99	24.26	23.52	-152.51	-152.51	217.53	-272.63	673.38	627.52	45.87	14.682	
4,400.00	4,373.54	4,336.00	4,315.61	24.85	24.09	-152.46	-152.46	224.36	-280.30	692.47	645.51	46.96	14.746	
4,500.00	4,472.80	4,434.16	4,413.23	25.43	24.65	-152.40	-152.40	231.19	-287.96	711.56	663.50	48.05	14.807	
4,600.00	4,572.06	4,533.14	4,511.66	26.02	25.25	-152.36	-152.36	238.36	-296.01	730.53	681.34	49.19	14.852	
4,700.00	4,671.31	4,633.43	4,611.62	26.61	25.94	-152.49	-152.49	244.26	-302.63	746.99	696.58	50.41	14.818	
4,800.00	4,770.57	4,733.84	4,711.97	27.20	26.60	-152.57	-152.57	246.58	-305.24	760.02	708.40	51.62	14.723	
4,900.00	4,869.83	4,831.70	4,809.83	27.79	27.12	-153.29	-153.29	246.62	-305.28	770.91	718.20	52.71	14.626	
5,000.00	4,969.09	4,930.96	4,909.09	28.38	27.62	-153.69	-153.69	246.62	-305.28	781.80	728.03	53.77	14.539	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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	5,068.35	5,090.22	5,068.35	28.97	28.13	-154.08	246.62	-305.28	792.73	737.90	54.84	14.456	
5,200.00	5,167.61	5,189.47	5,167.61	29.56	28.63	-154.46	246.62	-305.28	803.70	747.80	55.91	14.376	
5,300.00	5,266.86	5,288.73	5,266.86	30.15	29.14	-154.83	246.62	-305.28	814.70	757.73	56.97	14.300	
5,400.00	5,366.12	5,387.99	5,366.12	30.73	29.65	-155.19	246.62	-305.28	825.74	767.70	58.04	14.227	
5,500.00	5,465.38	5,487.25	5,465.38	31.32	30.15	-155.54	246.62	-305.28	836.80	777.69	59.11	14.157	
5,600.00	5,564.64	5,586.51	5,564.64	31.91	30.66	-155.87	246.62	-305.28	847.90	787.72	60.18	14.090	
5,700.00	5,663.90	5,685.77	5,663.90	32.50	31.17	-156.22	246.62	-305.28	858.99	797.73	61.27	14.021	
5,800.00	5,763.39	5,785.26	5,763.39	33.07	31.68	-156.56	246.62	-305.28	868.16	805.70	62.47	13.898	
5,900.00	5,863.18	5,885.04	5,863.18	33.62	32.20	-156.77	246.62	-305.28	874.15	810.55	63.60	13.745	
6,000.00	5,963.13	5,984.99	5,963.13	34.14	32.71	-156.87	246.62	-305.28	876.94	812.28	64.66	13.563	
6,100.00	6,063.12	6,084.99	6,063.12	34.63	33.23	-89.30	246.62	-305.28	877.15	811.47	65.68	13.354	
6,200.00	6,163.12	6,184.99	6,163.12	35.12	33.75	-89.30	246.62	-305.28	877.15	810.44	66.71	13.148	
6,300.00	6,263.12	6,284.99	6,263.12	35.61	34.27	-89.30	246.62	-305.28	877.15	809.41	67.75	12.948	
6,400.00	6,363.12	6,384.99	6,363.12	36.11	34.78	-89.30	246.62	-305.28	877.15	808.38	68.78	12.753	
6,500.00	6,463.12	6,484.99	6,463.12	36.60	35.30	-89.30	246.62	-305.28	877.15	807.34	69.81	12.564	
6,600.00	6,563.12	6,584.99	6,563.12	37.10	35.82	-89.30	246.62	-305.28	877.15	806.31	70.85	12.381	
6,700.00	6,663.12	6,684.99	6,663.12	37.59	36.34	-89.30	246.62	-305.28	877.15	805.27	71.89	12.202	
6,800.00	6,763.12	6,784.99	6,763.12	38.09	36.86	-89.30	246.62	-305.28	877.15	804.23	72.92	12.028	
6,900.00	6,863.12	6,884.99	6,863.12	38.59	37.38	-89.30	246.62	-305.28	877.15	803.19	73.96	11.860	
7,000.00	6,963.12	6,984.99	6,963.12	39.09	37.91	-89.30	246.62	-305.28	877.15	802.15	75.00	11.695	
7,100.00	7,063.12	7,084.99	7,063.12	39.59	38.43	-89.30	246.62	-305.28	877.15	801.11	76.04	11.535	
7,200.00	7,163.12	7,184.99	7,163.12	40.09	38.95	-89.30	246.62	-305.28	877.15	800.07	77.08	11.379	
7,300.00	7,263.12	7,284.99	7,263.12	40.59	39.47	-89.30	246.62	-305.28	877.15	799.03	78.13	11.227	
7,400.00	7,363.12	7,384.99	7,363.12	41.10	40.00	-89.30	246.62	-305.28	877.15	797.98	79.17	11.079	
7,500.00	7,463.12	7,484.99	7,463.12	41.60	40.52	-89.30	246.62	-305.28	877.15	796.94	80.21	10.935	
7,600.00	7,563.12	7,584.99	7,563.12	42.11	41.04	-89.30	246.62	-305.28	877.15	795.89	81.26	10.794	
7,700.00	7,663.12	7,684.99	7,663.12	42.61	41.57	-89.30	246.62	-305.28	877.15	794.85	82.31	10.657	
7,800.00	7,763.12	7,784.99	7,763.12	43.12	42.09	-89.30	246.62	-305.28	877.15	793.80	83.35	10.523	
7,900.00	7,863.12	7,884.99	7,863.12	43.63	42.62	-89.30	246.62	-305.28	877.15	792.75	84.40	10.393	
8,000.00	7,963.12	7,984.99	7,963.12	44.14	43.14	-89.30	246.62	-305.28	877.15	791.71	85.45	10.265	
8,100.00	8,063.12	8,084.99	8,063.12	44.65	43.67	-89.30	246.62	-305.28	877.15	790.66	86.50	10.141	
8,200.00	8,163.12	8,184.99	8,163.12	45.16	44.20	-89.30	246.62	-305.28	877.15	789.61	87.55	10.019	
8,300.00	8,263.12	8,284.99	8,263.12	45.67	44.72	-89.30	246.62	-305.28	877.15	788.56	88.60	9.901	
8,400.00	8,363.12	8,384.99	8,363.12	46.18	45.25	-89.30	246.62	-305.28	877.15	787.51	89.65	9.785	
8,500.00	8,463.12	8,484.99	8,463.12	46.69	45.78	-89.30	246.62	-305.28	877.15	786.46	90.70	9.671	
8,600.00	8,563.12	8,584.99	8,563.12	47.20	46.30	-89.30	246.62	-305.28	877.15	785.40	91.75	9.560	
8,700.00	8,663.12	8,684.99	8,663.12	47.71	46.83	-89.30	246.62	-305.28	877.15	784.35	92.80	9.452	
8,800.00	8,763.12	8,784.99	8,763.12	48.23	47.36	-89.30	246.62	-305.28	877.15	783.30	93.86	9.346	
8,900.00	8,863.12	8,884.99	8,863.12	48.74	47.88	-89.30	246.62	-305.28	877.15	782.25	94.91	9.242	
9,000.00	8,963.12	8,984.99	8,963.12	49.25	48.41	-89.30	246.62	-305.28	877.15	781.19	95.96	9.141	
9,100.00	9,063.12	9,084.99	9,063.12	49.77	48.94	-89.30	246.62	-305.28	877.15	780.14	97.02	9.041	
9,200.00	9,163.12	9,184.99	9,163.12	50.28	49.47	-89.30	246.62	-305.28	877.15	779.08	98.07	8.944	
9,300.00	9,263.12	9,284.99	9,263.12	50.80	50.00	-89.30	246.62	-305.28	877.15	778.03	99.13	8.849	
9,400.00	9,363.12	9,384.99	9,363.12	51.32	50.53	-89.30	246.62	-305.28	877.15	776.97	100.18	8.756	
9,429.00	9,392.12	9,413.99	9,392.12	51.47	50.68	-88.34	246.62	-305.28	877.15	776.67	100.48	8.729	
9,500.00	9,463.12	9,483.34	9,461.42	51.83	51.05	-88.21	248.48	-305.30	877.20	775.97	101.23	8.665	
9,600.00	9,562.49	9,579.05	9,555.74	52.36	51.58	-87.81	264.11	-305.45	877.30	775.02	102.29	8.577	
9,700.00	9,658.61	9,673.87	9,645.32	52.89	52.10	-87.46	294.84	-305.75	877.30	773.95	103.35	8.488	
9,800.00	9,748.56	9,767.93	9,727.99	53.39	52.62	-87.19	339.50	-306.19	877.18	772.76	104.42	8.400	
9,900.00	9,829.61	9,861.42	9,801.82	53.87	53.13	-87.00	396.67	-306.75	876.93	771.43	105.49	8.313	
10,000.00	9,899.29	9,954.50	9,865.13	54.33	53.64	-86.90	464.76	-307.42	876.53	769.96	106.57	8.225	
10,100.00	9,955.49	10,047.33	9,916.47	54.79	54.18	-86.88	541.98	-308.18	876.01	768.33	107.68	8.135	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 (°)	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)				
10,200.00	9,996.50	10,140.10	9,954.66	55.29	54.74	-86.96	626.41	-309.01	875.35	766.53	108.82	8.044		
10,300.00	10,021.07	10,232.99	9,978.77	55.84	55.32	-87.12	716.00	-309.89	874.60	764.60	110.00	7.951		
10,400.00	10,028.46	10,326.15	9,988.10	56.42	55.91	-87.36	808.59	-310.80	873.77	762.56	111.21	7.857		
10,500.00	10,024.49	10,424.30	9,986.07	57.08	56.58	-87.49	906.70	-311.77	872.97	760.42	112.56	7.756		
10,600.00	10,020.28	10,524.28	9,983.40	57.81	57.33	-87.59	1,006.65	-312.75	872.20	758.15	114.05	7.647		
10,700.00	10,016.07	10,624.27	9,980.73	58.62	58.15	-87.69	1,106.59	-313.74	871.43	755.73	115.70	7.532		
10,800.00	10,011.85	10,724.26	9,978.05	59.49	59.04	-87.79	1,206.54	-314.72	870.66	753.19	117.47	7.412		
10,900.00	10,007.64	10,824.24	9,975.38	60.43	59.99	-87.89	1,306.48	-315.70	869.90	750.52	119.38	7.287		
11,000.00	10,003.43	10,924.23	9,972.70	61.43	61.01	-87.99	1,406.43	-316.68	869.14	747.72	121.42	7.158		
11,100.00	9,999.22	11,024.21	9,970.03	62.49	62.08	-88.09	1,506.37	-317.67	868.38	744.81	123.57	7.028		
11,200.00	9,995.01	11,124.20	9,967.36	63.60	63.21	-88.19	1,606.32	-318.65	867.62	741.79	125.83	6.895		
11,300.00	9,990.80	11,224.18	9,964.68	64.77	64.39	-88.29	1,706.26	-319.63	866.87	738.67	128.20	6.762		
11,400.00	9,986.59	11,324.17	9,962.01	65.99	65.62	-88.39	1,806.21	-320.62	866.11	735.44	130.67	6.628		
11,500.00	9,982.38	11,424.16	9,959.33	67.26	66.90	-88.49	1,906.15	-321.60	865.36	732.13	133.23	6.495		
11,600.00	9,978.17	11,524.14	9,956.66	68.57	68.22	-88.59	2,006.10	-322.58	864.62	728.73	135.89	6.363		
11,700.00	9,973.96	11,624.13	9,953.98	69.92	69.58	-88.69	2,106.04	-323.56	863.87	725.25	138.63	6.232		
11,800.00	9,969.75	11,724.11	9,951.31	71.31	70.99	-88.79	2,205.99	-324.55	863.13	721.69	141.44	6.102		
11,900.00	9,965.54	11,823.85	9,948.25	72.74	72.42	-88.87	2,305.67	-325.53	862.41	718.07	144.33	5.975		
12,000.00	9,961.33	11,923.84	9,944.46	74.21	73.91	-88.89	2,405.59	-326.52	861.70	714.40	147.29	5.850		
12,100.00	9,957.11	12,023.84	9,940.66	75.71	75.42	-88.92	2,505.51	-327.51	860.99	710.67	150.32	5.728		
12,200.00	9,953.85	12,123.83	9,936.87	77.23	76.96	-88.88	2,605.42	-328.50	860.30	706.90	153.40	5.608		
12,300.00	9,952.97	12,223.79	9,933.08	78.78	78.53	-88.68	2,705.30	-329.49	859.65	703.13	156.52	5.492		
12,400.00	9,952.20	12,323.74	9,929.28	80.36	80.13	-88.47	2,805.18	-330.48	859.02	699.33	159.69	5.379		
12,500.00	9,951.43	12,423.69	9,925.49	81.96	81.76	-88.27	2,905.05	-331.47	858.40	695.49	162.91	5.269		
12,600.00	9,950.67	12,523.64	9,921.70	83.59	83.41	-88.07	3,004.93	-332.46	857.79	691.61	166.18	5.162		
12,700.00	9,949.90	12,623.59	9,917.90	85.24	85.08	-87.86	3,104.80	-333.45	857.19	687.70	169.49	5.057		
12,800.00	9,949.13	12,723.54	9,914.11	86.92	86.78	-87.66	3,204.68	-334.43	856.60	683.76	172.84	4.956		
12,900.00	9,948.37	12,823.50	9,910.32	88.62	88.49	-87.45	3,304.55	-335.42	856.02	679.79	176.24	4.857		
13,000.00	9,947.60	12,923.45	9,906.52	90.33	90.22	-87.25	3,404.42	-336.41	855.46	675.79	179.66	4.761		
13,100.00	9,946.83	13,023.40	9,902.73	92.07	91.98	-87.05	3,504.30	-337.40	854.90	671.78	183.13	4.668		
13,200.00	9,946.06	13,123.35	9,898.94	93.82	93.74	-86.84	3,604.17	-338.39	854.36	667.74	186.62	4.578		
13,300.00	9,945.30	13,223.30	9,895.14	95.59	95.53	-86.63	3,704.05	-339.38	853.82	663.68	190.14	4.490		
13,400.00	9,944.53	13,323.25	9,891.35	97.38	97.33	-86.43	3,803.92	-340.37	853.30	659.61	193.69	4.405		
13,500.00	9,943.76	13,424.46	9,888.26	99.18	99.16	-86.27	3,903.07	-341.37	852.74	655.44	197.30	4.322		
13,600.00	9,942.99	13,525.68	9,888.29	100.99	101.01	-86.32	4,006.28	-342.38	851.99	651.01	200.98	4.239		
13,700.00	9,942.23	13,625.66	9,889.04	102.82	102.84	-86.42	4,106.26	-343.38	851.19	646.52	204.67	4.159		
13,800.00	9,941.46	13,725.65	9,889.79	104.66	104.69	-86.52	4,206.24	-344.37	850.40	642.02	208.38	4.081		
13,900.00	9,940.69	13,825.64	9,890.54	106.52	106.54	-86.62	4,306.22	-345.37	849.61	637.49	212.12	4.005		
14,000.00	9,939.93	13,925.62	9,891.29	108.38	108.41	-86.72	4,406.20	-346.36	848.82	632.94	215.88	3.932		
14,100.00	9,939.16	14,025.61	9,892.04	110.26	110.29	-86.82	4,506.18	-347.36	848.03	628.37	219.66	3.861		
14,200.00	9,939.40	14,125.60	9,892.79	112.14	112.18	-86.84	4,606.16	-348.36	847.29	623.84	223.45	3.792		
14,300.00	9,940.60	14,225.60	9,893.54	114.04	114.08	-86.81	4,706.15	-349.35	846.60	619.36	227.24	3.726		
14,400.00	9,941.80	14,325.59	9,894.29	115.95	115.99	-86.78	4,806.14	-350.35	845.91	614.85	231.05	3.661		
14,500.00	9,943.00	14,425.59	9,895.04	117.86	117.91	-86.74	4,906.13	-351.34	845.21	610.33	234.88	3.598		
14,600.00	9,944.20	14,525.59	9,895.79	119.78	119.84	-86.71	5,006.11	-352.34	844.52	605.79	238.73	3.538		
14,700.00	9,945.40	14,625.58	9,896.54	121.72	121.77	-86.68	5,106.10	-353.34	843.83	601.24	242.59	3.478		
14,800.00	9,946.60	14,725.58	9,897.29	123.65	123.71	-86.64	5,206.09	-354.33	843.14	596.67	246.47	3.421		
14,900.00	9,947.80	14,825.58	9,898.04	125.60	125.66	-86.61	5,306.08	-355.33	842.44	592.09	250.36	3.365		
15,000.00	9,949.00	14,925.57	9,898.79	127.55	127.61	-86.58	5,406.07	-356.32	841.75	587.49	254.26	3.311		
15,100.00	9,950.20	15,025.57	9,899.54	129.51	129.58	-86.54	5,506.06	-357.32	841.06	582.89	258.17	3.258		
15,200.00	9,951.40	15,125.57	9,900.29	131.48	131.54	-86.51	5,606.05	-358.32	840.37	578.27	262.10	3.206		
15,300.00	9,952.61	15,225.56	9,901.04	133.45	133.52	-86.47	5,706.04	-359.31	839.68	573.64	266.04	3.156		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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 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)					
15,400.00	9,953.81	15,325.56	9,901.79	135.43	135.50	-86.44	5,806.02	-360.31	838.99	569.00	269.99	3.107	
15,436.23	9,954.30	15,362.69	9,902.09	136.15	136.23	-86.43	5,843.16	-360.68	838.91	567.44	271.48	3.090	
15,500.00	9,955.40	15,433.12	9,903.68	137.41	137.63	-86.48	5,913.57	-361.09	839.15	565.00	274.16	3.061	
15,600.00	9,957.50	15,540.35	9,909.15	139.39	139.76	-86.70	6,020.64	-360.88	839.68	561.36	278.33	3.017	
15,700.00	9,959.60	15,640.27	9,915.18	141.38	141.75	-86.97	6,120.38	-360.43	839.93	557.56	282.37	2.975	
15,800.00	9,961.70	15,740.19	9,921.21	143.37	143.75	-87.24	6,220.12	-359.97	840.19	553.77	286.42	2.933	
15,900.00	9,963.80	15,840.11	9,927.24	145.37	145.75	-87.51	6,319.86	-359.52	840.47	550.00	290.47	2.893	
16,000.00	9,965.90	15,940.03	9,933.28	147.37	147.75	-87.78	6,419.60	-359.07	840.77	546.24	294.53	2.855	
16,100.00	9,968.00	16,039.95	9,939.31	149.37	149.76	-88.05	6,519.33	-358.62	841.09	542.49	298.59	2.817	
16,200.00	9,970.10	16,139.87	9,945.34	151.38	151.77	-88.32	6,619.07	-358.17	841.42	538.76	302.66	2.780	
16,300.00	9,972.20	16,239.80	9,951.37	153.39	153.79	-88.59	6,718.81	-357.72	841.78	535.05	306.73	2.744	
16,400.00	9,974.30	16,339.72	9,957.40	155.41	155.80	-88.85	6,818.55	-357.27	842.15	531.35	310.80	2.710	
16,500.00	9,976.39	16,439.64	9,963.43	157.43	157.83	-89.12	6,918.29	-356.82	842.54	527.67	314.87	2.676	
16,600.00	9,978.49	16,539.56	9,969.46	159.45	159.85	-89.39	7,018.02	-356.37	842.95	524.00	318.95	2.643	
16,700.00	9,980.59	16,639.48	9,975.50	161.48	161.88	-89.66	7,117.76	-355.92	843.38	520.36	323.03	2.611	
16,800.00	9,982.69	16,739.26	9,981.41	163.51	163.91	-89.92	7,217.36	-355.47	843.83	516.73	327.10	2.580	
16,900.00	9,984.79	16,838.70	9,984.82	165.54	165.93	-90.01	7,316.74	-355.07	844.34	513.18	331.16	2.550	
17,000.00	9,986.89	16,938.50	9,985.53	167.58	167.96	-89.91	7,416.54	-354.71	844.90	509.67	335.23	2.520	
17,100.00	9,988.99	17,038.49	9,986.05	169.62	170.00	-89.81	7,516.52	-354.36	845.47	506.16	339.30	2.492	
17,200.00	9,991.09	17,138.47	9,986.56	171.66	172.04	-89.70	7,616.51	-354.01	846.04	502.65	343.38	2.464	
17,300.00	9,993.19	17,238.46	9,987.08	173.70	174.08	-89.59	7,716.49	-353.66	846.61	499.14	347.47	2.437	
17,400.00	9,995.29	17,338.45	9,987.60	175.75	176.13	-89.49	7,816.48	-353.31	847.19	495.63	351.56	2.410	
17,500.00	9,997.39	17,438.43	9,988.12	177.80	178.18	-89.38	7,916.46	-352.96	847.76	492.12	355.65	2.384	
17,600.00	9,999.49	17,538.42	9,988.64	179.85	180.23	-89.27	8,016.44	-352.60	848.35	488.60	359.74	2.358	
17,700.00	10,001.59	17,638.40	9,989.15	181.90	182.29	-89.17	8,116.43	-352.25	848.93	485.09	363.84	2.333	
17,800.00	10,002.98	17,738.40	9,989.67	183.96	184.34	-89.11	8,216.42	-351.90	849.47	481.52	367.95	2.309	
17,900.00	10,003.98	17,838.39	9,990.19	186.01	186.40	-89.07	8,316.41	-351.55	849.98	477.92	372.07	2.284	
18,000.00	10,004.98	17,938.39	9,990.71	188.07	188.46	-89.04	8,416.41	-351.20	850.50	474.31	376.18	2.261	
18,100.00	10,005.98	18,038.39	9,991.22	190.13	190.53	-89.01	8,516.41	-350.85	851.01	470.70	380.31	2.238	
18,200.00	10,006.98	18,138.39	9,991.74	192.20	192.59	-88.98	8,616.40	-350.50	851.52	467.09	384.43	2.215	
18,300.00	10,007.98	18,238.38	9,992.26	194.26	194.66	-88.95	8,716.40	-350.14	852.04	463.47	388.56	2.193	
18,400.00	10,008.98	18,338.38	9,992.78	196.33	196.73	-88.91	8,816.39	-349.79	852.55	459.85	392.70	2.171	
18,500.00	10,009.98	18,438.38	9,993.30	198.40	198.80	-88.88	8,916.39	-349.44	853.07	456.23	396.83	2.150	
18,600.00	10,010.98	18,538.38	9,993.81	200.47	200.87	-88.85	9,016.38	-349.09	853.58	452.61	400.97	2.129	
18,700.00	10,011.98	18,638.60	9,994.70	202.54	202.95	-88.84	9,116.61	-348.73	854.08	448.95	405.13	2.108	
18,800.00	10,012.98	18,738.60	9,995.90	204.62	205.02	-88.86	9,216.60	-348.37	854.57	445.29	409.28	2.088	
18,900.00	10,013.98	18,838.60	9,997.09	206.69	207.10	-88.87	9,316.59	-348.00	855.06	441.62	413.44	2.068	
19,000.00	10,014.98	18,938.60	9,998.29	208.77	209.18	-88.88	9,416.58	-347.64	855.55	437.95	417.60	2.049	
19,100.00	10,015.98	19,038.60	9,999.49	210.85	211.26	-88.90	9,516.57	-347.27	856.03	434.27	421.76	2.030	
19,200.00	10,016.98	19,138.60	10,000.68	212.93	213.34	-88.91	9,616.56	-346.91	856.52	430.60	425.93	2.011	
19,300.00	10,017.98	19,238.60	10,001.88	215.01	215.43	-88.93	9,716.55	-346.55	857.01	426.92	430.09	1.993	
19,400.00	10,018.98	19,338.59	10,003.07	217.09	217.51	-88.94	9,816.54	-346.18	857.50	423.23	434.27	1.975	
19,500.00	10,019.98	19,438.59	10,004.27	219.18	219.60	-88.95	9,916.53	-345.82	857.99	419.55	438.44	1.957	
19,600.00	10,020.98	19,538.59	10,005.47	221.26	221.69	-88.97	10,016.52	-345.45	858.48	415.86	442.62	1.940	
19,700.00	10,021.98	19,638.59	10,006.66	223.35	223.78	-88.98	10,116.51	-345.09	858.97	412.17	446.79	1.923	
19,800.00	10,022.98	19,738.59	10,007.86	225.44	225.87	-88.99	10,216.50	-344.72	859.45	408.48	450.98	1.906	
19,900.00	10,023.98	19,838.59	10,009.05	227.53	227.96	-89.01	10,316.49	-344.36	859.94	404.78	455.16	1.889	
20,000.00	10,024.98	19,938.59	10,010.25	229.62	230.05	-89.02	10,416.49	-343.99	860.43	401.09	459.35	1.873	
20,100.00	10,025.98	20,038.58	10,011.45	231.71	232.14	-89.04	10,516.48	-343.63	860.92	397.39	463.53	1.857	
20,200.00	10,026.98	20,138.58	10,012.64	233.80	234.24	-89.05	10,616.47	-343.27	861.41	393.69	467.72	1.842	
20,300.00	10,027.98	20,238.58	10,013.84	235.90	236.33	-89.06	10,716.46	-342.90	861.90	389.98	471.92	1.826	
20,400.00	10,028.98	20,338.04	10,015.01	237.99	238.38	-89.08	10,813.91	-342.55	862.39	386.34	476.06	1.812	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		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)		+N/-S (usft)	+E/-W (usft)						
20,401.69	10,029.00	20,336.04	10,015.01	238.03	238.38	-89.08	10,813.91	-342.55	862.41	386.32	476.09	1.811 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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	17.00	0.00	0.00	-82.53	177.33	-1,353.08	1,364.76					
100.00	100.00	83.00	100.00	0.19	0.16	-82.53	177.33	-1,353.08	1,364.65	1,364.30	0.35	3,852.321		
200.00	200.00	183.00	200.00	0.73	0.64	-82.53	177.33	-1,353.08	1,364.65	1,363.28	1.37	995.259		
300.00	300.00	283.00	300.00	1.27	1.18	-82.53	177.33	-1,353.08	1,364.65	1,362.21	2.45	557.783		
400.00	400.00	383.00	400.00	1.81	1.72	-82.53	177.33	-1,353.08	1,364.65	1,361.13	3.52	387.468		
500.00	500.00	483.00	500.00	2.34	2.25	-82.53	177.33	-1,353.08	1,364.65	1,360.06	4.60	296.832		
600.00	600.00	583.00	600.00	2.88	2.79	-82.53	177.33	-1,353.08	1,364.65	1,358.98	5.67	240.560 CC, ES		
700.00	699.98	682.98	699.98	3.41	3.33	-150.13	177.33	-1,353.08	1,366.17	1,359.42	6.74	202.554		
800.00	799.84	782.84	799.84	3.94	3.87	-150.20	177.33	-1,353.08	1,370.71	1,362.90	7.81	175.426		
900.00	899.45	882.45	899.45	4.48	4.40	-150.30	177.33	-1,353.08	1,378.28	1,369.40	8.88	155.196		
1,000.00	998.76	981.76	998.76	5.03	4.93	-150.49	177.33	-1,353.08	1,388.50	1,378.56	9.94	139.658		
1,100.00	1,098.02	1,081.02	1,098.02	5.58	5.47	-150.74	177.33	-1,353.08	1,399.12	1,388.11	11.01	127.119		
1,200.00	1,197.28	1,180.28	1,197.28	6.15	6.00	-150.98	177.33	-1,353.08	1,409.75	1,397.68	12.08	116.749		
1,300.00	1,296.53	1,279.53	1,296.53	6.72	6.54	-151.22	177.33	-1,353.08	1,420.42	1,407.27	13.15	108.040		
1,400.00	1,395.79	1,378.79	1,395.79	7.29	7.07	-151.45	177.33	-1,353.08	1,431.10	1,416.88	14.22	100.627		
1,500.00	1,495.05	1,478.05	1,495.05	7.86	7.60	-151.68	177.33	-1,353.08	1,441.81	1,426.51	15.30	94.245		
1,600.00	1,594.31	1,577.31	1,594.31	8.44	8.14	-151.91	177.33	-1,353.08	1,452.54	1,436.16	16.38	88.695		
1,700.00	1,693.57	1,676.57	1,693.57	9.02	8.67	-152.13	177.33	-1,353.08	1,463.29	1,445.84	17.46	83.826		
1,800.00	1,792.83	1,775.83	1,792.83	9.60	9.20	-152.35	177.33	-1,353.08	1,474.07	1,455.53	18.54	79.521		
1,900.00	1,892.08	1,875.08	1,892.08	10.18	9.74	-152.57	177.33	-1,353.08	1,484.87	1,465.25	19.62	75.689		
2,000.00	1,991.34	1,974.34	1,991.34	10.76	10.27	-152.78	177.33	-1,353.08	1,495.68	1,474.98	20.70	72.256		
2,100.00	2,090.60	2,073.60	2,090.60	11.34	10.81	-152.99	177.33	-1,353.08	1,506.52	1,484.74	21.78	69.163		
2,200.00	2,189.86	2,172.86	2,189.86	11.93	11.34	-153.20	177.33	-1,353.08	1,517.38	1,494.52	22.86	66.363		
2,300.00	2,289.12	2,272.12	2,289.12	12.51	12.00	-153.46	177.33	-1,352.69	1,528.08	1,504.00	24.08	63.471		
2,400.00	2,388.37	2,371.37	2,388.37	13.10	13.10	-153.86	177.33	-1,341.21	1,533.64	1,507.92	25.72	59.638		
2,500.00	2,487.63	2,470.63	2,487.63	13.68	13.74	-154.07	177.33	-1,328.85	1,534.26	1,507.37	26.89	57.056		
2,600.00	2,586.89	2,569.89	2,586.89	14.27	14.26	-154.25	177.33	-1,318.41	1,534.77	1,506.81	27.96	54.889		
2,700.00	2,686.15	2,669.15	2,686.15	14.85	14.79	-154.42	177.33	-1,307.97	1,535.30	1,506.26	29.03	52.878		
2,800.00	2,785.41	2,768.41	2,785.41	15.44	15.33	-154.60	177.33	-1,297.53	1,535.84	1,505.73	30.11	51.007		
2,900.00	2,884.67	2,867.67	2,884.67	16.03	15.87	-154.77	177.33	-1,287.09	1,536.39	1,505.21	31.19	49.263		
3,000.00	2,983.92	2,966.92	2,983.92	16.61	16.41	-154.94	177.33	-1,276.65	1,536.96	1,504.70	32.27	47.633		
3,100.00	3,083.18	3,066.18	3,083.18	17.20	16.95	-155.12	177.33	-1,266.20	1,537.55	1,504.20	33.35	46.107		
3,200.00	3,182.44	3,165.44	3,182.44	17.79	17.49	-155.29	177.33	-1,255.76	1,538.15	1,503.72	34.43	44.676		
3,300.00	3,281.70	3,264.70	3,281.70	18.38	18.04	-155.47	177.33	-1,245.32	1,538.76	1,503.25	35.51	43.331		
3,400.00	3,380.96	3,363.96	3,380.96	18.96	18.59	-155.64	177.33	-1,234.88	1,539.38	1,502.79	36.60	42.064		
3,500.00	3,480.22	3,463.22	3,480.22	19.55	19.14	-155.81	177.33	-1,224.44	1,540.02	1,502.34	37.68	40.869		
3,600.00	3,579.47	3,562.47	3,579.47	20.14	19.69	-155.99	177.33	-1,214.00	1,540.68	1,501.91	38.77	39.741		
3,700.00	3,678.73	3,661.73	3,678.73	20.73	20.25	-156.16	177.33	-1,203.56	1,541.35	1,501.49	39.85	38.674		
3,800.00	3,777.99	3,760.99	3,777.99	21.31	20.80	-156.33	177.33	-1,193.12	1,542.03	1,501.09	40.94	37.663		
3,900.00	3,877.25	3,860.25	3,877.25	21.90	21.36	-156.50	177.33	-1,182.67	1,542.73	1,500.70	42.03	36.704		
4,000.00	3,976.51	3,959.51	3,976.51	22.49	21.92	-156.68	177.33	-1,172.23	1,543.44	1,500.32	43.12	35.794		
4,100.00	4,075.77	4,058.77	4,075.77	23.08	22.47	-156.85	177.33	-1,161.79	1,544.16	1,499.95	44.21	34.928		
4,200.00	4,175.02	4,158.02	4,175.02	23.67	22.86	-156.97	177.33	-1,151.09	1,545.82	1,500.68	45.14	34.244		
4,300.00	4,274.28	4,257.28	4,274.28	24.26	23.21	-157.08	177.33	-1,140.50	1,549.73	1,503.70	46.03	33.666		
4,400.00	4,373.54	4,356.54	4,373.54	24.85	23.56	-157.19	177.33	-1,147.24	1,555.91	1,508.98	46.93	33.153		
4,500.00	4,472.80	4,455.80	4,472.80	25.43	23.94	-157.32	177.33	-1,145.32	1,564.39	1,516.52	47.87	32.680		
4,600.00	4,572.06	4,555.06	4,572.06	26.02	24.29	-157.43	177.33	-1,145.04	1,574.97	1,526.20	48.77	32.295		
4,700.00	4,671.31	4,654.31	4,671.31	26.61	24.80	-157.60	177.33	-1,145.04	1,586.22	1,536.37	49.84	31.824		
4,800.00	4,770.57	4,753.57	4,770.57	27.20	25.32	-157.76	177.33	-1,145.04	1,597.48	1,546.56	50.92	31.374		
4,900.00	4,869.83	4,852.83	4,869.83	27.79	25.85	-157.93	177.33	-1,145.04	1,608.75	1,556.75	51.99	30.942		
5,000.00	4,969.09	4,952.09	4,969.09	28.38	26.37	-158.09	177.33	-1,145.04	1,620.03	1,566.96	53.07	30.527		
5,100.00	5,068.35	5,051.35	5,068.35	28.97	26.89	-158.25	177.33	-1,145.04	1,631.33	1,577.19	54.14	30.130		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,167.61	5,160.96	5,167.61	29.56	27.41	-158.40	177.33	-1,145.04	1,642.64	1,587.42	55.22	29.747		
5,300.00	5,266.86	5,260.22	5,266.86	30.15	27.93	-158.56	177.33	-1,145.04	1,653.96	1,597.66	56.30	29.380		
5,400.00	5,366.12	5,359.48	5,366.12	30.73	28.46	-158.71	177.33	-1,145.04	1,665.29	1,607.92	57.37	29.026		
5,500.00	5,465.38	5,458.73	5,465.38	31.32	28.98	-158.86	177.33	-1,145.04	1,676.64	1,618.19	58.45	28.686		
5,600.00	5,564.64	5,557.99	5,564.64	31.91	29.50	-159.01	177.33	-1,145.04	1,687.99	1,628.47	59.53	28.357		
5,700.00	5,663.90	5,657.25	5,663.90	32.50	30.03	-159.17	177.33	-1,145.04	1,699.34	1,638.72	60.61	28.036		
5,800.00	5,763.39	5,756.75	5,763.39	33.07	30.55	-159.35	177.33	-1,145.04	1,708.69	1,646.95	61.74	27.678		
5,900.00	5,863.18	5,856.53	5,863.18	33.62	31.08	-159.47	177.33	-1,145.04	1,714.79	1,652.00	62.79	27.310		
6,000.00	5,963.13	5,956.48	5,963.13	34.14	31.61	-159.53	177.33	-1,145.04	1,717.63	1,653.86	63.77	26.933		
6,100.00	6,063.12	6,056.48	6,063.12	34.63	32.14	-91.96	177.33	-1,145.04	1,717.86	1,653.07	64.79	26.514		
6,200.00	6,163.12	6,156.48	6,163.12	35.12	32.67	-91.96	177.33	-1,145.04	1,717.86	1,652.03	65.83	26.095		
6,300.00	6,263.12	6,256.48	6,263.12	35.61	33.20	-91.96	177.33	-1,145.04	1,717.86	1,650.98	66.87	25.689		
6,400.00	6,363.12	6,356.48	6,363.12	36.11	33.73	-91.96	177.33	-1,145.04	1,717.86	1,649.94	67.91	25.295		
6,500.00	6,463.12	6,456.48	6,463.12	36.60	34.26	-91.96	177.33	-1,145.04	1,717.86	1,648.90	68.96	24.912		
6,600.00	6,563.12	6,556.48	6,563.12	37.10	34.79	-91.96	177.33	-1,145.04	1,717.86	1,647.85	70.00	24.540		
6,700.00	6,663.12	6,656.48	6,663.12	37.59	35.32	-91.96	177.33	-1,145.04	1,717.86	1,646.81	71.05	24.179		
6,800.00	6,763.12	6,756.48	6,763.12	38.09	35.85	-91.96	177.33	-1,145.04	1,717.86	1,645.76	72.09	23.828		
6,900.00	6,863.12	6,856.48	6,863.12	38.59	36.38	-91.96	177.33	-1,145.04	1,717.86	1,644.72	73.14	23.487		
7,000.00	6,963.12	6,956.48	6,963.12	39.09	36.91	-91.96	177.33	-1,145.04	1,717.86	1,643.67	74.19	23.155		
7,100.00	7,063.12	7,056.48	7,063.12	39.59	37.44	-91.96	177.33	-1,145.04	1,717.86	1,642.62	75.24	22.833		
7,200.00	7,163.12	7,156.48	7,163.12	40.09	37.98	-91.96	177.33	-1,145.04	1,717.86	1,641.57	76.29	22.519		
7,300.00	7,263.12	7,256.48	7,263.12	40.59	38.51	-91.96	177.33	-1,145.04	1,717.86	1,640.52	77.34	22.213		
7,400.00	7,363.12	7,356.48	7,363.12	41.10	39.04	-91.96	177.33	-1,145.04	1,717.86	1,639.47	78.39	21.915		
7,500.00	7,463.12	7,456.48	7,463.12	41.60	39.57	-91.96	177.33	-1,145.04	1,717.86	1,638.42	79.44	21.625		
7,600.00	7,563.12	7,556.48	7,563.12	42.11	40.10	-91.96	177.33	-1,145.04	1,717.86	1,637.37	80.49	21.343		
7,700.00	7,663.12	7,656.48	7,663.12	42.61	40.64	-91.96	177.33	-1,145.04	1,717.86	1,636.31	81.54	21.067		
7,800.00	7,763.12	7,756.48	7,763.12	43.12	41.17	-91.96	177.33	-1,145.04	1,717.86	1,635.26	82.60	20.798		
7,900.00	7,863.12	7,856.48	7,863.12	43.63	41.70	-91.96	177.33	-1,145.04	1,717.86	1,634.21	83.65	20.536		
8,000.00	7,963.12	7,956.48	7,963.12	44.14	42.23	-91.96	177.33	-1,145.04	1,717.86	1,633.15	84.70	20.281		
8,100.00	8,063.12	8,056.48	8,063.12	44.65	42.77	-91.96	177.33	-1,145.04	1,717.86	1,632.10	85.76	20.031		
8,200.00	8,163.12	8,156.48	8,163.12	45.16	43.30	-91.96	177.33	-1,145.04	1,717.86	1,631.04	86.81	19.788		
8,300.00	8,263.12	8,256.48	8,263.12	45.67	43.83	-91.96	177.33	-1,145.04	1,717.86	1,629.99	87.87	19.550		
8,400.00	8,363.12	8,356.48	8,363.12	46.18	44.37	-91.96	177.33	-1,145.04	1,717.86	1,628.93	88.93	19.318		
8,500.00	8,463.12	8,456.48	8,463.12	46.69	44.90	-91.96	177.33	-1,145.04	1,717.86	1,627.87	89.98	19.091		
8,600.00	8,563.12	8,556.48	8,563.12	47.20	45.43	-91.96	177.33	-1,145.04	1,717.86	1,626.82	91.04	18.869		
8,700.00	8,663.12	8,656.48	8,663.12	47.71	45.97	-91.96	177.33	-1,145.04	1,717.86	1,625.76	92.10	18.653		
8,800.00	8,763.12	8,756.48	8,763.12	48.23	46.50	-91.96	177.33	-1,145.04	1,717.86	1,624.70	93.15	18.441		
8,900.00	8,863.12	8,856.48	8,863.12	48.74	47.04	-91.96	177.33	-1,145.04	1,717.86	1,623.64	94.21	18.234		
9,000.00	8,963.12	8,956.48	8,963.12	49.25	47.57	-91.96	177.33	-1,145.04	1,717.86	1,622.58	95.27	18.031		
9,100.00	9,063.12	9,056.48	9,063.12	49.77	48.10	-91.96	177.33	-1,145.04	1,717.86	1,621.53	96.33	17.833		
9,200.00	9,163.12	9,156.48	9,163.12	50.28	48.64	-91.96	177.33	-1,145.04	1,717.86	1,620.47	97.39	17.639		
9,300.00	9,263.12	9,256.48	9,263.12	50.80	49.17	-91.96	177.33	-1,145.04	1,717.86	1,619.41	98.45	17.449		
9,400.00	9,363.12	9,356.48	9,363.12	51.32	49.71	-91.96	177.33	-1,145.04	1,717.86	1,618.35	99.51	17.263		
9,463.94	9,427.06	9,420.42	9,427.06	51.65	50.05	-91.00	177.33	-1,145.04	1,717.86	1,617.68	100.18	17.148		
9,500.00	9,463.12	9,456.48	9,463.12	51.83	50.24	-90.99	177.33	-1,145.04	1,717.86	1,617.30	100.56	17.083		
9,600.00	9,562.49	9,555.85	9,562.49	52.36	50.77	-91.30	177.33	-1,145.04	1,718.06	1,616.42	101.64	16.904		
9,700.00	9,658.61	9,651.97	9,658.61	52.89	51.28	-92.08	177.33	-1,145.04	1,718.90	1,616.18	102.72	16.734		
9,800.00	9,748.56	9,741.92	9,748.56	53.39	51.77	-93.16	177.33	-1,145.04	1,721.13	1,617.36	103.77	16.586		
9,900.00	9,829.61	9,822.96	9,829.61	53.87	52.20	-94.25	177.33	-1,145.04	1,725.85	1,621.09	104.76	16.475		
10,000.00	9,899.29	9,892.65	9,899.29	54.33	52.57	-95.05	177.33	-1,145.04	1,734.30	1,628.64	105.66	16.414		
10,100.00	9,955.49	9,948.84	9,955.49	54.79	52.87	-95.24	177.33	-1,145.04	1,747.64	1,641.13	106.51	16.409 SF		
10,200.00	9,996.50	9,989.85	9,996.50	55.29	53.09	-94.54	177.33	-1,145.04	1,766.72	1,659.37	107.35	16.457		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		Highside Toolface (°)	Offset Wellbore Centre		Distance				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)	Minimum Separation (usft)	Separation Factor		
10,300.00	10,021.07	10,014.42	10,021.07	55.84	53.22	-92.73	177.33	-1,145.04	1,791.86	1,683.71	108.15	16.568		
10,400.00	10,028.46	10,021.81	10,028.46	56.42	53.26	-89.73	177.33	-1,145.04	1,822.74	1,714.05	108.70	16.769		
10,500.00	10,024.49	10,017.84	10,024.49	57.08	53.24	-89.00	177.33	-1,145.04	1,858.57	1,749.31	109.26	17.010		
10,600.00	10,020.28	10,013.63	10,020.28	57.81	53.22	-88.86	177.33	-1,145.04	1,898.99	1,789.03	109.96	17.269		
10,700.00	10,016.07	10,009.42	10,016.07	58.62	53.20	-88.72	177.33	-1,145.04	1,943.71	1,832.97	110.73	17.553		
10,800.00	10,011.85	10,005.21	10,011.85	59.49	53.17	-88.58	177.33	-1,145.04	1,992.43	1,880.86	111.57	17.858		
10,900.00	10,007.64	10,001.00	10,007.64	60.43	53.15	-88.44	177.33	-1,145.04	2,044.88	1,932.41	112.47	18.181		
11,000.00	10,003.43	9,996.79	10,003.43	61.43	53.13	-88.30	177.33	-1,145.04	2,100.78	1,987.34	113.44	18.519		
11,100.00	9,999.22	9,992.58	9,999.22	62.49	53.11	-88.16	177.33	-1,145.04	2,159.85	2,045.39	114.46	18.870		
11,200.00	9,995.01	9,988.37	9,995.01	63.60	53.08	-88.02	177.33	-1,145.04	2,221.84	2,106.31	115.54	19.231		
11,300.00	9,990.80	9,984.15	9,990.80	64.77	53.06	-87.88	177.33	-1,145.04	2,286.53	2,169.86	116.67	19.599		
11,400.00	9,986.59	9,979.94	9,986.59	65.99	53.04	-87.74	177.33	-1,145.04	2,353.68	2,235.83	117.85	19.972		
11,500.00	9,982.38	9,975.73	9,982.38	67.26	53.02	-87.60	177.33	-1,145.04	2,423.08	2,304.01	119.07	20.350		
11,600.00	9,978.17	9,971.52	9,978.17	68.57	52.99	-87.46	177.33	-1,145.04	2,494.56	2,374.22	120.34	20.729		
11,700.00	9,973.96	9,967.31	9,973.96	69.92	52.97	-87.32	177.33	-1,145.04	2,567.94	2,446.28	121.66	21.108		
11,800.00	9,969.75	9,963.10	9,969.75	71.31	52.95	-87.18	177.33	-1,145.04	2,643.06	2,520.05	123.01	21.487		
11,900.00	9,965.54	9,958.89	9,965.54	72.74	52.93	-87.04	177.33	-1,145.04	2,719.77	2,595.37	124.40	21.864		
12,000.00	9,961.33	9,954.68	9,961.33	74.21	52.90	-86.90	177.33	-1,145.04	2,797.95	2,672.13	125.82	22.238		
12,100.00	9,957.11	9,950.47	9,957.11	75.71	52.88	-86.76	177.33	-1,145.04	2,877.47	2,750.20	127.28	22.608		
12,200.00	9,953.85	9,947.20	9,953.85	77.23	52.86	-86.68	177.33	-1,145.04	2,958.26	2,829.13	129.12	22.910		
12,300.00	9,952.97	9,946.32	9,952.97	78.78	52.86	-86.36	177.33	-1,145.04	3,040.22	2,909.46	130.76	23.250		
12,400.00	9,952.20	9,945.56	9,952.20	80.36	52.85	-86.33	177.33	-1,145.04	3,123.24	2,990.90	132.34	23.600		
12,500.00	9,951.43	9,944.79	9,951.43	81.96	52.85	-86.31	177.33	-1,145.04	3,207.23	3,073.28	133.95	23.944		
12,600.00	9,950.67	9,944.02	9,950.67	83.59	52.85	-86.28	177.33	-1,145.04	3,292.11	3,156.53	135.58	24.282		
12,700.00	9,949.90	9,943.25	9,949.90	85.24	52.84	-86.26	177.33	-1,145.04	3,377.82	3,240.58	137.24	24.613		
12,800.00	9,949.13	9,942.49	9,949.13	86.92	52.84	-86.23	177.33	-1,145.04	3,464.29	3,325.38	138.91	24.939		
12,900.00	9,948.37	9,941.72	9,948.37	88.62	52.83	-86.20	177.33	-1,145.04	3,551.47	3,410.86	140.61	25.258		
13,000.00	9,947.60	9,940.95	9,947.60	90.33	52.83	-86.18	177.33	-1,145.04	3,639.32	3,496.99	142.33	25.570		
13,100.00	9,946.83	9,940.19	9,946.83	92.07	52.83	-86.15	177.33	-1,145.04	3,727.77	3,583.71	144.06	25.876		
13,200.00	9,946.06	9,939.42	9,946.06	93.82	52.82	-86.13	177.33	-1,145.04	3,816.80	3,670.98	145.82	26.175		
13,300.00	9,945.30	9,938.65	9,945.30	95.59	52.82	-86.10	177.33	-1,145.04	3,906.36	3,758.77	147.59	26.468		
13,400.00	9,944.53	9,937.88	9,944.53	97.38	52.81	-86.08	177.33	-1,145.04	3,996.41	3,847.03	149.38	26.754		
13,500.00	9,943.76	9,937.12	9,943.76	99.18	52.81	-86.05	177.33	-1,145.04	4,086.92	3,935.75	151.18	27.034		
13,600.00	9,942.99	9,936.35	9,942.99	100.99	52.80	-86.03	177.33	-1,145.04	4,177.87	4,024.88	152.99	27.308		
13,700.00	9,942.23	9,935.58	9,942.23	102.82	52.80	-86.00	177.33	-1,145.04	4,269.22	4,114.40	154.82	27.575		
13,800.00	9,941.46	9,934.81	9,941.46	104.66	52.80	-86.97	177.33	-1,145.04	4,360.95	4,204.29	156.66	27.837		
13,900.00	9,940.69	9,934.05	9,940.69	106.52	52.79	-86.95	177.33	-1,145.04	4,453.04	4,294.52	158.51	28.092		
14,000.00	9,939.93	9,933.28	9,939.93	108.38	52.79	-86.92	177.33	-1,145.04	4,545.46	4,385.08	160.38	28.342		
14,100.00	9,939.16	9,932.51	9,939.16	110.26	52.78	-86.90	177.33	-1,145.04	4,638.20	4,475.94	162.25	28.586		
14,200.00	9,939.40	9,932.75	9,939.40	112.14	52.79	-91.76	177.33	-1,145.04	4,731.22	4,566.85	164.38	28.783		
14,300.00	9,940.60	9,933.95	9,940.60	114.04	52.79	-91.80	177.33	-1,145.04	4,824.52	4,658.24	166.29	29.014		
14,400.00	9,941.80	9,935.15	9,941.80	115.95	52.80	-91.84	177.33	-1,145.04	4,918.09	4,749.88	168.20	29.239		
14,500.00	9,943.00	9,936.35	9,943.00	117.86	52.80	-91.88	177.33	-1,145.04	5,011.90	4,841.77	170.13	29.459		
14,600.00	9,944.20	9,937.56	9,944.20	119.78	52.81	-91.92	177.33	-1,145.04	5,105.94	4,933.88	172.07	29.674		
14,700.00	9,945.40	9,938.76	9,945.40	121.72	52.82	-91.96	177.33	-1,145.04	5,200.21	5,026.20	174.01	29.885		
14,800.00	9,946.60	9,939.96	9,946.60	123.65	52.82	-92.00	177.33	-1,145.04	5,294.69	5,118.73	175.96	30.090		
14,900.00	9,947.80	9,941.16	9,947.80	125.60	52.83	-92.04	177.33	-1,145.04	5,389.37	5,211.45	177.92	30.291		
15,000.00	9,949.00	9,942.36	9,949.00	127.55	52.84	-92.08	177.33	-1,145.04	5,484.23	5,304.35	179.88	30.488		
15,100.00	9,950.20	9,943.56	9,950.20	129.51	52.84	-92.12	177.33	-1,145.04	5,579.28	5,397.42	181.85	30.680		
15,200.00	9,951.40	9,944.76	9,951.40	131.48	52.85	-92.16	177.33	-1,145.04	5,674.49	5,490.66	183.83	30.868		
15,300.00	9,952.61	9,945.96	9,952.61	133.45	52.86	-92.20	177.33	-1,145.04	5,769.87	5,584.06	185.81	31.052		
15,400.00	9,953.81	9,947.16	9,953.81	135.43	52.86	-92.24	177.33	-1,145.04	5,865.40	5,677.60	187.80	31.232		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		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)					
15,500.00	9,955.40	9,948.76	9,955.40	137.41	52.87	-94.40	177.33	-1,145.04	5,961.39	5,771.54	189.85	31.401			
15,600.00	9,957.50	9,950.86	9,957.50	139.39	52.88	-94.48	177.33	-1,145.04	6,057.90	5,866.07	191.83	31.579			
15,700.00	9,959.60	9,952.95	9,959.60	141.38	52.89	-94.55	177.33	-1,145.04	6,154.52	5,960.71	193.82	31.754			
15,800.00	9,961.70	9,955.05	9,961.70	143.37	52.90	-94.63	177.33	-1,145.04	6,251.25	6,055.44	195.81	31.925			
15,900.00	9,963.80	9,957.15	9,963.80	145.37	52.92	-94.70	177.33	-1,145.04	6,348.08	6,150.27	197.80	32.093			
16,000.00	9,965.90	9,959.25	9,965.90	147.37	52.93	-94.78	177.33	-1,145.04	6,445.00	6,245.20	199.80	32.257			
16,100.00	9,968.00	9,961.35	9,968.00	149.37	52.94	-94.86	177.33	-1,145.04	6,542.02	6,340.21	201.80	32.418			
16,200.00	9,970.10	9,963.45	9,970.10	151.38	52.95	-94.93	177.33	-1,145.04	6,639.12	6,435.31	203.81	32.575			
16,300.00	9,972.20	9,965.55	9,972.20	153.39	52.96	-95.01	177.33	-1,145.04	6,736.31	6,530.49	205.82	32.730			
16,400.00	9,974.30	9,967.65	9,974.30	155.41	52.97	-95.09	177.33	-1,145.04	6,833.57	6,625.74	207.83	32.881			
16,500.00	9,976.39	9,969.75	9,976.39	157.43	52.98	-95.16	177.33	-1,145.04	6,930.92	6,721.08	209.84	33.029			
16,600.00	9,978.49	9,971.85	9,978.49	159.45	52.99	-95.24	177.33	-1,145.04	7,028.34	6,816.48	211.86	33.174			
16,700.00	9,980.59	9,973.95	9,980.59	161.48	53.01	-95.31	177.33	-1,145.04	7,125.83	6,911.95	213.88	33.317			
16,800.00	9,982.69	9,976.05	9,982.69	163.51	53.02	-95.39	177.33	-1,145.04	7,223.39	7,007.48	215.90	33.457			
16,900.00	9,984.79	9,978.15	9,984.79	165.54	53.03	-95.47	177.33	-1,145.04	7,321.01	7,103.08	217.93	33.594			
17,000.00	9,986.89	9,980.24	9,986.89	167.58	53.04	-95.54	177.33	-1,145.04	7,418.69	7,198.74	219.95	33.728			
17,100.00	9,988.99	9,982.34	9,988.99	169.62	53.05	-95.62	177.33	-1,145.04	7,516.44	7,294.46	221.98	33.860			
17,200.00	9,991.09	9,984.44	9,991.09	171.66	53.06	-95.69	177.33	-1,145.04	7,614.24	7,390.23	224.01	33.990			
17,300.00	9,993.19	9,986.54	9,993.19	173.70	53.07	-95.77	177.33	-1,145.04	7,712.10	7,486.06	226.05	34.117			
17,400.00	9,995.29	9,988.64	9,995.29	175.75	53.08	-95.84	177.33	-1,145.04	7,810.02	7,581.94	228.08	34.242			
17,500.00	9,997.39	9,990.74	9,997.39	177.80	53.10	-95.92	177.33	-1,145.04	7,907.98	7,677.86	230.12	34.365			
17,600.00	9,999.49	9,992.84	9,999.49	179.85	53.11	-96.00	177.33	-1,145.04	8,006.00	7,773.84	232.16	34.485			
17,700.00	10,001.59	9,994.94	10,001.59	181.90	53.12	-96.07	177.33	-1,145.04	8,104.06	7,869.86	234.20	34.604			
17,800.00	10,002.98	9,996.33	10,002.98	183.96	53.13	-92.93	177.33	-1,145.04	8,202.17	7,965.43	236.75	34.645			
17,900.00	10,003.98	9,997.33	10,003.98	186.01	53.13	-92.97	177.33	-1,145.04	8,300.33	8,061.53	238.81	34.758			
18,000.00	10,004.98	9,998.33	10,004.98	188.07	53.14	-93.00	177.33	-1,145.04	8,398.54	8,157.67	240.87	34.868			
18,100.00	10,005.98	9,999.33	10,005.98	190.13	53.14	-93.04	177.33	-1,145.04	8,496.78	8,253.85	242.93	34.976			
18,200.00	10,006.98	10,000.33	10,006.98	192.20	53.15	-93.07	177.33	-1,145.04	8,595.07	8,350.07	245.00	35.083			
18,300.00	10,007.98	10,001.33	10,007.98	194.26	53.15	-93.11	177.33	-1,145.04	8,693.39	8,446.33	247.06	35.187			
18,400.00	10,008.98	10,002.33	10,008.98	196.33	53.16	-93.15	177.33	-1,145.04	8,791.75	8,542.62	249.13	35.290			
18,500.00	10,009.98	10,003.33	10,009.98	198.40	53.16	-93.18	177.33	-1,145.04	8,890.15	8,638.95	251.20	35.391			
18,600.00	10,010.98	10,004.33	10,010.98	200.47	53.17	-93.22	177.33	-1,145.04	8,988.58	8,735.31	253.27	35.490			
18,700.00	10,011.98	10,005.33	10,011.98	202.54	53.17	-93.26	177.33	-1,145.04	9,087.05	8,831.71	255.34	35.588			
18,800.00	10,012.98	10,006.33	10,012.98	204.62	53.18	-93.29	177.33	-1,145.04	9,185.55	8,928.13	257.42	35.683			
18,900.00	10,013.98	10,007.33	10,013.98	206.69	53.18	-93.33	177.33	-1,145.04	9,284.09	9,024.59	259.49	35.778			
19,000.00	10,014.98	10,008.33	10,014.98	208.77	53.19	-93.36	177.33	-1,145.04	9,382.65	9,121.08	261.57	35.870			
19,100.00	10,015.98	10,009.33	10,015.98	210.85	53.20	-93.40	177.33	-1,145.04	9,481.24	9,217.59	263.65	35.962			
19,200.00	10,016.98	10,010.33	10,016.98	212.93	53.20	-93.44	177.33	-1,145.04	9,579.87	9,314.14	265.73	36.051			
19,300.00	10,017.98	10,011.33	10,017.98	215.01	53.21	-93.47	177.33	-1,145.04	9,678.52	9,410.71	267.81	36.140			
19,400.00	10,018.98	10,012.33	10,018.98	217.09	53.21	-93.51	177.33	-1,145.04	9,777.19	9,507.30	269.89	36.226			
19,500.00	10,019.98	10,013.33	10,019.98	219.18	53.22	-93.55	177.33	-1,145.04	9,875.90	9,603.92	271.97	36.312			
19,600.00	10,020.98	10,014.34	10,020.98	221.26	53.22	-93.58	177.33	-1,145.04	9,974.63	9,700.57	274.06	36.396			

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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
0.00	0.00	0.00	17.00	0.00	0.00	-82.53	177.33	-1,353.08	1,364.76				
100.00	100.00	83.00	100.00	0.19	0.16	-82.53	177.33	-1,353.08	1,364.65	1,364.30	0.35	3,852.321	
200.00	200.00	183.00	200.00	0.73	0.64	-82.53	177.33	-1,353.08	1,364.65	1,363.28	1.37	995.259	
300.00	300.00	283.00	300.00	1.27	1.18	-82.53	177.33	-1,353.08	1,364.65	1,362.21	2.45	557.783	
400.00	400.00	383.00	400.00	1.81	1.72	-82.53	177.33	-1,353.08	1,364.65	1,361.13	3.52	387.468	
500.00	500.00	483.00	500.00	2.34	2.25	-82.53	177.33	-1,353.08	1,364.65	1,360.06	4.60	296.832	
600.00	600.00	583.00	600.00	2.88	2.79	-82.53	177.33	-1,353.08	1,364.65	1,358.98	5.67	240.560 CC	
700.00	699.98	682.98	699.98	3.41	3.33	-150.13	177.33	-1,353.08	1,366.17	1,359.42	6.74	202.554	
800.00	799.84	782.84	799.84	3.94	3.87	-150.20	177.33	-1,353.08	1,370.71	1,362.90	7.81	175.426	
900.00	899.45	882.45	899.45	4.48	4.40	-150.30	177.33	-1,353.08	1,378.28	1,369.40	8.88	155.196	
1,000.00	998.76	981.76	998.76	5.03	4.93	-150.49	177.33	-1,353.08	1,388.50	1,378.56	9.94	139.658	
1,100.00	1,098.02	1,081.02	1,098.02	5.58	5.47	-150.74	177.33	-1,353.08	1,399.12	1,388.11	11.01	127.119	
1,200.00	1,197.28	1,180.28	1,197.28	6.15	6.00	-150.98	177.33	-1,353.08	1,409.75	1,397.68	12.08	116.749	
1,300.00	1,296.53	1,279.53	1,296.53	6.72	6.54	-151.22	177.33	-1,353.08	1,420.42	1,407.27	13.15	108.040	
1,400.00	1,395.79	1,378.79	1,395.79	7.29	7.07	-151.45	177.33	-1,353.08	1,431.10	1,416.88	14.22	100.627	
1,500.00	1,495.05	1,478.05	1,495.05	7.86	7.60	-151.68	177.33	-1,353.08	1,441.81	1,426.51	15.30	94.245	
1,600.00	1,594.31	1,577.31	1,594.31	8.44	8.14	-151.91	177.33	-1,353.08	1,452.54	1,436.16	16.38	88.695	
1,700.00	1,693.57	1,676.57	1,693.57	9.02	8.67	-152.13	177.33	-1,353.08	1,463.29	1,445.84	17.46	83.826	
1,800.00	1,792.83	1,775.83	1,792.83	9.60	9.20	-152.35	177.33	-1,353.08	1,474.07	1,455.53	18.54	79.521	
1,900.00	1,892.08	1,875.08	1,892.08	10.18	9.74	-152.57	177.33	-1,353.08	1,484.87	1,465.25	19.62	75.689	
2,000.00	1,991.34	1,974.34	1,991.34	10.76	10.27	-152.78	177.33	-1,353.08	1,495.68	1,474.98	20.70	72.256	
2,100.00	2,090.60	2,073.60	2,090.60	11.34	10.81	-152.99	177.33	-1,353.08	1,506.52	1,484.74	21.78	69.163	
2,200.00	2,189.86	2,172.86	2,189.86	11.93	11.34	-153.20	177.33	-1,353.08	1,517.38	1,494.52	22.86	66.363	
2,300.00	2,289.12	2,272.12	2,289.12	12.51	12.00	-153.46	177.33	-1,352.69	1,528.08	1,504.00	24.08	63.471	
2,400.00	2,388.37	2,371.37	2,388.37	13.10	13.10	-153.86	177.33	-1,341.21	1,533.64	1,507.92	25.72	59.638	
2,500.00	2,487.63	2,470.63	2,487.63	13.68	13.74	-154.07	177.33	-1,328.85	1,534.26	1,507.37	26.89	57.056	
2,600.00	2,586.89	2,569.89	2,586.89	14.27	14.26	-154.25	177.33	-1,318.41	1,534.77	1,506.81	27.96	54.889	
2,700.00	2,686.15	2,669.15	2,686.15	14.85	14.79	-154.42	177.33	-1,307.97	1,535.30	1,506.26	29.03	52.878	
2,800.00	2,785.41	2,768.41	2,785.41	15.44	15.33	-154.60	177.33	-1,297.53	1,535.84	1,505.73	30.11	51.007	
2,900.00	2,884.67	2,867.67	2,884.67	16.03	15.87	-154.77	177.33	-1,287.09	1,536.39	1,505.21	31.19	49.263	
3,000.00	2,983.92	2,966.92	2,983.92	16.61	16.41	-154.94	177.33	-1,276.65	1,536.96	1,504.70	32.27	47.633	
3,100.00	3,083.18	3,066.18	3,083.18	17.20	16.95	-155.12	177.33	-1,266.20	1,537.55	1,504.20	33.35	46.107	
3,200.00	3,182.44	3,165.44	3,182.44	17.79	17.49	-155.29	177.33	-1,255.76	1,538.15	1,503.72	34.43	44.676	
3,300.00	3,281.70	3,264.70	3,281.70	18.38	18.04	-155.47	177.33	-1,245.32	1,538.76	1,503.25	35.51	43.331	
3,400.00	3,380.96	3,363.96	3,380.96	18.96	18.59	-155.64	177.33	-1,234.88	1,539.38	1,502.79	36.60	42.064	
3,500.00	3,480.22	3,463.22	3,480.22	19.55	19.14	-155.81	177.33	-1,224.44	1,540.02	1,502.34	37.68	40.869	
3,600.00	3,579.47	3,562.47	3,579.47	20.14	19.69	-155.99	177.33	-1,214.00	1,540.68	1,501.91	38.77	39.741	
3,700.00	3,678.73	3,661.73	3,678.73	20.73	20.25	-156.16	177.33	-1,203.56	1,541.35	1,501.49	39.85	38.674	
3,800.00	3,777.99	3,760.99	3,777.99	21.31	20.80	-156.33	177.33	-1,193.12	1,542.03	1,501.09	40.94	37.663	
3,900.00	3,877.25	4,030.13	4,038.47	21.90	21.36	-156.50	177.33	-1,182.67	1,542.73	1,500.70	42.03	36.704	
4,000.00	3,976.51	4,130.02	4,137.81	22.49	21.92	-156.68	177.33	-1,172.23	1,543.44	1,500.32	43.12	35.794	
4,100.00	4,075.77	4,229.91	4,237.16	23.08	22.47	-156.85	177.33	-1,161.79	1,544.16	1,499.95	44.21	34.928	
4,200.00	4,175.02	4,300.00	4,306.93	23.67	22.86	-156.97	177.33	-1,151.09	1,545.82	1,500.68	45.14	34.244	
4,300.00	4,274.28	4,363.14	4,369.89	24.26	23.21	-157.08	177.33	-1,140.50	1,547.53	1,501.70	46.03	33.666	
4,400.00	4,373.54	4,427.79	4,434.47	24.85	23.56	-157.19	177.33	-1,147.24	1,555.91	1,508.98	46.93	33.153	
4,500.00	4,472.80	4,500.00	4,506.65	25.43	23.94	-157.32	177.33	-1,145.32	1,564.39	1,516.52	47.87	32.680	
4,600.00	4,572.06	4,565.41	4,572.06	26.02	24.29	-157.43	177.33	-1,145.04	1,574.97	1,526.20	48.77	32.295	
4,700.00	4,671.31	4,664.67	4,671.31	26.61	24.80	-157.60	177.33	-1,145.04	1,586.22	1,536.37	49.84	31.824	
4,800.00	4,770.57	4,763.93	4,770.57	27.20	25.32	-157.76	177.33	-1,145.04	1,597.48	1,546.56	50.92	31.374	
4,900.00	4,869.83	4,863.19	4,869.83	27.79	25.85	-157.93	177.33	-1,145.04	1,608.75	1,556.75	51.99	30.942	
5,000.00	4,969.09	4,962.44	4,969.09	28.38	26.37	-158.09	177.33	-1,145.04	1,620.03	1,566.96	53.07	30.527	
5,100.00	5,068.35	5,061.70	5,068.35	28.97	26.89	-158.25	177.33	-1,145.04	1,631.33	1,577.19	54.14	30.130	

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,167.61	5,160.96	5,167.61	29.56	27.41	-158.40	177.33	-1,145.04	1,642.64	1,587.42	55.22	29.747		
5,300.00	5,266.86	5,260.22	5,266.86	30.15	27.93	-158.56	177.33	-1,145.04	1,653.96	1,597.66	56.30	29.380		
5,400.00	5,366.12	5,359.48	5,366.12	30.73	28.46	-158.71	177.33	-1,145.04	1,665.29	1,607.92	57.37	29.026		
5,500.00	5,465.38	5,458.73	5,465.38	31.32	28.98	-158.86	177.33	-1,145.04	1,676.64	1,618.19	58.45	28.686		
5,600.00	5,564.64	5,557.99	5,564.64	31.91	29.50	-159.01	177.33	-1,145.04	1,687.99	1,628.47	59.53	28.357		
5,700.00	5,663.90	5,657.25	5,663.90	32.50	30.03	-159.17	177.33	-1,145.04	1,699.34	1,638.72	60.61	28.036		
5,800.00	5,763.39	5,756.75	5,763.39	33.07	30.55	-159.35	177.33	-1,145.04	1,708.69	1,646.95	61.74	27.678		
5,900.00	5,863.18	5,856.53	5,863.18	33.62	31.08	-159.47	177.33	-1,145.04	1,714.79	1,652.00	62.79	27.310		
6,000.00	5,963.13	5,956.48	5,963.13	34.14	31.61	-159.53	177.33	-1,145.04	1,717.63	1,653.86	63.77	26.933		
6,100.00	6,063.12	6,056.48	6,063.12	34.63	32.14	-91.96	177.33	-1,145.04	1,717.86	1,653.07	64.79	26.514		
6,200.00	6,163.12	6,156.48	6,163.12	35.12	32.67	-91.96	177.33	-1,145.04	1,717.86	1,652.03	65.83	26.095		
6,300.00	6,263.12	6,256.48	6,263.12	35.61	33.20	-91.96	177.33	-1,145.04	1,717.86	1,650.98	66.87	25.689		
6,400.00	6,363.12	6,356.48	6,363.12	36.11	33.73	-91.96	177.33	-1,145.04	1,717.86	1,649.94	67.91	25.295		
6,500.00	6,463.12	6,456.48	6,463.12	36.60	34.26	-91.96	177.33	-1,145.04	1,717.86	1,648.90	68.96	24.912		
6,600.00	6,563.12	6,556.48	6,563.12	37.10	34.79	-91.96	177.33	-1,145.04	1,717.86	1,647.85	70.00	24.540		
6,700.00	6,663.12	6,656.48	6,663.12	37.59	35.32	-91.96	177.33	-1,145.04	1,717.86	1,646.81	71.05	24.179		
6,800.00	6,763.12	6,756.48	6,763.12	38.09	35.85	-91.96	177.33	-1,145.04	1,717.86	1,645.76	72.09	23.828		
6,900.00	6,863.12	6,856.48	6,863.12	38.59	36.38	-91.96	177.33	-1,145.04	1,717.86	1,644.72	73.14	23.487		
7,000.00	6,963.12	6,956.48	6,963.12	39.09	36.91	-91.96	177.33	-1,145.04	1,717.86	1,643.67	74.19	23.155		
7,100.00	7,063.12	7,056.48	7,063.12	39.59	37.44	-91.96	177.33	-1,145.04	1,717.86	1,642.62	75.24	22.833		
7,200.00	7,163.12	7,156.48	7,163.12	40.09	37.98	-91.96	177.33	-1,145.04	1,717.86	1,641.57	76.29	22.519		
7,300.00	7,263.12	7,256.48	7,263.12	40.59	38.51	-91.96	177.33	-1,145.04	1,717.86	1,640.52	77.34	22.213		
7,400.00	7,363.12	7,356.48	7,363.12	41.10	39.04	-91.96	177.33	-1,145.04	1,717.86	1,639.47	78.39	21.915		
7,500.00	7,463.12	7,456.48	7,463.12	41.60	39.57	-91.96	177.33	-1,145.04	1,717.86	1,638.42	79.44	21.625		
7,600.00	7,563.12	7,556.48	7,563.12	42.11	40.10	-91.96	177.33	-1,145.04	1,717.86	1,637.37	80.49	21.343		
7,700.00	7,663.12	7,656.48	7,663.12	42.61	40.64	-91.96	177.33	-1,145.04	1,717.86	1,636.31	81.54	21.067		
7,800.00	7,763.12	7,756.48	7,763.12	43.12	41.17	-91.96	177.33	-1,145.04	1,717.86	1,635.26	82.60	20.798		
7,900.00	7,863.12	7,856.48	7,863.12	43.63	41.70	-91.96	177.33	-1,145.04	1,717.86	1,634.21	83.65	20.536		
8,000.00	7,963.12	7,956.48	7,963.12	44.14	42.23	-91.96	177.33	-1,145.04	1,717.86	1,633.15	84.70	20.281		
8,100.00	8,063.12	8,056.48	8,063.12	44.65	42.77	-91.96	177.33	-1,145.04	1,717.86	1,632.10	85.76	20.031		
8,200.00	8,163.12	8,156.48	8,163.12	45.16	43.30	-91.96	177.33	-1,145.04	1,717.86	1,631.04	86.81	19.788		
8,300.00	8,263.12	8,256.48	8,263.12	45.67	43.83	-91.96	177.33	-1,145.04	1,717.86	1,629.99	87.87	19.550		
8,400.00	8,363.12	8,356.48	8,363.12	46.18	44.37	-91.96	177.33	-1,145.04	1,717.86	1,628.93	88.93	19.318		
8,500.00	8,463.12	8,456.48	8,463.12	46.69	44.90	-91.96	177.33	-1,145.04	1,717.86	1,627.87	89.98	19.091		
8,600.00	8,563.12	8,556.48	8,563.12	47.20	45.43	-91.96	177.33	-1,145.04	1,717.86	1,626.82	91.04	18.869		
8,700.00	8,663.12	8,656.48	8,663.12	47.71	45.97	-91.96	177.33	-1,145.04	1,717.86	1,625.76	92.10	18.653		
8,800.00	8,763.12	8,756.48	8,763.12	48.23	46.50	-91.96	177.33	-1,145.04	1,717.86	1,624.70	93.15	18.441		
8,900.00	8,863.12	8,856.48	8,863.12	48.74	47.04	-91.96	177.33	-1,145.04	1,717.86	1,623.64	94.21	18.234		
9,000.00	8,963.12	8,956.48	8,963.12	49.25	47.57	-91.96	177.33	-1,145.04	1,717.86	1,622.58	95.27	18.031		
9,100.00	9,063.12	9,056.48	9,063.12	49.77	48.10	-91.96	177.33	-1,145.04	1,717.86	1,621.53	96.33	17.833		
9,200.00	9,163.12	9,156.48	9,163.12	50.28	48.64	-91.96	177.33	-1,145.04	1,717.86	1,620.47	97.39	17.639		
9,300.00	9,263.12	9,256.48	9,263.12	50.80	49.17	-91.96	177.33	-1,145.04	1,717.86	1,619.41	98.45	17.449		
9,400.00	9,363.12	9,356.48	9,363.12	51.32	49.71	-91.96	177.33	-1,145.04	1,717.86	1,618.35	99.51	17.263		
9,500.00	9,463.12	9,457.41	9,464.05	51.83	50.19	-90.98	177.47	-1,145.04	1,717.85	1,617.34	100.51	17.091		
9,600.00	9,562.49	9,565.12	9,570.88	52.36	50.20	-90.94	189.94	-1,145.17	1,717.74	1,616.68	101.06	16.997		
9,700.00	9,658.61	9,672.36	9,673.06	52.89	50.22	-90.86	221.96	-1,145.48	1,717.49	1,615.85	101.64	16.898		
9,800.00	9,748.56	9,778.85	9,766.88	53.39	50.27	-90.76	272.03	-1,145.97	1,717.09	1,614.85	102.24	16.795		
9,900.00	9,829.61	9,884.38	9,849.13	53.87	50.35	-90.63	337.90	-1,146.61	1,716.58	1,613.70	102.89	16.684		
10,000.00	9,899.29	9,988.79	9,917.28	54.33	50.47	-90.48	416.81	-1,147.38	1,715.98	1,612.38	103.60	16.563		
10,100.00	9,955.49	10,091.96	9,969.46	54.79	50.66	-90.31	505.64	-1,148.25	1,715.32	1,610.91	104.41	16.429		
10,200.00	9,996.50	10,193.83	10,004.56	55.29	50.95	-90.14	601.12	-1,149.18	1,714.62	1,609.30	105.32	16.281		
10,300.00	10,021.07	10,294.38	10,022.11	55.84	51.35	-89.97	700.00	-1,150.14	1,713.91	1,607.59	106.32	16.120		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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
10,400.00	10,028.46	10,393.98	10,022.99	56.42	51.84	-89.82	799.50	-1,151.11	1,713.20	1,605.79	107.41	15.950	
10,500.00	10,024.49	10,493.97	10,019.66	57.08	52.43	-89.86	899.44	-1,152.09	1,712.48	1,603.81	108.67	15.759	
10,600.00	10,020.28	10,593.96	10,016.32	57.81	53.10	-89.88	999.37	-1,153.06	1,711.77	1,601.68	110.09	15.549	
10,700.00	10,016.07	10,693.96	10,012.99	58.62	53.85	-89.91	1,099.30	-1,154.04	1,711.05	1,599.40	111.65	15.325	
10,800.00	10,011.85	10,793.95	10,009.65	59.49	54.67	-89.94	1,199.24	-1,155.01	1,710.34	1,596.97	113.36	15.088	
10,900.00	10,007.64	10,893.94	10,006.32	60.43	55.57	-89.97	1,299.17	-1,155.99	1,709.62	1,594.41	115.21	14.839	
11,000.00	10,003.43	10,993.94	10,002.99	61.43	56.53	-90.00	1,399.10	-1,156.96	1,708.90	1,591.72	117.19	14.583	
11,100.00	9,999.22	11,093.93	9,999.65	62.49	57.57	-90.03	1,499.04	-1,157.94	1,708.19	1,588.90	119.29	14.320	
11,200.00	9,995.01	11,193.92	9,996.32	63.60	58.66	-90.06	1,598.97	-1,158.91	1,707.48	1,585.97	121.51	14.052	
11,300.00	9,990.80	11,293.92	9,992.98	64.77	59.81	-90.09	1,698.90	-1,159.89	1,706.76	1,582.92	123.84	13.782	
11,400.00	9,986.59	11,393.91	9,989.65	65.99	61.02	-90.12	1,798.84	-1,160.86	1,706.05	1,579.77	126.28	13.510	
11,500.00	9,982.38	11,493.90	9,986.31	67.26	62.27	-90.15	1,898.77	-1,161.84	1,705.33	1,576.52	128.82	13.239	
11,600.00	9,978.17	11,593.90	9,982.98	68.57	63.58	-90.18	1,998.70	-1,162.81	1,704.62	1,573.18	131.45	12.968	
11,700.00	9,973.96	11,693.89	9,979.65	69.92	64.93	-90.21	2,098.64	-1,163.79	1,703.91	1,569.75	134.16	12.700	
11,800.00	9,969.75	11,793.89	9,976.31	71.31	66.33	-90.24	2,198.57	-1,164.76	1,703.20	1,566.23	136.97	12.435	
11,900.00	9,965.54	11,893.88	9,972.98	72.74	67.76	-90.27	2,298.50	-1,165.74	1,702.49	1,562.64	139.85	12.174	
12,000.00	9,961.33	11,993.87	9,969.64	74.21	69.24	-90.30	2,398.44	-1,166.71	1,701.78	1,558.98	142.80	11.917	
12,100.00	9,957.11	12,093.87	9,966.31	75.71	70.75	-90.33	2,498.37	-1,167.69	1,701.07	1,555.25	145.82	11.666	
12,200.00	9,953.85	12,193.71	9,963.14	77.23	72.28	-90.32	2,598.16	-1,168.66	1,700.35	1,551.46	148.89	11.420	
12,300.00	9,952.97	12,293.66	9,961.15	78.78	73.85	-90.28	2,698.08	-1,169.64	1,699.63	1,547.61	152.02	11.180	
12,400.00	9,952.20	12,393.65	9,959.17	80.36	75.46	-90.24	2,798.05	-1,170.62	1,698.90	1,543.70	155.20	10.946	
12,500.00	9,951.43	12,493.64	9,957.18	81.96	77.08	-90.20	2,898.01	-1,171.60	1,698.18	1,539.73	158.44	10.718	
12,600.00	9,950.67	12,593.63	9,955.20	83.59	78.74	-90.16	2,997.98	-1,172.58	1,697.46	1,535.72	161.74	10.495	
12,700.00	9,949.90	12,693.62	9,953.21	85.24	80.42	-90.12	3,097.95	-1,173.56	1,696.74	1,531.66	165.07	10.279	
12,800.00	9,949.13	12,793.61	9,951.23	86.92	82.12	-90.07	3,197.91	-1,174.54	1,696.02	1,527.56	168.46	10.068	
12,900.00	9,948.37	12,893.60	9,949.25	88.62	83.84	-90.03	3,297.88	-1,175.52	1,695.30	1,523.41	171.88	9.863	
13,000.00	9,947.60	12,993.59	9,947.26	90.33	85.58	-89.99	3,397.84	-1,176.50	1,694.58	1,519.23	175.35	9.664	
13,100.00	9,946.83	13,093.58	9,945.28	92.07	87.35	-89.95	3,497.81	-1,177.48	1,693.86	1,515.01	178.85	9.471	
13,200.00	9,946.06	13,193.57	9,943.29	93.82	89.12	-89.91	3,597.77	-1,178.46	1,693.14	1,510.75	182.39	9.283	
13,300.00	9,945.30	13,293.56	9,941.31	95.59	90.92	-89.87	3,697.74	-1,179.43	1,692.43	1,506.47	185.96	9.101	
13,400.00	9,944.53	13,393.55	9,939.33	97.38	92.73	-89.83	3,797.70	-1,180.41	1,691.71	1,502.15	189.56	8.924	
13,500.00	9,943.76	13,493.54	9,937.34	99.18	94.56	-89.79	3,897.67	-1,181.39	1,691.00	1,497.81	193.19	8.753	
13,600.00	9,942.99	13,593.53	9,935.36	100.99	96.40	-89.74	3,997.64	-1,182.37	1,690.28	1,493.43	196.85	8.587	
13,700.00	9,942.23	13,693.52	9,933.38	102.82	98.25	-89.70	4,097.60	-1,183.35	1,689.57	1,489.03	200.54	8.425	
13,800.00	9,941.46	13,793.51	9,931.39	104.66	100.11	-89.66	4,197.57	-1,184.33	1,688.86	1,484.61	204.25	8.269	
13,900.00	9,940.69	13,893.50	9,929.41	106.52	101.99	-89.62	4,297.53	-1,185.31	1,688.15	1,480.17	207.98	8.117	
14,000.00	9,939.93	13,993.49	9,927.42	108.38	103.88	-89.58	4,397.50	-1,186.29	1,687.44	1,475.70	211.74	7.970	
14,100.00	9,939.16	14,093.48	9,925.44	110.26	105.78	-89.54	4,497.46	-1,187.27	1,686.73	1,471.22	215.51	7.827	
14,200.00	9,939.40	14,193.45	9,923.46	112.14	107.68	-89.45	4,597.41	-1,188.25	1,686.02	1,466.72	219.30	7.688	
14,300.00	9,940.60	14,293.40	9,921.47	114.04	109.60	-89.34	4,697.33	-1,189.23	1,685.32	1,462.21	223.11	7.554	
14,400.00	9,941.80	14,393.46	9,919.60	115.95	111.53	-89.24	4,797.37	-1,190.21	1,684.62	1,457.68	226.94	7.423	
14,500.00	9,943.00	14,493.93	9,920.28	117.86	113.47	-89.22	4,897.83	-1,191.21	1,683.91	1,453.11	230.80	7.296	
14,600.00	9,944.20	14,594.11	9,923.96	119.78	115.41	-89.31	4,997.94	-1,192.22	1,683.17	1,448.49	234.68	7.172	
14,700.00	9,945.40	14,694.07	9,928.01	121.72	117.36	-89.40	5,097.80	-1,193.23	1,682.43	1,443.86	238.58	7.052	
14,800.00	9,946.60	14,794.03	9,932.06	123.65	119.31	-89.50	5,197.67	-1,194.24	1,681.70	1,439.22	242.49	6.935	
14,900.00	9,947.80	14,893.98	9,936.12	125.60	121.27	-89.60	5,297.54	-1,195.25	1,680.98	1,434.57	246.41	6.822	
15,000.00	9,949.00	14,993.94	9,940.17	127.55	123.24	-89.69	5,397.41	-1,196.26	1,680.26	1,429.91	250.35	6.712	
15,100.00	9,950.20	15,093.90	9,944.23	129.51	125.21	-89.79	5,497.28	-1,197.27	1,679.54	1,425.25	254.30	6.605	
15,200.00	9,951.40	15,193.85	9,948.28	131.48	127.19	-89.89	5,597.15	-1,198.28	1,678.83	1,420.57	258.26	6.501	
15,300.00	9,952.61	15,293.81	9,952.33	133.45	129.18	-89.99	5,697.02	-1,199.29	1,678.12	1,415.90	262.23	6.400	
15,400.00	9,953.81	15,393.77	9,956.39	135.43	131.17	-90.08	5,796.89	-1,200.30	1,677.42	1,411.21	266.21	6.301	
15,435.83	9,954.29	15,429.58	9,957.84	136.14	131.88	-90.12	5,832.68	-1,200.67	1,677.34	1,409.60	267.74	6.265	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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				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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
15,500.00	9,955.40	15,515.59	9,960.28	137.41	133.60	-90.17	5,918.64	-1,201.01	1,677.49	1,406.61	270.88	6.193			
15,600.00	9,957.50	15,617.55	9,961.59	139.39	135.63	-90.15	6,020.60	-1,200.60	1,678.01	1,403.11	274.90	6.104			
15,700.00	9,959.60	15,717.55	9,962.86	141.38	137.64	-90.12	6,120.58	-1,200.20	1,678.52	1,399.63	278.89	6.019			
15,800.00	9,961.70	15,817.54	9,964.13	143.37	139.65	-90.09	6,220.57	-1,199.80	1,679.03	1,396.14	282.89	5.935			
15,900.00	9,963.80	15,917.54	9,965.41	145.37	141.66	-90.06	6,320.56	-1,199.40	1,679.54	1,392.65	286.90	5.854			
16,000.00	9,965.90	16,017.53	9,966.68	147.37	143.68	-90.03	6,420.54	-1,199.00	1,680.06	1,389.14	290.91	5.775			
16,100.00	9,968.00	16,117.53	9,967.95	149.37	145.70	-90.00	6,520.53	-1,198.60	1,680.57	1,385.63	294.94	5.698			
16,200.00	9,970.10	16,217.52	9,969.23	151.38	147.72	-89.98	6,620.52	-1,198.20	1,681.08	1,382.11	298.97	5.623			
16,300.00	9,972.20	16,317.52	9,970.50	153.39	149.75	-89.95	6,720.50	-1,197.80	1,681.60	1,378.59	303.01	5.550			
16,400.00	9,974.30	16,417.51	9,971.77	155.41	151.78	-89.92	6,820.49	-1,197.40	1,682.11	1,375.06	307.06	5.478			
16,500.00	9,976.39	16,517.51	9,973.05	157.43	153.81	-89.89	6,920.47	-1,197.00	1,682.63	1,371.52	311.11	5.408			
16,600.00	9,978.49	16,617.50	9,974.32	159.45	155.85	-89.86	7,020.46	-1,196.60	1,683.14	1,367.97	315.17	5.340			
16,700.00	9,980.59	16,717.50	9,975.59	161.48	157.89	-89.84	7,120.45	-1,196.20	1,683.66	1,364.42	319.24	5.274			
16,800.00	9,982.69	16,817.49	9,976.87	163.51	159.94	-89.81	7,220.43	-1,195.80	1,684.18	1,360.87	323.31	5.209			
16,900.00	9,984.79	16,917.49	9,978.14	165.54	161.98	-89.78	7,320.42	-1,195.40	1,684.69	1,357.31	327.39	5.146			
17,000.00	9,986.89	17,017.49	9,979.41	167.58	164.03	-89.75	7,420.41	-1,195.00	1,685.21	1,353.74	331.47	5.084			
17,100.00	9,988.99	17,117.48	9,980.69	169.62	166.08	-89.72	7,520.39	-1,194.60	1,685.73	1,350.17	335.56	5.024			
17,200.00	9,991.09	17,217.48	9,982.86	171.66	168.13	-89.73	7,620.02	-1,194.21	1,686.26	1,346.61	339.65	4.965			
17,300.00	9,993.19	17,317.48	9,985.98	173.70	170.19	-89.76	7,719.97	-1,193.84	1,686.79	1,343.04	343.75	4.907			
17,400.00	9,995.29	17,417.48	9,989.10	175.75	172.24	-89.80	7,819.91	-1,193.47	1,687.33	1,339.47	347.86	4.851			
17,500.00	9,997.39	17,517.48	9,992.22	177.80	174.30	-89.83	7,919.86	-1,193.10	1,687.87	1,335.90	351.97	4.795			
17,600.00	9,999.49	17,617.48	9,995.34	179.85	176.37	-89.87	8,019.80	-1,192.73	1,688.41	1,332.32	356.09	4.742			
17,700.00	10,001.59	17,717.48	9,998.46	181.90	178.43	-89.90	8,119.74	-1,192.36	1,688.95	1,328.74	360.21	4.689			
17,800.00	10,003.69	17,817.49	10,001.58	183.96	180.50	-89.96	8,219.68	-1,191.99	1,689.46	1,325.12	364.34	4.637			
17,900.00	10,005.79	17,917.49	10,004.70	186.01	182.56	-90.03	8,319.60	-1,191.62	1,689.94	1,321.47	368.47	4.586			
18,000.00	10,007.89	18,017.49	10,007.82	188.07	184.63	-90.10	8,419.53	-1,191.25	1,690.43	1,317.83	372.61	4.537			
18,100.00	10,009.99	18,117.49	10,010.94	190.13	186.71	-90.17	8,519.46	-1,190.87	1,690.92	1,314.18	376.74	4.488			
18,200.00	10,012.09	18,217.49	10,014.06	192.20	188.78	-90.24	8,619.39	-1,190.50	1,691.41	1,310.53	380.89	4.441			
18,300.00	10,014.19	18,317.49	10,017.18	194.26	190.85	-90.31	8,719.31	-1,190.13	1,691.91	1,306.88	385.03	4.394			
18,400.00	10,016.29	18,417.49	10,020.30	196.33	192.93	-90.39	8,819.24	-1,189.76	1,692.41	1,303.23	389.18	4.349			
18,500.00	10,018.39	18,517.49	10,023.42	198.40	195.01	-90.46	8,919.17	-1,189.39	1,692.91	1,299.58	393.33	4.304			
18,600.00	10,020.49	18,617.49	10,026.54	200.47	197.09	-90.53	9,019.09	-1,189.02	1,693.41	1,295.93	397.49	4.260			
18,700.00	10,022.59	18,717.49	10,029.66	202.54	199.17	-90.60	9,119.02	-1,188.65	1,693.92	1,292.27	401.65	4.217			
18,800.00	10,024.69	18,817.49	10,032.78	204.62	201.26	-90.67	9,218.95	-1,188.28	1,694.43	1,288.62	405.80	4.175			
18,900.00	10,026.79	18,917.49	10,035.90	206.69	203.34	-90.74	9,318.87	-1,187.91	1,694.94	1,284.97	409.97	4.134			
19,000.00	10,028.89	19,017.49	10,039.02	208.77	205.43	-90.82	9,418.81	-1,187.54	1,695.46	1,281.32	414.13	4.094			
19,100.00	10,030.99	19,117.49	10,042.14	210.85	207.53	-90.89	9,519.76	-1,187.16	1,695.94	1,277.62	418.32	4.054			
19,200.00	10,033.09	19,217.49	10,045.26	212.93	209.63	-90.97	9,619.82	-1,186.78	1,696.40	1,273.90	422.49	4.015			
19,300.00	10,035.19	19,317.49	10,048.38	215.01	211.72	-91.04	9,719.80	-1,186.40	1,696.85	1,270.19	426.67	3.977			
19,400.00	10,037.29	19,417.49	10,051.50	217.09	213.81	-91.11	9,819.78	-1,186.03	1,697.31	1,266.47	430.84	3.940			
19,500.00	10,039.39	19,517.49	10,054.62	219.18	215.91	-91.18	9,919.76	-1,185.65	1,697.77	1,262.75	435.02	3.903			
19,600.00	10,041.49	19,617.49	10,057.74	221.26	218.01	-91.25	10,019.74	-1,185.27	1,698.23	1,259.03	439.20	3.867			
19,700.00	10,043.59	19,717.49	10,060.86	223.35	220.10	-91.32	10,119.72	-1,184.89	1,698.70	1,255.31	443.39	3.831			
19,800.00	10,045.69	19,817.49	10,063.98	225.44	222.20	-91.39	10,219.70	-1,184.51	1,699.16	1,251.59	447.57	3.796			
19,900.00	10,047.79	19,917.49	10,067.10	227.53	224.30	-91.46	10,319.69	-1,184.14	1,699.63	1,247.87	451.76	3.762			
20,000.00	10,049.89	20,017.49	10,070.22	229.62	226.40	-91.53	10,419.67	-1,183.76	1,700.10	1,244.15	455.95	3.729			
20,100.00	10,051.99	20,117.49	10,073.34	231.71	228.50	-91.60	10,519.65	-1,183.38	1,700.57	1,240.43	460.14	3.696			
20,200.00	10,054.09	20,217.49	10,076.46	233.80	230.61	-91.67	10,619.63	-1,183.00	1,701.04	1,236.71	464.33	3.663			
20,300.00	10,056.19	20,317.49	10,079.58	235.90	232.71	-91.74	10,719.61	-1,182.62	1,701.52	1,232.99	468.53	3.632			
20,400.00	10,058.29	20,417.49	10,082.70	237.99	234.81	-91.81	10,819.59	-1,182.25	1,701.99	1,229.27	472.72	3.600			
20,401.69	10,059.89	20,419.34	10,084.29	238.03	234.85	-91.81	10,821.28	-1,182.24	1,702.00	1,229.20	472.79	3.600 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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		Minimum Separation		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	19.00	0.00	0.00	-78.43	277.33	-1,354.08	1,382.32					
100.00	100.00	84.55	103.55	0.19	0.12	-78.42	277.40	-1,353.96	1,382.09	1,381.77	0.31	4,401.951		
200.00	200.00	192.96	211.95	0.73	0.31	-78.41	277.69	-1,353.41	1,381.65	1,380.61	1.04	1,325.975		
300.00	300.00	311.33	330.30	1.27	0.70	-78.38	277.98	-1,351.21	1,379.84	1,377.87	1.97	700.584		
400.00	400.00	413.76	432.71	1.81	1.03	-78.40	277.02	-1,349.02	1,377.56	1,374.72	2.83	486.173		
500.00	500.00	526.50	545.39	2.34	1.27	-78.44	275.27	-1,346.19	1,374.79	1,371.18	3.61	381.053		
600.00	600.00	759.07	777.24	2.88	1.99	-78.53	269.93	-1,330.27	1,368.90	1,364.03	4.87	281.125		
700.00	699.98	872.00	889.05	3.41	2.54	-146.34	265.67	-1,314.91	1,356.17	1,350.27	5.91	229.573		
800.00	799.84	949.65	965.99	3.94	2.96	-146.58	262.59	-1,304.95	1,347.20	1,340.39	6.80	198.012		
900.00	899.45	1,035.33	1,051.07	4.48	3.42	-146.85	259.59	-1,295.33	1,342.75	1,334.99	7.76	172.929		
1,000.00	998.76	1,125.37	1,140.57	5.03	3.91	-147.11	257.70	-1,285.68	1,341.66	1,332.90	8.76	153.100		
1,100.00	1,098.02	1,235.08	1,249.64	5.58	4.52	-147.35	257.17	-1,273.82	1,341.19	1,331.32	9.87	135.938		
1,200.00	1,197.28	1,324.55	1,338.54	6.15	5.02	-147.53	257.04	-1,263.76	1,340.35	1,329.48	10.88	123.207		
1,236.39	1,233.40	1,357.05	1,370.86	6.36	5.20	-147.58	257.21	-1,260.31	1,340.32	1,329.07	11.25	119.156 CC		
1,300.00	1,296.53	1,420.32	1,433.77	6.72	5.56	-147.68	257.92	-1,253.60	1,340.33	1,328.40	11.93	112.352		
1,400.00	1,395.79	1,516.20	1,529.10	7.29	6.09	-147.81	259.45	-1,243.49	1,340.50	1,327.51	12.99	103.223		
1,500.00	1,495.05	1,602.37	1,614.85	7.86	6.57	-147.95	260.40	-1,235.00	1,341.30	1,327.30	14.00	95.841		
1,600.00	1,594.31	1,713.68	1,725.67	8.44	7.19	-148.14	261.24	-1,224.83	1,342.59	1,327.45	15.14	88.673		
1,700.00	1,693.57	1,833.82	1,845.06	9.02	7.88	-148.33	262.48	-1,211.30	1,342.10	1,325.76	16.34	82.128		
1,754.80	1,747.96	1,875.92	1,886.90	9.34	8.12	-148.39	262.87	-1,206.62	1,341.84	1,324.97	16.87	79.528		
1,800.00	1,792.83	1,913.00	1,923.78	9.60	8.33	-148.46	263.09	-1,202.84	1,342.02	1,324.69	17.32	77.470 ES		
1,900.00	1,892.08	1,983.53	1,994.04	10.18	8.72	-148.60	263.37	-1,196.69	1,343.81	1,325.55	18.26	73.608		
2,000.00	1,991.34	2,070.61	2,080.90	10.76	9.20	-148.78	263.60	-1,190.56	1,347.27	1,328.00	19.28	69.890		
2,100.00	2,090.60	2,169.13	2,179.21	11.34	9.74	-148.99	263.85	-1,183.99	1,351.15	1,330.79	20.36	66.368		
2,200.00	2,189.86	2,271.29	2,281.13	11.93	10.30	-149.20	264.28	-1,177.08	1,354.97	1,333.51	21.46	63.137		
2,300.00	2,289.12	2,374.07	2,383.66	12.51	10.86	-149.40	264.96	-1,169.86	1,358.60	1,336.03	22.57	60.202		
2,400.00	2,388.37	2,476.90	2,486.21	13.10	11.43	-149.58	265.89	-1,162.39	1,362.02	1,338.35	23.67	57.531		
2,500.00	2,487.63	2,578.40	2,587.42	13.68	11.99	-149.75	267.05	-1,154.82	1,365.30	1,340.53	24.78	55.105		
2,600.00	2,586.89	2,705.18	2,713.72	14.27	12.70	-149.95	268.59	-1,144.02	1,367.56	1,341.55	26.02	52.583		
2,700.00	2,686.15	2,819.51	2,827.45	14.85	13.35	-150.14	269.63	-1,132.32	1,368.04	1,340.85	27.20	50.302		
2,800.00	2,785.41	2,917.59	2,924.99	15.44	13.92	-150.30	270.38	-1,122.02	1,368.29	1,340.00	28.29	48.370		
2,900.00	2,884.67	3,013.63	3,020.52	16.03	14.47	-150.45	271.30	-1,112.16	1,368.80	1,339.43	29.37	46.608		
3,000.00	2,983.92	3,114.22	3,120.58	16.61	15.05	-150.60	272.47	-1,101.99	1,369.50	1,339.02	30.47	44.940		
3,100.00	3,083.18	3,217.59	3,223.39	17.20	15.64	-150.75	273.87	-1,091.29	1,369.99	1,338.40	31.59	43.362		
3,200.00	3,182.44	3,321.91	3,327.10	17.79	16.24	-150.89	275.49	-1,080.18	1,370.22	1,337.50	32.72	41.875		
3,300.00	3,281.70	3,417.83	3,422.46	18.38	16.79	-151.02	276.88	-1,069.92	1,370.40	1,336.60	33.80	40.541		
3,400.00	3,380.96	3,495.86	3,500.12	18.96	17.24	-151.16	277.26	-1,062.36	1,371.50	1,336.71	34.78	39.429		
3,500.00	3,480.22	3,565.11	3,569.17	19.55	17.62	-151.33	276.67	-1,057.06	1,374.50	1,338.79	35.71	38.486		
3,600.00	3,579.47	3,619.00	3,622.97	20.14	17.91	-151.48	275.81	-1,054.20	1,380.05	1,343.49	36.56	37.748		
3,700.00	3,678.73	3,713.00	3,716.91	20.73	18.40	-151.76	274.15	-1,051.46	1,387.70	1,350.09	37.61	36.898		
3,800.00	3,777.99	3,791.21	3,795.11	21.31	18.79	-151.99	272.96	-1,050.40	1,396.84	1,358.27	38.57	36.216		
3,900.00	3,877.25	3,876.29	3,880.18	21.90	19.21	-152.23	272.01	-1,049.84	1,406.86	1,367.30	39.56	35.567		
4,000.00	3,976.51	3,971.52	3,975.40	22.49	19.67	-152.47	271.45	-1,049.95	1,417.70	1,377.12	40.58	34.932		
4,100.00	4,075.77	4,071.85	4,075.74	23.08	20.15	-152.72	270.75	-1,050.05	1,428.55	1,386.91	41.64	34.310		
4,200.00	4,175.02	4,170.00	4,173.88	23.67	20.62	-152.97	270.00	-1,050.14	1,439.41	1,396.73	42.68	33.726		
4,300.00	4,274.28	4,267.58	4,271.45	24.26	21.09	-153.22	269.29	-1,050.32	1,450.41	1,406.68	43.72	33.174		
4,400.00	4,373.54	4,363.97	4,367.84	24.85	21.56	-153.45	268.58	-1,050.65	1,461.57	1,416.82	44.75	32.658		
4,500.00	4,472.80	4,462.09	4,465.96	25.43	22.03	-153.70	267.73	-1,051.14	1,472.91	1,427.11	45.79	32.163		
4,600.00	4,572.06	4,559.24	4,563.10	26.02	22.50	-153.94	266.81	-1,051.71	1,484.36	1,437.53	46.83	31.696		
4,700.00	4,671.31	4,655.11	4,658.97	26.61	22.96	-154.17	266.01	-1,052.44	1,496.02	1,448.16	47.86	31.259		
4,800.00	4,770.57	4,749.43	4,753.27	27.20	23.41	-154.39	265.24	-1,053.41	1,507.96	1,459.09	48.88	30.852		
4,900.00	4,869.83	4,843.56	4,847.40	27.79	23.86	-154.61	264.38	-1,054.69	1,520.26	1,470.36	49.89	30.469		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)	Between Ellipses (usft)
5,000.00	4,969.09	4,941.56	4,945.37	28.38	24.34	-154.85	263.32	-1,056.23	1,532.78	1,481.85	50.93	30.095	
5,100.00	5,068.35	5,039.24	5,043.04	28.97	24.81	-155.09	261.98	-1,057.84	1,545.39	1,493.42	51.97	29.736	
5,200.00	5,167.61	5,163.82	5,167.61	29.56	25.43	-155.35	261.45	-1,058.42	1,556.79	1,503.64	53.15	29.292	
5,300.00	5,266.86	5,263.08	5,266.86	30.15	25.92	-155.53	261.45	-1,058.42	1,567.86	1,513.66	54.20	28.927	
5,400.00	5,366.12	5,362.33	5,366.12	30.73	26.42	-155.71	261.45	-1,058.42	1,578.95	1,523.69	55.26	28.575	
5,500.00	5,465.38	5,461.59	5,465.38	31.32	26.92	-155.89	261.45	-1,058.42	1,590.05	1,533.74	56.31	28.237	
5,600.00	5,564.64	5,560.85	5,564.64	31.91	27.42	-156.07	261.45	-1,058.42	1,601.17	1,543.80	57.37	27.910	
5,700.00	5,663.90	5,660.11	5,663.90	32.50	27.93	-156.26	261.45	-1,058.42	1,612.28	1,553.85	58.43	27.592	
5,800.00	5,763.39	5,759.61	5,763.39	33.07	28.43	-156.47	261.45	-1,058.42	1,621.45	1,561.93	59.51	27.246	
5,900.00	5,863.18	5,859.39	5,863.18	33.62	28.94	-156.61	261.45	-1,058.42	1,627.43	1,566.90	60.53	26.887	
6,000.00	5,963.13	5,959.34	5,963.13	34.14	29.45	-156.68	261.45	-1,058.42	1,630.21	1,568.73	61.48	26.516	
6,100.00	6,063.12	6,059.34	6,063.12	34.63	29.96	-89.10	261.45	-1,058.42	1,630.43	1,567.95	62.47	26.097	
6,200.00	6,163.12	6,159.34	6,163.12	35.12	30.47	-89.10	261.45	-1,058.42	1,630.43	1,566.93	63.50	25.677	
6,300.00	6,263.12	6,259.34	6,263.12	35.61	30.98	-89.10	261.45	-1,058.42	1,630.43	1,565.91	64.52	25.269	
6,400.00	6,363.12	6,359.34	6,363.12	36.11	31.49	-89.10	261.45	-1,058.42	1,630.43	1,564.88	65.55	24.873	
6,500.00	6,463.12	6,459.34	6,463.12	36.60	32.01	-89.10	261.45	-1,058.42	1,630.43	1,563.85	66.58	24.489	
6,600.00	6,563.12	6,559.34	6,563.12	37.10	32.52	-89.10	261.45	-1,058.42	1,630.43	1,562.82	67.61	24.117	
6,700.00	6,663.12	6,659.34	6,663.12	37.59	33.03	-89.10	261.45	-1,058.42	1,630.43	1,561.79	68.64	23.754	
6,800.00	6,763.12	6,759.34	6,763.12	38.09	33.55	-89.10	261.45	-1,058.42	1,630.43	1,560.76	69.67	23.402	
6,900.00	6,863.12	6,859.34	6,863.12	38.59	34.07	-89.10	261.45	-1,058.42	1,630.43	1,559.73	70.70	23.060	
7,000.00	6,963.12	6,959.34	6,963.12	39.09	34.58	-89.10	261.45	-1,058.42	1,630.43	1,558.69	71.74	22.728	
7,100.00	7,063.12	7,059.34	7,063.12	39.59	35.10	-89.10	261.45	-1,058.42	1,630.43	1,557.66	72.77	22.404	
7,200.00	7,163.12	7,159.34	7,163.12	40.09	35.62	-89.10	261.45	-1,058.42	1,630.43	1,556.62	73.81	22.090	
7,300.00	7,263.12	7,259.34	7,263.12	40.59	36.14	-89.10	261.45	-1,058.42	1,630.43	1,555.58	74.85	21.783	
7,400.00	7,363.12	7,359.34	7,363.12	41.10	36.66	-89.10	261.45	-1,058.42	1,630.43	1,554.54	75.89	21.485	
7,500.00	7,463.12	7,459.34	7,463.12	41.60	37.18	-89.10	261.45	-1,058.42	1,630.43	1,553.50	76.93	21.195	
7,600.00	7,563.12	7,559.34	7,563.12	42.11	37.70	-89.10	261.45	-1,058.42	1,630.43	1,552.46	77.97	20.912	
7,700.00	7,663.12	7,659.34	7,663.12	42.61	38.22	-89.10	261.45	-1,058.42	1,630.43	1,551.42	79.01	20.636	
7,800.00	7,763.12	7,759.34	7,763.12	43.12	38.74	-89.10	261.45	-1,058.42	1,630.43	1,550.38	80.05	20.367	
7,900.00	7,863.12	7,859.34	7,863.12	43.63	39.26	-89.10	261.45	-1,058.42	1,630.43	1,549.33	81.10	20.105	
8,000.00	7,963.12	7,959.34	7,963.12	44.14	39.79	-89.10	261.45	-1,058.42	1,630.43	1,548.29	82.14	19.849	
8,100.00	8,063.12	8,059.34	8,063.12	44.65	40.31	-89.10	261.45	-1,058.42	1,630.43	1,547.24	83.19	19.600	
8,200.00	8,163.12	8,159.34	8,163.12	45.16	40.83	-89.10	261.45	-1,058.42	1,630.43	1,546.20	84.23	19.357	
8,300.00	8,263.12	8,259.34	8,263.12	45.67	41.36	-89.10	261.45	-1,058.42	1,630.43	1,545.15	85.28	19.119	
8,400.00	8,363.12	8,359.34	8,363.12	46.18	41.88	-89.10	261.45	-1,058.42	1,630.43	1,544.10	86.33	18.887	
8,500.00	8,463.12	8,459.34	8,463.12	46.69	42.40	-89.10	261.45	-1,058.42	1,630.43	1,543.06	87.37	18.660	
8,600.00	8,563.12	8,559.34	8,563.12	47.20	42.93	-89.10	261.45	-1,058.42	1,630.43	1,542.01	88.42	18.439	
8,700.00	8,663.12	8,653.88	8,657.51	47.71	43.42	-88.97	265.40	-1,058.46	1,630.55	1,541.11	89.44	18.230	
8,800.00	8,763.12	8,743.10	8,744.95	48.23	43.88	-88.36	282.70	-1,058.65	1,631.24	1,540.80	90.44	18.038	
8,900.00	8,863.12	8,825.21	8,822.16	48.74	44.27	-87.39	310.43	-1,058.96	1,632.99	1,541.60	91.39	17.869	
9,000.00	8,963.12	8,900.00	8,888.39	49.25	44.60	-86.17	345.05	-1,059.35	1,636.51	1,544.21	92.30	17.730	
9,100.00	9,063.12	8,961.37	8,939.00	49.77	44.84	-84.96	379.72	-1,059.73	1,642.56	1,549.42	93.14	17.635	
9,200.00	9,163.12	9,015.48	8,980.32	50.28	45.04	-83.75	414.61	-1,060.12	1,651.83	1,557.88	93.95	17.581	
9,300.00	9,263.12	9,061.53	9,012.76	50.80	45.20	-82.62	447.28	-1,060.48	1,664.85	1,570.13	94.72	17.576	
9,400.00	9,363.12	9,100.00	9,037.79	51.32	45.34	-81.62	476.49	-1,060.81	1,682.01	1,586.55	95.46	17.620	
9,500.00	9,463.12	9,134.20	9,058.34	51.83	45.48	-79.54	503.81	-1,061.11	1,703.53	1,607.39	96.14	17.719	
9,600.00	9,562.49	9,166.98	9,076.48	52.36	45.62	-76.27	531.11	-1,061.42	1,727.53	1,630.86	96.67	17.870	
9,700.00	9,658.61	9,200.00	9,093.14	52.89	45.77	-73.12	559.61	-1,061.73	1,751.64	1,654.77	96.87	18.082	
9,800.00	9,748.56	9,250.00	9,115.17	53.39	46.01	-69.92	604.47	-1,062.23	1,774.75	1,678.15	96.60	18.372	
9,900.00	9,829.61	9,275.81	9,124.99	53.87	46.14	-67.54	628.33	-1,062.50	1,795.55	1,699.90	95.65	18.772	
10,000.00	9,899.29	9,300.00	9,133.22	54.33	46.26	-65.54	651.08	-1,062.75	1,813.54	1,719.35	94.19	19.254	
10,100.00	9,955.49	9,350.00	9,147.13	54.79	46.52	-63.76	699.09	-1,063.28	1,827.50	1,735.00	92.50	19.758	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		
10,200.00	9,996.50	9,400.00	9,156.80	55.29	46.78	-62.58	748.13	-1,063.83	1,837.29	1,746.33	90.95	20.201		
10,300.00	10,021.07	9,432.42	9,160.77	55.84	46.95	-62.03	780.29	-1,064.19	1,842.31	1,752.33	89.97	20.476		
10,400.00	10,028.46	9,472.22	9,163.15	56.42	47.17	-62.00	820.01	-1,064.63	1,842.47	1,752.52	89.94	20.485		
10,500.00	10,024.49	9,542.47	9,162.84	57.08	47.58	-62.10	890.26	-1,065.41	1,840.13	1,749.25	90.88	20.248		
10,600.00	10,020.28	9,642.42	9,161.91	57.81	48.23	-62.18	990.19	-1,066.52	1,838.08	1,745.94	92.14	19.949		
10,700.00	10,016.07	9,742.36	9,160.99	58.62	48.96	-62.27	1,090.13	-1,067.63	1,836.03	1,742.48	93.55	19.626		
10,800.00	10,011.85	9,842.30	9,160.06	59.49	49.77	-62.35	1,190.06	-1,068.74	1,833.99	1,738.88	95.12	19.282		
10,900.00	10,007.64	9,942.25	9,159.14	60.43	50.66	-62.43	1,289.99	-1,069.85	1,831.96	1,735.13	96.82	18.921		
11,000.00	10,003.43	10,042.19	9,158.21	61.43	51.62	-62.51	1,389.93	-1,070.97	1,829.92	1,731.26	98.67	18.546		
11,100.00	9,999.22	10,142.14	9,157.29	62.49	52.65	-62.60	1,489.86	-1,072.08	1,827.89	1,727.25	100.64	18.163		
11,200.00	9,995.01	10,242.08	9,156.37	63.60	53.75	-62.68	1,589.80	-1,073.19	1,825.87	1,723.13	102.74	17.772		
11,300.00	9,990.80	10,342.03	9,155.44	64.77	54.92	-62.76	1,689.73	-1,074.30	1,823.85	1,718.90	104.95	17.379		
11,400.00	9,986.59	10,441.97	9,154.52	65.99	56.14	-62.85	1,789.66	-1,075.41	1,821.83	1,714.56	107.27	16.984		
11,500.00	9,982.38	10,541.91	9,153.59	67.26	57.41	-62.93	1,889.60	-1,076.52	1,819.82	1,710.13	109.69	16.591		
11,600.00	9,978.17	10,641.86	9,152.67	68.57	58.74	-63.01	1,989.53	-1,077.63	1,817.81	1,705.60	112.21	16.201		
11,700.00	9,973.96	10,741.80	9,151.74	69.92	60.12	-63.10	2,089.47	-1,078.74	1,815.80	1,700.99	114.81	15.815		
11,800.00	9,969.75	10,841.75	9,150.82	71.31	61.54	-63.18	2,189.40	-1,079.85	1,813.80	1,696.29	117.51	15.436		
11,900.00	9,965.54	10,941.69	9,149.89	72.74	63.00	-63.27	2,289.33	-1,080.97	1,811.80	1,691.52	120.28	15.064		
12,000.00	9,961.33	11,041.64	9,148.97	74.21	64.50	-63.35	2,389.27	-1,082.08	1,809.80	1,686.68	123.12	14.699		
12,100.00	9,957.11	11,141.58	9,148.04	75.71	66.04	-63.44	2,489.20	-1,083.19	1,807.81	1,681.78	126.04	14.344		
12,200.00	9,953.85	11,241.55	9,147.12	77.23	67.62	-63.48	2,589.16	-1,084.30	1,806.25	1,677.16	129.09	13.993		
12,300.00	9,952.97	11,341.55	9,146.20	78.78	69.22	-63.46	2,689.14	-1,085.41	1,805.74	1,673.68	132.06	13.673		
12,400.00	9,952.20	11,441.54	9,145.27	80.36	70.85	-63.45	2,789.13	-1,086.52	1,805.29	1,670.24	135.05	13.367		
12,500.00	9,951.43	11,533.84	9,143.87	81.96	72.39	-63.42	2,881.41	-1,087.49	1,805.05	1,667.09	137.96	13.084		
12,600.00	9,950.67	11,633.83	9,141.74	83.59	74.08	-63.37	2,981.38	-1,088.48	1,805.02	1,664.01	141.01	12.801		
12,700.00	9,949.90	11,733.82	9,139.61	85.24	75.79	-63.33	3,081.34	-1,089.47	1,805.00	1,660.89	144.11	12.526		
12,800.00	9,949.13	11,833.81	9,137.48	86.92	77.53	-63.28	3,181.30	-1,090.45	1,804.97	1,657.73	147.24	12.259		
12,900.00	9,948.37	11,933.80	9,135.36	88.62	79.28	-63.23	3,281.26	-1,091.44	1,804.95	1,654.54	150.41	12.000		
13,000.00	9,947.60	12,033.78	9,133.23	90.33	81.06	-63.18	3,381.22	-1,092.43	1,804.93	1,651.31	153.62	11.749		
13,100.00	9,946.83	12,133.77	9,131.10	92.07	82.85	-63.13	3,481.18	-1,093.41	1,804.91	1,648.05	156.86	11.507		
13,200.00	9,946.06	12,233.76	9,128.97	93.82	84.67	-63.08	3,581.14	-1,094.40	1,804.89	1,644.76	160.13	11.272		
13,300.00	9,945.30	12,333.75	9,126.85	95.59	86.49	-63.03	3,681.10	-1,095.39	1,804.87	1,641.45	163.43	11.044		
13,400.00	9,944.53	12,433.74	9,124.72	97.38	88.34	-62.98	3,781.06	-1,096.37	1,804.86	1,638.11	166.75	10.824		
13,500.00	9,943.76	12,533.72	9,122.59	99.18	90.19	-62.94	3,881.02	-1,097.36	1,804.84	1,634.74	170.10	10.610		
13,600.00	9,942.99	12,633.71	9,120.46	100.99	92.06	-62.89	3,980.98	-1,098.35	1,804.83	1,631.36	173.47	10.404		
13,700.00	9,942.23	12,733.70	9,118.34	102.82	93.95	-62.84	4,080.94	-1,099.33	1,804.82	1,627.95	176.87	10.204		
13,800.00	9,941.46	12,833.69	9,116.21	104.66	95.84	-62.79	4,180.90	-1,100.32	1,804.81	1,624.53	180.28	10.011		
13,900.00	9,940.69	12,933.68	9,114.08	106.52	97.75	-62.74	4,280.86	-1,101.31	1,804.80	1,621.08	183.72	9.824		
14,000.00	9,939.93	13,033.67	9,111.95	108.38	99.66	-62.69	4,380.83	-1,102.29	1,804.79	1,617.62	187.17	9.643		
14,100.00	9,939.16	13,133.65	9,109.83	110.26	101.59	-62.64	4,480.79	-1,103.28	1,804.78	1,614.15	190.64	9.467		
14,100.68	9,939.15	13,134.33	9,109.81	110.27	101.60	-62.64	4,481.46	-1,103.29	1,804.78	1,614.12	190.66	9.466		
14,200.00	9,939.40	13,233.62	9,107.70	112.14	103.52	-62.57	4,580.72	-1,104.27	1,805.23	1,611.03	194.21	9.295		
14,300.00	9,940.60	13,333.56	9,105.57	114.04	105.46	-62.47	4,680.64	-1,105.25	1,806.12	1,608.50	197.63	9.139		
14,400.00	9,941.80	13,433.50	9,103.45	115.95	107.42	-62.36	4,780.55	-1,106.24	1,807.02	1,605.96	201.06	8.987		
14,500.00	9,943.00	13,533.45	9,101.32	117.86	109.38	-62.26	4,880.47	-1,107.23	1,807.92	1,603.42	204.50	8.841		
14,600.00	9,944.20	13,633.39	9,099.19	119.78	111.34	-62.15	4,980.38	-1,108.21	1,808.83	1,600.87	207.96	8.698		
14,700.00	9,945.40	13,751.63	9,097.35	121.72	113.68	-62.05	5,098.60	-1,109.38	1,809.52	1,597.77	211.75	8.545		
14,800.00	9,946.60	13,873.72	9,099.62	123.65	116.09	-62.06	5,220.66	-1,110.60	1,808.53	1,592.73	215.80	8.381		
14,900.00	9,947.80	13,973.71	9,102.28	125.60	118.08	-62.09	5,320.61	-1,111.60	1,807.21	1,587.73	219.48	8.234		
15,000.00	9,949.00	14,073.70	9,104.94	127.55	120.08	-62.12	5,420.56	-1,112.60	1,805.90	1,582.72	223.18	8.092		
15,100.00	9,950.20	14,173.68	9,107.59	129.51	122.08	-62.15	5,520.50	-1,113.60	1,804.58	1,577.69	226.89	7.953		
15,200.00	9,951.40	14,273.67	9,110.25	131.48	124.08	-62.18	5,620.45	-1,114.60	1,803.27	1,572.65	230.62	7.819		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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 (°)	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)			
15,300.00	9,952.61	14,373.66	9,112.91	133.45	126.09	-62.21	5,720.40	-1,115.60	1,801.96	1,567.61	234.35	7.689	
15,400.00	9,953.81	14,473.64	9,115.57	135.43	128.11	-62.24	5,820.34	-1,116.60	1,800.64	1,562.55	238.10	7.563	
15,485.15	9,955.15	14,574.99	9,117.82	137.12	130.15	-62.27	5,921.66	-1,116.73	1,800.03	1,558.19	241.83	7.443	
15,500.00	9,955.40	14,589.84	9,118.11	137.41	130.45	-62.28	5,936.50	-1,116.68	1,799.91	1,557.50	242.42	7.425	
15,600.00	9,957.50	14,689.84	9,120.06	139.39	132.47	-62.28	6,036.48	-1,116.29	1,800.45	1,554.32	246.12	7.315	
15,700.00	9,959.60	14,789.83	9,122.01	141.38	134.49	-62.29	6,136.46	-1,115.90	1,800.98	1,551.14	249.84	7.209	
15,800.00	9,961.70	14,889.83	9,123.96	143.37	136.52	-62.29	6,236.44	-1,115.51	1,801.51	1,547.95	253.56	7.105	
15,900.00	9,963.80	14,989.83	9,125.91	145.37	138.55	-62.29	6,336.42	-1,115.11	1,802.05	1,544.75	257.29	7.004	
16,000.00	9,965.90	15,089.83	9,127.86	147.37	140.59	-62.30	6,436.40	-1,114.72	1,802.58	1,541.55	261.03	6.906	
16,100.00	9,968.00	15,189.83	9,129.81	149.37	142.62	-62.30	6,536.38	-1,114.33	1,803.11	1,538.34	264.77	6.810	
16,200.00	9,970.10	15,289.83	9,131.75	151.38	144.67	-62.30	6,636.36	-1,113.94	1,803.65	1,535.12	268.52	6.717	
16,300.00	9,972.20	15,389.83	9,133.70	153.39	146.71	-62.31	6,736.33	-1,113.55	1,804.18	1,531.90	272.28	6.626	
16,400.00	9,974.30	15,489.82	9,135.65	155.41	148.76	-62.31	6,836.31	-1,113.16	1,804.71	1,528.67	276.04	6.538	
16,500.00	9,976.39	15,589.82	9,137.60	157.43	150.81	-62.31	6,936.29	-1,112.77	1,805.25	1,525.43	279.81	6.452	
16,600.00	9,978.49	15,689.82	9,139.55	159.45	152.86	-62.32	7,036.27	-1,112.38	1,805.78	1,522.19	283.59	6.368	
16,700.00	9,980.59	15,789.82	9,141.50	161.48	154.92	-62.32	7,136.25	-1,111.99	1,806.31	1,518.94	287.37	6.286	
16,800.00	9,982.69	15,889.82	9,143.45	163.51	156.98	-62.32	7,236.23	-1,111.60	1,806.85	1,515.69	291.15	6.206	
16,900.00	9,984.79	15,973.38	9,144.54	165.54	158.70	-62.31	7,319.78	-1,111.28	1,807.70	1,513.11	294.60	6.136	
17,000.00	9,986.89	16,057.91	9,143.50	167.58	160.44	-62.24	7,404.30	-1,110.97	1,809.72	1,511.77	297.95	6.074	
17,100.00	9,988.99	16,157.83	9,141.72	169.62	162.51	-62.14	7,504.20	-1,110.61	1,812.02	1,510.48	301.54	6.009	
17,200.00	9,991.09	16,257.75	9,139.93	171.66	164.58	-62.04	7,604.11	-1,110.24	1,814.32	1,509.19	305.13	5.946	
17,300.00	9,993.19	16,357.67	9,138.15	173.70	166.65	-61.94	7,704.02	-1,109.88	1,816.64	1,507.92	308.72	5.884	
17,400.00	9,995.29	16,457.60	9,136.37	175.75	168.72	-61.84	7,803.92	-1,109.52	1,818.96	1,506.65	312.31	5.824	
17,500.00	9,997.39	16,557.52	9,134.58	177.80	170.79	-61.74	7,903.83	-1,109.16	1,821.28	1,505.38	315.90	5.765	
17,600.00	9,999.49	16,657.44	9,132.80	179.85	172.87	-61.64	8,003.74	-1,108.80	1,823.61	1,504.12	319.49	5.708	
17,700.00	10,001.59	16,757.37	9,131.01	181.90	174.95	-61.54	8,103.64	-1,108.44	1,825.94	1,502.87	323.07	5.652	
17,800.00	10,002.98	16,857.31	9,129.23	183.96	177.03	-61.45	8,203.57	-1,108.07	1,827.91	1,501.28	326.63	5.596	
17,900.00	10,003.98	16,957.27	9,127.44	186.01	179.11	-61.38	8,303.52	-1,107.71	1,829.68	1,499.40	330.28	5.540	
18,000.00	10,004.98	17,057.23	9,125.66	188.07	181.19	-61.31	8,403.46	-1,107.35	1,831.45	1,497.52	333.93	5.485	
18,100.00	10,005.98	17,157.19	9,123.87	190.13	183.28	-61.24	8,503.40	-1,106.99	1,833.22	1,495.64	337.58	5.431	
18,200.00	10,006.98	17,257.15	9,122.09	192.20	185.37	-61.17	8,603.35	-1,106.63	1,835.00	1,493.77	341.23	5.378	
18,300.00	10,007.98	17,357.11	9,120.30	194.26	187.45	-61.11	8,703.29	-1,106.27	1,836.78	1,491.90	344.88	5.326	
18,400.00	10,008.98	17,469.51	9,118.57	196.33	189.80	-61.04	8,815.67	-1,105.86	1,838.47	1,489.70	348.76	5.271	
18,500.00	10,009.98	17,574.33	9,118.65	198.40	191.99	-61.02	8,920.49	-1,105.46	1,839.32	1,486.70	352.62	5.216	
18,600.00	10,010.98	17,674.33	9,118.77	200.47	194.08	-61.00	9,020.49	-1,105.08	1,840.17	1,483.77	356.39	5.163	
18,700.00	10,011.98	17,774.32	9,118.90	202.54	196.18	-60.98	9,120.48	-1,104.70	1,841.01	1,480.84	360.17	5.112	
18,800.00	10,012.98	17,874.32	9,119.02	204.62	198.27	-60.97	9,220.47	-1,104.32	1,841.85	1,477.91	363.94	5.061	
18,900.00	10,013.98	17,974.31	9,119.14	206.69	200.37	-60.95	9,320.47	-1,103.94	1,842.70	1,474.98	367.72	5.011	
19,000.00	10,014.98	18,074.31	9,119.26	208.77	202.46	-60.93	9,420.46	-1,103.56	1,843.54	1,472.04	371.50	4.962	
19,100.00	10,015.98	18,174.30	9,119.38	210.85	204.56	-60.92	9,520.46	-1,103.18	1,844.39	1,469.10	375.28	4.915	
19,200.00	10,016.98	18,274.30	9,119.50	212.93	206.66	-60.90	9,620.45	-1,102.80	1,845.23	1,466.17	379.07	4.868	
19,300.00	10,017.98	18,374.29	9,119.62	215.01	208.76	-60.88	9,720.45	-1,102.42	1,846.08	1,463.23	382.85	4.822	
19,400.00	10,018.98	18,474.29	9,119.74	217.09	210.86	-60.87	9,820.44	-1,102.04	1,846.92	1,460.29	386.63	4.777	
19,500.00	10,019.98	18,574.28	9,119.86	219.18	212.96	-60.85	9,920.43	-1,101.66	1,847.77	1,457.34	390.42	4.733	
19,600.00	10,020.98	18,674.28	9,119.98	221.26	215.06	-60.83	10,020.43	-1,101.28	1,848.61	1,454.40	394.21	4.689	
19,700.00	10,021.98	18,774.27	9,120.10	223.35	217.17	-60.82	10,120.42	-1,100.90	1,849.46	1,451.46	398.00	4.647	
19,800.00	10,022.98	18,874.27	9,120.22	225.44	219.27	-60.80	10,220.42	-1,100.52	1,850.30	1,448.51	401.79	4.605	
19,900.00	10,023.98	18,974.26	9,120.35	227.53	221.38	-60.78	10,320.41	-1,100.14	1,851.15	1,445.57	405.58	4.564	
20,000.00	10,024.98	19,074.26	9,120.47	229.62	223.49	-60.77	10,420.41	-1,099.76	1,851.99	1,442.62	409.37	4.524	
20,100.00	10,025.98	19,174.25	9,120.59	231.71	225.59	-60.75	10,520.40	-1,099.38	1,852.84	1,439.67	413.16	4.485	
20,200.00	10,026.98	19,274.25	9,120.71	233.80	227.70	-60.73	10,620.39	-1,099.00	1,853.68	1,436.73	416.96	4.446	
20,300.00	10,027.98	19,374.24	9,120.83	235.90	229.81	-60.72	10,720.39	-1,098.62	1,854.53	1,433.78	420.75	4.408	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,400.00	10,028.98	19,474.24	9,120.95	237.99	231.92	-60.70	10,820.38	-1,098.24	1,855.38	1,430.83	424.55	4.370	
20,401.69	10,029.00	19,475.92	9,120.95	238.03	231.96	-60.70	10,822.07	-1,098.24	1,855.39	1,430.78	424.61	4.370 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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		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)	Offset Wellbore Centre +E/-W (usft)						
5,200.00	5,167.61	5,159.12	5,167.61	29.56	27.42	-156.11	252.33	-1,565.26	2,063.16	2,008.14	55.01	37.502		
5,300.00	5,266.86	5,258.38	5,266.86	30.15	27.94	-156.25	252.33	-1,565.26	2,074.29	2,018.20	56.09	36.980		
5,400.00	5,366.12	5,357.64	5,366.12	30.73	28.47	-156.38	252.33	-1,565.26	2,085.44	2,028.27	57.17	36.478		
5,500.00	5,465.38	5,456.90	5,465.38	31.32	28.99	-156.51	252.33	-1,565.26	2,096.59	2,038.35	58.25	35.995		
5,600.00	5,564.64	5,556.16	5,564.64	31.91	29.51	-156.65	252.33	-1,565.26	2,107.76	2,048.44	59.33	35.529		
5,700.00	5,663.90	5,655.42	5,663.90	32.50	30.04	-156.79	252.33	-1,565.26	2,118.92	2,058.50	60.42	35.069		
5,800.00	5,763.39	5,754.91	5,763.39	33.07	30.56	-156.96	252.33	-1,565.26	2,128.12	2,066.51	61.61	34.542		
5,900.00	5,863.18	5,854.69	5,863.18	33.62	31.09	-157.08	252.33	-1,565.26	2,134.12	2,071.39	62.73	34.020		
6,000.00	5,963.13	5,954.64	5,963.13	34.14	31.62	-157.13	252.33	-1,565.26	2,136.92	2,073.13	63.78	33.503		
6,100.00	6,063.12	6,054.64	6,063.12	34.63	32.15	-89.56	252.33	-1,565.26	2,137.13	2,072.31	64.83	32.966		
6,200.00	6,163.12	6,154.64	6,163.12	35.12	32.67	-89.56	252.33	-1,565.26	2,137.13	2,071.27	65.87	32.446		
6,300.00	6,263.12	6,254.64	6,263.12	35.61	33.20	-89.56	252.33	-1,565.26	2,137.13	2,070.23	66.91	31.941		
6,400.00	6,363.12	6,354.64	6,363.12	36.11	33.73	-89.56	252.33	-1,565.26	2,137.13	2,069.19	67.95	31.452		
6,500.00	6,463.12	6,454.64	6,463.12	36.60	34.26	-89.56	252.33	-1,565.26	2,137.13	2,068.14	68.99	30.976		
6,600.00	6,563.12	6,554.64	6,563.12	37.10	34.79	-89.56	252.33	-1,565.26	2,137.13	2,067.10	70.04	30.515		
6,700.00	6,663.12	6,654.64	6,663.12	37.59	35.32	-89.56	252.33	-1,565.26	2,137.13	2,066.05	71.08	30.066		
6,800.00	6,763.12	6,754.64	6,763.12	38.09	35.86	-89.56	252.33	-1,565.26	2,137.13	2,065.01	72.13	29.630		
6,900.00	6,863.12	6,854.64	6,863.12	38.59	36.39	-89.56	252.33	-1,565.26	2,137.13	2,063.96	73.17	29.207		
7,000.00	6,963.12	6,954.64	6,963.12	39.09	36.92	-89.56	252.33	-1,565.26	2,137.13	2,062.92	74.22	28.795		
7,100.00	7,063.12	7,054.64	7,063.12	39.59	37.45	-89.56	252.33	-1,565.26	2,137.13	2,061.87	75.27	28.394		
7,200.00	7,163.12	7,154.64	7,163.12	40.09	37.98	-89.56	252.33	-1,565.26	2,137.13	2,060.82	76.32	28.004		
7,300.00	7,263.12	7,254.64	7,263.12	40.59	38.51	-89.56	252.33	-1,565.26	2,137.13	2,059.77	77.37	27.624		
7,400.00	7,363.12	7,354.64	7,363.12	41.10	39.04	-89.56	252.33	-1,565.26	2,137.13	2,058.72	78.42	27.254		
7,500.00	7,463.12	7,454.64	7,463.12	41.60	39.58	-89.56	252.33	-1,565.26	2,137.13	2,057.67	79.47	26.893		
7,600.00	7,563.12	7,554.64	7,563.12	42.11	40.11	-89.56	252.33	-1,565.26	2,137.13	2,056.62	80.52	26.542		
7,700.00	7,663.12	7,654.64	7,663.12	42.61	40.64	-89.56	252.33	-1,565.26	2,137.13	2,055.56	81.57	26.200		
7,800.00	7,763.12	7,754.64	7,763.12	43.12	41.17	-89.56	252.33	-1,565.26	2,137.13	2,054.51	82.62	25.866		
7,900.00	7,863.12	7,854.64	7,863.12	43.63	41.70	-89.56	252.33	-1,565.26	2,137.13	2,053.46	83.68	25.541		
8,000.00	7,963.12	7,954.64	7,963.12	44.14	42.24	-89.56	252.33	-1,565.26	2,137.13	2,052.41	84.73	25.223		
8,100.00	8,063.12	8,054.64	8,063.12	44.65	42.77	-89.56	252.33	-1,565.26	2,137.13	2,051.35	85.78	24.913		
8,200.00	8,163.12	8,154.64	8,163.12	45.16	43.30	-89.56	252.33	-1,565.26	2,137.13	2,050.30	86.84	24.610		
8,300.00	8,263.12	8,254.64	8,263.12	45.67	43.84	-89.56	252.33	-1,565.26	2,137.13	2,049.24	87.89	24.315		
8,400.00	8,363.12	8,354.64	8,363.12	46.18	44.37	-89.56	252.33	-1,565.26	2,137.13	2,048.18	88.95	24.026		
8,500.00	8,463.12	8,454.64	8,463.12	46.69	44.90	-89.56	252.33	-1,565.26	2,137.13	2,047.13	90.01	23.744		
8,600.00	8,563.12	8,554.64	8,563.12	47.20	45.44	-89.56	252.33	-1,565.26	2,137.13	2,046.07	91.06	23.469		
8,700.00	8,663.12	8,654.64	8,663.12	47.71	45.97	-89.56	252.33	-1,565.26	2,137.13	2,045.01	92.12	23.199		
8,800.00	8,763.12	8,754.64	8,763.12	48.23	46.50	-89.56	252.33	-1,565.26	2,137.13	2,043.96	93.18	22.936		
8,900.00	8,863.12	8,854.64	8,863.12	48.74	47.04	-89.56	252.33	-1,565.26	2,137.13	2,042.90	94.24	22.679		
9,000.00	8,963.12	8,954.64	8,963.12	49.25	47.57	-89.56	252.33	-1,565.26	2,137.13	2,041.84	95.29	22.427		
9,100.00	9,063.12	9,054.64	9,063.12	49.77	48.10	-89.56	252.33	-1,565.26	2,137.13	2,040.78	96.35	22.180		
9,144.71	9,107.84	9,099.35	9,107.84	50.00	48.34	-89.56	252.33	-1,565.26	2,137.13	2,040.31	96.83	22.072		
9,200.00	9,163.12	9,150.00	9,158.44	50.28	48.61	-89.51	254.10	-1,565.28	2,137.17	2,039.79	97.39	21.945		
9,300.00	9,263.12	9,242.72	9,249.88	50.80	49.10	-89.12	268.82	-1,565.42	2,137.53	2,039.13	98.40	21.723		
9,400.00	9,363.12	9,327.40	9,330.33	51.32	49.52	-88.42	294.98	-1,565.68	2,138.56	2,039.20	99.36	21.523		
9,500.00	9,463.12	9,400.00	9,395.61	51.83	49.85	-86.58	326.64	-1,566.00	2,140.79	2,040.55	100.24	21.357		
9,600.00	9,562.49	9,472.88	9,456.59	52.36	50.16	-85.35	366.47	-1,566.39	2,144.04	2,042.94	101.10	21.207		
9,700.00	9,658.61	9,540.54	9,508.25	52.89	50.41	-84.25	410.09	-1,566.82	2,147.66	2,045.76	101.90	21.077		
9,800.00	9,748.56	9,600.00	9,549.14	53.39	50.64	-83.31	453.22	-1,567.25	2,151.33	2,048.74	102.59	20.970		
9,900.00	9,829.61	9,671.33	9,591.96	53.87	50.93	-82.40	510.20	-1,567.81	2,154.70	2,051.44	103.26	20.868		
10,000.00	9,899.29	9,735.18	9,624.04	54.33	51.21	-81.70	565.38	-1,568.36	2,157.55	2,053.72	103.83	20.779		
10,100.00	9,955.49	9,800.00	9,650.11	54.79	51.50	-81.19	624.68	-1,568.94	2,159.64	2,055.25	104.40	20.687		
10,200.00	9,996.50	9,861.16	9,668.43	55.29	51.79	-80.88	683.00	-1,569.52	2,160.82	2,055.83	104.99	20.582		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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
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	10,021.07	9,923.69	9,680.62	55.84	52.08	-80.78	744.30	-1,570.13	2,160.97	2,055.30	105.67	20.450	
10,400.00	10,028.46	9,986.17	9,686.06	56.42	52.37	-80.89	806.51	-1,570.74	2,160.07	2,053.59	106.48	20.285	
10,500.00	10,024.49	10,065.59	9,684.92	57.08	52.78	-80.96	885.90	-1,571.53	2,158.92	2,051.38	107.54	20.076	
10,600.00	10,020.28	10,165.58	9,682.18	57.81	53.36	-81.00	985.84	-1,572.52	2,158.00	2,049.15	108.85	19.826	
10,700.00	10,016.07	10,265.57	9,679.45	58.62	54.01	-81.04	1,085.79	-1,573.51	2,157.08	2,046.78	110.30	19.556	
10,800.00	10,011.85	10,365.55	9,676.71	59.49	54.75	-81.07	1,185.73	-1,574.50	2,156.16	2,044.25	111.91	19.268	
10,900.00	10,007.64	10,465.54	9,673.97	60.43	55.55	-81.11	1,285.68	-1,575.49	2,155.24	2,041.59	113.65	18.964	
11,000.00	10,003.43	10,565.53	9,671.23	61.43	56.43	-81.14	1,385.62	-1,576.48	2,154.32	2,038.79	115.52	18.648	
11,100.00	9,999.22	10,665.51	9,668.49	62.49	57.38	-81.18	1,485.56	-1,577.47	2,153.40	2,035.87	117.53	18.323	
11,200.00	9,995.01	10,765.50	9,665.75	63.60	58.39	-81.22	1,585.51	-1,578.45	2,152.48	2,032.83	119.65	17.990	
11,300.00	9,990.80	10,865.49	9,663.01	64.77	59.46	-81.25	1,685.45	-1,579.44	2,151.56	2,029.67	121.89	17.652	
11,400.00	9,986.59	10,965.47	9,660.27	65.99	60.59	-81.29	1,785.40	-1,580.43	2,150.65	2,026.41	124.24	17.311	
11,500.00	9,982.38	11,065.46	9,657.53	67.26	61.78	-81.32	1,885.34	-1,581.42	2,149.73	2,023.04	126.69	16.969	
11,600.00	9,978.17	11,165.45	9,654.79	68.57	63.01	-81.36	1,985.29	-1,582.41	2,148.82	2,019.58	129.24	16.627	
11,700.00	9,973.96	11,265.43	9,652.05	69.92	64.30	-81.39	2,085.23	-1,583.40	2,147.90	2,016.03	131.88	16.287	
11,800.00	9,969.75	11,365.42	9,649.31	71.31	65.63	-81.43	2,185.17	-1,584.39	2,146.99	2,012.39	134.60	15.951	
11,900.00	9,965.54	11,465.41	9,646.57	72.74	67.01	-81.47	2,285.12	-1,585.38	2,146.08	2,008.67	137.41	15.619	
12,000.00	9,961.33	11,565.39	9,643.83	74.21	68.42	-81.50	2,385.06	-1,586.37	2,145.16	2,004.88	140.29	15.291	
12,100.00	9,957.11	11,665.38	9,641.09	75.71	69.88	-81.54	2,485.01	-1,587.36	2,144.25	2,001.01	143.24	14.970	
12,200.00	9,953.85	11,765.37	9,638.35	77.23	71.36	-81.54	2,584.96	-1,588.35	2,143.48	1,997.22	146.26	14.655	
12,300.00	9,952.97	11,864.95	9,635.62	78.78	72.88	-81.49	2,684.49	-1,589.33	2,143.06	1,993.76	149.30	14.354	
12,400.00	9,952.20	11,964.93	9,632.80	80.36	74.43	-81.43	2,784.42	-1,590.33	2,142.67	1,990.27	152.40	14.060	
12,500.00	9,951.43	12,064.90	9,629.98	81.96	76.02	-81.37	2,884.36	-1,591.32	2,142.28	1,986.73	155.55	13.772	
12,600.00	9,950.67	12,164.88	9,627.16	83.59	77.63	-81.31	2,984.29	-1,592.32	2,141.90	1,983.14	158.76	13.492	
12,700.00	9,949.90	12,264.86	9,624.34	85.24	79.27	-81.26	3,084.22	-1,593.32	2,141.52	1,979.51	162.01	13.218	
12,800.00	9,949.13	12,364.83	9,621.52	86.92	80.93	-81.20	3,184.15	-1,594.31	2,141.14	1,975.83	165.31	12.952	
12,900.00	9,948.37	12,464.81	9,618.70	88.62	82.62	-81.14	3,284.08	-1,595.31	2,140.76	1,972.11	168.65	12.693	
13,000.00	9,947.60	12,564.79	9,615.88	90.33	84.32	-81.09	3,384.02	-1,596.31	2,140.38	1,968.35	172.04	12.441	
13,100.00	9,946.83	12,664.76	9,613.06	92.07	86.05	-81.03	3,483.95	-1,597.30	2,140.01	1,964.55	175.46	12.197	
13,200.00	9,946.06	12,764.74	9,610.25	93.82	87.80	-80.97	3,583.88	-1,598.30	2,139.64	1,960.73	178.91	11.959	
13,300.00	9,945.30	12,864.71	9,607.43	95.59	89.57	-80.91	3,683.81	-1,599.29	2,139.27	1,956.87	182.40	11.728	
13,400.00	9,944.53	12,964.69	9,604.61	97.38	91.35	-80.86	3,783.74	-1,600.29	2,138.90	1,952.98	185.92	11.504	
13,500.00	9,943.76	13,064.67	9,601.79	99.18	93.15	-80.80	3,883.67	-1,601.29	2,138.54	1,949.06	189.48	11.287	
13,600.00	9,942.99	13,164.64	9,598.97	100.99	94.96	-80.74	3,983.61	-1,602.28	2,138.17	1,945.12	193.06	11.075	
13,700.00	9,942.23	13,264.62	9,596.15	102.82	96.79	-80.69	4,083.54	-1,603.28	2,137.81	1,941.15	196.66	10.871	
13,800.00	9,941.46	13,364.60	9,593.33	104.66	98.63	-80.63	4,183.47	-1,604.27	2,137.46	1,937.16	200.29	10.672	
13,900.00	9,940.69	13,464.57	9,590.51	106.52	100.48	-80.57	4,283.40	-1,605.27	2,137.10	1,933.15	203.94	10.479	
14,000.00	9,939.93	13,564.55	9,587.70	108.38	102.35	-80.51	4,383.33	-1,606.27	2,136.74	1,929.12	207.62	10.292	
14,100.00	9,939.16	13,664.53	9,584.88	110.26	104.23	-80.46	4,483.26	-1,607.26	2,136.39	1,925.07	211.32	10.110	
14,200.00	9,939.40	13,764.47	9,582.06	112.14	106.11	-80.37	4,583.17	-1,608.26	2,136.20	1,921.17	215.03	9.934	
14,300.00	9,940.60	13,878.46	9,581.03	114.04	108.27	-80.30	4,697.14	-1,609.39	2,135.85	1,916.82	219.03	9.752	
14,400.00	9,941.80	13,984.10	9,583.48	115.95	110.29	-80.33	4,802.74	-1,610.45	2,134.95	1,912.01	222.93	9.577	
14,500.00	9,943.00	14,084.08	9,586.14	117.86	112.20	-80.37	4,902.69	-1,611.44	2,133.99	1,907.24	226.75	9.411	
14,600.00	9,944.20	14,184.07	9,588.79	119.78	114.13	-80.40	5,002.63	-1,612.44	2,133.04	1,902.45	230.59	9.250	
14,700.00	9,945.40	14,284.06	9,591.45	121.72	116.06	-80.44	5,102.58	-1,613.44	2,132.09	1,897.64	234.45	9.094	
14,800.00	9,946.60	14,384.05	9,594.11	123.65	118.00	-80.47	5,202.52	-1,614.43	2,131.14	1,892.82	238.32	8.942	
14,900.00	9,947.80	14,484.03	9,596.76	125.60	119.95	-80.51	5,302.47	-1,615.43	2,130.19	1,887.99	242.20	8.795	
15,000.00	9,949.00	14,584.02	9,599.42	127.55	121.91	-80.54	5,402.42	-1,616.42	2,129.24	1,883.14	246.10	8.652	
15,100.00	9,950.20	14,684.01	9,602.07	129.51	123.87	-80.58	5,502.36	-1,617.42	2,128.29	1,878.28	250.02	8.513	
15,200.00	9,951.40	14,783.99	9,604.73	131.48	125.84	-80.61	5,602.31	-1,618.42	2,127.35	1,873.40	253.94	8.377	
15,300.00	9,952.61	14,883.98	9,607.38	133.45	127.82	-80.65	5,702.26	-1,619.41	2,126.40	1,868.52	257.88	8.246	
15,400.00	9,953.81	14,983.97	9,610.04	135.43	129.80	-80.68	5,802.20	-1,620.41	2,125.46	1,863.62	261.83	8.118	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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
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	
15,474.35	9,954.95	15,084.16	9,612.25	136.90	131.78	-80.72	5,902.37	-1,620.87	2,125.21	1,859.85	265.37	8.009		
15,500.00	9,955.40	15,109.80	9,612.63	137.41	132.29	-80.72	5,928.01	-1,620.76	2,125.11	1,858.72	266.38	7.978		
15,600.00	9,957.50	15,209.80	9,614.09	139.39	134.28	-80.71	6,028.00	-1,620.33	2,125.69	1,855.38	270.31	7.864		
15,700.00	9,959.60	15,309.80	9,615.56	141.38	136.27	-80.69	6,127.98	-1,619.90	2,126.27	1,852.02	274.25	7.753		
15,800.00	9,961.70	15,409.79	9,617.02	143.37	138.26	-80.68	6,227.97	-1,619.47	2,126.85	1,848.66	278.19	7.645		
15,900.00	9,963.80	15,509.79	9,618.48	145.37	140.26	-80.66	6,327.95	-1,619.04	2,127.43	1,845.28	282.14	7.540		
16,000.00	9,965.90	15,609.79	9,619.95	147.37	142.27	-80.65	6,427.94	-1,618.61	2,128.01	1,841.90	286.11	7.438		
16,100.00	9,968.00	15,709.79	9,621.41	149.37	144.27	-80.63	6,527.92	-1,618.18	2,128.59	1,838.51	290.08	7.338		
16,200.00	9,970.10	15,809.78	9,622.87	151.38	146.29	-80.62	6,627.91	-1,617.75	2,129.17	1,835.12	294.05	7.241		
16,300.00	9,972.20	15,909.78	9,624.34	153.39	148.30	-80.60	6,727.89	-1,617.32	2,129.75	1,831.71	298.04	7.146		
16,400.00	9,974.30	16,009.21	9,625.93	155.41	150.31	-80.59	6,827.31	-1,616.92	2,130.34	1,828.32	302.02	7.054		
16,500.00	9,976.39	16,109.21	9,627.66	157.43	152.34	-80.59	6,927.29	-1,616.56	2,130.95	1,824.92	306.03	6.963		
16,600.00	9,978.49	16,209.21	9,629.39	159.45	154.36	-80.58	7,027.28	-1,616.21	2,131.56	1,821.52	310.04	6.875		
16,700.00	9,980.59	16,309.21	9,631.13	161.48	156.39	-80.57	7,127.26	-1,615.85	2,132.16	1,818.11	314.05	6.789		
16,800.00	9,982.69	16,409.20	9,632.86	163.51	158.43	-80.56	7,227.24	-1,615.49	2,132.77	1,814.69	318.08	6.705		
16,900.00	9,984.79	16,509.20	9,634.59	165.54	160.47	-80.56	7,327.22	-1,615.13	2,133.38	1,811.27	322.11	6.623		
17,000.00	9,986.89	16,609.20	9,636.33	167.58	162.51	-80.55	7,427.21	-1,614.77	2,133.99	1,807.84	326.14	6.543		
17,100.00	9,988.99	16,709.20	9,638.06	169.62	164.55	-80.54	7,527.19	-1,614.41	2,134.59	1,804.41	330.18	6.465		
17,200.00	9,991.09	16,809.19	9,639.79	171.66	166.60	-80.54	7,627.17	-1,614.05	2,135.20	1,800.97	334.23	6.388		
17,300.00	9,993.19	16,909.19	9,641.53	173.70	168.65	-80.53	7,727.15	-1,613.69	2,135.81	1,797.53	338.28	6.314		
17,400.00	9,995.29	17,009.19	9,643.26	175.75	170.70	-80.52	7,827.13	-1,613.33	2,136.42	1,794.08	342.34	6.241		
17,500.00	9,997.39	17,109.19	9,644.99	177.80	172.75	-80.51	7,927.12	-1,612.97	2,137.02	1,790.62	346.40	6.169		
17,600.00	9,999.49	17,209.19	9,646.73	179.85	174.81	-80.51	8,027.10	-1,612.61	2,137.63	1,787.17	350.46	6.097		
17,700.00	10,001.59	17,309.18	9,648.46	181.90	176.87	-80.50	8,127.08	-1,612.25	2,138.24	1,783.70	354.53	6.031		
17,800.00	10,002.98	17,409.18	9,650.19	183.96	178.93	-80.51	8,227.06	-1,611.89	2,138.85	1,780.24	358.62	5.964		
17,900.00	10,003.98	17,509.18	9,651.93	186.01	180.99	-80.53	8,327.04	-1,611.53	2,139.46	1,776.78	362.72	5.897		
18,000.00	10,004.98	17,609.17	9,653.66	188.07	183.06	-80.55	8,427.02	-1,611.18	2,139.43	1,772.61	366.82	5.832		
18,100.00	10,005.98	17,709.17	9,655.39	190.13	185.12	-80.57	8,527.00	-1,610.82	2,139.80	1,768.87	370.93	5.769		
18,200.00	10,006.98	17,809.16	9,657.13	192.20	187.19	-80.59	8,626.98	-1,610.46	2,140.17	1,765.13	375.05	5.706		
18,300.00	10,007.98	17,909.16	9,658.86	194.26	189.26	-80.61	8,726.96	-1,610.10	2,140.54	1,761.38	379.16	5.645		
18,400.00	10,008.98	18,009.16	9,660.60	196.33	191.34	-80.64	8,826.94	-1,609.74	2,140.92	1,757.63	383.29	5.586		
18,500.00	10,009.98	18,109.15	9,662.33	198.40	193.41	-80.66	8,926.92	-1,609.38	2,141.29	1,753.88	387.41	5.527		
18,600.00	10,010.98	18,202.81	9,663.43	200.47	195.35	-80.66	9,026.90	-1,609.04	2,141.75	1,750.35	391.40	5.472		
18,700.00	10,011.98	18,301.34	9,662.84	202.54	197.40	-80.62	9,119.10	-1,608.67	2,142.48	1,747.04	395.45	5.418		
18,800.00	10,012.98	18,401.33	9,662.22	204.62	199.48	-80.58	9,219.08	-1,608.29	2,143.22	1,743.69	399.53	5.364		
18,900.00	10,013.98	18,501.31	9,661.60	206.69	201.56	-80.54	9,319.07	-1,607.91	2,143.96	1,740.35	403.61	5.312		
19,000.00	10,014.98	18,601.30	9,660.97	208.77	203.64	-80.50	9,419.05	-1,607.53	2,144.70	1,737.00	407.69	5.261		
19,100.00	10,015.98	18,701.28	9,660.35	210.85	205.73	-80.46	9,519.03	-1,607.16	2,145.44	1,733.66	411.78	5.210		
19,200.00	10,016.98	18,801.27	9,659.73	212.93	207.81	-80.42	9,619.02	-1,606.78	2,146.18	1,730.31	415.87	5.161		
19,300.00	10,017.98	18,901.26	9,659.11	215.01	209.90	-80.38	9,719.00	-1,606.40	2,146.92	1,726.96	419.96	5.112		
19,400.00	10,018.98	19,001.24	9,658.49	217.09	211.99	-80.34	9,818.98	-1,606.02	2,147.67	1,723.61	424.06	5.065		
19,500.00	10,019.98	19,101.23	9,657.86	219.18	214.08	-80.30	9,918.97	-1,605.64	2,148.41	1,720.26	428.15	5.018		
19,600.00	10,020.98	19,201.21	9,657.24	221.26	216.17	-80.26	10,018.95	-1,605.27	2,149.16	1,716.91	432.25	4.972		
19,700.00	10,021.98	19,301.20	9,656.62	223.35	218.26	-80.22	10,118.93	-1,604.89	2,149.90	1,713.56	436.35	4.927		
19,800.00	10,022.98	19,401.18	9,656.00	225.44	220.35	-80.18	10,218.92	-1,604.51	2,150.65	1,710.21	440.45	4.883		
19,900.00	10,023.98	19,501.17	9,655.38	227.53	222.44	-80.14	10,318.90	-1,604.13	2,151.40	1,706.85	444.55	4.840		
20,000.00	10,024.98	19,601.16	9,654.75	229.62	224.54	-80.10	10,418.88	-1,603.76	2,152.15	1,703.50	448.65	4.797		
20,100.00	10,025.98	19,701.14	9,654.13	231.71	226.64	-80.06	10,518.86	-1,603.38	2,152.90	1,700.15	452.75	4.755		
20,200.00	10,026.98	19,801.13	9,653.51	233.80	228.73	-80.02	10,618.85	-1,603.00	2,153.66	1,696.80	456.86	4.714		
20,300.00	10,027.98	19,901.11	9,652.89	235.90	230.83	-79.98	10,718.83	-1,602.62	2,154.41	1,693.44	460.97	4.674		
20,400.00	10,028.98	20,001.10	9,652.26	237.99	232.93	-79.94	10,818.81	-1,602.24	2,155.16	1,690.09	465.07	4.634		
20,401.69	10,029.00	20,002.78	9,652.25	238.03	232.97	-79.94	10,820.50	-1,602.24	2,155.18	1,690.03	465.14	4.633 SF		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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



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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		
0.00	0.00	0.00	19.00	0.00	0.00	-80.47	227.33	-1,354.08	1,373.17					
100.00	100.00	81.00	100.00	0.19	0.16	-80.47	227.33	-1,354.08	1,373.03	1,372.68	0.35	3,918.804		
200.00	200.00	181.00	200.00	0.73	0.63	-80.47	227.33	-1,354.08	1,373.03	1,371.67	1.36	1,009.287		
300.00	300.00	281.00	300.00	1.27	1.17	-80.47	227.33	-1,354.08	1,373.03	1,370.60	2.44	563.686		
400.00	400.00	381.00	400.00	1.81	1.70	-80.47	227.33	-1,354.08	1,373.03	1,369.52	3.51	391.041		
500.00	500.00	481.00	500.00	2.34	2.24	-80.47	227.33	-1,354.08	1,373.03	1,368.45	4.59	299.355		
600.00	600.00	581.00	600.00	2.88	2.78	-80.47	227.33	-1,354.08	1,373.03	1,367.37	5.66	242.497		
700.00	699.98	680.98	699.98	3.41	3.32	-148.07	227.33	-1,354.08	1,374.51	1,367.78	6.73	204.123		
800.00	799.84	780.84	799.84	3.94	3.85	-148.14	227.33	-1,354.08	1,378.96	1,371.16	7.80	176.734		
900.00	899.45	880.45	899.45	4.48	4.39	-148.25	227.33	-1,354.08	1,386.37	1,377.50	8.87	156.301		
1,000.00	998.76	979.76	998.76	5.03	4.92	-148.45	227.33	-1,354.08	1,396.38	1,386.45	9.93	140.595		
1,100.00	1,098.02	1,079.02	1,098.02	5.58	5.46	-148.71	227.33	-1,354.08	1,406.78	1,395.78	11.00	127.924		
1,200.00	1,197.28	1,178.28	1,197.28	6.15	5.99	-148.97	227.33	-1,354.08	1,417.20	1,405.14	12.07	117.448		
1,300.00	1,296.53	1,277.53	1,296.53	6.72	6.53	-149.22	227.33	-1,354.08	1,427.66	1,414.52	13.14	108.652		
1,400.00	1,395.79	1,376.79	1,395.79	7.29	7.06	-149.46	227.33	-1,354.08	1,438.13	1,423.92	14.22	101.167		
1,500.00	1,495.05	1,476.05	1,495.05	7.86	7.59	-149.71	227.33	-1,354.08	1,448.64	1,433.34	15.29	94.725		
1,600.00	1,594.31	1,575.31	1,594.31	8.44	8.13	-149.95	227.33	-1,354.08	1,459.17	1,442.80	16.37	89.125		
1,700.00	1,693.57	1,674.57	1,693.57	9.02	8.66	-150.19	227.33	-1,354.08	1,469.72	1,452.27	17.45	84.212		
1,800.00	1,792.83	1,773.83	1,792.83	9.60	9.19	-150.42	227.33	-1,354.08	1,480.30	1,461.77	18.53	79.870		
1,900.00	1,892.08	1,873.08	1,892.08	10.18	9.73	-150.65	227.33	-1,354.08	1,490.91	1,471.29	19.62	76.004		
2,000.00	1,991.34	1,972.34	1,991.34	10.76	10.26	-150.88	227.33	-1,354.08	1,501.53	1,480.83	20.70	72.542		
2,100.00	2,090.60	2,071.60	2,090.60	11.34	10.80	-151.10	227.33	-1,354.08	1,512.18	1,490.40	21.78	69.423		
2,200.00	2,189.86	2,170.86	2,189.86	11.93	11.33	-151.32	227.33	-1,354.08	1,522.86	1,499.99	22.87	66.600		
2,300.00	2,289.12	2,293.03	2,312.03	12.51	11.98	-151.59	227.33	-1,353.76	1,533.40	1,509.34	24.07	63.718		
2,400.00	2,388.37	2,506.82	2,525.48	13.10	13.08	-152.00	227.33	-1,342.58	1,538.94	1,513.23	25.71	59.863		
2,500.00	2,487.63	2,721.36	2,738.24	13.68	14.21	-152.36	227.33	-1,315.39	1,537.06	1,509.69	27.37	56.165		
2,600.00	2,586.89	2,862.94	2,877.41	14.27	14.99	-152.57	227.33	-1,289.44	1,529.25	1,500.59	28.66	53.365		
2,700.00	2,686.15	2,962.52	2,975.16	14.85	15.54	-152.72	227.33	-1,270.44	1,520.95	1,491.22	29.73	51.157		
2,800.00	2,785.41	3,062.10	3,072.91	15.44	16.11	-152.87	227.33	-1,251.44	1,512.66	1,481.85	30.81	49.098		
2,900.00	2,884.67	3,161.68	3,170.66	16.03	16.68	-153.02	227.33	-1,232.44	1,504.38	1,472.49	31.89	47.174		
3,000.00	2,983.92	3,261.26	3,268.41	16.61	17.26	-153.17	227.33	-1,213.44	1,496.11	1,463.13	32.97	45.372		
3,100.00	3,083.18	3,360.84	3,366.16	17.20	17.84	-153.32	227.33	-1,194.44	1,487.85	1,453.79	34.06	43.682		
3,200.00	3,182.44	3,460.42	3,463.91	17.79	18.43	-153.48	227.33	-1,175.44	1,479.60	1,444.45	35.15	42.094		
3,300.00	3,281.70	3,559.99	3,561.66	18.38	19.03	-153.63	227.33	-1,156.44	1,471.36	1,435.12	36.24	40.599		
3,400.00	3,380.96	3,659.57	3,659.41	18.96	19.63	-153.79	227.33	-1,137.43	1,463.13	1,425.80	37.33	39.190		
3,500.00	3,480.22	3,759.15	3,757.16	19.55	20.23	-153.95	227.33	-1,118.43	1,454.92	1,416.49	38.43	37.860		
3,600.00	3,579.47	3,858.73	3,854.91	20.14	20.84	-154.11	227.33	-1,099.43	1,446.71	1,407.19	39.53	36.602		
3,700.00	3,678.73	3,958.31	3,952.66	20.73	21.45	-154.28	227.33	-1,080.43	1,438.52	1,397.90	40.62	35.411		
3,800.00	3,777.99	4,057.89	4,050.41	21.31	22.06	-154.44	227.33	-1,061.43	1,430.34	1,388.61	41.72	34.282		
3,900.00	3,877.25	4,157.47	4,148.16	21.90	22.68	-154.61	227.33	-1,042.43	1,422.17	1,379.34	42.82	33.210		
4,000.00	3,976.51	4,257.05	4,245.90	22.49	23.30	-154.78	227.33	-1,023.43	1,414.01	1,370.09	43.93	32.191		
4,100.00	4,075.77	4,356.63	4,343.65	23.08	23.92	-154.95	227.33	-1,004.43	1,405.87	1,360.84	45.03	31.222		
4,200.00	4,175.02	4,456.21	4,441.40	23.67	24.55	-155.12	227.33	-985.43	1,397.74	1,351.60	46.13	30.298		
4,300.00	4,274.28	4,555.78	4,539.15	24.26	25.18	-155.30	227.33	-966.43	1,389.62	1,342.38	47.24	29.418		
4,400.00	4,373.54	4,655.36	4,636.90	24.85	25.81	-155.48	227.33	-947.43	1,381.51	1,333.17	48.34	28.577		
4,500.00	4,472.80	4,754.94	4,734.65	25.43	26.44	-155.66	227.33	-928.43	1,373.42	1,323.97	49.45	27.774		
4,600.00	4,572.06	4,854.52	4,832.40	26.02	27.07	-155.84	227.33	-909.43	1,365.34	1,314.78	50.56	27.006		
4,700.00	4,671.31	4,954.10	4,930.15	26.61	27.71	-156.02	227.33	-890.43	1,357.27	1,305.61	51.66	26.271		
4,800.00	4,770.57	5,053.68	5,027.90	27.20	28.34	-156.21	227.33	-871.43	1,349.22	1,296.45	52.77	25.567		
4,900.00	4,869.83	5,153.26	5,125.65	27.79	28.98	-156.40	227.33	-852.43	1,341.19	1,287.30	53.88	24.891		
5,000.00	4,969.09	5,252.84	5,223.40	28.38	29.62	-156.59	227.33	-833.43	1,333.16	1,278.17	54.99	24.243		
5,100.00	5,068.35	5,352.42	5,321.15	28.97	30.26	-156.78	227.33	-814.43	1,325.16	1,269.06	56.10	23.621		

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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	
5,200.00	5,167.61	5,451.99	5,418.90	29.56	30.90	-156.97	227.33	-795.42	1,317.16	1,259.95	57.21	23.022		
5,300.00	5,266.86	5,545.00	5,510.19	30.15	31.50	-157.16	227.33	-777.68	1,309.20	1,250.92	58.29	22.461		
5,400.00	5,366.12	5,617.98	5,582.00	30.73	31.96	-157.31	227.33	-764.67	1,302.58	1,243.33	59.25	21.985		
5,500.00	5,465.38	5,700.00	5,663.07	31.32	32.47	-157.47	227.33	-752.23	1,298.47	1,238.21	60.26	21.549		
5,600.00	5,564.64	5,755.37	5,717.99	31.91	32.79	-157.59	227.33	-745.15	1,296.57	1,235.45	61.11	21.215		
5,625.90	5,590.35	5,773.19	5,735.68	32.07	32.89	-157.62	227.33	-743.10	1,296.48	1,235.13	61.36	21.130 CC		
5,700.00	5,663.90	5,824.14	5,786.36	32.50	33.19	-157.73	227.33	-737.84	1,297.16	1,235.11	62.05	20.906		
5,800.00	5,763.39	5,900.00	5,861.97	33.07	33.61	-157.86	227.33	-731.68	1,298.20	1,235.21	62.99	20.611		
5,900.00	5,863.18	5,961.70	5,923.57	33.62	33.94	-157.93	227.33	-728.15	1,298.36	1,234.59	63.77	20.360		
6,000.00	5,963.13	6,030.51	5,992.34	34.14	34.29	-157.96	227.33	-725.77	1,297.72	1,233.20	64.52	20.114		
6,100.00	6,063.12	6,101.30	6,063.12	34.63	34.65	-90.38	227.33	-725.04	1,296.89	1,231.54	65.34	19.848		
6,200.00	6,163.12	6,201.30	6,163.12	35.12	35.13	-90.38	227.33	-725.04	1,296.89	1,230.52	66.36	19.543		
6,300.00	6,263.12	6,301.30	6,263.12	35.61	35.62	-90.38	227.33	-725.04	1,296.89	1,229.50	67.38	19.246		
6,400.00	6,363.12	6,401.30	6,363.12	36.11	36.12	-90.38	227.33	-725.04	1,296.89	1,228.48	68.41	18.958		
6,500.00	6,463.12	6,501.30	6,463.12	36.60	36.61	-90.38	227.33	-725.04	1,296.89	1,227.45	69.43	18.678		
6,600.00	6,563.12	6,601.30	6,563.12	37.10	37.10	-90.38	227.33	-725.04	1,296.89	1,226.43	70.46	18.406		
6,700.00	6,663.12	6,701.30	6,663.12	37.59	37.60	-90.38	227.33	-725.04	1,296.89	1,225.40	71.49	18.141		
6,800.00	6,763.12	6,801.30	6,763.12	38.09	38.09	-90.38	227.33	-725.04	1,296.89	1,224.37	72.52	17.883		
6,900.00	6,863.12	6,901.30	6,863.12	38.59	38.59	-90.38	227.33	-725.04	1,296.89	1,223.34	73.55	17.633		
7,000.00	6,963.12	7,001.30	6,963.12	39.09	39.09	-90.38	227.33	-725.04	1,296.89	1,222.30	74.58	17.389		
7,100.00	7,063.12	7,101.30	7,063.12	39.59	39.59	-90.38	227.33	-725.04	1,296.89	1,221.27	75.62	17.151		
7,200.00	7,163.12	7,201.30	7,163.12	40.09	40.09	-90.38	227.33	-725.04	1,296.89	1,220.24	76.65	16.919		
7,300.00	7,263.12	7,301.30	7,263.12	40.59	40.59	-90.38	227.33	-725.04	1,296.89	1,219.20	77.69	16.694		
7,400.00	7,363.12	7,401.30	7,363.12	41.10	41.09	-90.38	227.33	-725.04	1,296.89	1,218.16	78.72	16.474		
7,500.00	7,463.12	7,501.30	7,463.12	41.60	41.59	-90.38	227.33	-725.04	1,296.89	1,217.12	79.76	16.260		
7,600.00	7,563.12	7,601.30	7,563.12	42.11	42.10	-90.38	227.33	-725.04	1,296.89	1,216.09	80.80	16.051		
7,700.00	7,663.12	7,701.30	7,663.12	42.61	42.60	-90.38	227.33	-725.04	1,296.89	1,215.05	81.84	15.847		
7,800.00	7,763.12	7,801.30	7,763.12	43.12	43.11	-90.38	227.33	-725.04	1,296.89	1,214.01	82.88	15.648		
7,900.00	7,863.12	7,901.30	7,863.12	43.63	43.61	-90.38	227.33	-725.04	1,296.89	1,212.96	83.92	15.453		
8,000.00	7,963.12	8,001.30	7,963.12	44.14	44.12	-90.38	227.33	-725.04	1,296.89	1,211.92	84.96	15.264		
8,100.00	8,063.12	8,101.30	8,063.12	44.65	44.63	-90.38	227.33	-725.04	1,296.89	1,210.88	86.01	15.079		
8,200.00	8,163.12	8,201.30	8,163.12	45.16	45.14	-90.38	227.33	-725.04	1,296.89	1,209.83	87.05	14.898		
8,300.00	8,263.12	8,301.30	8,263.12	45.67	45.65	-90.38	227.33	-725.04	1,296.89	1,208.79	88.10	14.721		
8,400.00	8,363.12	8,401.30	8,363.12	46.18	46.16	-90.38	227.33	-725.04	1,296.89	1,207.74	89.14	14.549		
8,500.00	8,463.12	8,501.30	8,463.12	46.69	46.67	-90.38	227.33	-725.04	1,296.89	1,206.70	90.19	14.380		
8,600.00	8,563.12	8,601.30	8,563.12	47.20	47.18	-90.38	227.33	-725.04	1,296.89	1,205.65	91.24	14.215		
8,700.00	8,663.12	8,701.30	8,663.12	47.71	47.69	-90.38	227.33	-725.04	1,296.89	1,204.60	92.28	14.053		
8,800.00	8,763.12	8,801.30	8,763.12	48.23	48.20	-90.38	227.33	-725.04	1,296.89	1,203.55	93.33	13.896		
8,900.00	8,863.12	8,901.30	8,863.12	48.74	48.71	-90.38	227.33	-725.04	1,296.89	1,202.51	94.38	13.741		
9,000.00	8,963.12	9,001.30	8,963.12	49.25	49.23	-90.38	227.33	-725.04	1,296.89	1,201.46	95.43	13.590		
9,100.00	9,063.12	9,101.30	9,063.12	49.77	49.74	-90.38	227.33	-725.04	1,296.89	1,200.41	96.48	13.442		
9,153.58	9,116.70	9,154.88	9,116.70	50.04	50.02	-90.38	227.33	-725.04	1,296.89	1,199.84	97.04	13.364		
9,200.00	9,163.12	9,200.95	9,162.74	50.28	50.25	-90.32	228.72	-725.06	1,296.89	1,199.36	97.53	13.298		
9,300.00	9,263.12	9,297.64	9,258.17	50.80	50.74	-89.67	243.52	-725.20	1,297.05	1,198.49	98.56	13.160		
9,400.00	9,363.12	9,387.06	9,343.07	51.32	51.17	-88.44	271.31	-725.48	1,297.93	1,198.37	99.55	13.037		
9,500.00	9,463.12	9,466.29	9,413.88	51.83	51.51	-85.88	306.70	-725.83	1,300.50	1,200.03	100.47	12.944		
9,600.00	9,562.49	9,538.90	9,473.94	52.36	51.79	-83.93	347.44	-726.23	1,304.84	1,203.57	101.27	12.884		
9,700.00	9,658.61	9,608.82	9,526.45	52.89	52.03	-82.09	393.53	-726.69	1,310.13	1,208.18	101.95	12.851		
9,800.00	9,748.56	9,676.71	9,571.70	53.39	52.23	-80.41	444.08	-727.19	1,315.83	1,213.40	102.43	12.846		
9,900.00	9,829.61	9,750.00	9,613.48	53.87	52.42	-78.83	504.24	-727.78	1,321.47	1,218.75	102.72	12.865		
10,000.00	9,899.29	9,800.00	9,637.41	54.33	52.55	-77.75	548.12	-728.22	1,326.56	1,223.79	102.77	12.908		
10,100.00	9,955.49	9,872.68	9,665.18	54.79	52.73	-76.69	615.23	-728.88	1,330.66	1,227.88	102.78	12.947		

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
 Project: Eddy County, NM (NAD27 NME)
 Reference Site: HH SO 8 5 Fed 003
 Site Error: 0.00 usft
 Reference Well: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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	
10,200.00	9,996.50	9,936.49	9,682.38	55.29	52.91	-76.00	676.64	-729.49	1,333.56	1,230.76	102.80	12.972	
10,300.00	10,021.07	10,000.00	9,692.63	55.84	53.13	-75.63	739.28	-730.11	1,335.02	1,232.00	103.02	12.959	
10,400.00	10,028.46	10,063.22	9,695.88	56.42	53.38	-75.58	802.38	-730.73	1,334.90	1,231.37	103.53	12.893	
10,500.00	10,024.49	10,147.92	9,692.27	57.08	53.79	-75.58	886.99	-731.57	1,334.23	1,229.69	104.54	12.763	
10,600.00	10,020.28	10,247.91	9,687.30	57.81	54.37	-75.54	966.85	-732.56	1,333.74	1,227.97	105.77	12.610	
10,700.00	10,016.07	10,347.91	9,682.33	58.62	55.04	-75.50	1,086.72	-733.55	1,333.25	1,226.10	107.16	12.442	
10,800.00	10,011.85	10,447.90	9,677.36	59.49	55.79	-75.46	1,186.59	-734.53	1,332.77	1,224.08	108.69	12.262	
10,900.00	10,007.64	10,547.89	9,672.39	60.43	56.62	-75.42	1,286.45	-735.52	1,332.28	1,221.92	110.36	12.072	
11,000.00	10,003.43	10,647.89	9,667.41	61.43	57.52	-75.38	1,386.32	-736.51	1,331.79	1,219.63	112.16	11.874	
11,100.00	9,999.22	10,747.88	9,662.44	62.49	58.48	-75.35	1,486.18	-737.50	1,331.31	1,217.21	114.09	11.669	
11,200.00	9,995.01	10,847.88	9,657.47	63.60	59.51	-75.31	1,586.05	-738.49	1,330.82	1,214.68	116.14	11.458	
11,300.00	9,990.80	10,947.87	9,652.50	64.77	60.60	-75.27	1,685.92	-739.47	1,330.34	1,212.03	118.31	11.245	
11,400.00	9,986.59	11,047.87	9,647.53	65.99	61.74	-75.23	1,785.78	-740.46	1,329.85	1,209.27	120.58	11.029	
11,500.00	9,982.38	11,147.86	9,642.55	67.26	62.94	-75.19	1,885.65	-741.45	1,329.37	1,206.41	122.96	10.812	
11,600.00	9,978.17	11,247.86	9,637.58	68.57	64.18	-75.15	1,985.51	-742.44	1,328.89	1,203.46	125.43	10.595	
11,700.00	9,973.96	11,347.85	9,632.61	69.92	65.48	-75.11	2,085.38	-743.43	1,328.41	1,200.42	127.99	10.379	
11,800.00	9,969.75	11,456.95	9,628.21	71.31	66.93	-75.11	2,194.38	-744.50	1,327.69	1,196.92	130.77	10.153	
11,900.00	9,965.54	11,559.51	9,628.56	72.74	68.34	-75.21	2,296.92	-745.52	1,326.35	1,192.73	133.62	9.926	
12,000.00	9,961.33	11,659.47	9,625.03	74.21	69.76	-75.32	2,396.87	-746.52	1,324.99	1,188.48	136.51	9.706	
12,100.00	9,957.11	11,759.44	9,623.50	75.71	71.21	-75.42	2,496.81	-747.51	1,323.64	1,184.17	139.48	9.490	
12,200.00	9,953.85	11,859.42	9,621.97	77.23	72.69	-75.47	2,596.78	-748.51	1,322.53	1,179.98	142.55	9.277	
12,300.00	9,952.97	11,959.41	9,620.44	78.78	74.21	-75.43	2,696.76	-749.50	1,322.01	1,176.44	145.57	9.081	
12,400.00	9,952.20	12,059.41	9,618.91	80.36	75.76	-75.39	2,796.73	-750.49	1,321.52	1,172.90	148.62	8.892	
12,500.00	9,951.43	12,159.40	9,617.37	81.96	77.34	-75.35	2,896.71	-751.49	1,321.04	1,169.31	151.72	8.707	
12,600.00	9,950.67	12,259.39	9,615.84	83.59	78.95	-75.31	2,996.69	-752.48	1,320.55	1,165.67	154.88	8.526	
12,700.00	9,949.90	12,359.39	9,614.31	85.24	80.58	-75.27	3,096.67	-753.48	1,320.06	1,161.98	158.08	8.351	
12,800.00	9,949.13	12,459.38	9,612.78	86.92	82.23	-75.23	3,196.64	-754.47	1,319.58	1,158.25	161.33	8.180	
12,900.00	9,948.37	12,559.38	9,611.25	88.62	83.91	-75.19	3,296.62	-755.47	1,319.09	1,154.48	164.62	8.013	
13,000.00	9,947.60	12,659.37	9,609.72	90.33	85.62	-75.15	3,396.60	-756.46	1,318.61	1,150.66	167.94	7.851	
13,100.00	9,946.83	12,759.37	9,608.19	92.07	87.34	-75.11	3,496.58	-757.45	1,318.12	1,146.81	171.31	7.694	
13,200.00	9,946.06	12,859.36	9,606.66	93.82	89.08	-75.07	3,596.56	-758.45	1,317.64	1,142.93	174.71	7.542	
13,300.00	9,945.30	12,959.36	9,605.13	95.59	90.84	-75.03	3,696.53	-759.44	1,317.16	1,139.01	178.15	7.394	
13,400.00	9,944.53	13,059.35	9,603.60	97.38	92.61	-74.99	3,796.51	-760.44	1,316.67	1,135.06	181.61	7.250	
13,500.00	9,943.76	13,159.35	9,602.07	99.18	94.40	-74.95	3,896.49	-761.43	1,316.19	1,131.08	185.11	7.110	
13,600.00	9,942.99	13,259.34	9,600.54	100.99	96.21	-74.91	3,996.47	-762.42	1,315.71	1,127.08	188.63	6.975	
13,700.00	9,942.23	13,359.34	9,599.01	102.82	98.03	-74.87	4,096.45	-763.42	1,315.23	1,123.05	192.18	6.844	
13,800.00	9,941.46	13,459.33	9,597.48	104.66	99.87	-74.83	4,196.42	-764.41	1,314.75	1,119.00	195.75	6.716	
13,900.00	9,940.69	13,559.32	9,595.94	106.52	101.71	-74.79	4,296.40	-765.41	1,314.27	1,114.92	199.35	6.593	
14,000.00	9,939.93	13,664.60	9,594.66	108.38	103.67	-74.77	4,401.67	-766.45	1,313.72	1,110.64	203.07	6.469	
14,100.00	9,939.16	13,768.13	9,595.56	110.26	105.61	-74.83	4,505.19	-767.48	1,312.60	1,105.73	206.87	6.345	
14,200.00	9,939.40	13,868.12	9,596.57	112.14	107.49	-74.84	4,605.17	-768.47	1,311.71	1,101.05	210.66	6.227	
14,300.00	9,940.60	13,968.12	9,597.58	114.04	109.38	-74.83	4,705.15	-769.46	1,311.06	1,096.69	214.36	6.116	
14,400.00	9,941.80	14,068.12	9,598.59	115.95	111.28	-74.81	4,805.14	-770.45	1,310.41	1,092.33	218.08	6.009	
14,500.00	9,943.00	14,168.11	9,599.60	117.86	113.19	-74.79	4,905.13	-771.44	1,309.76	1,087.94	221.82	5.905	
14,600.00	9,944.20	14,268.11	9,600.61	119.78	115.11	-74.78	5,005.12	-772.43	1,309.11	1,083.54	225.57	5.804	
14,700.00	9,945.40	14,368.11	9,601.62	121.72	117.04	-74.76	5,105.10	-773.42	1,308.46	1,079.12	229.34	5.705	
14,800.00	9,946.60	14,468.11	9,602.63	123.65	118.97	-74.75	5,205.09	-774.41	1,307.81	1,074.69	233.12	5.610	
14,900.00	9,947.80	14,568.10	9,603.65	125.60	120.91	-74.73	5,305.08	-775.40	1,307.16	1,070.25	236.91	5.517	
15,000.00	9,949.00	14,668.10	9,604.66	127.55	122.86	-74.71	5,405.06	-776.39	1,306.51	1,065.79	240.72	5.427	
15,100.00	9,950.20	14,768.10	9,605.67	129.51	124.82	-74.70	5,505.05	-777.38	1,305.86	1,061.32	244.54	5.340	
15,200.00	9,951.40	14,868.09	9,606.68	131.48	126.79	-74.68	5,605.04	-778.37	1,305.21	1,056.84	248.37	5.255	
15,300.00	9,952.61	14,968.09	9,607.69	133.45	128.76	-74.66	5,705.03	-779.36	1,304.56	1,052.34	252.22	5.172	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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		
20,401.69	10,029.00	20,097.65	9,706.77	238.03	234.09	-75.89	10,832.81	-762.20	1,321.95	862.30	459.65	2.876 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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		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	7.00	0.00	0.00	-28.21	835.34	-448.08	947.95				
100.00	100.00	93.00	100.00	0.19	0.18	-28.21	835.34	-448.08	947.93	0.37	2,537.285		
200.00	200.00	193.00	200.00	0.73	0.69	-28.21	835.34	-448.08	947.93	1.42	665.248		
300.00	300.00	293.00	300.00	1.27	1.23	-28.21	835.34	-448.08	947.93	2.50	379.120		
400.00	400.00	393.00	400.00	1.81	1.77	-28.21	835.34	-448.08	947.93	3.58	265.099		
500.00	500.00	493.00	500.00	2.34	2.31	-28.21	835.34	-448.08	947.93	4.65	203.804		
600.00	600.00	593.00	600.00	2.88	2.84	-28.21	835.34	-448.08	947.93	5.73	165.531 CC		
700.00	699.98	692.98	699.98	3.41	3.38	-95.89	835.34	-448.08	948.11	6.79	139.541		
800.00	799.84	792.84	799.84	3.94	3.92	-96.19	835.34	-448.08	948.66	7.86	120.708		
900.00	899.45	892.45	899.45	4.48	4.45	-96.69	835.34	-448.08	949.64	8.93	106.330 ES		
1,000.00	998.76	991.76	998.76	5.03	4.99	-97.38	835.34	-448.08	951.09	10.01	94.991		
1,100.00	1,098.02	1,091.02	1,098.02	5.58	5.52	-98.10	835.34	-448.08	952.73	11.10	85.813		
1,200.00	1,197.28	1,190.28	1,197.28	6.15	6.06	-98.81	835.34	-448.08	954.54	12.20	78.253		
1,300.00	1,296.53	1,289.53	1,296.53	6.72	6.59	-99.53	835.34	-448.08	956.49	13.30	71.929		
1,400.00	1,395.79	1,388.79	1,395.79	7.29	7.12	-100.24	835.34	-448.08	958.59	14.40	66.567		
1,500.00	1,495.05	1,488.05	1,495.05	7.86	7.66	-100.95	835.34	-448.08	960.84	15.51	61.969		
1,600.00	1,594.31	1,587.31	1,594.31	8.44	8.19	-101.65	835.34	-448.08	963.24	16.61	57.986		
1,700.00	1,693.57	1,686.57	1,693.57	9.02	8.72	-102.35	835.34	-448.08	965.79	17.72	54.504		
1,800.00	1,792.83	1,785.83	1,792.83	9.60	9.16	-102.96	835.51	-448.89	969.24	18.73	51.750		
1,900.00	1,892.08	1,885.08	1,892.08	10.18	9.57	-103.63	836.13	-451.80	974.88	19.72	49.442		
2,000.00	1,991.34	1,984.34	1,991.34	10.76	9.98	-104.37	837.18	-456.79	982.78	20.70	47.474		
2,100.00	2,090.60	2,083.60	2,090.60	11.34	10.37	-105.13	838.59	-463.44	993.00	21.67	45.834		
2,200.00	2,189.86	2,182.86	2,189.86	11.93	10.80	-106.02	840.55	-472.70	1,005.56	22.66	44.374		
2,300.00	2,289.12	2,282.12	2,289.12	12.51	11.21	-106.91	842.83	-483.45	1,020.54	23.64	43.177		
2,400.00	2,388.37	2,381.37	2,388.37	13.10	11.71	-108.03	845.95	-498.17	1,037.28	24.70	41.996		
2,500.00	2,487.63	2,480.63	2,487.63	13.68	12.25	-109.16	849.21	-513.52	1,054.48	25.78	40.898		
2,600.00	2,586.89	2,579.89	2,586.89	14.27	12.79	-110.25	852.46	-528.88	1,072.08	26.87	39.902		
2,700.00	2,686.15	2,679.15	2,686.15	14.85	13.34	-111.31	855.72	-544.23	1,090.06	27.95	38.994		
2,800.00	2,785.41	2,778.41	2,785.41	15.44	13.90	-112.34	858.97	-559.59	1,108.40	29.04	38.166		
2,900.00	2,884.67	2,877.67	2,884.67	16.03	14.46	-113.33	862.23	-574.94	1,127.09	30.13	37.408		
3,000.00	2,983.92	2,976.92	2,983.92	16.61	15.02	-114.30	865.48	-590.30	1,146.12	31.22	36.713		
3,100.00	3,083.18	3,076.18	3,083.18	17.20	15.59	-115.23	868.73	-605.65	1,165.45	32.31	36.075		
3,200.00	3,182.44	3,175.44	3,182.44	17.79	16.16	-116.13	871.99	-621.01	1,185.08	33.39	35.488		
3,300.00	3,281.70	3,274.70	3,281.70	18.38	16.73	-117.01	875.24	-636.36	1,205.00	34.48	34.947		
3,400.00	3,380.96	3,373.96	3,380.96	18.96	17.30	-117.85	878.50	-651.72	1,225.19	35.57	34.446		
3,500.00	3,480.22	3,473.22	3,480.22	19.55	17.88	-118.67	881.75	-667.07	1,245.63	36.65	33.983		
3,600.00	3,579.47	3,572.47	3,579.47	20.14	18.46	-119.47	885.01	-682.43	1,266.32	37.74	33.554		
3,700.00	3,678.73	3,671.73	3,678.73	20.73	19.04	-120.23	888.26	-697.78	1,287.24	38.82	33.155		
3,800.00	3,777.99	3,770.99	3,777.99	21.31	19.63	-120.98	891.51	-713.14	1,308.38	39.91	32.784		
3,900.00	3,877.25	3,870.25	3,877.25	21.90	20.21	-121.70	894.77	-728.49	1,329.73	40.99	32.438		
4,000.00	3,976.51	3,969.51	3,976.51	22.49	20.80	-122.40	898.02	-743.85	1,351.28	42.08	32.115		
4,100.00	4,075.77	4,068.77	4,075.77	23.08	21.39	-123.08	901.28	-759.20	1,373.03	43.16	31.814		
4,200.00	4,175.02	4,168.02	4,175.02	23.67	21.98	-123.74	904.53	-774.56	1,394.95	44.24	31.531		
4,300.00	4,274.28	4,267.28	4,274.28	24.26	22.57	-124.37	907.79	-789.91	1,417.05	45.32	31.267		
4,400.00	4,373.54	4,366.54	4,373.54	24.85	23.16	-124.99	911.04	-805.27	1,439.32	46.40	31.018		
4,500.00	4,472.80	4,465.80	4,472.80	25.43	23.76	-125.59	914.30	-820.62	1,461.74	47.48	30.785		
4,600.00	4,572.06	4,565.06	4,572.06	26.02	24.35	-126.17	917.55	-835.98	1,484.32	48.56	30.565		
4,700.00	4,671.31	4,664.31	4,671.31	26.61	24.95	-126.74	920.80	-851.33	1,507.04	49.64	30.359		
4,800.00	4,770.57	4,763.57	4,770.57	27.20	25.54	-127.29	924.06	-866.69	1,529.90	50.72	30.163		
4,900.00	4,869.83	4,862.83	4,869.83	27.79	26.14	-127.82	927.31	-882.04	1,552.89	51.80	29.979		
5,000.00	4,969.09	4,962.09	4,969.09	28.38	26.74	-128.34	930.57	-897.40	1,576.00	52.88	29.805		
5,100.00	5,068.35	5,061.35	5,068.35	28.97	27.33	-128.84	933.82	-912.75	1,599.24	53.95	29.641		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		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	5,167.61	4,944.37	4,912.16	29.56	27.93	-129.33	937.08	-928.11	1,622.59	1,567.56	55.03	29.485	
5,300.00	5,266.86	5,040.66	5,007.16	30.15	28.53	-129.80	940.33	-943.46	1,646.05	1,589.94	56.11	29.337	
5,400.00	5,366.12	5,136.96	5,102.17	30.73	29.13	-130.27	943.59	-958.82	1,669.62	1,612.43	57.19	29.196	
5,500.00	5,465.38	5,233.25	5,197.18	31.32	29.73	-130.71	946.84	-974.17	1,693.29	1,635.03	58.26	29.063	
5,600.00	5,564.64	5,329.55	5,292.19	31.91	30.33	-131.15	950.09	-989.53	1,717.06	1,657.72	59.34	28.936	
5,700.00	5,663.90	5,425.85	5,387.20	32.50	30.93	-131.62	953.35	-1,004.88	1,740.90	1,680.47	60.43	28.809	
5,800.00	5,763.39	5,522.67	5,482.73	33.07	31.54	-132.33	956.62	-1,020.32	1,763.43	1,701.84	61.59	28.632	
5,900.00	5,863.18	5,681.58	5,639.78	33.62	32.51	-133.03	961.63	-1,043.94	1,783.04	1,719.99	63.05	28.280	
6,000.00	5,963.13	5,936.66	5,893.88	34.14	33.94	-133.51	966.06	-1,064.88	1,793.33	1,728.35	64.98	27.599	
6,100.00	6,063.12	6,105.94	6,063.12	34.63	34.79	-65.97	966.53	-1,067.06	1,794.34	1,727.92	66.42	27.015	
6,200.00	6,163.12	6,205.94	6,163.12	35.12	35.28	-65.97	966.53	-1,067.06	1,794.34	1,726.91	67.43	26.610	
6,300.00	6,263.12	6,305.94	6,263.12	35.61	35.77	-65.97	966.53	-1,067.06	1,794.34	1,725.90	68.44	26.217	
6,400.00	6,363.12	6,405.94	6,363.12	36.11	36.26	-65.97	966.53	-1,067.06	1,794.34	1,724.88	69.46	25.834	
6,500.00	6,463.12	6,505.94	6,463.12	36.60	36.75	-65.97	966.53	-1,067.06	1,794.34	1,723.87	70.47	25.462	
6,600.00	6,563.12	6,605.94	6,563.12	37.10	37.25	-65.97	966.53	-1,067.06	1,794.34	1,722.85	71.49	25.099	
6,700.00	6,663.12	6,705.94	6,663.12	37.59	37.74	-65.97	966.53	-1,067.06	1,794.34	1,721.83	72.51	24.746	
6,800.00	6,763.12	6,805.94	6,763.12	38.09	38.24	-65.97	966.53	-1,067.06	1,794.34	1,720.81	73.53	24.403	
6,900.00	6,863.12	6,905.94	6,863.12	38.59	38.73	-65.97	966.53	-1,067.06	1,794.34	1,719.79	74.55	24.068	
7,000.00	6,963.12	7,005.94	6,963.12	39.09	39.23	-65.97	966.53	-1,067.06	1,794.34	1,718.76	75.58	23.742	
7,100.00	7,063.12	7,105.94	7,063.12	39.59	39.73	-65.97	966.53	-1,067.06	1,794.34	1,717.74	76.60	23.424	
7,200.00	7,163.12	7,205.94	7,163.12	40.09	40.23	-65.97	966.53	-1,067.06	1,794.34	1,716.71	77.63	23.115	
7,300.00	7,263.12	7,305.94	7,263.12	40.59	40.74	-65.97	966.53	-1,067.06	1,794.34	1,715.68	78.66	22.813	
7,400.00	7,363.12	7,405.94	7,363.12	41.10	41.24	-65.97	966.53	-1,067.06	1,794.34	1,714.65	79.68	22.518	
7,500.00	7,463.12	7,505.94	7,463.12	41.60	41.74	-65.97	966.53	-1,067.06	1,794.34	1,713.62	80.72	22.231	
7,600.00	7,563.12	7,605.94	7,563.12	42.11	42.24	-65.97	966.53	-1,067.06	1,794.34	1,712.59	81.75	21.950	
7,700.00	7,663.12	7,705.94	7,663.12	42.61	42.75	-65.97	966.53	-1,067.06	1,794.34	1,711.56	82.78	21.676	
7,800.00	7,763.12	7,805.94	7,763.12	43.12	43.26	-65.97	966.53	-1,067.06	1,794.34	1,710.53	83.81	21.409	
7,900.00	7,863.12	7,905.94	7,863.12	43.63	43.76	-65.97	966.53	-1,067.06	1,794.34	1,709.49	84.85	21.148	
8,000.00	7,963.12	8,005.94	7,963.12	44.14	44.27	-65.97	966.53	-1,067.06	1,794.34	1,708.46	85.88	20.893	
8,100.00	8,063.12	8,105.94	8,063.12	44.65	44.78	-65.97	966.53	-1,067.06	1,794.34	1,707.42	86.92	20.644	
8,200.00	8,163.12	8,205.94	8,163.12	45.16	45.29	-65.97	966.53	-1,067.06	1,794.34	1,706.38	87.96	20.400	
8,300.00	8,263.12	8,305.94	8,263.12	45.67	45.80	-65.97	966.53	-1,067.06	1,794.34	1,705.34	89.00	20.162	
8,400.00	8,363.12	8,405.94	8,363.12	46.18	46.31	-65.97	966.53	-1,067.06	1,794.34	1,704.30	90.04	19.929	
8,462.20	8,425.32	8,468.14	8,425.32	46.49	46.62	-65.97	966.53	-1,067.06	1,794.34	1,703.66	90.68	19.787	
8,500.00	8,463.12	8,500.00	8,457.19	46.69	46.79	-65.97	966.55	-1,067.06	1,794.36	1,703.31	91.04	19.709	
8,600.00	8,563.12	8,550.00	8,507.10	47.20	47.04	-65.90	969.18	-1,067.09	1,796.32	1,704.49	91.83	19.562	
8,700.00	8,663.12	8,585.68	8,542.49	47.71	47.23	-65.77	973.72	-1,067.14	1,801.39	1,708.86	92.53	19.468	
8,800.00	8,763.12	8,627.43	8,583.44	48.23	47.44	-65.53	981.80	-1,067.22	1,809.70	1,716.43	93.27	19.402	
8,900.00	8,863.12	8,667.80	8,622.37	48.74	47.65	-65.23	992.44	-1,067.33	1,821.27	1,727.26	94.00	19.375	
9,000.00	8,963.12	8,700.00	8,652.83	49.25	47.81	-64.93	1,002.87	-1,067.43	1,836.18	1,741.49	94.69	19.391	
9,100.00	9,063.12	8,750.00	8,698.83	49.77	48.06	-64.37	1,022.42	-1,067.63	1,854.46	1,758.99	95.47	19.425	
9,200.00	9,163.12	8,777.92	8,723.73	50.28	48.19	-64.02	1,035.05	-1,067.76	1,876.12	1,779.99	96.13	19.517	
9,300.00	9,263.12	8,800.00	8,742.96	50.80	48.30	-63.71	1,045.89	-1,067.87	1,901.35	1,804.59	96.76	19.650	
9,400.00	9,363.12	8,850.00	8,784.87	51.32	48.53	-62.96	1,073.13	-1,068.15	1,929.95	1,832.42	97.53	19.789	
9,500.00	9,463.12	8,869.32	8,800.40	51.83	48.61	-61.44	1,084.61	-1,068.26	1,961.94	1,863.82	98.12	19.996	
9,600.00	9,562.49	8,900.00	8,824.25	52.36	48.75	-58.20	1,103.91	-1,068.46	1,992.72	1,894.11	98.61	20.209	
9,700.00	9,658.61	8,927.25	8,844.54	52.89	48.87	-55.71	1,122.10	-1,068.65	2,018.04	1,919.90	98.15	20.562	
9,800.00	9,748.56	8,950.00	8,860.80	53.39	48.96	-53.93	1,138.01	-1,068.81	2,037.18	1,940.54	96.65	21.079	
9,900.00	9,829.61	9,000.00	8,894.23	53.87	49.17	-52.70	1,175.16	-1,069.19	2,049.52	1,955.13	94.40	21.712	
10,000.00	9,899.29	9,020.04	8,906.70	54.33	49.25	-52.27	1,190.85	-1,069.35	2,054.54	1,962.88	91.66	22.414	
10,100.00	9,955.49	9,050.00	8,924.30	54.79	49.37	-52.46	1,215.09	-1,069.59	2,052.33	1,963.11	89.23	23.001	
10,200.00	9,996.50	9,082.64	8,942.00	55.29	49.51	-53.32	1,242.51	-1,069.87	2,042.86	1,955.08	87.78	23.272	

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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 (°)	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)				Between Centres (usft)	Between Ellipses (usft)			
10,300.00	10,021.07	9,100.00	8,950.78	55.84	49.58	-54.76	1,257.49	-1,070.02	2,026.53	1,938.84	87.69	23.110	
10,400.00	10,028.46	9,150.00	8,973.45	56.42	49.80	-57.16	1,302.03	-1,070.48	2,003.46	1,913.73	89.72	22.330	
10,500.00	10,024.49	9,173.44	8,982.73	57.08	49.90	-57.80	1,323.55	-1,070.70	1,977.69	1,886.80	90.90	21.758	
10,600.00	10,020.28	9,200.00	8,992.16	57.81	50.02	-58.06	1,348.37	-1,070.95	1,955.21	1,863.33	91.88	21.281	
10,700.00	10,016.07	9,250.00	9,006.76	58.62	50.26	-58.48	1,396.18	-1,071.44	1,936.15	1,842.95	93.20	20.773	
10,800.00	10,011.85	9,271.86	9,011.82	59.49	50.37	-58.63	1,417.44	-1,071.65	1,920.26	1,826.05	94.21	20.383	
10,900.00	10,007.64	9,300.00	9,017.14	60.43	50.52	-58.80	1,445.07	-1,071.93	1,907.87	1,812.54	95.33	20.013	
11,000.00	10,003.43	9,350.00	9,023.22	61.43	50.79	-59.00	1,494.68	-1,072.44	1,898.78	1,802.10	96.69	19.638	
11,100.00	9,999.22	9,379.91	9,024.78	62.49	50.96	-59.07	1,524.55	-1,072.74	1,893.00	1,795.14	97.87	19.343	
11,200.00	9,995.01	9,452.93	9,024.88	63.60	51.40	-59.15	1,597.56	-1,073.48	1,890.04	1,790.64	99.40	19.015	
11,300.00	9,990.80	9,552.85	9,024.72	64.77	52.08	-59.24	1,697.47	-1,074.50	1,887.38	1,786.16	101.22	18.646	
11,400.00	9,986.59	9,652.76	9,024.57	65.99	52.83	-59.34	1,797.38	-1,075.52	1,884.73	1,781.56	103.17	18.268	
11,500.00	9,982.38	9,752.68	9,024.41	67.26	53.67	-59.44	1,897.29	-1,076.53	1,882.09	1,776.85	105.23	17.885	
11,600.00	9,978.17	9,852.59	9,024.25	68.57	54.58	-59.53	1,997.20	-1,077.55	1,879.45	1,772.04	107.40	17.499	
11,700.00	9,973.96	9,952.51	9,024.09	69.92	55.56	-59.63	2,097.11	-1,078.57	1,876.81	1,767.14	109.68	17.112	
11,800.00	9,969.75	10,052.42	9,023.94	71.31	56.61	-59.72	2,197.02	-1,079.58	1,874.18	1,762.13	112.05	16.727	
11,900.00	9,965.54	10,152.34	9,023.78	72.74	57.71	-59.82	2,296.93	-1,080.60	1,871.56	1,757.05	114.51	16.344	
12,000.00	9,961.33	10,252.25	9,023.62	74.21	58.88	-59.92	2,396.84	-1,081.62	1,868.94	1,751.88	117.06	15.966	
12,100.00	9,957.11	10,352.17	9,023.47	75.71	60.10	-60.01	2,496.75	-1,082.63	1,866.33	1,746.64	119.69	15.593	
12,200.00	9,953.85	10,452.12	9,023.31	77.23	61.38	-60.06	2,596.69	-1,083.65	1,864.19	1,741.81	122.38	15.233	
12,300.00	9,952.97	10,552.11	9,023.15	78.78	62.70	-60.07	2,696.68	-1,084.67	1,863.24	1,738.17	125.07	14.898	
12,400.00	9,952.20	10,652.11	9,023.00	80.36	64.07	-60.07	2,796.67	-1,085.68	1,862.34	1,734.53	127.82	14.571	
12,500.00	9,951.43	10,752.10	9,022.84	81.96	65.48	-60.08	2,896.66	-1,086.70	1,861.45	1,730.83	130.62	14.251	
12,600.00	9,950.67	10,852.10	9,022.68	83.59	66.93	-60.08	2,996.65	-1,087.72	1,860.56	1,727.07	133.49	13.938	
12,700.00	9,949.90	10,952.09	9,022.52	85.24	68.42	-60.09	3,096.64	-1,088.74	1,859.66	1,723.25	136.41	13.633	
12,800.00	9,949.13	11,052.09	9,022.37	86.92	69.94	-60.10	3,196.63	-1,089.75	1,858.77	1,719.39	139.38	13.336	
12,900.00	9,948.37	11,152.09	9,022.21	88.62	71.50	-60.10	3,296.62	-1,090.77	1,857.87	1,715.48	142.39	13.047	
13,000.00	9,947.60	11,252.08	9,022.05	90.33	73.08	-60.11	3,396.61	-1,091.79	1,856.98	1,711.52	145.45	12.767	
13,100.00	9,946.83	11,352.08	9,021.90	92.07	74.70	-60.11	3,496.60	-1,092.81	1,856.08	1,707.53	148.56	12.494	
13,200.00	9,946.06	11,452.07	9,021.74	93.82	76.34	-60.12	3,596.60	-1,093.82	1,855.19	1,703.49	151.70	12.229	
13,300.00	9,945.30	11,552.07	9,021.58	95.59	78.01	-60.12	3,696.59	-1,094.84	1,854.30	1,699.42	154.88	11.973	
13,400.00	9,944.53	11,652.06	9,021.42	97.38	79.70	-60.13	3,796.58	-1,095.86	1,853.40	1,695.31	158.09	11.724	
13,500.00	9,943.76	11,752.06	9,021.27	99.18	81.42	-60.14	3,896.57	-1,096.88	1,852.51	1,691.17	161.34	11.482	
13,600.00	9,942.99	11,852.06	9,021.11	100.99	83.15	-60.14	3,996.56	-1,097.89	1,851.61	1,687.00	164.62	11.248	
13,700.00	9,942.23	11,952.05	9,020.95	102.82	84.90	-60.15	4,096.55	-1,098.91	1,850.72	1,682.80	167.92	11.021	
13,800.00	9,941.46	12,052.05	9,020.80	104.66	86.68	-60.15	4,196.54	-1,099.93	1,849.83	1,678.57	171.25	10.802	
13,900.00	9,940.69	12,152.04	9,020.64	106.52	88.47	-60.16	4,296.53	-1,100.95	1,848.93	1,674.32	174.61	10.589	
14,000.00	9,939.93	12,252.04	9,020.48	108.38	90.27	-60.17	4,396.52	-1,101.96	1,848.04	1,670.04	177.99	10.383	
14,100.00	9,939.16	12,352.04	9,020.33	110.26	92.09	-60.17	4,496.51	-1,102.98	1,847.14	1,665.75	181.40	10.183	
14,192.72	9,939.29	12,444.75	9,020.18	112.01	93.79	-60.15	4,589.22	-1,103.92	1,846.73	1,662.17	184.56	10.006	
14,200.00	9,939.40	12,452.03	9,020.17	112.14	93.93	-60.15	4,596.50	-1,104.00	1,846.74	1,661.94	184.80	9.993	
14,300.00	9,940.60	12,552.02	9,020.01	114.04	95.78	-60.10	4,696.48	-1,105.01	1,846.81	1,658.64	188.18	9.814	
14,400.00	9,941.80	12,652.01	9,019.85	115.95	97.64	-60.05	4,796.46	-1,106.03	1,846.89	1,655.32	191.57	9.641	
14,500.00	9,943.00	12,751.99	9,019.70	117.86	99.51	-60.00	4,896.45	-1,107.05	1,846.96	1,651.98	194.98	9.473	
14,600.00	9,944.20	12,851.98	9,019.54	119.78	101.40	-59.96	4,996.43	-1,108.07	1,847.03	1,648.63	198.40	9.310	
14,700.00	9,945.40	12,951.97	9,019.38	121.72	103.29	-59.91	5,096.41	-1,109.08	1,847.11	1,645.27	201.84	9.151	
14,800.00	9,946.60	13,051.96	9,019.23	123.65	105.20	-59.86	5,196.40	-1,110.10	1,847.19	1,641.90	205.29	8.998	
14,900.00	9,947.80	13,151.95	9,019.07	125.60	107.12	-59.82	5,296.38	-1,111.12	1,847.27	1,638.52	208.75	8.849	
15,000.00	9,949.00	13,251.94	9,018.91	127.55	109.04	-59.77	5,396.36	-1,112.14	1,847.35	1,635.12	212.22	8.705	
15,100.00	9,950.20	13,351.92	9,018.75	129.51	110.97	-59.72	5,496.35	-1,113.15	1,847.43	1,631.72	215.71	8.564	
15,200.00	9,951.40	13,451.91	9,018.60	131.48	112.92	-59.67	5,596.33	-1,114.17	1,847.51	1,628.30	219.20	8.428	
15,300.00	9,952.61	13,551.90	9,018.44	133.45	114.87	-59.63	5,696.31	-1,115.19	1,847.59	1,624.88	222.71	8.296	

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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



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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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)		+N/-S (usft)	+E/-W (usft)						
0.00	0.00	0.00	6.00	0.00	0.00	-29.71	785.34	-448.08	904.20					
100.00	100.00	94.00	100.00	0.19	0.18	-29.71	785.34	-448.08	904.18	903.80	0.38	2,407.700		
200.00	200.00	194.00	200.00	0.73	0.70	-29.71	785.34	-448.08	904.18	902.75	1.43	632.158		
300.00	300.00	294.00	300.00	1.27	1.24	-29.71	785.34	-448.08	904.18	901.67	2.51	360.845		
400.00	400.00	394.00	400.00	1.81	1.77	-29.71	785.34	-448.08	904.18	900.60	3.58	252.483		
500.00	500.00	494.00	500.00	2.34	2.31	-29.71	785.34	-448.08	904.18	899.52	4.66	194.173		
600.00	600.00	594.00	600.00	2.88	2.85	-29.71	785.34	-448.08	904.18	898.44	5.73	157.743 CC		
700.00	699.98	693.98	699.98	3.41	3.39	-97.39	785.34	-448.08	904.40	897.60	6.80	133.003		
800.00	799.84	793.84	799.84	3.94	3.92	-97.70	785.34	-448.08	905.09	897.22	7.86	115.086		
900.00	899.45	893.45	899.45	4.48	4.46	-98.22	785.34	-448.08	906.30	897.36	8.94	101.418		
1,000.00	998.76	992.76	998.76	5.03	4.99	-98.94	785.34	-448.08	908.06	898.04	10.02	90.649		
1,100.00	1,098.02	1,092.02	1,098.02	5.58	5.53	-99.69	785.34	-448.08	910.04	898.94	11.11	81.935		
1,200.00	1,197.28	1,191.28	1,197.28	6.15	6.06	-100.43	785.34	-448.08	912.18	899.98	12.20	74.757		
1,300.00	1,296.53	1,290.53	1,296.53	6.72	6.60	-101.18	785.34	-448.08	914.48	901.18	13.30	68.752		
1,400.00	1,395.79	1,389.79	1,395.79	7.29	7.13	-101.92	785.34	-448.08	916.93	902.53	14.40	63.662		
1,500.00	1,495.05	1,489.05	1,495.05	7.86	7.66	-102.65	785.34	-448.08	919.54	904.03	15.51	59.297		
1,600.00	1,594.31	1,588.31	1,594.31	8.44	8.20	-103.39	785.34	-448.08	922.29	905.68	16.61	55.516		
1,700.00	1,693.57	1,687.57	1,693.57	9.02	8.73	-104.11	785.34	-448.08	925.20	907.48	17.72	52.213		
1,800.00	1,792.83	1,771.12	1,777.11	9.60	9.17	-104.76	785.42	-448.96	929.00	910.26	18.74	49.586		
1,900.00	1,892.08	1,851.84	1,857.77	10.18	9.59	-105.48	785.73	-452.09	934.88	915.15	19.73	47.384		
2,000.00	1,991.34	1,939.20	1,944.94	10.76	10.05	-106.36	786.28	-457.75	942.79	922.03	20.76	45.421		
2,100.00	2,090.60	2,037.46	2,042.97	11.34	10.56	-107.34	786.94	-464.58	951.33	929.48	21.84	43.556		
2,200.00	2,189.86	2,135.73	2,140.99	11.93	11.08	-108.31	787.60	-471.41	960.15	937.22	22.93	41.878		
2,300.00	2,289.12	2,234.00	2,239.02	12.51	11.60	-109.26	788.26	-478.23	969.24	945.23	24.02	40.360		
2,400.00	2,388.37	2,332.26	2,337.05	13.10	12.12	-110.19	788.93	-485.06	978.60	953.50	25.10	38.982		
2,500.00	2,487.63	2,430.53	2,435.07	13.68	12.65	-111.11	789.59	-491.89	988.23	962.03	26.19	37.728		
2,600.00	2,586.89	2,528.80	2,533.10	14.27	13.17	-112.01	790.25	-498.71	998.10	970.82	27.28	36.582		
2,700.00	2,686.15	2,627.06	2,631.13	14.85	13.70	-112.89	790.92	-505.54	1,008.22	979.84	28.37	35.532		
2,800.00	2,785.41	2,725.33	2,729.16	15.44	14.23	-113.75	791.58	-512.37	1,018.57	989.10	29.47	34.568		
2,900.00	2,884.67	2,823.60	2,827.18	16.03	14.76	-114.60	792.24	-519.19	1,029.15	998.60	30.56	33.680		
3,000.00	2,983.92	2,921.86	2,925.21	16.61	15.29	-115.43	792.90	-526.02	1,039.96	1,008.31	31.65	32.861		
3,100.00	3,083.18	3,020.13	3,023.24	17.20	15.82	-116.24	793.57	-532.85	1,050.98	1,018.25	32.74	32.103		
3,200.00	3,182.44	3,118.40	3,121.26	17.79	16.36	-117.04	794.23	-539.67	1,062.21	1,028.39	33.83	31.400		
3,300.00	3,281.70	3,216.66	3,219.29	18.38	16.89	-117.82	794.89	-546.50	1,073.65	1,038.73	34.92	30.748		
3,400.00	3,380.96	3,314.93	3,317.32	18.96	17.43	-118.58	795.55	-553.33	1,085.28	1,049.27	36.01	30.140		
3,500.00	3,480.22	3,413.20	3,415.35	19.55	17.96	-119.33	796.22	-560.15	1,097.10	1,060.00	37.10	29.574		
3,600.00	3,579.47	3,511.46	3,513.37	20.14	18.50	-120.06	796.88	-566.98	1,109.10	1,070.92	38.19	29.045		
3,700.00	3,678.73	3,609.73	3,611.40	20.73	19.04	-120.77	797.54	-573.81	1,121.29	1,082.01	39.27	28.551		
3,800.00	3,777.99	3,708.00	3,709.43	21.31	19.58	-121.48	798.21	-580.63	1,133.64	1,093.28	40.36	28.088		
3,900.00	3,877.25	3,806.27	3,807.45	21.90	20.11	-122.16	798.87	-587.46	1,146.16	1,104.71	41.45	27.653		
4,000.00	3,976.51	3,904.53	3,905.48	22.49	20.65	-122.83	799.53	-594.29	1,158.84	1,116.31	42.53	27.245		
4,100.00	4,075.77	4,002.80	4,003.51	23.08	21.19	-123.49	800.19	-601.11	1,171.68	1,128.06	43.62	26.861		
4,200.00	4,175.02	4,101.07	4,101.53	23.67	21.73	-124.13	800.86	-607.94	1,184.67	1,139.97	44.71	26.499		
4,300.00	4,274.28	4,199.33	4,199.56	24.26	22.27	-124.76	801.52	-614.77	1,197.81	1,152.02	45.79	26.158		
4,400.00	4,373.54	4,297.60	4,297.59	24.85	22.81	-125.38	802.18	-621.59	1,211.09	1,164.21	46.87	25.837		
4,500.00	4,472.80	4,395.87	4,395.62	25.43	23.35	-125.98	802.84	-628.42	1,224.50	1,176.54	47.96	25.532		
4,600.00	4,572.06	4,494.13	4,493.64	26.02	23.89	-126.57	803.51	-635.25	1,238.04	1,189.00	49.04	25.245		
4,700.00	4,671.31	4,592.40	4,591.67	26.61	24.44	-127.15	804.17	-642.07	1,251.72	1,201.59	50.13	24.972		
4,800.00	4,770.57	4,690.67	4,689.70	27.20	24.98	-127.71	804.83	-648.90	1,265.52	1,214.31	51.21	24.713		
4,900.00	4,869.83	4,788.93	4,787.72	27.79	25.52	-128.26	805.50	-655.73	1,279.43	1,227.14	52.29	24.468		
5,000.00	4,969.09	4,887.20	4,885.75	28.38	26.06	-128.80	806.16	-662.55	1,293.47	1,240.09	53.37	24.235		
5,100.00	5,068.35	4,985.47	4,983.78	28.97	26.60	-129.33	806.82	-669.38	1,307.61	1,253.16	54.45	24.014		

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		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	5,167.61	5,083.73	5,081.81	29.56	27.14	-129.85	807.48	-676.21	1,321.87	1,266.33	55.53	23.803	
5,300.00	5,266.86	5,182.00	5,179.83	30.15	27.69	-130.36	808.15	-683.03	1,336.22	1,279.61	56.61	23.602	
5,400.00	5,366.12	5,280.27	5,277.86	30.73	28.23	-130.86	808.81	-689.86	1,350.69	1,292.99	57.69	23.411	
5,500.00	5,465.38	5,378.53	5,375.89	31.32	28.77	-131.34	809.47	-696.69	1,365.25	1,306.47	58.77	23.229	
5,600.00	5,564.64	5,476.80	5,473.91	31.91	29.31	-131.82	810.13	-703.51	1,379.90	1,320.05	59.85	23.055	
5,700.00	5,663.90	5,575.07	5,571.95	32.50	29.86	-132.31	810.80	-710.34	1,394.63	1,333.69	60.94	22.884	
5,800.00	5,763.39	5,673.71	5,670.34	33.07	30.40	-132.90	811.46	-717.19	1,408.01	1,345.92	62.08	22.680	
5,900.00	5,863.18	5,775.68	5,772.06	33.62	30.97	-133.35	812.15	-724.27	1,419.07	1,355.87	63.20	22.455	
6,000.00	5,963.13	5,964.32	5,960.56	34.14	31.98	-133.68	812.78	-730.81	1,424.46	1,359.74	64.73	22.007	
6,100.00	6,063.12	6,066.89	6,063.12	34.63	32.51	-66.12	812.79	-730.81	1,424.63	1,358.83	65.80	21.652	
6,200.00	6,163.12	6,166.89	6,163.12	35.12	33.03	-66.12	812.79	-730.81	1,424.63	1,357.81	66.82	21.321	
6,300.00	6,263.12	6,266.89	6,263.12	35.61	33.55	-66.12	812.79	-730.81	1,424.63	1,356.79	67.84	21.000	
6,400.00	6,363.12	6,366.89	6,363.12	36.11	34.07	-66.12	812.79	-730.81	1,424.63	1,355.77	68.86	20.688	
6,500.00	6,463.12	6,466.89	6,463.12	36.60	34.59	-66.12	812.79	-730.81	1,424.63	1,354.74	69.89	20.384	
6,600.00	6,563.12	6,566.89	6,563.12	37.10	35.11	-66.12	812.79	-730.81	1,424.63	1,353.71	70.92	20.089	
6,700.00	6,663.12	6,666.89	6,663.12	37.59	35.63	-66.12	812.79	-730.81	1,424.63	1,352.68	71.95	19.802	
6,800.00	6,763.12	6,766.89	6,763.12	38.09	36.15	-66.12	812.79	-730.81	1,424.63	1,351.65	72.98	19.522	
6,900.00	6,863.12	6,866.89	6,863.12	38.59	36.67	-66.12	812.79	-730.81	1,424.63	1,350.62	74.01	19.250	
7,000.00	6,963.12	6,966.89	6,963.12	39.09	37.20	-66.12	812.79	-730.81	1,424.63	1,349.59	75.04	18.985	
7,100.00	7,063.12	7,066.89	7,063.12	39.59	37.72	-66.12	812.79	-730.81	1,424.63	1,348.56	76.07	18.727	
7,200.00	7,163.12	7,166.89	7,163.12	40.09	38.24	-66.12	812.79	-730.81	1,424.63	1,347.52	77.11	18.476	
7,300.00	7,263.12	7,266.89	7,263.12	40.59	38.77	-66.12	812.79	-730.81	1,424.63	1,346.49	78.14	18.231	
7,400.00	7,363.12	7,366.89	7,363.12	41.10	39.29	-66.12	812.79	-730.81	1,424.63	1,345.45	79.18	17.992	
7,500.00	7,463.12	7,466.89	7,463.12	41.60	39.81	-66.12	812.79	-730.81	1,424.63	1,344.41	80.22	17.759	
7,600.00	7,563.12	7,566.89	7,563.12	42.11	40.34	-66.12	812.79	-730.81	1,424.63	1,343.37	81.26	17.532	
7,700.00	7,663.12	7,666.89	7,663.12	42.61	40.86	-66.12	812.79	-730.81	1,424.63	1,342.33	82.30	17.311	
7,800.00	7,763.12	7,766.89	7,763.12	43.12	41.39	-66.12	812.79	-730.81	1,424.63	1,341.29	83.34	17.095	
7,900.00	7,863.12	7,866.89	7,863.12	43.63	41.91	-66.12	812.79	-730.81	1,424.63	1,340.25	84.38	16.884	
8,000.00	7,963.12	7,966.89	7,963.12	44.14	42.44	-66.12	812.79	-730.81	1,424.63	1,339.21	85.42	16.678	
8,100.00	8,063.12	8,066.89	8,063.12	44.65	42.97	-66.12	812.79	-730.81	1,424.63	1,338.16	86.46	16.476	
8,200.00	8,163.12	8,166.89	8,163.12	45.16	43.49	-66.12	812.79	-730.81	1,424.63	1,337.12	87.51	16.280	
8,300.00	8,263.12	8,266.89	8,263.12	45.67	44.02	-66.12	812.79	-730.81	1,424.63	1,336.08	88.55	16.088	
8,400.00	8,363.12	8,366.89	8,363.12	46.18	44.55	-66.12	812.79	-730.81	1,424.63	1,335.03	89.60	15.900	
8,500.00	8,463.12	8,466.89	8,463.12	46.69	45.07	-66.12	812.79	-730.81	1,424.63	1,333.98	90.65	15.717	
8,600.00	8,563.12	8,566.89	8,563.12	47.20	45.60	-66.12	812.79	-730.81	1,424.63	1,332.94	91.69	15.537	
8,700.00	8,663.12	8,666.89	8,663.12	47.71	46.13	-66.12	812.79	-730.81	1,424.63	1,331.89	92.74	15.362	
8,800.00	8,763.12	8,766.89	8,763.12	48.23	46.66	-66.12	812.79	-730.81	1,424.63	1,330.84	93.79	15.190	
8,900.00	8,863.12	8,866.89	8,863.12	48.74	47.19	-66.12	812.79	-730.81	1,424.63	1,329.79	94.84	15.022	
9,000.00	8,963.12	8,966.89	8,963.12	49.25	47.71	-66.12	812.79	-730.81	1,424.63	1,328.74	95.89	14.858	
9,033.62	8,996.75	9,000.51	8,996.75	49.43	47.89	-66.12	812.79	-730.81	1,424.63	1,328.39	96.24	14.803	
9,100.00	9,063.12	9,041.61	9,037.84	49.77	48.11	-66.10	813.31	-730.82	1,425.07	1,328.27	96.80	14.722	
9,200.00	9,163.12	9,100.00	9,095.95	50.28	48.42	-65.90	818.77	-730.87	1,428.70	1,331.07	97.63	14.633	
9,300.00	9,263.12	9,150.00	9,145.05	50.80	48.68	-65.56	828.13	-730.97	1,435.91	1,337.49	98.42	14.590	
9,400.00	9,363.12	9,184.52	9,178.39	51.32	48.85	-65.23	837.08	-731.06	1,446.70	1,347.58	99.12	14.595	
9,500.00	9,463.12	9,228.59	9,220.05	51.83	49.07	-63.64	851.38	-731.20	1,461.37	1,361.53	99.84	14.636	
9,600.00	9,562.49	9,271.84	9,259.76	52.36	49.27	-61.91	868.49	-731.37	1,475.45	1,375.21	100.24	14.719	
9,700.00	9,658.61	9,315.35	9,298.30	52.89	49.47	-60.74	888.68	-731.57	1,485.22	1,385.26	99.96	14.858	
9,800.00	9,748.56	9,350.00	9,327.82	53.39	49.62	-60.16	906.81	-731.75	1,490.36	1,391.35	99.01	15.052	
9,900.00	9,829.61	9,400.00	9,368.36	53.87	49.83	-60.10	936.04	-732.04	1,490.49	1,392.73	97.75	15.247	
10,000.00	9,899.29	9,450.00	9,406.21	54.33	50.02	-60.66	968.69	-732.36	1,485.77	1,389.23	96.53	15.391	
10,100.00	9,955.49	9,500.00	9,441.06	54.79	50.21	-61.82	1,004.52	-732.72	1,476.38	1,380.55	95.83	15.406	
10,200.00	9,996.50	9,533.32	9,462.49	55.29	50.34	-63.40	1,030.02	-732.98	1,462.47	1,366.62	95.85	15.258	

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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	
10,300.00	10,021.07	9,576.28	9,487.88	55.84	50.52	-65.60	1,064.67	-733.32	1,444.82	1,347.84	96.98	14.898	
10,400.00	10,028.46	9,618.73	9,510.34	56.42	50.70	-68.28	1,100.68	-733.68	1,424.09	1,325.08	99.01	14.384	
10,500.00	10,024.49	9,650.00	9,525.15	57.08	50.84	-69.25	1,128.21	-733.95	1,403.33	1,303.02	100.31	13.990	
10,600.00	10,020.28	9,700.00	9,545.65	57.81	51.08	-70.12	1,173.79	-734.41	1,386.37	1,284.63	101.74	13.626	
10,700.00	10,016.07	9,750.00	9,562.09	58.62	51.32	-70.84	1,220.99	-734.88	1,373.26	1,270.11	103.15	13.313	
10,800.00	10,011.85	9,813.48	9,576.94	59.49	51.63	-71.53	1,282.67	-735.49	1,363.66	1,258.98	104.68	13.027	
10,900.00	10,007.64	9,869.57	9,584.31	60.43	51.91	-71.91	1,338.25	-736.04	1,357.48	1,251.42	106.06	12.799	
11,000.00	10,003.43	9,935.07	9,586.31	61.43	52.25	-72.09	1,403.70	-736.69	1,354.44	1,246.99	107.45	12.605	
11,100.00	9,999.22	10,034.97	9,586.49	62.49	52.81	-72.26	1,503.59	-737.69	1,352.43	1,243.31	109.12	12.394	
11,200.00	9,995.01	10,134.87	9,586.66	63.60	53.46	-72.43	1,603.49	-738.68	1,350.44	1,239.52	110.92	12.175	
11,300.00	9,990.80	10,234.78	9,586.84	64.77	54.18	-72.60	1,703.39	-739.68	1,348.45	1,235.60	112.85	11.949	
11,400.00	9,986.59	10,334.68	9,587.01	65.99	54.97	-72.77	1,803.28	-740.67	1,346.48	1,231.57	114.91	11.718	
11,500.00	9,982.38	10,434.58	9,587.19	67.26	55.84	-72.94	1,903.18	-741.66	1,344.52	1,227.44	117.08	11.483	
11,600.00	9,978.17	10,534.48	9,587.36	68.57	56.77	-73.11	2,003.08	-742.66	1,342.57	1,223.20	119.37	11.247	
11,700.00	9,973.96	10,634.38	9,587.54	69.92	57.77	-73.28	2,102.97	-743.65	1,340.64	1,218.87	121.77	11.010	
11,800.00	9,969.75	10,734.28	9,587.71	71.31	58.83	-73.45	2,202.87	-744.65	1,338.71	1,214.45	124.27	10.773	
11,900.00	9,965.54	10,834.18	9,587.88	72.74	59.95	-73.62	2,302.76	-745.64	1,336.80	1,209.94	126.86	10.537	
12,000.00	9,961.33	10,934.09	9,588.06	74.21	61.13	-73.79	2,402.66	-746.63	1,334.90	1,205.35	129.55	10.304	
12,100.00	9,957.11	11,033.99	9,588.23	75.71	62.36	-73.96	2,502.56	-747.63	1,333.01	1,200.70	132.32	10.074	
12,200.00	9,953.85	11,133.92	9,588.41	77.23	63.64	-74.08	2,602.49	-748.62	1,331.40	1,196.23	135.17	9.850	
12,300.00	9,952.97	11,233.91	9,588.58	78.78	64.96	-74.11	2,702.47	-749.62	1,330.43	1,192.42	138.01	9.640	
12,400.00	9,952.20	11,333.91	9,588.76	80.36	66.33	-74.14	2,802.46	-750.61	1,329.50	1,188.58	140.92	9.435	
12,500.00	9,951.43	11,433.90	9,588.93	81.96	67.74	-74.17	2,902.45	-751.61	1,328.56	1,184.67	143.89	9.233	
12,600.00	9,950.67	11,533.89	9,589.11	83.59	69.19	-74.20	3,002.44	-752.60	1,327.63	1,180.71	146.93	9.036	
12,700.00	9,949.90	11,633.89	9,589.28	85.24	70.68	-74.23	3,102.42	-753.60	1,326.70	1,176.68	150.02	8.844	
12,800.00	9,949.13	11,733.88	9,589.45	86.92	72.20	-74.26	3,202.41	-754.59	1,325.77	1,172.60	153.17	8.656	
12,900.00	9,948.37	11,833.87	9,589.63	88.62	73.75	-74.29	3,302.40	-755.59	1,324.83	1,168.47	156.37	8.472	
13,000.00	9,947.60	11,933.86	9,589.80	90.33	75.33	-74.32	3,402.39	-756.58	1,323.90	1,164.28	159.62	8.294	
13,100.00	9,946.83	12,033.86	9,589.98	92.07	76.94	-74.35	3,502.38	-757.58	1,322.97	1,160.06	162.91	8.121	
13,200.00	9,946.06	12,133.85	9,590.15	93.82	78.57	-74.39	3,602.38	-758.57	1,322.04	1,155.79	166.25	7.952	
13,300.00	9,945.30	12,233.84	9,590.33	95.59	80.23	-74.42	3,702.35	-759.57	1,321.11	1,151.48	169.63	7.788	
13,400.00	9,944.53	12,333.84	9,590.50	97.38	81.92	-74.45	3,802.34	-760.56	1,320.18	1,147.13	173.05	7.629	
13,500.00	9,943.76	12,433.83	9,590.68	99.18	83.62	-74.48	3,902.33	-761.56	1,319.25	1,142.74	176.51	7.474	
13,600.00	9,942.99	12,533.82	9,590.85	100.99	85.35	-74.51	4,002.32	-762.55	1,318.32	1,138.33	180.00	7.324	
13,700.00	9,942.23	12,633.82	9,591.02	102.82	87.10	-74.54	4,102.30	-763.55	1,317.39	1,133.88	183.52	7.179	
13,800.00	9,941.46	12,733.81	9,591.20	104.66	88.86	-74.57	4,202.29	-764.54	1,316.46	1,129.40	187.07	7.037	
13,900.00	9,940.69	12,833.80	9,591.37	106.52	90.64	-74.60	4,302.28	-765.54	1,315.54	1,124.89	190.65	6.900	
14,000.00	9,939.93	12,933.80	9,591.55	108.38	92.44	-74.64	4,402.27	-766.53	1,314.61	1,120.35	194.26	6.767	
14,100.00	9,939.16	13,033.79	9,591.72	110.26	94.25	-74.67	4,502.26	-767.53	1,313.68	1,115.79	197.89	6.638	
14,200.00	9,939.40	13,133.78	9,591.90	112.14	96.08	-74.65	4,602.25	-768.52	1,313.01	1,111.47	201.54	6.515	
14,300.00	9,940.60	13,233.78	9,592.07	114.04	97.92	-74.60	4,702.23	-769.52	1,312.59	1,107.43	205.16	6.398	
14,400.00	9,941.80	13,333.77	9,592.25	115.95	99.77	-74.55	4,802.22	-770.51	1,312.17	1,103.38	208.79	6.285	
14,500.00	9,943.00	13,433.76	9,592.42	117.86	101.64	-74.49	4,902.21	-771.51	1,311.75	1,099.30	212.45	6.174	
14,600.00	9,944.20	13,533.75	9,592.60	119.78	103.52	-74.44	5,002.19	-772.50	1,311.33	1,095.21	216.12	6.068	
14,700.00	9,945.40	13,633.74	9,592.77	121.72	105.40	-74.39	5,102.18	-773.50	1,310.91	1,091.10	219.81	5.964	
14,800.00	9,946.60	13,733.74	9,592.94	123.65	107.30	-74.34	5,202.17	-774.49	1,310.49	1,086.97	223.52	5.863	
14,900.00	9,947.80	13,833.73	9,593.12	125.60	109.21	-74.29	5,302.16	-775.49	1,310.08	1,082.84	227.24	5.765	
15,000.00	9,949.00	13,933.72	9,593.29	127.55	111.13	-74.24	5,402.14	-776.48	1,309.66	1,078.69	230.97	5.670	
15,100.00	9,950.20	14,033.71	9,593.47	129.51	113.05	-74.18	5,502.13	-777.48	1,309.25	1,074.53	234.72	5.578	
15,200.00	9,951.40	14,133.70	9,593.64	131.48	114.99	-74.13	5,602.12	-778.47	1,308.83	1,070.35	238.48	5.488	
15,300.00	9,952.61	14,233.70	9,593.82	133.45	116.93	-74.08	5,702.10	-779.47	1,308.42	1,066.17	242.25	5.401	
15,400.00	9,953.81	14,333.69	9,593.99	135.43	118.88	-74.03	5,802.09	-780.46	1,308.01	1,061.97	246.04	5.316	

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	Local Co-ordinate Reference:	Well 6H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	GL + KB @ 3292.00usft (Patterson 815)
Reference Site:	HH SO 8 5 Fed 003	MD Reference:	GL + KB @ 3292.00usft (Patterson 815)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	OH	Database:	Compass 5000 GCR
Reference Design:	Plan 1 06-16-17	Offset TVD Reference:	Reference Datum



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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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	
0.00	0.00	0.00	6.00	0.00	0.00	-30.51	760.34	-448.08	882.57				
100.00	100.00	94.00	100.00	0.19	0.18	-30.51	760.34	-448.08	882.55	882.17	0.38	2,350.109	
200.00	200.00	194.00	200.00	0.73	0.70	-30.51	760.34	-448.08	882.55	881.12	1.43	617.037	
300.00	300.00	294.00	300.00	1.27	1.24	-30.51	760.34	-448.08	882.55	880.04	2.51	352.214	
400.00	400.00	394.00	400.00	1.81	1.77	-30.51	760.34	-448.08	882.55	878.97	3.58	246.444	
500.00	500.00	494.00	500.00	2.34	2.31	-30.51	760.34	-448.08	882.55	877.89	4.66	189.529	
600.00	600.00	594.00	600.00	2.88	2.85	-30.51	760.34	-448.08	882.55	876.82	5.73	153.970 CC	
700.00	699.98	693.98	699.98	3.41	3.39	-98.20	760.34	-448.08	882.80	876.00	6.80	129.826	
800.00	799.84	793.84	799.84	3.94	3.92	-98.52	760.34	-448.08	883.56	875.69	7.86	112.348 ES	
900.00	899.45	893.45	899.45	4.48	4.46	-99.05	760.34	-448.08	884.89	875.96	8.94	99.023	
1,000.00	998.76	992.76	998.76	5.03	4.99	-99.77	760.34	-448.08	886.82	876.81	10.02	88.531	
1,100.00	1,098.02	1,092.02	1,098.02	5.58	5.53	-100.54	760.34	-448.08	888.98	877.88	11.11	80.042	
1,200.00	1,197.28	1,191.28	1,197.28	6.15	6.06	-101.30	760.34	-448.08	891.30	879.10	12.20	73.050	
1,300.00	1,296.53	1,290.53	1,296.53	6.72	6.60	-102.06	760.34	-448.08	893.78	880.48	13.30	67.202	
1,400.00	1,395.79	1,389.79	1,395.79	7.29	7.13	-102.82	760.34	-448.08	896.42	882.02	14.40	62.244	
1,500.00	1,495.05	1,489.05	1,495.05	7.86	7.66	-103.57	760.34	-448.08	899.21	883.71	15.51	57.994	
1,600.00	1,594.31	1,573.23	1,579.22	8.44	8.11	-104.24	760.40	-449.02	902.90	886.38	16.52	54.651	
1,700.00	1,693.57	1,654.93	1,660.86	9.02	8.53	-105.01	760.63	-452.26	908.64	891.12	17.52	51.866	
1,800.00	1,792.83	1,735.87	1,741.61	9.60	8.95	-105.86	761.00	-457.77	916.51	897.99	18.51	49.508	
1,900.00	1,892.08	1,815.94	1,821.30	10.18	9.37	-106.79	761.53	-465.45	926.59	907.08	19.50	47.509	
2,000.00	1,991.34	1,900.00	1,904.70	10.76	9.82	-107.85	762.25	-475.90	938.97	918.45	20.52	45.762	
2,100.00	2,090.60	1,973.01	1,976.86	11.34	10.22	-108.84	763.01	-486.95	953.68	932.20	21.48	44.399	
2,200.00	2,189.86	2,049.82	2,052.45	11.93	10.65	-109.93	763.95	-500.56	970.82	948.35	22.46	43.218	
2,300.00	2,289.12	2,125.38	2,126.42	12.51	11.07	-111.06	765.01	-515.91	990.42	966.98	23.44	42.249	
2,400.00	2,388.37	2,213.24	2,212.06	13.10	11.59	-112.39	766.36	-535.52	1,012.11	987.62	24.49	41.328	
2,500.00	2,487.63	2,307.50	2,303.91	13.68	12.15	-113.76	767.81	-556.67	1,034.51	1,008.94	25.57	40.456	
2,600.00	2,586.89	2,401.77	2,395.76	14.27	12.73	-115.08	769.27	-577.82	1,057.49	1,030.84	26.66	39.673	
2,700.00	2,686.15	2,496.04	2,487.61	14.85	13.31	-116.35	770.72	-598.97	1,081.02	1,053.27	27.74	38.969	
2,800.00	2,785.41	2,590.30	2,579.46	15.44	13.91	-117.56	772.18	-620.12	1,105.05	1,076.22	28.83	38.334	
2,900.00	2,884.67	2,684.57	2,671.31	16.03	14.51	-118.73	773.63	-641.27	1,129.55	1,099.64	29.91	37.761	
3,000.00	2,983.92	2,778.84	2,763.17	16.61	15.12	-119.85	775.09	-662.41	1,154.50	1,123.50	31.00	37.243	
3,100.00	3,083.18	2,873.10	2,855.02	17.20	15.73	-120.92	776.55	-683.56	1,179.87	1,147.79	32.08	36.774	
3,200.00	3,182.44	2,967.37	2,946.87	17.79	16.35	-121.95	778.00	-704.71	1,205.63	1,172.46	33.17	36.348	
3,300.00	3,281.70	3,061.63	3,038.72	18.38	16.98	-122.94	779.46	-725.86	1,231.75	1,197.50	34.25	35.961	
3,400.00	3,380.96	3,155.90	3,130.57	18.96	17.61	-123.88	780.91	-747.01	1,258.22	1,222.88	35.33	35.609	
3,500.00	3,480.22	3,250.17	3,222.42	19.55	18.24	-124.80	782.37	-768.16	1,285.01	1,248.59	36.42	35.288	
3,600.00	3,579.47	3,344.43	3,314.28	20.14	18.87	-125.67	783.82	-789.31	1,312.10	1,274.60	37.50	34.994	
3,700.00	3,678.73	3,438.70	3,406.13	20.73	19.51	-126.51	785.28	-810.46	1,339.47	1,300.90	38.57	34.725	
3,800.00	3,777.99	3,532.96	3,497.98	21.31	20.15	-127.32	786.74	-831.60	1,367.11	1,327.46	39.65	34.478	
3,900.00	3,877.25	3,627.23	3,589.83	21.90	20.79	-128.10	788.19	-852.75	1,395.00	1,354.27	40.73	34.251	
4,000.00	3,976.51	3,721.50	3,681.68	22.49	21.44	-128.84	789.65	-873.90	1,423.13	1,381.33	41.80	34.043	
4,100.00	4,075.77	3,815.76	3,773.53	23.08	22.09	-129.56	791.10	-895.05	1,451.48	1,408.60	42.88	33.851	
4,200.00	4,175.02	3,910.03	3,865.39	23.67	22.74	-130.26	792.56	-916.20	1,480.04	1,436.09	43.95	33.673	
4,300.00	4,274.28	4,004.30	3,957.24	24.26	23.39	-130.92	794.01	-937.35	1,508.80	1,463.77	45.03	33.509	
4,400.00	4,373.54	4,098.56	4,049.09	24.85	24.04	-131.57	795.47	-958.50	1,537.74	1,491.64	46.10	33.357	
4,500.00	4,472.80	4,192.83	4,140.94	25.43	24.70	-132.19	796.93	-979.65	1,566.86	1,519.69	47.17	33.217	
4,600.00	4,572.06	4,287.09	4,232.79	26.02	25.35	-132.79	798.38	-1,000.80	1,596.15	1,547.90	48.24	33.086	
4,700.00	4,671.31	4,381.36	4,324.64	26.61	26.01	-133.36	799.84	-1,021.94	1,625.59	1,576.28	49.31	32.964	
4,800.00	4,770.57	4,475.63	4,416.50	27.20	26.67	-133.92	801.29	-1,043.09	1,655.18	1,604.80	50.38	32.851	
4,900.00	4,869.83	4,569.89	4,508.35	27.79	27.33	-134.46	802.75	-1,064.24	1,684.92	1,633.46	51.45	32.746	
5,000.00	4,969.09	4,664.16	4,600.20	28.38	27.99	-134.98	804.20	-1,085.39	1,714.79	1,662.26	52.52	32.648	
5,100.00	5,068.35	4,758.43	4,692.05	28.97	28.65	-135.48	805.66	-1,106.54	1,744.78	1,691.19	53.59	32.556	

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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+HDM													Offset Well Error: 0.00 usft
Reference	Offset		Semi Major Axis		Distance		Minimum		Separation		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	
10,300.00	10,021.07	9,700.00	9,512.68	55.84	56.17	-75.20	1,062.32	-1,573.33	2,223.66	2,119.20	104.45	21.288	
10,400.00	10,028.46	9,750.00	9,541.31	56.42	56.32	-77.23	1,103.29	-1,573.74	2,209.29	2,103.45	105.84	20.873	
10,500.00	10,024.49	9,800.00	9,566.25	57.08	56.47	-78.16	1,146.61	-1,574.17	2,195.22	2,088.20	107.02	20.513	
10,600.00	10,020.28	9,850.00	9,587.32	57.81	56.62	-78.75	1,191.93	-1,574.62	2,183.81	2,075.64	108.17	20.189	
10,700.00	10,016.07	9,900.00	9,604.36	58.62	56.77	-79.24	1,238.92	-1,575.08	2,174.87	2,065.51	109.36	19.887	
10,800.00	10,011.85	9,950.00	9,617.24	59.49	56.93	-79.63	1,287.21	-1,575.56	2,168.20	2,057.60	110.60	19.604	
10,900.00	10,007.64	10,000.00	9,625.86	60.43	57.10	-79.90	1,336.44	-1,576.05	2,163.65	2,051.77	111.87	19.340	
11,000.00	10,003.43	10,084.70	9,630.60	61.43	57.33	-80.10	1,400.94	-1,576.69	2,161.01	2,047.73	113.28	19.077	
11,100.00	9,999.22	10,157.25	9,630.43	62.49	57.73	-80.19	1,493.48	-1,577.61	2,159.62	2,044.70	114.91	18.794	
11,200.00	9,995.01	10,257.17	9,630.14	63.60	58.24	-80.29	1,593.39	-1,578.60	2,158.26	2,041.55	116.71	18.492	
11,300.00	9,990.80	10,357.09	9,629.84	64.77	58.84	-80.39	1,693.31	-1,579.59	2,156.92	2,038.27	118.65	18.180	
11,400.00	9,986.59	10,457.01	9,629.54	65.99	59.52	-80.49	1,793.23	-1,580.58	2,155.58	2,034.88	120.70	17.859	
11,500.00	9,982.38	10,556.94	9,629.25	67.26	60.28	-80.59	1,893.14	-1,581.58	2,154.24	2,031.38	122.87	17.533	
11,600.00	9,978.17	10,656.86	9,628.95	68.57	61.12	-80.69	1,993.06	-1,582.57	2,152.92	2,027.77	125.14	17.204	
11,700.00	9,973.96	10,756.78	9,628.65	69.92	62.03	-80.79	2,092.97	-1,583.56	2,151.59	2,024.07	127.53	16.872	
11,800.00	9,969.75	10,856.70	9,628.36	71.31	63.01	-80.89	2,192.89	-1,584.55	2,150.28	2,020.27	130.01	16.540	
11,900.00	9,965.54	10,956.62	9,628.06	72.74	64.05	-80.99	2,292.80	-1,585.54	2,148.97	2,016.39	132.58	16.209	
12,000.00	9,961.33	11,056.54	9,627.77	74.21	65.15	-81.09	2,392.72	-1,586.53	2,147.67	2,012.43	135.24	15.880	
12,100.00	9,957.11	11,156.46	9,627.47	75.71	66.30	-81.19	2,492.63	-1,587.52	2,146.38	2,008.39	137.99	15.554	
12,200.00	9,953.85	11,256.41	9,627.17	77.23	67.51	-81.25	2,592.58	-1,588.52	2,145.23	2,004.44	140.79	15.237	
12,300.00	9,952.97	11,356.41	9,626.88	78.78	68.77	-81.26	2,692.57	-1,589.51	2,144.45	2,000.79	143.65	14.928	
12,400.00	9,952.20	11,456.40	9,626.58	80.36	70.07	-81.27	2,792.56	-1,590.50	2,143.68	1,997.09	146.59	14.624	
12,500.00	9,951.43	11,556.40	9,626.28	81.96	71.41	-81.28	2,892.55	-1,591.49	2,142.91	1,993.32	149.59	14.325	
12,600.00	9,950.67	11,656.40	9,625.99	83.59	72.80	-81.29	2,992.54	-1,592.49	2,142.14	1,989.48	152.66	14.032	
12,700.00	9,949.90	11,756.39	9,625.69	85.24	74.22	-81.29	3,092.53	-1,593.48	2,141.37	1,985.59	155.78	13.746	
12,800.00	9,949.13	11,856.39	9,625.39	86.92	75.68	-81.30	3,192.52	-1,594.47	2,140.60	1,981.64	158.96	13.466	
12,900.00	9,948.37	11,956.38	9,625.10	88.62	77.17	-81.31	3,292.52	-1,595.46	2,139.83	1,977.64	162.19	13.193	
13,000.00	9,947.60	12,056.38	9,624.80	90.33	78.69	-81.32	3,392.51	-1,596.45	2,139.06	1,973.59	165.47	12.927	
13,100.00	9,946.83	12,156.38	9,624.50	92.07	80.25	-81.33	3,492.50	-1,597.45	2,138.30	1,969.50	168.80	12.668	
13,200.00	9,946.06	12,256.37	9,624.21	93.82	81.83	-81.34	3,592.49	-1,598.44	2,137.53	1,965.36	172.17	12.415	
13,300.00	9,945.30	12,356.37	9,623.91	95.59	83.43	-81.35	3,692.48	-1,599.43	2,136.76	1,961.18	175.58	12.170	
13,400.00	9,944.53	12,456.37	9,623.61	97.38	85.07	-81.36	3,792.47	-1,600.42	2,135.99	1,956.97	179.02	11.931	
13,500.00	9,943.76	12,556.36	9,623.32	99.18	86.72	-81.37	3,892.46	-1,601.42	2,135.22	1,952.71	182.51	11.699	
13,600.00	9,942.99	12,656.36	9,623.02	100.99	88.40	-81.38	3,992.45	-1,602.41	2,134.45	1,948.43	186.03	11.474	
13,700.00	9,942.23	12,756.36	9,622.72	102.82	90.10	-81.39	4,092.44	-1,603.40	2,133.68	1,944.11	189.58	11.255	
13,800.00	9,941.46	12,856.35	9,622.42	104.66	91.81	-81.40	4,192.43	-1,604.39	2,132.92	1,939.76	193.16	11.042	
13,900.00	9,940.69	12,956.35	9,622.13	106.52	93.55	-81.41	4,292.43	-1,605.39	2,132.15	1,935.38	196.77	10.836	
14,000.00	9,939.93	13,056.35	9,621.83	108.38	95.30	-81.42	4,392.42	-1,606.38	2,131.38	1,930.97	200.41	10.635	
14,100.00	9,939.16	13,156.34	9,621.53	110.26	97.07	-81.43	4,492.41	-1,607.37	2,130.61	1,926.54	204.07	10.440	
14,200.00	9,939.40	13,256.33	9,621.24	112.14	98.86	-81.41	4,592.40	-1,608.36	2,129.99	1,922.26	207.73	10.254	
14,300.00	9,940.60	13,356.32	9,620.94	114.04	100.66	-81.36	4,692.38	-1,609.35	2,129.50	1,918.07	211.42	10.072	
14,400.00	9,941.80	13,456.31	9,620.64	115.95	102.47	-81.32	4,792.36	-1,610.35	2,129.01	1,913.87	215.14	9.896	
14,500.00	9,943.00	13,556.29	9,620.35	117.86	104.30	-81.28	4,892.34	-1,611.34	2,128.52	1,909.65	218.87	9.725	
14,600.00	9,944.20	13,656.28	9,620.05	119.78	106.14	-81.23	4,992.32	-1,612.33	2,128.03	1,905.41	222.62	9.559	
14,700.00	9,945.40	13,756.27	9,619.75	121.72	107.99	-81.19	5,092.30	-1,613.32	2,127.54	1,901.15	226.40	9.397	
14,800.00	9,946.60	13,856.25	9,619.46	123.65	109.85	-81.15	5,192.28	-1,614.31	2,127.06	1,896.88	230.18	9.241	
14,900.00	9,947.80	13,956.24	9,619.16	125.60	111.73	-81.11	5,292.26	-1,615.31	2,126.57	1,892.59	233.99	9.088	
15,000.00	9,949.00	14,056.22	9,618.86	127.55	113.61	-81.06	5,392.24	-1,616.30	2,126.09	1,888.29	237.81	8.940	
15,100.00	9,950.20	14,156.21	9,618.57	129.51	115.50	-81.02	5,492.22	-1,617.29	2,125.61	1,883.97	241.64	8.797	
15,200.00	9,951.40	14,256.20	9,618.27	131.48	117.41	-80.98	5,592.20	-1,618.28	2,125.13	1,879.64	245.49	8.657	
15,300.00	9,952.61	14,356.18	9,617.97	133.45	119.32	-80.93	5,692.18	-1,619.28	2,124.65	1,875.30	249.35	8.521	
15,400.00	9,953.81	14,456.17	9,617.68	135.43	121.24	-80.89	5,792.17	-1,620.27	2,124.17	1,870.95	253.22	8.389	

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: 6H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
 TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
 MD Reference: GL + KB @ 3292.00usft (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		Highside Toolface (")	Offset Wellbore Centre		Distance				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)	Minimum Separation (usft)	Separation Factor	
15,428.46	9,954.15	14,482.62	9,617.60	135.95	121.75	-80.88	5,818.62	-1,620.53	2,124.14	1,869.95	254.19	8.356	
15,500.00	9,955.40	14,592.51	9,618.45	137.41	123.86	-80.88	5,928.50	-1,620.91	2,124.32	1,866.79	257.54	8.249	
15,600.00	9,957.50	14,692.51	9,620.41	139.39	125.79	-80.88	6,028.48	-1,620.53	2,124.88	1,863.43	261.44	8.128	
15,700.00	9,959.60	14,792.51	9,622.38	141.38	127.73	-80.88	6,128.45	-1,620.15	2,125.43	1,860.07	265.36	8.010	
15,800.00	9,961.70	14,892.51	9,624.34	143.37	129.67	-80.87	6,228.43	-1,619.78	2,125.98	1,856.70	269.28	7.895	
15,900.00	9,963.80	14,992.50	9,626.30	145.37	131.62	-80.87	6,328.41	-1,619.40	2,126.53	1,853.31	273.22	7.783	
16,000.00	9,965.90	15,092.50	9,628.27	147.37	133.58	-80.87	6,428.39	-1,619.02	2,127.08	1,849.92	277.16	7.675	
16,100.00	9,968.00	15,192.50	9,630.23	149.37	135.54	-80.87	6,528.37	-1,618.64	2,127.63	1,846.52	281.12	7.569	
16,200.00	9,970.10	15,292.50	9,632.19	151.38	137.51	-80.87	6,628.35	-1,618.27	2,128.18	1,843.10	285.08	7.465	
16,300.00	9,972.20	15,392.50	9,634.16	153.39	139.48	-80.87	6,728.32	-1,617.89	2,128.73	1,839.68	289.05	7.365	
16,400.00	9,974.30	15,492.50	9,636.12	155.41	141.46	-80.87	6,828.30	-1,617.51	2,129.28	1,836.25	293.03	7.266	
16,500.00	9,976.39	15,592.50	9,638.08	157.43	143.44	-80.86	6,928.28	-1,617.13	2,129.84	1,832.82	297.02	7.171	
16,600.00	9,978.49	15,692.49	9,640.05	159.45	145.43	-80.86	7,028.26	-1,616.75	2,130.39	1,829.37	301.02	7.077	
16,700.00	9,980.59	15,792.49	9,642.01	161.48	147.42	-80.86	7,128.24	-1,616.38	2,130.94	1,825.92	305.02	6.986	
16,800.00	9,982.69	15,892.49	9,643.97	163.51	149.42	-80.86	7,228.22	-1,616.00	2,131.49	1,822.46	309.03	6.897	
16,900.00	9,984.79	15,992.49	9,645.94	165.54	151.42	-80.86	7,328.20	-1,615.62	2,132.04	1,818.99	313.05	6.811	
17,000.00	9,986.89	16,092.49	9,647.90	167.58	153.43	-80.86	7,428.17	-1,615.24	2,132.59	1,815.52	317.07	6.726	
17,100.00	9,988.99	16,192.49	9,649.86	169.62	155.44	-80.86	7,528.15	-1,614.87	2,133.14	1,812.04	321.10	6.643	
17,200.00	9,991.09	16,292.48	9,651.83	171.66	157.45	-80.86	7,628.13	-1,614.49	2,133.69	1,808.56	325.13	6.563	
17,300.00	9,993.19	16,392.48	9,653.79	173.70	159.47	-80.85	7,728.11	-1,614.11	2,134.25	1,805.07	329.18	6.484	
17,400.00	9,995.29	16,492.48	9,655.75	175.75	161.49	-80.85	7,828.09	-1,613.73	2,134.80	1,801.57	333.22	6.407	
17,500.00	9,997.39	16,592.48	9,657.72	177.80	163.51	-80.85	7,928.07	-1,613.36	2,135.35	1,798.07	337.27	6.331	
17,600.00	9,999.49	16,692.48	9,659.68	179.85	165.54	-80.85	8,028.05	-1,612.98	2,135.90	1,794.57	341.33	6.258	
17,700.00	10,001.59	16,792.48	9,661.64	181.90	167.57	-80.85	8,128.02	-1,612.60	2,136.45	1,791.06	345.39	6.186	
17,800.00	10,002.98	16,892.47	9,663.61	183.96	169.60	-80.86	8,228.00	-1,612.22	2,136.85	1,787.35	349.50	6.114	
17,900.00	10,003.98	16,992.47	9,665.57	186.01	171.64	-80.89	8,327.97	-1,611.84	2,137.17	1,783.58	353.59	6.044	
18,000.00	10,004.98	17,092.46	9,667.53	188.07	173.68	-80.92	8,427.95	-1,611.47	2,137.49	1,779.81	357.69	5.976	
18,100.00	10,005.98	17,192.46	9,669.50	190.13	175.72	-80.95	8,527.92	-1,611.09	2,137.81	1,776.03	361.78	5.909	
18,200.00	10,006.98	17,292.45	9,671.46	192.20	177.76	-80.97	8,627.90	-1,610.71	2,138.14	1,772.25	365.89	5.844	
18,300.00	10,007.98	17,392.44	9,673.42	194.26	179.81	-81.00	8,727.87	-1,610.33	2,138.46	1,768.46	370.00	5.780	
18,400.00	10,008.98	17,492.44	9,675.39	196.33	181.86	-81.03	8,827.84	-1,609.96	2,138.78	1,764.67	374.11	5.717	
18,500.00	10,009.98	17,592.43	9,677.35	198.40	183.91	-81.06	8,927.82	-1,609.58	2,139.10	1,760.88	378.23	5.656	
18,600.00	10,010.98	17,692.43	9,679.31	200.47	185.96	-81.08	9,027.79	-1,609.20	2,139.43	1,757.08	382.35	5.595	
18,700.00	10,011.98	17,792.42	9,681.28	202.54	188.02	-81.11	9,127.77	-1,608.82	2,139.75	1,753.28	386.47	5.537	
18,800.00	10,012.98	17,892.42	9,683.24	204.62	190.08	-81.14	9,227.74	-1,608.45	2,140.08	1,749.47	390.60	5.479	
18,900.00	10,013.98	17,992.41	9,685.20	206.69	192.14	-81.17	9,327.72	-1,608.07	2,140.40	1,745.67	394.74	5.422	
19,000.00	10,014.98	18,092.40	9,687.17	208.77	194.20	-81.19	9,427.69	-1,607.69	2,140.73	1,741.85	398.87	5.367	
19,100.00	10,015.98	18,192.40	9,689.13	210.85	196.27	-81.22	9,527.66	-1,607.31	2,141.05	1,738.04	403.01	5.313	
19,200.00	10,016.98	18,292.39	9,691.09	212.93	198.33	-81.25	9,627.64	-1,606.94	2,141.38	1,734.22	407.15	5.259	
19,300.00	10,017.98	18,392.39	9,693.06	215.01	200.40	-81.28	9,727.61	-1,606.56	2,141.71	1,730.40	411.30	5.207	
19,400.00	10,018.98	18,492.38	9,695.02	217.09	202.47	-81.30	9,827.59	-1,606.18	2,142.03	1,726.58	415.45	5.156	
19,500.00	10,019.98	18,592.37	9,696.98	219.18	204.54	-81.33	9,927.56	-1,605.80	2,142.36	1,722.76	419.60	5.106	
19,600.00	10,020.98	18,692.37	9,698.95	221.26	206.61	-81.36	10,027.54	-1,605.42	2,142.69	1,718.93	423.76	5.056	
19,700.00	10,021.98	18,792.36	9,700.91	223.35	208.69	-81.38	10,127.51	-1,605.05	2,143.02	1,715.10	427.92	5.008	
19,800.00	10,022.98	18,892.36	9,702.87	225.44	210.77	-81.41	10,227.48	-1,604.67	2,143.35	1,711.27	432.08	4.961	
19,900.00	10,023.98	18,992.35	9,704.84	227.53	212.84	-81.44	10,327.46	-1,604.29	2,143.68	1,707.43	436.24	4.914	
20,000.00	10,024.98	19,092.35	9,706.80	229.62	214.92	-81.47	10,427.43	-1,603.91	2,144.01	1,703.60	440.41	4.868	
20,100.00	10,025.98	19,192.34	9,708.76	231.71	217.00	-81.49	10,527.41	-1,603.54	2,144.34	1,699.76	444.58	4.823	
20,200.00	10,026.98	19,292.33	9,710.73	233.80	219.09	-81.52	10,627.38	-1,603.16	2,144.67	1,695.92	448.76	4.779	
20,300.00	10,027.98	19,392.33	9,712.69	235.90	221.17	-81.55	10,727.36	-1,602.78	2,145.00	1,692.07	452.93	4.736	
20,400.00	10,028.98	19,492.32	9,714.65	237.99	223.25	-81.58	10,827.33	-1,602.40	2,145.33	1,688.23	457.11	4.693	
20,401.69	10,029.00	19,494.01	9,714.69	238.03	223.29	-81.58	10,829.02	-1,602.40	2,145.34	1,688.16	457.18	4.693 SF	

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



Phoenix Technology Services LP

Anticollision Report



Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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



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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 (")	Offset Wellbore Centre		Distance				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)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	6.00	0.00	0.00	-31.36	735.34	-448.08	861.13						
100.00	100.00	94.00	100.00	0.19	0.18	-31.36	735.34	-448.08	861.10	860.73	0.38	2,293.005			
200.00	200.00	194.00	200.00	0.73	0.70	-31.36	735.34	-448.08	861.10	859.67	1.43	602.044			
300.00	300.00	294.00	300.00	1.27	1.24	-31.36	735.34	-448.08	861.10	858.60	2.51	343.656			
400.00	400.00	394.00	400.00	1.81	1.77	-31.36	735.34	-448.08	861.10	857.52	3.58	240.456			
500.00	500.00	494.00	500.00	2.34	2.31	-31.36	735.34	-448.08	861.10	856.45	4.66	184.923			
600.00	600.00	594.00	600.00	2.88	2.85	-31.36	735.34	-448.08	861.10	855.37	5.73	150.229 CC			
700.00	699.98	693.98	699.98	3.41	3.39	-99.04	735.34	-448.08	861.38	854.58	6.80	126.676			
800.00	799.84	793.84	799.84	3.94	3.92	-99.37	735.34	-448.08	862.22	854.35	7.86	109.634 ES			
900.00	899.45	893.45	899.45	4.48	4.46	-99.91	735.34	-448.08	863.68	854.74	8.94	96.650			
1,000.00	998.76	992.76	998.76	5.03	4.99	-100.65	735.34	-448.08	865.79	855.77	10.02	86.433			
1,100.00	1,098.02	1,092.02	1,098.02	5.58	5.53	-101.43	735.34	-448.08	868.13	857.03	11.11	78.169			
1,200.00	1,197.28	1,191.28	1,197.28	6.15	6.06	-102.21	735.34	-448.08	870.64	858.44	12.20	71.362			
1,300.00	1,296.53	1,290.53	1,296.53	6.72	6.60	-102.98	735.34	-448.08	873.31	860.01	13.30	65.668			
1,400.00	1,395.79	1,389.79	1,395.79	7.29	7.13	-103.75	735.34	-448.08	876.14	861.74	14.40	60.843			
1,500.00	1,495.05	1,489.05	1,495.05	7.86	7.66	-104.52	735.34	-448.08	879.13	863.63	15.50	56.706			
1,600.00	1,594.31	1,574.24	1,580.23	8.44	8.11	-105.22	735.34	-449.05	882.98	866.46	16.52	53.439			
1,700.00	1,693.57	1,657.04	1,662.96	9.02	8.54	-106.02	735.35	-452.39	888.81	871.28	17.52	50.717			
1,800.00	1,792.83	1,739.03	1,744.76	9.60	8.97	-106.91	735.36	-458.05	896.70	878.17	18.52	48.413			
1,900.00	1,892.08	1,820.11	1,825.45	10.18	9.39	-107.89	735.38	-465.95	906.73	887.22	19.52	46.460			
2,000.00	1,991.34	1,900.00	1,904.70	10.76	9.82	-108.94	735.40	-475.96	919.01	898.50	20.51	44.812			
2,100.00	2,090.60	1,979.06	1,982.83	11.34	10.25	-110.06	735.42	-488.05	933.60	912.10	21.50	43.424			
2,200.00	2,189.86	2,056.74	2,059.24	11.93	10.68	-111.22	735.45	-502.01	950.59	928.10	22.49	42.272			
2,300.00	2,289.12	2,137.15	2,137.92	12.51	11.13	-112.47	735.49	-518.57	969.99	946.49	23.49	41.289			
2,400.00	2,388.37	2,231.71	2,230.31	13.10	11.69	-113.92	735.53	-538.78	990.60	966.03	24.57	40.312			
2,500.00	2,487.63	2,326.28	2,322.69	13.68	12.25	-115.32	735.57	-558.98	1,011.84	986.18	25.66	39.438			
2,600.00	2,586.89	2,420.85	2,415.08	14.27	12.82	-116.66	735.61	-579.18	1,033.66	1,006.92	26.74	38.654			
2,700.00	2,686.15	2,515.42	2,507.46	14.85	13.41	-117.95	735.65	-599.38	1,056.04	1,028.21	27.83	37.949			
2,800.00	2,785.41	2,609.99	2,599.85	15.44	13.99	-119.18	735.70	-619.58	1,078.93	1,050.01	28.91	37.315			
2,900.00	2,884.67	2,704.56	2,692.23	16.03	14.59	-120.37	735.74	-639.79	1,102.30	1,072.30	30.00	36.742			
3,000.00	2,983.92	2,799.12	2,784.62	16.61	15.19	-121.51	735.78	-659.99	1,126.13	1,095.04	31.09	36.225			
3,100.00	3,083.18	2,893.69	2,877.00	17.20	15.80	-122.61	735.82	-680.19	1,150.38	1,118.21	32.17	35.757			
3,200.00	3,182.44	2,988.26	2,969.39	17.79	16.41	-123.66	735.86	-700.39	1,175.03	1,141.78	33.26	35.333			
3,300.00	3,281.70	3,082.83	3,061.77	18.38	17.03	-124.67	735.91	-720.60	1,200.06	1,165.72	34.34	34.947			
3,400.00	3,380.96	3,177.40	3,154.16	18.96	17.65	-125.64	735.95	-740.80	1,225.44	1,190.02	35.42	34.596			
3,500.00	3,480.22	3,271.96	3,246.54	19.55	18.27	-126.57	735.99	-761.00	1,251.14	1,214.64	36.50	34.276			
3,600.00	3,579.47	3,366.53	3,338.93	20.14	18.89	-127.47	736.03	-781.20	1,277.16	1,239.58	37.58	33.983			
3,700.00	3,678.73	3,461.10	3,431.31	20.73	19.52	-128.33	736.08	-801.40	1,303.47	1,264.81	38.66	33.716			
3,800.00	3,777.99	3,555.67	3,523.70	21.31	20.15	-129.16	736.12	-821.61	1,330.05	1,290.32	39.74	33.471			
3,900.00	3,877.25	3,650.24	3,616.08	21.90	20.79	-129.95	736.16	-841.81	1,356.89	1,316.08	40.81	33.246			
4,000.00	3,976.51	3,744.81	3,708.47	22.49	21.42	-130.72	736.20	-862.01	1,383.98	1,342.09	41.89	33.039			
4,100.00	4,075.77	3,839.37	3,800.85	23.08	22.06	-131.46	736.24	-882.21	1,411.29	1,368.33	42.96	32.849			
4,200.00	4,175.02	3,933.94	3,893.24	23.67	22.70	-132.17	736.29	-902.42	1,438.82	1,394.79	44.04	32.674			
4,300.00	4,274.28	4,028.51	3,985.62	24.26	23.34	-132.86	736.33	-922.62	1,466.56	1,421.45	45.11	32.512			
4,400.00	4,373.54	4,123.08	4,078.01	24.85	23.98	-133.52	736.37	-942.82	1,494.48	1,448.30	46.18	32.362			
4,500.00	4,472.80	4,217.65	4,170.40	25.43	24.62	-134.16	736.41	-963.02	1,522.59	1,475.34	47.25	32.223			
4,600.00	4,572.06	4,312.22	4,262.78	26.02	25.26	-134.77	736.46	-983.23	1,550.87	1,502.55	48.32	32.094			
4,700.00	4,671.31	4,406.78	4,355.17	26.61	25.91	-135.36	736.50	-1,003.43	1,579.31	1,529.92	49.39	31.975			
4,800.00	4,770.57	4,501.35	4,447.55	27.20	26.56	-135.94	736.54	-1,023.63	1,607.91	1,557.45	50.46	31.864			
4,900.00	4,869.83	4,595.92	4,539.94	27.79	27.20	-136.49	736.58	-1,043.83	1,636.85	1,585.12	51.53	31.760			
5,000.00	4,969.09	4,690.49	4,632.32	28.38	27.85	-137.02	736.62	-1,064.03	1,665.53	1,612.93	52.60	31.664			
5,100.00	5,068.35	4,785.06	4,724.71	28.97	28.50	-137.54	736.67	-1,084.24	1,694.55	1,640.88	53.67	31.574			

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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							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		
5,200.00	5,167.61	4,879.62	4,817.09	29.56	29.15	-138.04	736.71	-1,104.44	1,723.68	1,668.95	54.74	31.490		
5,300.00	5,266.86	4,974.19	4,909.48	30.15	29.80	-138.52	736.75	-1,124.64	1,752.94	1,697.13	55.81	31.412		
5,400.00	5,366.12	5,068.76	5,001.86	30.73	30.45	-138.99	736.79	-1,144.84	1,782.31	1,725.43	56.87	31.338		
5,500.00	5,465.38	5,163.33	5,094.25	31.32	31.10	-139.44	736.83	-1,165.05	1,811.78	1,753.84	57.94	31.269		
5,600.00	5,564.64	5,257.90	5,186.63	31.91	31.75	-139.88	736.88	-1,185.25	1,841.36	1,782.35	59.01	31.205		
5,700.00	5,663.90	5,352.47	5,279.03	32.50	32.41	-140.35	736.92	-1,205.45	1,871.02	1,810.92	60.09	31.135		
5,800.00	5,763.39	5,447.70	5,372.05	33.07	33.06	-141.10	736.96	-1,225.79	1,899.17	1,837.88	61.29	30.986		
5,900.00	5,863.18	5,543.89	5,466.02	33.62	33.73	-141.72	737.00	-1,246.34	1,924.77	1,862.32	62.46	30.818		
6,000.00	5,963.13	5,640.93	5,560.83	34.14	34.40	-142.23	737.05	-1,267.07	1,947.75	1,884.16	63.59	30.631		
6,100.00	6,063.12	5,738.58	5,656.22	34.63	35.08	-74.92	737.09	-1,287.93	1,968.60	1,903.87	64.73	30.413		
6,200.00	6,163.12	5,836.27	5,751.65	35.12	35.75	-75.08	737.13	-1,308.80	1,989.27	1,923.49	65.78	30.240		
6,300.00	6,263.12	5,933.96	5,847.09	35.61	36.43	-75.23	737.18	-1,329.67	2,009.97	1,943.12	66.84	30.071		
6,400.00	6,363.12	6,031.65	5,942.53	36.11	37.11	-75.39	737.22	-1,350.54	2,030.67	1,962.77	67.90	29.907		
6,500.00	6,463.12	6,129.34	6,037.96	36.60	37.79	-75.53	737.27	-1,371.41	2,051.39	1,982.43	68.96	29.748		
6,600.00	6,563.12	6,227.04	6,133.40	37.10	38.47	-75.68	737.31	-1,392.28	2,072.12	2,002.10	70.02	29.593		
6,700.00	6,663.12	6,324.73	6,228.84	37.59	39.14	-75.82	737.35	-1,413.15	2,092.87	2,021.78	71.08	29.443		
6,800.00	6,763.12	6,422.42	6,324.27	38.09	39.82	-75.96	737.40	-1,434.02	2,113.62	2,041.48	72.14	29.297		
6,900.00	6,863.12	6,520.11	6,419.71	38.59	40.50	-76.10	737.44	-1,454.89	2,134.39	2,061.18	73.21	29.155		
7,000.00	6,963.12	6,617.80	6,515.14	39.09	41.18	-76.24	737.48	-1,475.76	2,155.17	2,080.90	74.27	29.017		
7,100.00	7,063.12	6,715.49	6,610.58	39.59	41.86	-76.37	737.53	-1,496.63	2,175.96	2,100.63	75.34	28.882		
7,200.00	7,163.12	6,813.19	6,706.02	40.09	42.54	-76.50	737.57	-1,517.50	2,196.77	2,120.36	76.41	28.751		
7,300.00	7,263.12	6,910.88	6,801.45	40.59	43.22	-76.63	737.61	-1,538.37	2,217.58	2,140.11	77.47	28.623		
7,400.00	7,363.12	7,008.57	6,896.89	41.10	43.90	-76.75	737.66	-1,559.24	2,238.40	2,159.86	78.54	28.499		
7,500.00	7,463.12	7,106.26	6,992.33	41.60	44.58	-76.88	737.70	-1,580.11	2,259.24	2,179.63	79.61	28.378		
7,600.00	7,563.12	7,203.95	7,087.76	42.11	45.26	-77.00	737.74	-1,600.98	2,280.08	2,199.40	80.68	28.260		
7,700.00	7,663.12	7,301.64	7,183.20	42.61	45.95	-77.11	737.79	-1,621.85	2,300.94	2,219.18	81.75	28.145		
7,800.00	7,763.12	7,399.33	7,278.63	43.12	46.63	-77.23	737.83	-1,642.72	2,321.80	2,238.97	82.83	28.032		
7,900.00	7,863.12	7,497.03	7,374.07	43.63	47.31	-77.35	737.88	-1,663.58	2,342.67	2,258.77	83.90	27.923		
8,000.00	7,963.12	7,594.72	7,469.51	44.14	47.99	-77.46	737.92	-1,684.45	2,363.55	2,278.58	84.97	27.816		
8,100.00	8,063.12	7,692.41	7,564.94	44.65	48.67	-77.57	737.96	-1,705.32	2,384.44	2,298.39	86.05	27.711		
8,200.00	8,163.12	7,790.10	7,660.38	45.16	49.36	-77.68	738.01	-1,726.19	2,405.34	2,318.22	87.12	27.609		
8,300.00	8,263.12	7,887.79	7,755.82	45.67	50.04	-77.78	738.05	-1,747.06	2,426.24	2,338.05	88.20	27.510		
8,400.00	8,363.12	7,985.48	7,851.25	46.18	50.72	-77.89	738.09	-1,767.93	2,447.15	2,357.88	89.27	27.413		
8,500.00	8,463.12	8,083.18	7,946.69	46.69	51.40	-77.99	738.14	-1,788.80	2,468.07	2,377.73	90.35	27.318		
8,600.00	8,563.12	8,180.87	8,042.13	47.20	52.09	-78.09	738.18	-1,809.67	2,489.00	2,397.58	91.42	27.225		
8,700.00	8,663.12	8,278.56	8,137.56	47.71	52.77	-78.19	738.22	-1,830.54	2,509.94	2,417.44	92.50	27.134		
8,800.00	8,763.12	8,376.25	8,233.00	48.23	53.45	-78.29	738.27	-1,851.41	2,530.88	2,437.30	93.58	27.045		
8,900.00	8,863.12	8,473.94	8,328.43	48.74	54.14	-78.39	738.31	-1,872.28	2,551.83	2,457.17	94.66	26.958		
9,000.00	8,963.12	8,571.63	8,423.87	49.25	54.82	-78.48	738.35	-1,893.15	2,572.79	2,477.05	95.74	26.873		
9,100.00	9,063.12	8,669.32	8,519.31	49.77	55.50	-78.57	738.40	-1,914.02	2,593.75	2,496.93	96.82	26.790		
9,200.00	9,163.12	8,767.01	8,614.75	50.28	56.18	-78.66	738.45	-1,934.89	2,614.71	2,516.81	97.90	26.707		
9,300.00	9,263.12	8,864.70	8,710.19	50.79	56.86	-78.75	738.50	-1,955.76	2,635.68	2,536.70	98.98	26.624		
9,347.69	9,310.81	9,466.62	9,310.81	51.05	59.90	-78.90	738.56	-1,989.78	2,610.43	2,508.10	102.33	25.510		
9,400.00	9,363.12	9,500.00	9,344.19	51.32	60.05	-78.89	738.87	-1,989.78	2,610.56	2,507.80	102.77	25.403		
9,500.00	9,463.12	9,550.00	9,394.02	51.83	60.26	-77.82	742.69	-1,989.82	2,612.17	2,508.71	103.46	25.248		
9,600.00	9,562.49	9,600.00	9,443.34	52.36	60.48	-77.61	750.84	-1,989.90	2,613.53	2,509.18	104.35	25.047		
9,700.00	9,658.61	9,650.00	9,491.76	52.89	60.69	-77.67	763.26	-1,990.02	2,613.01	2,507.95	105.06	24.871		
9,800.00	9,748.56	9,700.00	9,538.91	53.39	60.89	-78.00	779.85	-1,990.19	2,610.65	2,505.00	105.65	24.710		
9,900.00	9,829.61	9,750.00	9,584.43	53.87	61.08	-78.59	800.49	-1,990.40	2,606.56	2,500.37	106.18	24.548		
10,000.00	9,899.29	9,800.00	9,627.98	54.33	61.26	-79.41	825.02	-1,990.64	2,600.94	2,494.19	106.75	24.365		
10,100.00	9,955.49	9,850.00	9,669.23	54.79	61.43	-80.45	853.25	-1,990.92	2,594.10	2,486.68	107.42	24.150		
10,200.00	9,996.50	9,912.21	9,716.86	55.29	61.62	-81.79	893.21	-1,991.32	2,586.36	2,478.08	108.27	23.888		

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	Local Co-ordinate Reference:	Well 6H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	GL + KB @ 3292.00usft (Patterson 815)
Reference Site:	HH SO 8 5 Fed 003	MD Reference:	GL + KB @ 3292.00usft (Patterson 815)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	OH	Database:	Compass 5000 GCR
Reference Design:	Plan 1 06-16-17	Offset TVD Reference:	Reference Datum

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



Phoenix Technology Services LP

Anticollision Report

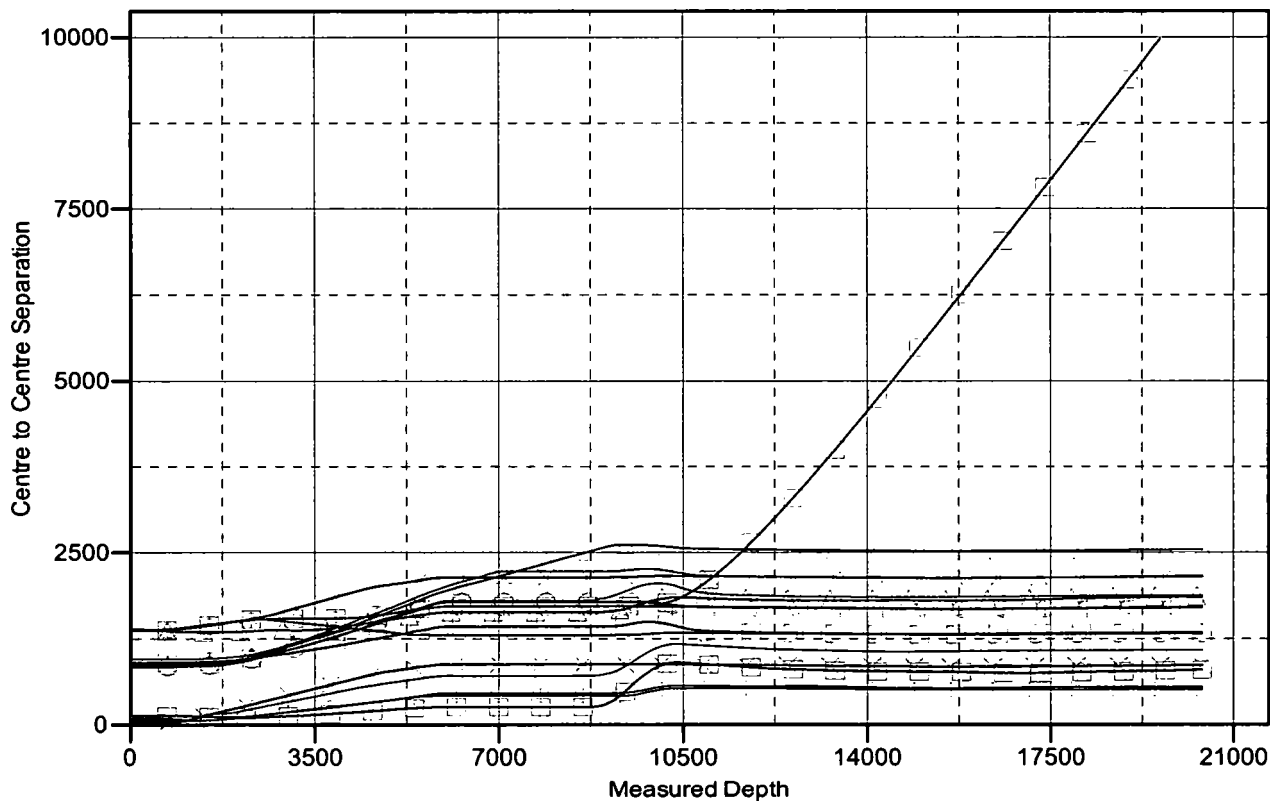


Company: Chevron
Project: Eddy County, NM (NAD27 NME)
Reference Site: HH SO 8 5 Fed 003
Site Error: 0.00 usft
Reference Well: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 @ 3292.00usft (Patterson 815) Coordinates are relative to: 6H
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°

Ladder Plot



LEGEND

- | | | |
|---|-----------------------------|--|
| 27H, OH, Plan 2 11-17-16 V0 | 11H, OH, Plan 1 11-01-16 V0 | 6HC, OH / Job #61219, Plan 3 06-09-17 V0 |
| 5HC, OH / Job #61218, Plan 3 06-09-17 V0 | 19H, OH, Plan 2 11-17-16 V0 | 4H, OH, Plan 1 06-16-17 V0 |
| 22HA, OH / Job #61217, Plan 4 06-09-17 V0 | 2H, OH, Plan 1 06-16-17 V0 | 5H, OH, Plan 1 06-16-17 V0 |
| 14HD, ST01 / Job #61221, Plan 4 06-09-17 V0 | 3H, OH, Plan 1 06-16-17 V0 | 1H, OH, Plan 1 06-16-17 V0 |
| 14HD, OH / Job #61221, Plan 3 05-10-17 V0 | 28H, OH, Plan 2 11-17-16 V0 | 20H, OH, Plan 2 11-17-16 V0 |

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: 6H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan 1 06-16-17

Local Co-ordinate Reference: Well 6H
TVD Reference: GL + KB @ 3292.00usft (Patterson 815)
MD Reference: GL + KB @ 3292.00usft (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 @ 3292.00usft (Patterson 815) Coordinates are relative to: 6H

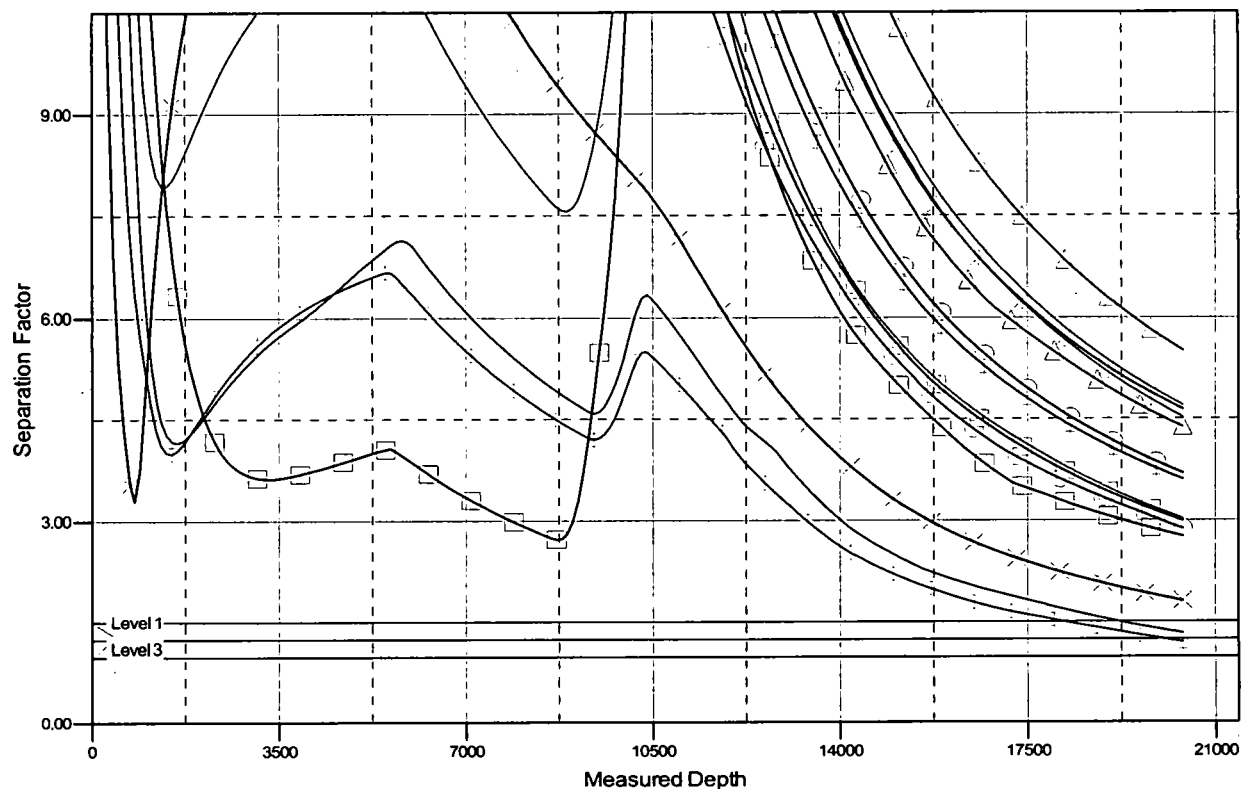
Offset Depths are relative to Offset Datum

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°

Separation Factor Plot



LEGEND

- | | | |
|---|-------------------------------|--|
| ▲ 27H, OH, Plan 2 11-17-16 V0 | ● 11H, OH, Plan 1 11-01-16 V0 | ● 6HC, OH / Job #61219, Plan 3 06-09-17 V0 |
| ✕ 5HC, OH / Job #61218, Plan 3 06-09-17 V0 | ■ 19H, OH, Plan 2 11-17-16 V0 | ● 4H, OH, Plan 1 06-16-17 V0 |
| ▲ 22HA, OH / Job #61217, Plan 4 06-09-17 V0 | ▲ 2H, OH, Plan 1 06-16-17 V0 | ✕ 5H, OH, Plan 1 06-16-17 V0 |
| ● 14HD, ST01 / Job #61221, Plan 4 06-09-17 V0 | ● 3H, OH, Plan 1 06-16-17 V0 | ■ 1H, OH, Plan 1 06-16-17 V0 |
| ■ 14HD, OH / Job #61221, Plan 3 05-10-17 V0 | ● 28H, OH, Plan 2 11-17-16 V0 | ● 20H, OH, Plan 2 11-17-16 V0 |

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

APD ID: 10400014951

Submission Date: 07/12/2017

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

HH_SO_8_5_FED_003_6H_Road_Plat_07-12-2017.pdf

Existing Road Purpose: 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 that 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_6H_New_Road_Plat_20180713065011.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: Ditching will be constructed on both sides of road.

New road access plan or profile prepared? NO

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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: 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.

Access miscellaneous information:

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_6H_1_Mile_07-10-2017.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 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

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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_6H_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.):

New water well casing?

Used casing source:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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.

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 in 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

Reserve pit liner specifications and installation description

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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_6H_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-210, S-335, 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_6H_Reclamation_07-10-2017.pdf

HH_SO_8_5_FED_003_6H_Cut_Fill_07-10-2017.pdf

HH_SO_8_5_FED_003_6H_APD_SUP_07-12-2017.pdf

HH_SO_8_5_FED_003_6H_Fac_Layout_07-12-2017.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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:

Seed harvest description attachment:

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003

Well Number: 6H

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	
Seed Type	Pounds/Acre

Total 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: 6H

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

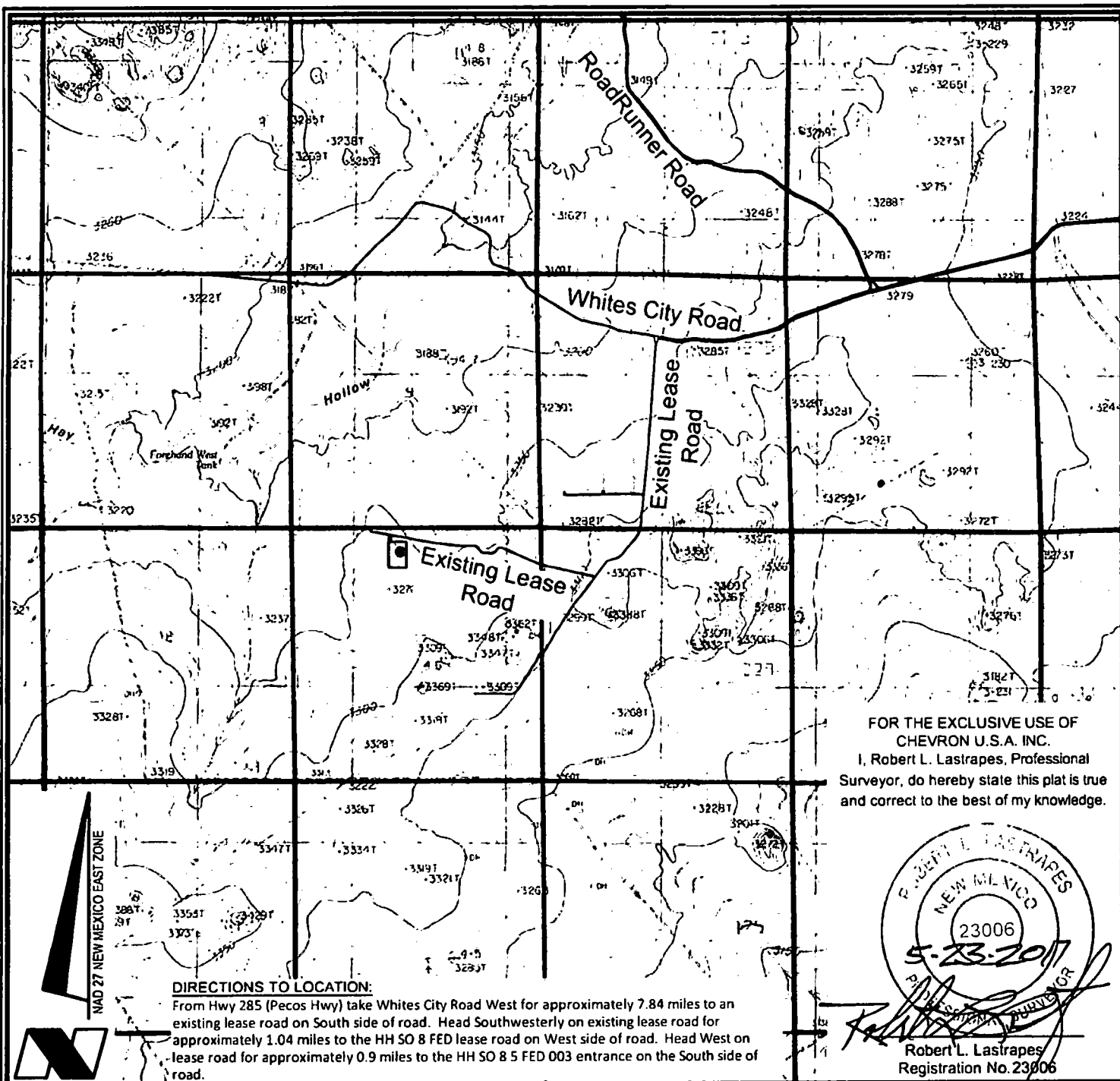
ROW Applications

SUPO Additional Information:

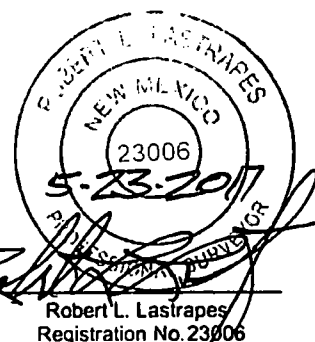
Use a previously conducted onsite? YES

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

Other SUPO Attachment



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.



DIRECTIONS TO LOCATION:

From Hwy 285 (Pecos Hwy) take Whites City Road West for approximately 7.84 miles to an existing lease road on South side of road. Head Southwesterly on existing lease road for approximately 1.04 miles to the HH SO 8 FED lease road on West side of road. Head West on lease road for approximately 0.9 miles to the HH SO 8 5 FED 003 entrance on the South side of road.

ROAD PLAT

SCALE: 1" = 3000'

3000' 0 1500' 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. 6H WELL
LOCATED 504' FNL AND 2,310' 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 6H_Road Plat_041217.dwg			

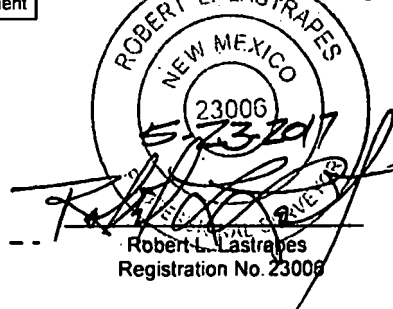
HH SO 8 5 FED 003 NO. 6H
WELL
X= 537,306 NAD 27
Y= 381,302
LAT. 32.048256
LONG. 104.212926
X= 578,490 NAD83
Y= 381,359
LAT. 32.048378
LONG. 104.213420
ELEVATION +3264' NAVD 88

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



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

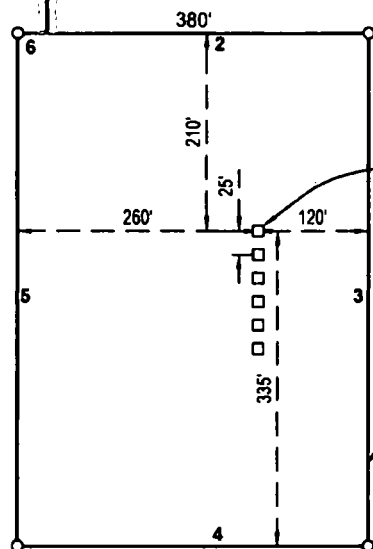
T
26
S

Sec. 17

Bureau of Land Management
Proposed Pad- ±4.75 Acres

HH SO 8 5 FED 003
No. 6H Well
504' FNL
2,310' 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. 6H 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 6H_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:

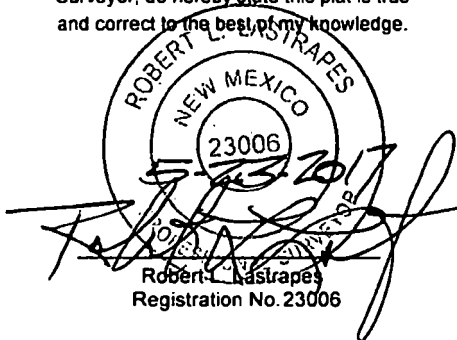
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards,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



PAGE 2 OF 2

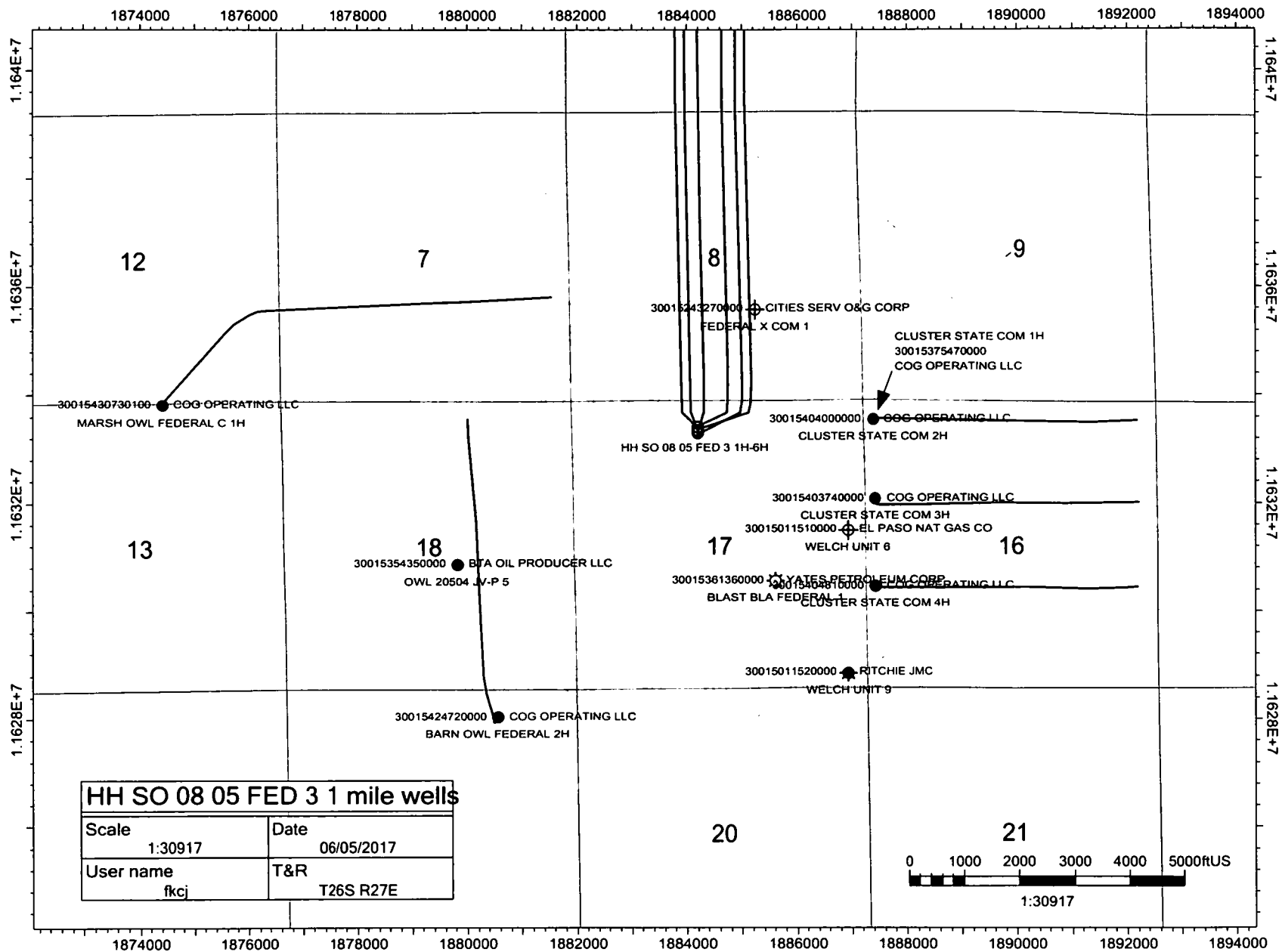
WELL PLAT

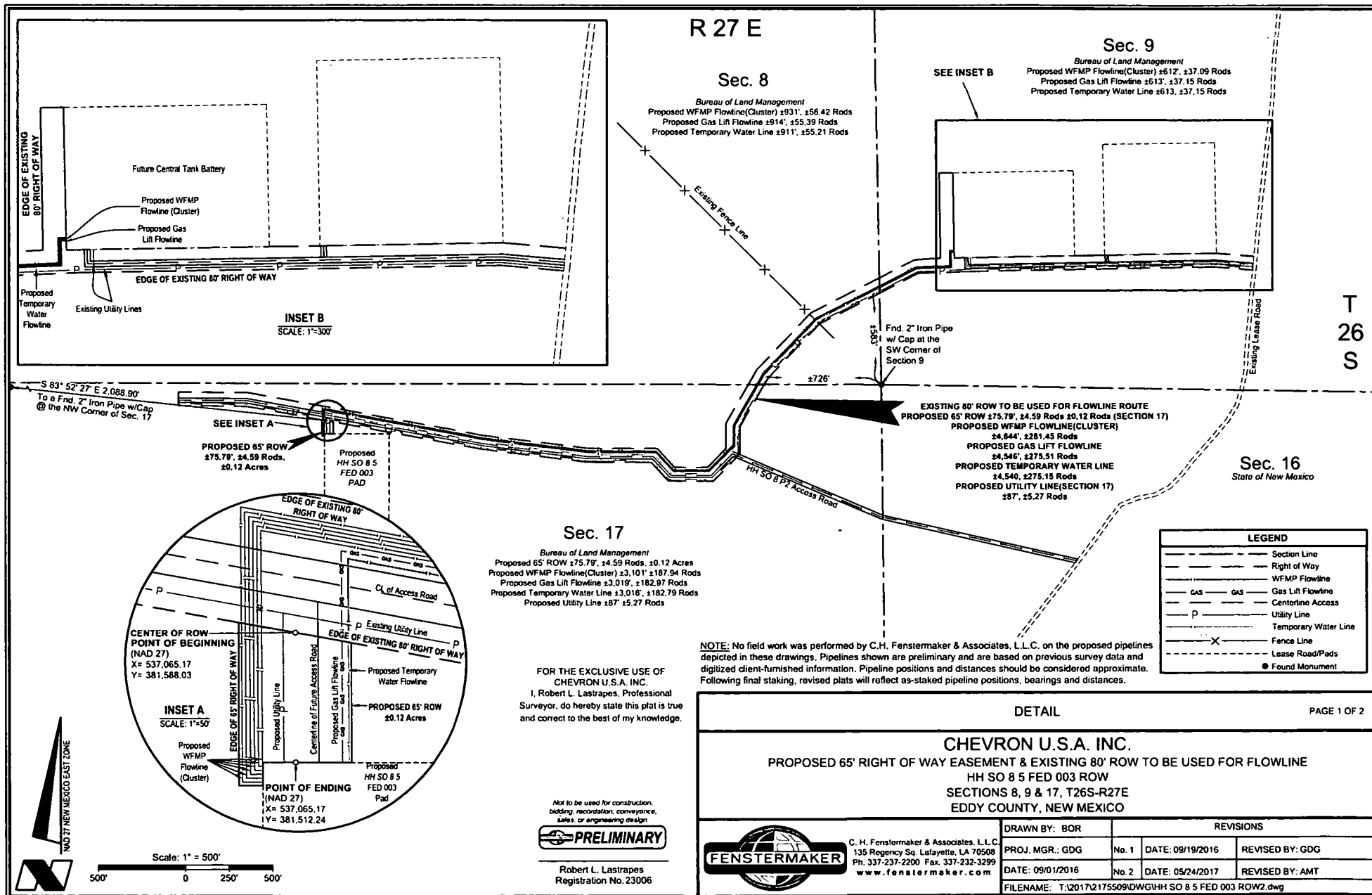
CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 6H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO



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 6H_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.

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, relocation, 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					

HH SO 8 5 FED 003 NO. 6H
WELL

X= 537,306 NAD 27
Y= 381,302
LAT. 32.048256
LONG. 104.212926
X= 578,490 NAD83
Y= 381,359
LAT. 32.048378
LONG. 104.213420

NW PAD CORNER

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

ELEVATION +3266' NAVD 88

NE PAD CORNER

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

ELEVATION +3257' NAVD 88

SW PAD CORNER

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

ELEVATION +3273' NAVD 88

SE PAD CORNER

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

ELEVATION +3269' NAVD 88

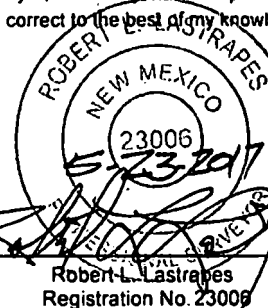
LEGEND

- 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. 6H Well
504' FNL
2,310' FWL

PROPOSED PAD
±4.75 Acres

Scale: 1" = 200'

200' 0 100' 200'

PAGE 1 OF 2

WELL PLAT

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 6H 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 6H_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:

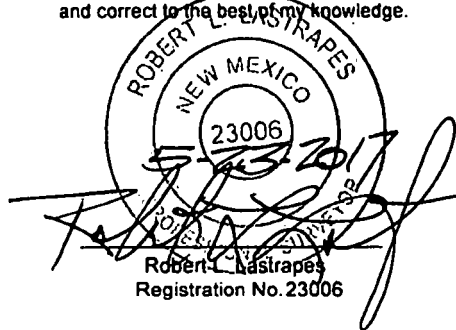
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards,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



PAGE 2 OF 2

WELL PLAT

CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 6H 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 6H_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 Y= 381,512	X= 537,426 NAD 27 Y= 381,511
ELEVATION +3266' NAVD 88	ELEVATION +3257' NAVD 88
SW PAD CORNER	SE PAD CORNER
X= 537,045 NAD 27 Y= 380,967	X= 537,425 NAD 27 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.

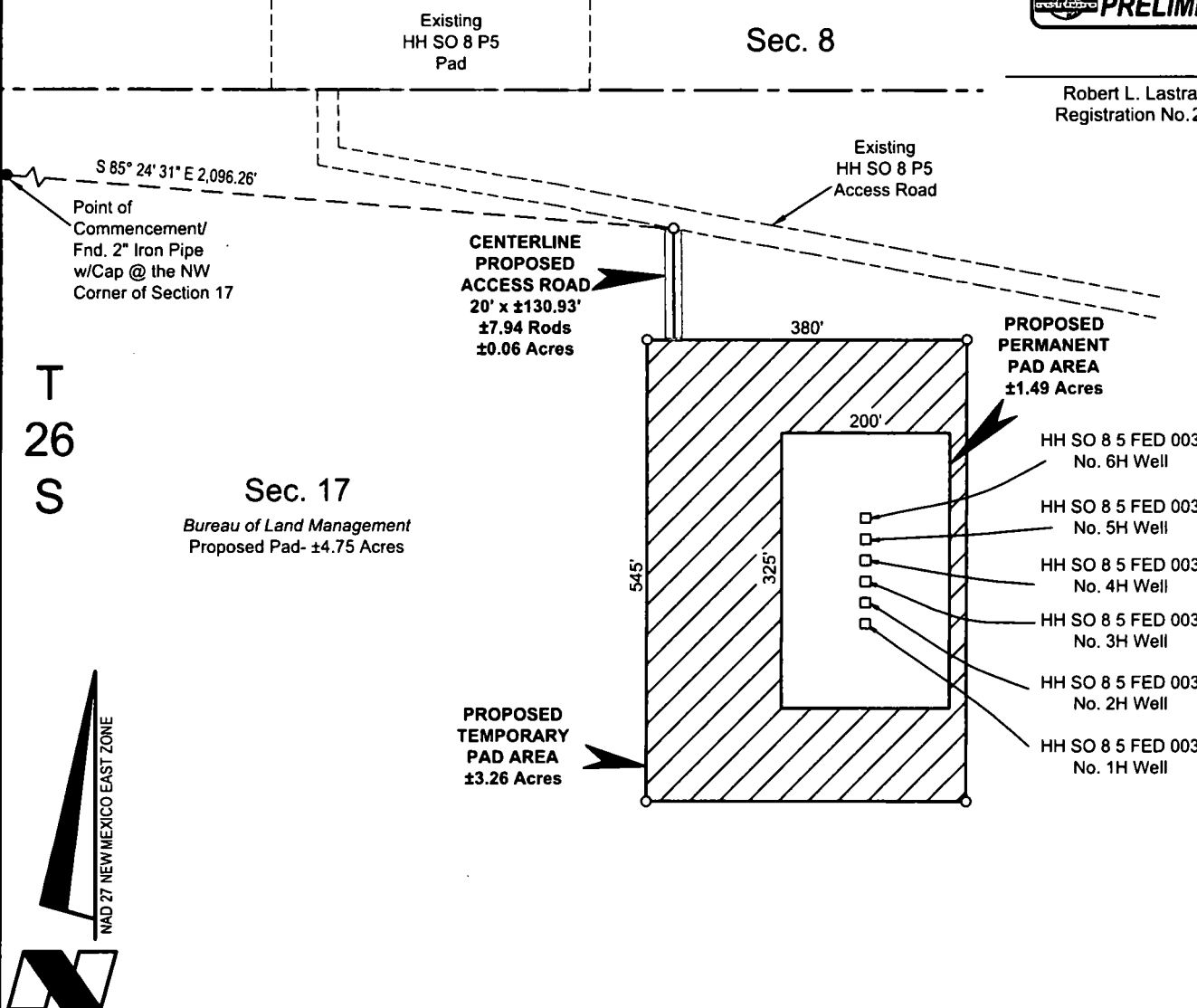
Not to be used for construction,
 bidding, recordation, conveyance,
 sales, or engineering design.

PRELIMINARY

R 27 E

Sec. 8

Robert L. Lastrapes
 Registration No. 23006



PAGE 1 OF 2

WELL PLAT

Scale: 1" = 200'
 200' 0 100' 200'

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

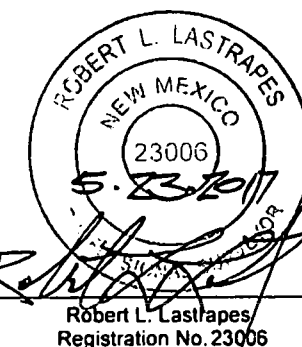
PAD DESIGN TABLE

PT	NATURAL GROUND ELEV.	DESIGN ELEV.	CUT / FILL
A	3265.65	3266.42	0.77
B	3260.74	3266.42	5.68
C	3257.22	3266.42	9.20
D	3261.81	3266.42	4.51
E	3269.35	3266.42	-2.93
F	3272.96	3266.42	-6.54
G	3272.75	3266.42	-6.33
H	3269.02	3266.42	-2.60
I	3263.85	3266.42	2.57
J	3264.63	3266.42	1.79
K	3265.32	3266.42	1.10
L	3265.72	3266.42	0.70
M	3266.21	3266.42	0.21
N	3266.83	3266.42	-0.41

Sec. 17

Bureau of Land Management

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.



CUT & FILL PLAT

PAGE 1 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:

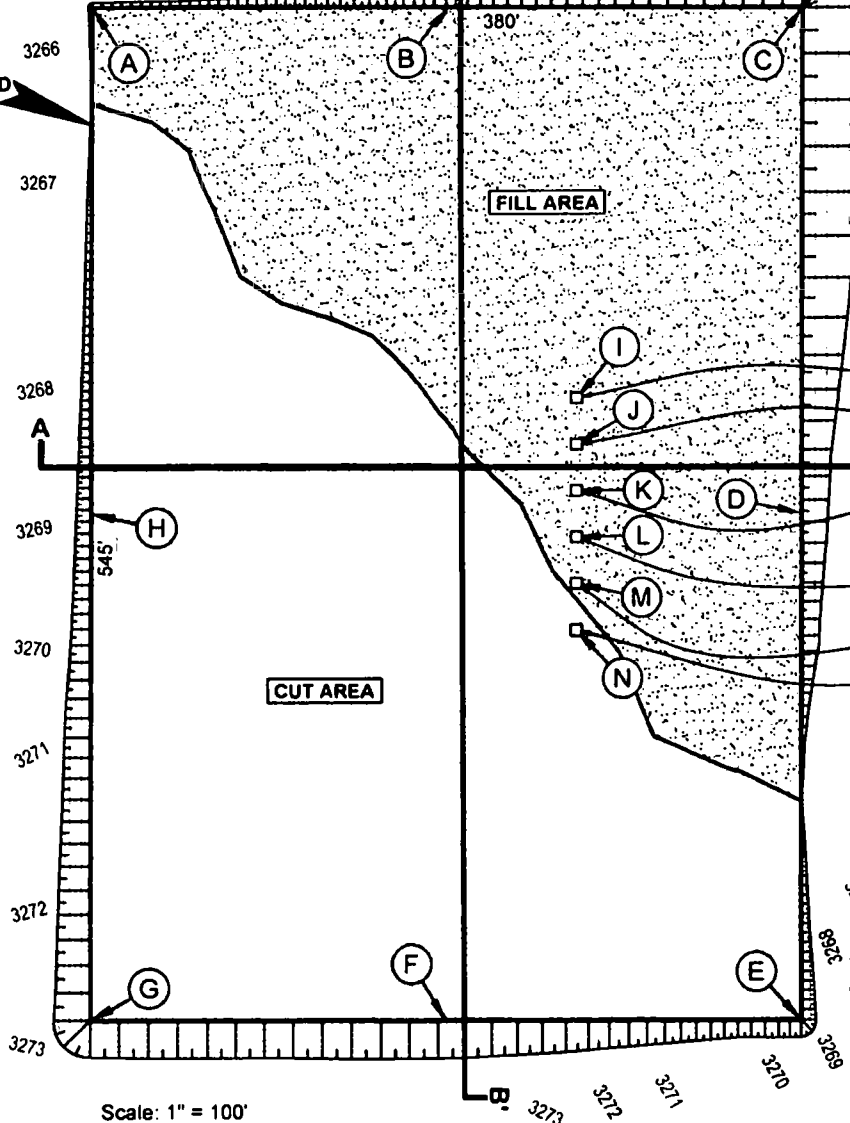
REVISED BY:

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

T
26
S

R 27 E

PROPOSED PAD
±4.75 Acres



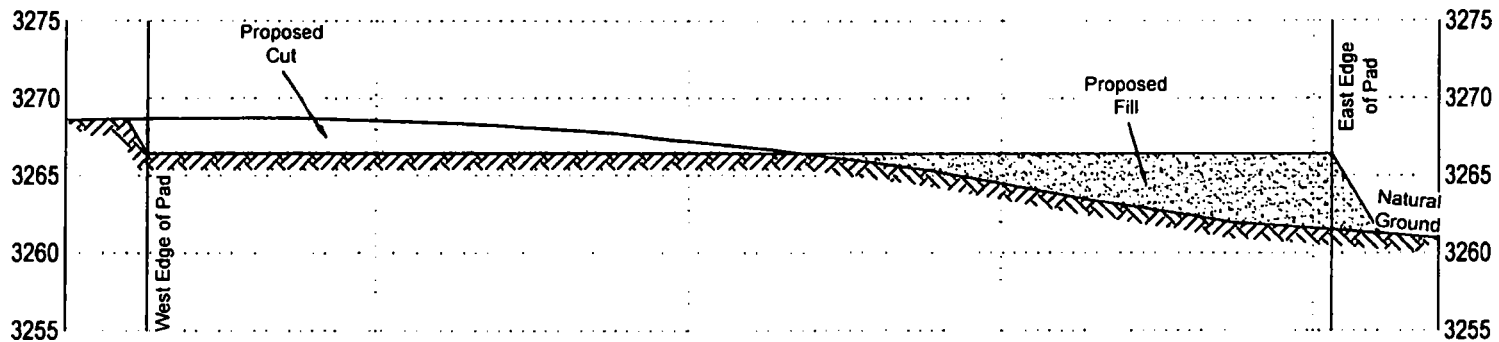
Scale: 1" = 100'



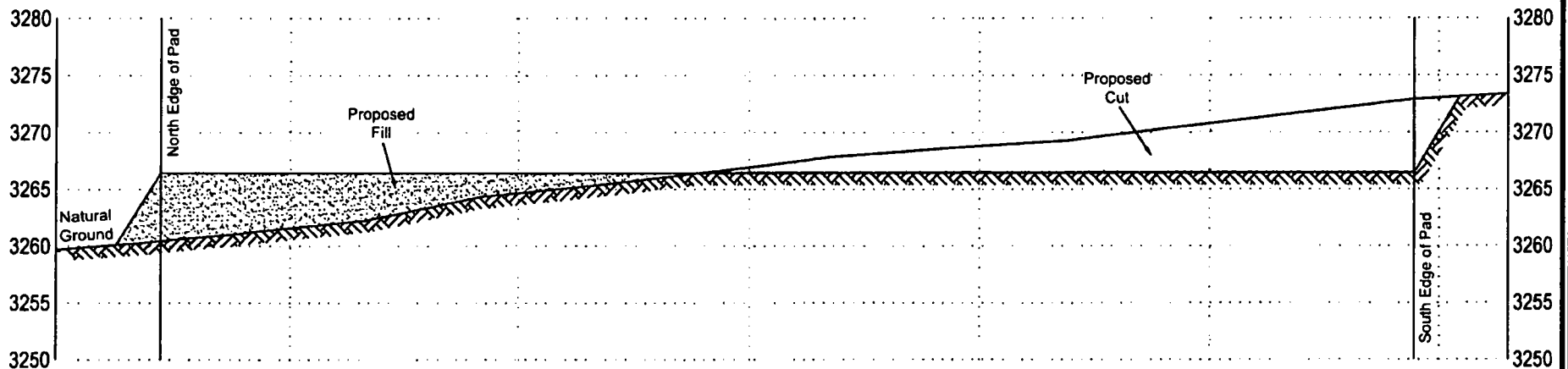
C H Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

CUT VOLUME = 14,211.49 Cu Yd
FILL VOLUME = 14,211.51 Cu Yd
NET VOLUME = 0.01 Cu Yd Fill

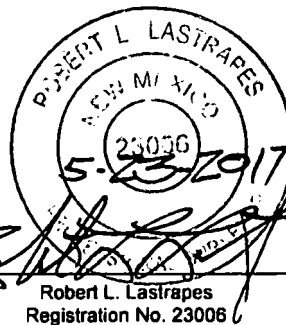
CROSS SECTION A-A'



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

CUT & FILL PLAT

PAGE 2 OF 3

CHEVRON U.S.A. INC.

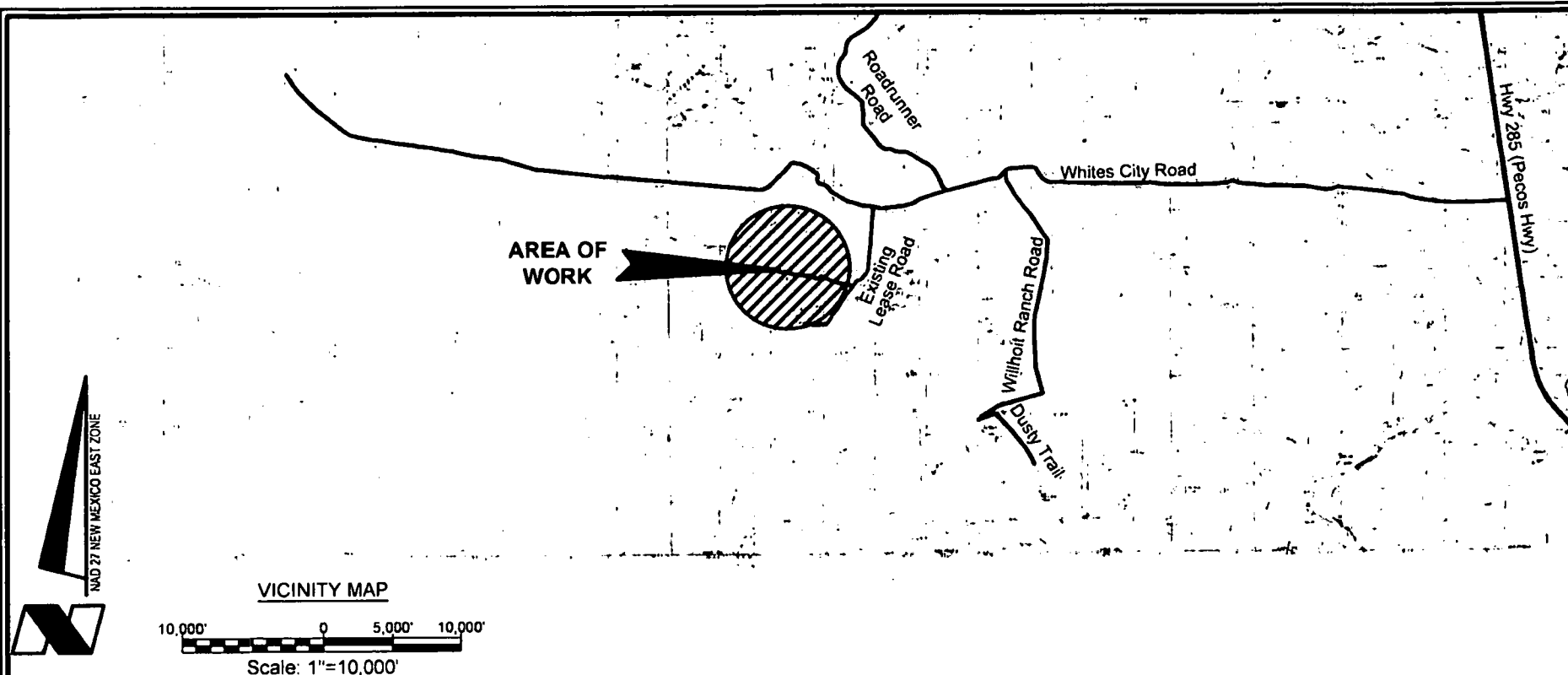
PROPOSED PAD

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.nmonecall.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

CHEVRON U.S.A. INC.

HH SO 8 5 FED 003 6H

NMNM 118108

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

SHL 504' FNL & 2310' FWL

BHL 280' FNL & 2430' FEL

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

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 6H
NMNM 118108
SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E
SHL 504' FNL & 2310' FWL BHL 280' FNL & 2430' FEL

Construction Materials (MDP SUPO 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-210', S-335', 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 6H
NMNM 118108
SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E
SHL 504' FNL & 2310' FWL BHL 280' FNL & 2430' FEL

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 6H

NMNM 118108

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

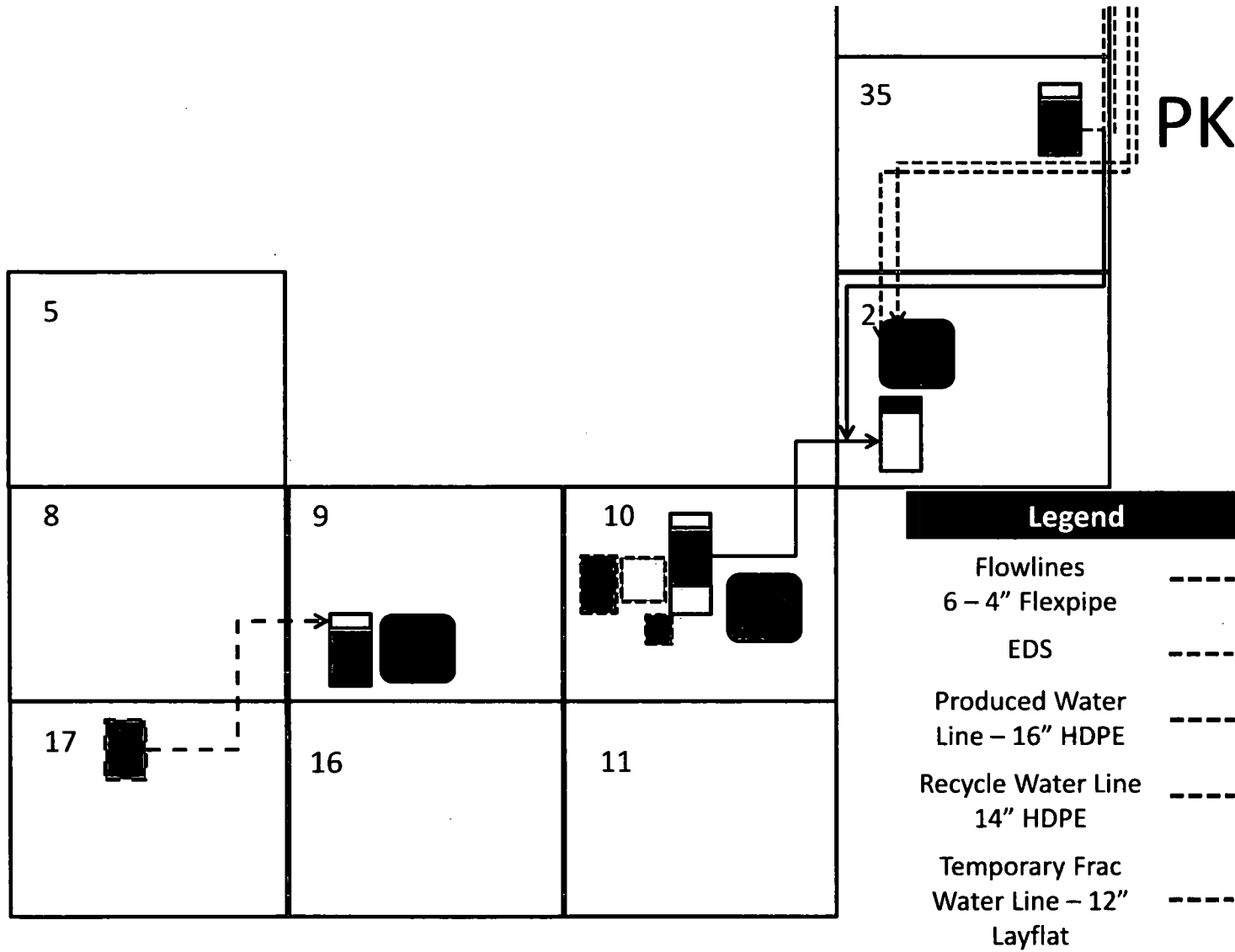
SHL 504' FNL & 2310' FWL

BHL 280' FNL & 2430' FEL

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

Legend

Flowlines

6 – 4" Flexpipe

EDS

Produced Water Line – 16" HDPE

Recycle Water Line 14" HDPE

Temporary Frac Water Line – 12" Layflat

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





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: