

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.	
2. Name of Operator		9. API Well No. 30-015-53781	
3a. Address		3b. Phone No. (include area code) 10. Field and Pool, or Exploratory	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area	
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		16. No of acres in lease	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		17. Spacing Unit dedicated to this well	
19. Proposed Depth		20. BLM/BIA Bond No. in file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		22. Approximate date work will start*	
23. Estimated duration		24. Attachments	
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)			
1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM.	
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Date	
Office		Date	
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)



Approval Date: 04/28/2023

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

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

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

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-53781	² Pool Code 98220	³ Pool Name PURPLE SAGE (WOLFCAMP)
⁴ Property Code 334030	⁵ Property Name BLUE STEEL 21 WD FED COM	⁶ Well Number 11H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 2995'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	28	23S	29E		1420	NORTH	938	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	16	23S	29E		100	NORTH	1650	EAST	EDDY

¹² Dedicated Acres 640.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
			NSL Required

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 647506.95' / Y: 477578.03' B - X: 650146.73' / Y: 477587.62' C - X: 650153.81' / Y: 466951.26' D - X: 647475.03' / Y: 466934.71'	CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 606323.97' / Y: 477518.36' B - X: 608963.74' / Y: 477527.94' C - X: 608970.52' / Y: 466891.83' D - X: 606291.75' / Y: 466875.28'	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: Date: 04/22/2020 Printed Name: Melissa Szudera E-mail Address: mszudera@marathonoil.com
	LAST TAKE POINT/BOTTOM HOLE LOCATION 100' FNL 1650' FEL, SECTION 16 NAD 83, SPCS NM EAST X: 648496.52' / Y: 477481.62' LAT: 32.31219315N / LON: -103.98646622W NAD 27, SPCS NM EAST X: 607313.53' / Y: 477421.95' LAT: 32.31207126N / LON: -103.98597402W		
	FIRST TAKE POINT 100' FSL 1669' FEL, SECTION 21 NAD 83, SPCS NM EAST X: 648484.34' / Y: 467040.95' LAT: 32.28349368N / LON: -103.98661493W NAD 27, SPCS NM EAST X: 607301.06' / Y: 466981.52' LAT: 32.28337154N / LON: -103.98612382W		
	KICK OFF POINT 100' FSL 1669' FEL, SECTION 21 NAD 83, SPCS NM EAST X: 648484.34' / Y: 467040.95' LAT: 32.28349368N / LON: -103.98661493W NAD 27, SPCS NM EAST X: 607301.06' / Y: 466981.52' LAT: 32.28337154N / LON: -103.98612382W		
SURFACE HOLE LOCATION 1420' FNL 938' FEL, SECTION 28 NAD 83, SPCS NM EAST X: 649222.37' / Y: 465525.85' LAT: 32.27932236N / LON: -103.98424272W NAD 27, SPCS NM EAST X: 608039.04' / Y: 465466.46' LAT: 32.27920018N / LON: -103.98375183W			18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 7, 2018 Date of Survey Signature and Seal of Professional Surveyor: Certificate Number LLOYD P. SHORT 21653

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State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: April 29, 2020

☒ Original

Operator & OGRID No.: MARATHON OIL PERMIAN, LLC 372098

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Blue Steel 21 WD Fed Com 17H		H-28-T23S-R29E	1420' FNL 878' FEL	5200	Flared	
Blue Steel 21 WD Fed Com 16H		H-28-T23S-R29E	1420' FNL 908' FEL	5200	Flared	
Blue Steel 21 WD Fed Com 11H		H-28-T23S-R29E	1420' FNL 938' FEL	5200	Flared	
Blue Steel 21 WD Fed Com 24H		H-28-T23S-R29E	1419' FNL 968' FEL	5200	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility has a split connection dedicated to Sendero and Lucid and will be connected to Sendero & Lucid's low pressure gathering systems located in Eddy County, New Mexico. It will require about 1 mile of pipeline to connect the facility to low pressure gathering system. Marathon provides (periodically) to Sendero and Lucid a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Marathon, Sendero, and Lucid have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Sendero's Processing Plant located in Section 31, Township 23S, Range 28E, Eddy County, NM and Lucid's Processing Plant Located in Section 32, Township 23S, Range 28E, Eddy County, NM. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Sendero's and/or Lucid's system at that time. Based on current information, it is Marathon's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



MARATHON OIL COMPANY

**BLUE STEEL 21 FED COM
WD: 24H, 11H, 16H & 17H**

SHL Section 28, T-23S, R-29E
BHL Section 16, T-23S, R-29E

EDDY County, New Mexico

Rig: PRECISION 582

9/26/2018

**EMERGENCY MEDICAL PROCEDURES
DO NOT PANIC
REMAIN CALM-THINK**

1. HOLD YOUR BREATH. (DO NOT INHALE, STOP BREATHING)
2. PUT ON BREATHING APPARATUS. (NOTE: DO NOT ATTEMPT RESCUE UNTIL YOU HAVE PUT ON BREATHING APPARATUS.)
3. REMOVE VICTIM (S) TO FRESH AIR AS QUICKLY AS POSSIBLE.
4. BE SURE YOU HAVE MOVED VICTIM OUT OF CONTAMINATED AREA BEFORE REMOVING YOUR RESPIRATOR.
5. APPLY MOUTH-TO-MOUTH ARTIFICIAL RESPIRATION, WHICH IS MORE EFFECTIVE, WHILE SOMEONE ELSE GETS THE OXYGEN RESUSCITATOR. RENDER OXYGEN RESUSCITATION ONLY IF PORPERLY TRAINED IN ITS USE.
6. PROVIDE FOR PROMPT TRANSPORTATION TO HOSPITAL AND CONTUNUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.
7. HOSPITAL (S) OR MEDICAL FACILITIES NEED TO BE INFORMED BEFOREHAND, OF THE POSSIBILITY OF H2S GAS POISONING, NO MATTER HOW REMOTE THE POSSIBLITY IS.

Lea Regional Medical Center	(575)492-5000
5419 N Lovington Hwy, Hobbs, NM 88240	
AMBULANCE	911
FIRE DEPARTMENT- HOBBS, NM	(575) 397-9308
POLICE - HOBBS, NM	(575) 397-9265

8. NOTIFY EMERGENCY-ROOM PERSONEL THAT THE VICTIM (S) HAVE POSSIBLY BEEN EXPOSED TO H2S GAS POISONING.

**TOTAL SAFETY INC
1420 East Greene St.
Carlsbad, NM 88220**

THIS H2S DRILLING OPERATIONS PLAN WAS
PREPARED BY: Sean Chamblee
Strategic Account Manager
Cell: 713-703-6295

TOTAL SAFETY INC
1420 East Greene St
Carlsbad, NM 88220
Phone: 432-561-5049

H2S DRILLING OPERATIONS PLAN INDEX

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 - B. Directions to Well Site
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INTRODUCTION

H2S DRILLING OPERATIONS PLAN

This Drilling Operations Plan was written specifically for:

MARATHON OIL COMPANY
3122 NATIONAL PARKS HIGHWAY
CALRSBAD, NM 88220

Action Plan for Accidental Release of H2S

BLUE STEEL 21 FED COM
WD: 24H, 11H, 16H & 17H

EDDY COUNTY, NM

Information, provisions and practices, as set forth in this plan, may be subject to revision and/or updating.

9/26/2018

MARATHON OIL COMPANY
3122 NATIONAL PARKS HIGHWAY
CARLSBAD, NM 88220

**BLUE STEEL 21 FED COM
WD: 24H, 11H, 16H & 17H**

EDDY COUNTY, NM

Directions:

From the Marathon Office at 4111 Tidwell, Carlsbad, NM head south on Tidwell Rd toward US Hwy 285N for 0.2 miles. Turn left onto US Hwy 285S, heading south for 5.1 miles to NM-Hwy 31. Turn left onto NM-Hwy 31, heading east, for 7.7 miles to NM-Hwy 128E. Turn right onto NM-Hwy 128E, heading east, for 4.5 miles to Rawhide Road. Turn right onto Rawhide Road, heading south, for 4.1 miles to a caliche road. Turn right onto caliche road, heading west, for 3.6 miles to the proposed lease road for the BLUE STEEL 21 FED COM well pad location. Turn North onto said proposed lease road, heading north, for 41 feet entering the southwest corner of said well pad location.

GPS Coordinates: 32.28247880, -103.99480756

EDDY COUNTY, NEW MEXICO

PURPOSE OF PLAN: The purpose of this plan is to safeguard the lives of the public, contract personnel and company personnel in the event of equipment failure or disasters during drilling or completion operations in formations that may contain Hydrogen Sulfide Gas, H₂S.

As a precautionary measure, this Drilling Plan has been prepared to assure the safety of all concerned, should a disaster occur. However, the Oil Company Representative may have specified materials and practices for the drilling or completion of this well, which supercede the minimum requirements as outlined in this plan.

Definitions: For the purpose of this plan the following definitions are to be referred to:

Controlled Release – Any release that is planned and occurs during normal operations. A controlled release is managed per the procedures outlined in this section.

Uncontrolled Release – Any release that is unplanned and not immediately contained utilizing established shut-in procedures. An uncontrolled release is normally associated with a loss of well control.

SCBA – (Self Contained Breathing Apparatus) – A full-face mask respirator with a supplied positive pressure air source.

Donned SCBA – When it is required per this plan to “**don**” a SCBA, personnel will be 100% masked up and be on supplied breathing air.

SCBA On Person – When it is required per this plan to have SCBA “on person”, personnel will be required to wear the SCBA equipment - but not be masked up.

“Qualified Buddy” – Person who has been fit tested and is trained and is familiar with the requirements of donning an SCBA. This person will provide immediate assistance to another person who may be utilizing an SCBA or SkaPack in an IDLH atmosphere in the event of an emergency situation.

In Scope Personnel – Rig Personnel who will be working or otherwise present in potential H₂S release areas, including the rig floor, cellar, pits, and shaker areas. This would not include 3rd party contractors who do not have a function, besides evacuating the rig, during an emergency condition such as during a well control event or H₂S / LEL alarm. All qualified personnel that have a function to shut a well in during an emergency will be considered In-Scope per this plan

Out of Scope Personnel –. All personnel that are not in scope will be Out of Scope per the definition of this plan

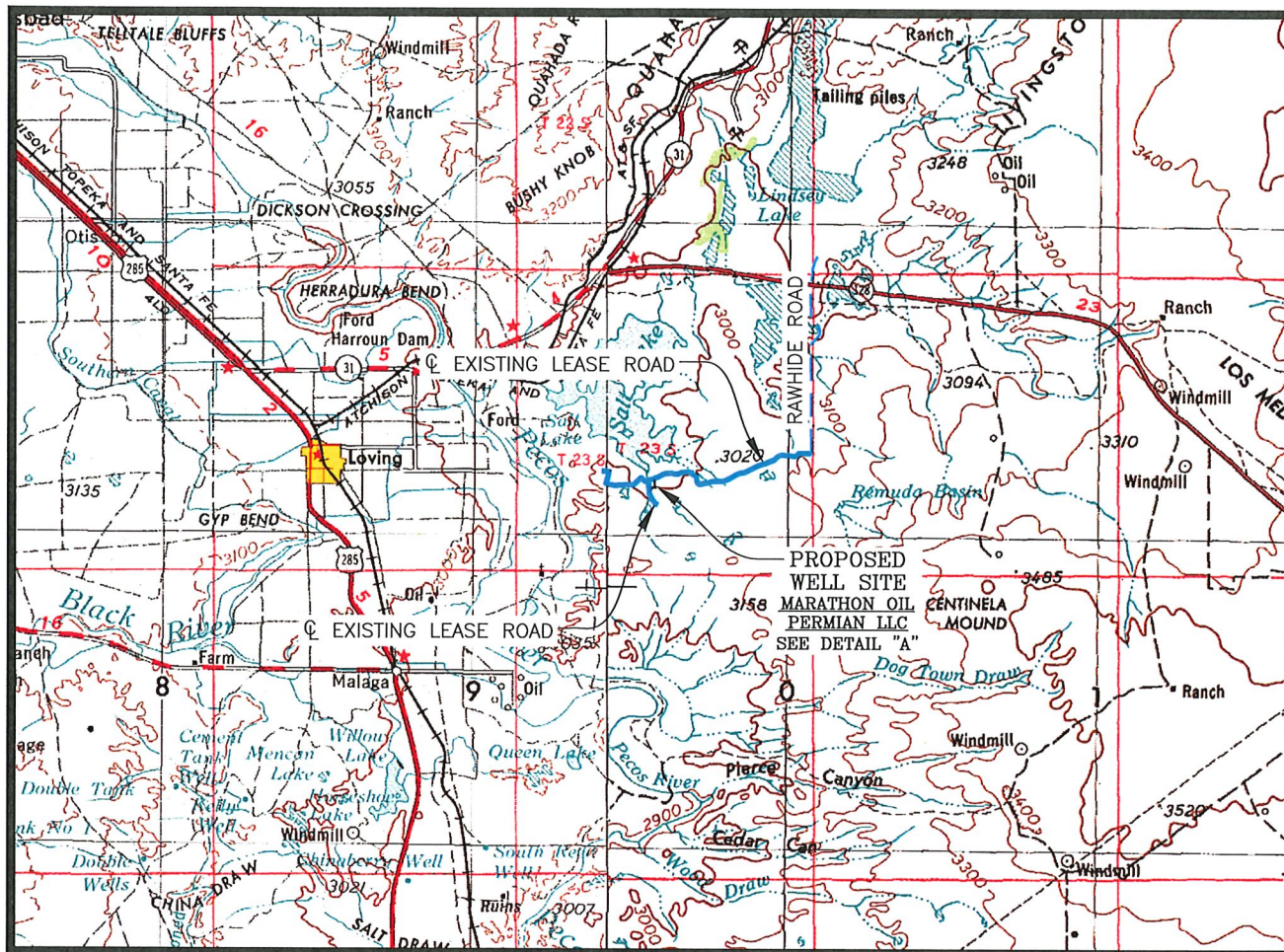
H₂S Office – Onsite office trailer space or vehicle that will be designated as the H₂S office

Marathon H2S Plan Custodian – Marathon HES Advisor, Supervisor or Technician that has been specifically assigned per the authorization page of this plan to maintain this document.

VICINITY AND EXISTING ROADS MAP

BLUE STEEL 21 FED COM
SEC. 28 TWP. 23-S RGE. 29-E
SURVEY: N.M.P.M.
COUNTY: EDDY

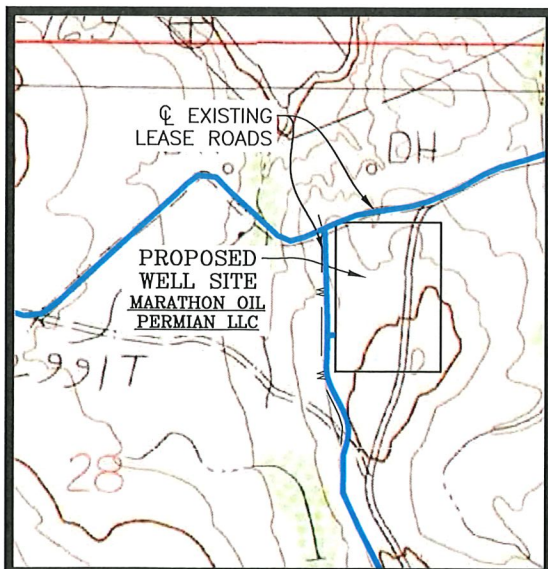
OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: REMUDA BASIN, N.M.



SCALE: 1" = 20,000'
CONTOUR INTERVAL = 100'

DIRECTIONS TO LOCATION:

FROM THE MARATHON OFFICE AT 4111 TIDWELL, CARLSBAD, NM HEAD SOUTH ON TIDWELL RD TOWARD US HWY 285 N FOR 0.2 MILES. TURN LEFT ONTO US HWY 285 S, HEADING SOUTH, FOR 5.1 MILES TO NM-HWY 31. TURN LEFT ONTO NM-HWY 31, HEADING EAST, FOR 7.7 MILES TO NM-HWY 128 E. TURN RIGHT ONTO NM-HWY 128 E, HEADING EAST, FOR 4.5 MILES TO RAWHIDE ROAD. TURN RIGHT ONTO RAWHIDE ROAD, HEADING SOUTH, FOR 4.1 MILES TO A CALICHE ROAD. TURN RIGHT ONTO CALICHE ROAD, HEADING WEST, FOR 3.6 MILES TO A PROPOSED LEASE ROAD. TURN LEFT ONTO PROPOSED LEASE ROAD, HEADING SOUTH FOR 0.2 MILES TO THE PROPOSED LEASE ROAD FOR THE BLUE STEEL 21 FED COM WA 14H-SB 13H-WXY 12H-WA 15H-SB 19H-WXY 18H WELL LOCATION PAD. TURN LEFT ONTO SAID PROPOSED LEASE ROAD FOR 41 FEET ENTERING THE WEST SIDE OF SAID WELL PAD LOCATION.



DETAIL A
N.T.S.

7	01/23/2020	JMT
REV.	DATE	BY

SHEET 7 OF 7

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3942_007

EXISTING ROAD MAP

BLUE STEEL 21 FED COM

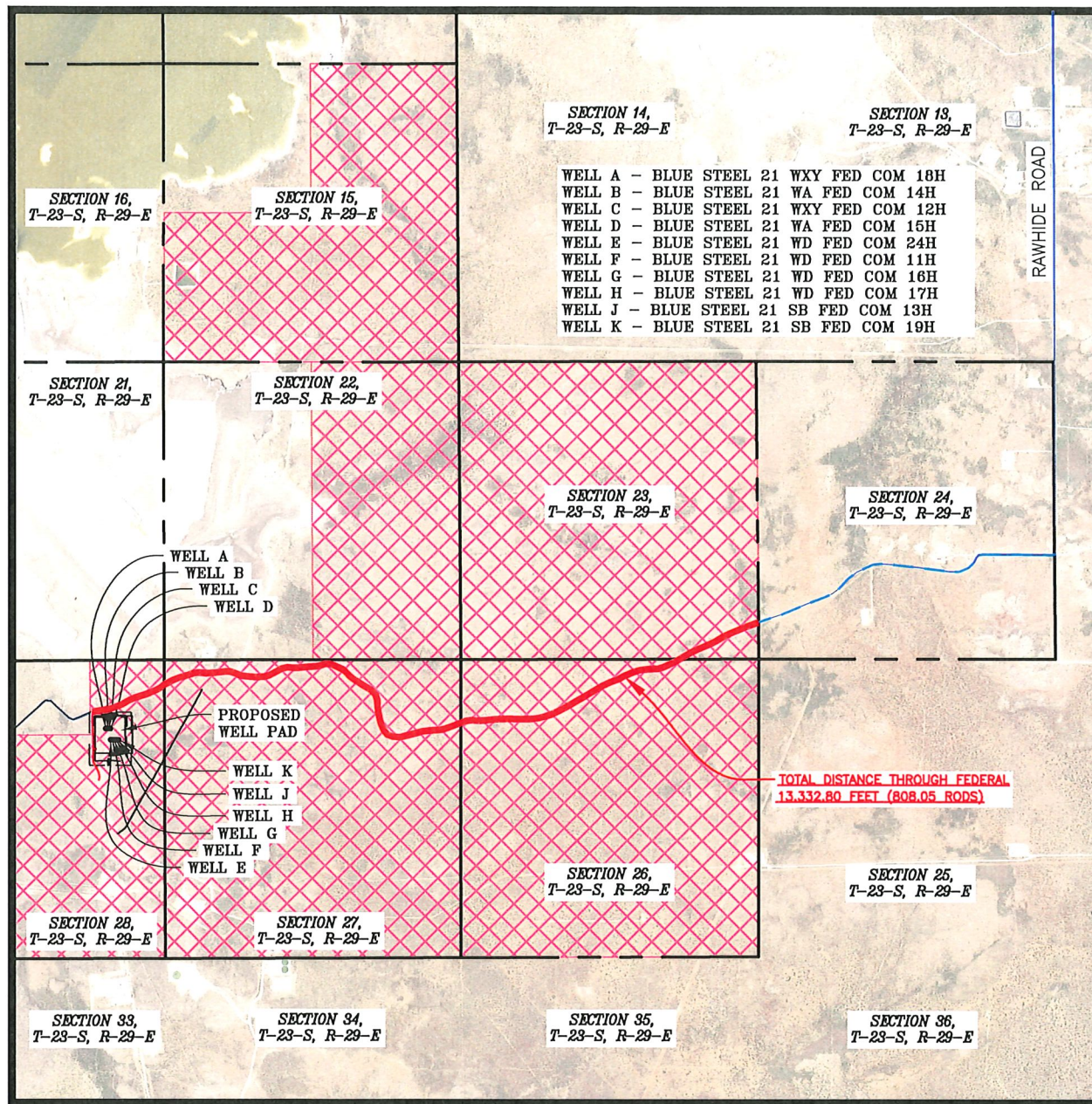
SEC. 28 TWP. 23-S RGE. 29-E

SURVEY: N.M.P.M.

COUNTY: EDDY

OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: REMUDA BASIN, N.M.



7	01/23/2020	JMT
REV.	DATE	BY

SCALE: 1" = 3,000'

LEGEND

PROPOSED WELL PAD

ARCH SURVEY LIMITS

EXISTING LEASE ROAD

EXISTING LEASE ROAD THROUGH FEDERAL

SECTION LINE

EXISTING PIPELINE

FEDERAL SURFACE

WELLS

SHEET 1 OF 7

PREPARED BY:
R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 518-323-6900 OFFICE
 JOB No. R3942_007

SAFETY EQUIPMENT

All H2S related Safety Equipment must be installed, tested and Operational at a depth of 500 feet above, or 3 days prior to penetrating the first zone expected to contain H2S.

SAFETY EQUIPMENT PROVIDED BY TOTAL SAFETY INC.

<u>QTY</u>	<u>EQUIPMENT</u>
6 each	30-minute self-contained breathing apparatus
6 each	ELSA Escape Packs
1 Lot	Sufficient low-pressure airline hose with quick connects
1	6 Channel fixed H2S monitor
4	H2S Sensors (Loc determined at rig up – General: Cellar, Shale Shaker, floor/driller area)
4	Explosion proof Alarm Station (1-Drill Floor, 1- Pits/Shakers, 1- Generators, 1 Quarters area)
10	Personal H2S Monitors
1	Gastec pump type gas detector
Set	Various range of H2s & SO2 detector tubes
2 each	Windsocks w/frames and poles
1 Set	H2S and briefing area signs
1 Set	Well condition signs and flags
1	Flare Gun & Flares

TYPE OF EQUIPMENT AND STORAGE LOCATIONS

1. There will be six 30-minute self-contained breathing apparatus on location. They will be positioned as follows: Two at Briefing Area #1 Two at Briefing Area #2, Two at rig dog house. SCBA Facepieces will be equipped with voice amplifiers for effective means of communication when using protective breathing apparatus.
2. There will be six Escape-type packs on location. One for the Derrickman. One on the Shaker. One at the bottom of rig dog house stairway and spares.
3. A Gastec, pump type, gas detector with low and high range detector tubes for H2S and SO2 will be located in the doghouse
4. Two Briefing Areas will be designated at opposite ends of the location.
5. The Briefing Area most upwind is designated as the Safety Briefing Area #1. In an emergency, personnel must assemble at this upwind area for instructions from their supervisor.
6. The H2S 'Safety' trailer provided by Total Safety, Inc. will contain a cascade system of at least 5 each -300 C.F. air cylinders that will provide a continuous air supply to air lines located on the rig. Note: This trailer will **Only** be provided if H2S conditions require the use of the Air Trailer. (If Required)
7. Two windsocks will be installed so as to be visible from all parts of the location.
8. A well condition warning sign will be displayed at the location entrance to advise of current operating conditions. The condition signs must be at least 200' from the entrance but not more than 500' away.
9. A list of emergency telephone numbers will be kept on rig floor, tool pusher's trailer, the Oil Company's trailer and in the "safety" trailer (if Provided).
10. The primary means of communication will be cell phones.

11. A barricade will be available to block the entrance to location should an emergency occur. In most cases the use of a vehicle is used to block the entrance.
12. A 6-channel H₂S monitor will be located in the doghouse. The 3 sensors will be installed: one on the shale shaker, one at the Cellar, one at the rig floor.
13. An undulating high and low pitch siren and light will be installed on the derrick "A" leg.
14. If H₂S concentration reach 10 ppm an explosion-proof bug blower (fan) will be installed under the rig floor to disperse possible accumulations of H₂S.
15. Any time it is necessary to flare gas containing H₂S, a Sulfur Dioxide monitor or Detector tubes will be used to determine SO₂ concentrations.
16. A flare gun with flares will also be provided in the event it is necessary to ignite the well from a safe distance.

OPERATING PROCEDURES

BLOWOUT PREVENTION MEASURES DURING DRILLING

1. Blowout Prevention Requirements:

All BOP equipment shall meet the American Petroleum Institute specifications as to materials acceptable for H₂S service and tested accordingly (or to BLM specifications).

2. Drilling String Requirements:

All drill string components are to be of material that meets the American Petroleum Institute's specifications for H₂S service. All drill string components should be inspected to IADC critical service specifications prior to running in well.

GAS MONITORING EQUIPMENT

1. A continuous H₂S detection system, consisting of three H₂S detectors and an audible/visual warning system will be in operating during all phases of this H₂S Drilling Operations Plan. The detection system will be adjusted and calibrated such that an H₂S exposure of 10 ppm or higher (at any sensor) will trigger the audible and visual portion (wailing or yelping siren) of the warning system (i.e. H₂S continually present at or above threshold levels) a trained operator or H₂S supervisor will monitor the H₂S detection system.

2. When approaching or completing H₂S formations, crewmembers may attach personnel H₂S monitors to their person.

3. Hand held H₂S sampling gas detectors will be used to check areas not covered by automatic monitoring equipment.

CREW TRAINING AND PROTECTION

1. All personal working at the well site will be properly trained in accordance with the general training requirements outlined in the API Recommended Practices for Safe Drilling of Wells Containing H2S. The training will cover, but will not be limited to, the following:

- a. General information of H2S AND SO2 GAS
- b. Hazards of these gases
- c. Safety equipment on location
- d. Proper use and care of personal protective equipment
- e. Operational procedures in dealing with H2S gas
- f. Evacuation procedures
- g. First aid, reviving an H2S victim, toxicity, etc.
- h. Designated Safe Briefing Areas
- i. Buddy System
- j. Regulations
- k. Review of Drilling Operations Plan

2. Initial training shall be completed when drilling reaches, a depth of 500' above or 3 days prior to penetrating (whichever comes first) the first zone containing or expected to contain H2S. It must also include a review of the site specific Drilling Operations Plan and, if applicable, the Public Protections Plan.

3. Weekly H2S and well control drills for all personnel on each working crew shall be conducted.

4. All training sessions and drills shall be recorded on the driller's log or its equivalent.

5. Safety Equipment:

As outlined in the Safety Equipment index, H2S safety protection equipment will be available to/or assigned each person on location.

6. One person (by job title) shall be designated and identified to all on-site personnel as the person primarily responsible for the overall operation of the on-site safety and training programs. This will be the PIC

METALLURGICAL CONSIDERATIONS

1. Steel drill pipe used in H₂S environments should have yield strength of 95,000psi or less because of potential embrittlement problems. Must conform to the current National Association of Corrosion Engineers (NACE) Standard MR-0175-90, Material Requirement, Sulfide Stress Cracking Resistant Metallic Material for Oil Field Equipment. Drill stem joints near the top of the drill string are normally under the highest stress levels during drilling and do not have the protection of elevated down hole temperatures. These factors should be considered in design of the drill string. Precautions should be taken to minimize drill string stress caused by conditions such as excessive dogleg severity, improper torque, whip, abrasive wear or tool joints and joint imbalance. American Petroleum Institute, Bulletin RR 7G, will be used as a guideline for drill string precautions.
2. Corrosion inhibitors may be applied to the drill pipe or to the mud system as an additional safeguard.
3. Blowout preventors should meet or exceed the recommendations for H₂S service as set forth in the latest edition of API RI 53.

MUD PROGRAM AND TREATING

1. It is of utmost importance that the mud be closely monitored for detection of H₂S and reliability of the H₂S treating chemicals.
2. Identification and analysis of sulfides in the mud and mud filtrates will be carried out per operators prescribed procedures.
3. The mud system will be pre-treated with Zinc Carbonate, Ironite Sponge or similar chemicals of H₂S control prior to drilling into the H₂S bearing formation. Sufficient quantities of corrosion inhibitor should be on location to treat the drill string during Drill Stem Test Operations. Additionally, Aqua Ammonia should be on hand to treat the drill string for crew protection, should H₂S be encountered while tripping string following drill stem testing

WELL CONTROL EQUIPMENT

1. Flare System
 - a. A flare system shall be designed and installed to safely gather and burn H₂S Bearing gas.
 1. Flare lines shall be located as far from the operating site as feasible and in a manner to compensate for wind changes.
 2. The flare line mouth shall be located not less then 150' from wellbore.
 3. Flare lines shall be straight unless targeted with running tees.
 4. Flare Gun & Flares to ignite the well
2. Remote Controlled Choke
 - a. A remote controlled choke shall be installed for all H₂S drilling and where feasible for completion operations. A remote controlled valve may be used in lieu of this requirement for completions operations.
3. Mud-gas separators and rotating heads shall be installed and operable for all exploratory wells.

OPERATING CONDITIONS

A Well Condition Sign and Flag will be posted on all access roads to the location. The sign shall be legible and large enough to be read by all persons entering the well site and be placed a minimum of 200' but no more than 500' from the well site which allows vehicles to turn around at a safe distance prior to reaching the site.

DEFINITION OF WARNING FLAGS

1. Condition:
GREEN-NORMAL OPERATIONS
Any operation where the possibility of encountering H₂S exists but no H₂S has been detected.
2. Condition:
YELLOW-POTENTIAL DANGER, CAUTION
Any operation where the possibility of encountering H₂S exists and in all situations where concentrations of H₂S are detected in the air below the threshold level (10ppm)
 - a. Cause of condition:
 - *Circulating up drill breaks
 - *Trip gas after trip
 - *Circulating out gas on choke
 - *Poisonous gas present, but below threshold concentrations
 - *Drill stem test
 - b. Safety Action:
 - *Check safety equipment and keep it with you
 - *Be alert for a change in condition
 - *Follow instructions
3. Condition:
RED-EXTREME DANGER
Presence of H₂S at or greater than 10ppm. Breathing apparatus must be worn.
 - a. Safety action:

*MASK UP. All personal will have protective breathing equipment with them. All nonessential personnel will move to the Safe Briefing Area and stay there until instructed to do otherwise. All essential Qualified Personnel, using the "Buddy System" (those necessary to maintain control of the well) will don breathing apparatus to perform operations related to well control.

The decision to ignite the well is the responsibility of the operator's on-site representative and should be made only as a last resort, when it is clear that:

- *human life is endangered
- *there is no hope of controlling the well under prevailing conditions

Order evacuation of local people within the danger zone. Request help from local authorities, State Police, Sheriff's Dept. and Service Representative.

CIRCULATING OUT KICK (WAIT AND WEIGHT METHOD)

If it is suspected that H₂S is present with the gas whenever a kick is taken, the wait and weight method of eliminating gas and raising the mud will be followed.

1. Wait and Weight Method:

a. The wait and Weight Method is:

- *increase density of mud in pits to 'kill' weight mud.
- *open choke and bring pump to initial circulating pressure by holding casing pressure at original valve until pump is up to predetermined speed.
- *when initial circulating pressure is obtained on drill pipe, zero pump stroke counter and record time.
- *reduce drill pipe pressure from initial circulating pressure to final circulating pressure by using pump strokes and/or time according to graph
- *when 'kill' weight mud is at the bit, hold final circulating pressure until kill weight mud is to surface.

b. If a kick has occurred, the standard blowout procedure will be followed and the wait and weight method will be used to kill the well. When the well has been put on the choke and circulation has been established, the following safety procedure must be established.

- *determine when gas is anticipated to reach surface.

- *all non-essential personnel must be moved to safe briefing area
- *all remaining personnel will check out and keep with them their protective breathing apparatus.
- *mud men will see that the proper amount of H₂S scavenging chemical is in the mud and record times checked
- *make sure ignition flare is burning and valves are open to designated flare stacks

CORING OPERATIONS IN H₂S BEARING ZONES

1. Personal protective breathing apparatus will be worn from 10 to 15 stands in advance of retrieving the core barrel. Cores to be transported should be sealed and marked to the presence of H₂S.
 - a. Yellow Caution Flag will be flown at the well condition sign.
 - b. The "NO SMOKING" rule will be enforced

DRILL STEM TESTING OF H₂S ZONES

1. The DST subsurface equipment will be suitable for H₂S service as recommended by the API
2. Drill stem testing of H₂S zone will be conducted in daylight hours
3. All non-essential personnel will be moved to an established safe area or off location
4. The "NO SMOKING" rule will be enforced
5. DST fluids will be circulated through a remote controlled choke and a separator to permit flaring of gas. A continuous pilot light will be used.
6. A yellow or red flag will be flown at entrance to location depending on present gas condition
7. If warranted, the use of Aqua Ammonia for neutralizing the toxicity of H₂S from drill string
 - a. During drill stem tests adequate Filming Amine for H₂S corrosion and Aqua Ammonia for neutralizing H₂S should be on location.
8. On completion of DST, if H₂S contaminated formation fluids or gases are present in drill string, floor workers will be masked up before test valve is removed from drill string and continue "mask

on” conditions until such time that readings in the work area do not exceed 10ppm of H₂S gas.

EMERGENCY PROCEDURES

SOUNDING ALARM

In case of an alarm the crews will muster up at the designated area. Total Safety will be dispatched with (2) HES Techs who are to go in under protective breathing air and check the alarm readings and sniff ambient air for the presence of H₂S.

By no means are the Co. Rep or HES Advisor to go in under air with the HES Tech. If there is another method in place where the Rig Manager is to go in with the Tech we need to ensure that the rig company has cleared them and that they are properly trained.

1. The fact is to be instilled in the minds of all rig personnel that the sounding alarm means only one thing: H₂S IS PRESENT. Everyone is to proceed to his assigned station and the contingency plan is put into effect.

DRILLING CREW ACTIONS

1. All personnel will don their protective breathing apparatus. The driller will take necessary precautions as indicated in operating procedures.
2. The Buddy system will be implemented. All personnel will act upon directions from the operator's on-site representative.
3. If there are non-essential personnel on location, they will move off location.
4. Entrance to the location will be patrolled, and the proper well condition flag will be displayed at the entrance to the location.

RESPONSIBILITIES OF PERSONNEL

In order to assure the proper execution of this plan, it is essential that one person be responsible for and in complete charge of implementing these procedures. The responsibility will be as follows:

1. The operator's on-site representative or his assistant
2. Contract Tool Pusher

STEPS TO BE TAKEN

In the event of an accidental release of a potentially hazardous volume of H₂S, the following steps will be taken:

1. Contact by the quickest means of communications: the main offices of Oil Company & Contractor as listed on the preceding page.
2. An assigned crewmember will blockade the entrance to the location. No unauthorized personnel will be allowed entry into the location.
3. The operator's on-site representative will remain on location and attempt to regain control of the well.
4. The drilling company's rig superintendent will begin evacuation of those persons in immediate danger. He will begin by telephoning residents in the danger zone. In the event of no contact by telephoning, the tool pusher will proceed at once to each dwelling for a person-to-person contact. In the event the tool pusher cannot leave the location, he will assign a responsible crewmember to proceed in the evacuation of local residents. Upon arrival, the Sheriff's Department and TOTAL SAFETY personnel will aid in further evacuation.

LEAK IGNITION

Leak Ignition procedure: (used to ignite a leak in the event it becomes necessary to protect the public)

1. Two men, the operator's on-site representative and the contractor's rig superintendent or TOTAL SAFETY's representative(s), wearing self-contained pressure demand air masks must determine the perimeter of the flammable area. This should be done with one man using an H₂S detector and the other one using a flammable gas detector. The flammable perimeter should be established at 30% to 40% of the lower flammable limits.
2. After the flammable perimeter has been established and all employees and citizens have been removed from the area, the ignition team should move to the up-wind area of the leak perimeter and fire a flare into the area if the leak isn't ignited on the first attempt, move in 20 to 30 feet and fire again. Continue moving in and firing until the leak is ignited or the flammable gas detector indicates the ignition

team is moving into the hazardous area. If trouble is incurred in igniting the leak by firing toward the leak, try firing 40 degrees to 90 degrees to each side of the area where you have been firing. If still no ignition is accomplished ignite the copper line burner and push it into the leak area. This should accomplish ignition. If ignition is not possible due to the makeup of the gas, the toxic leak perimeter must be established and maintained to insure evacuation is completed and continue until the emergency is secure.

3. The following equipment and man-power will be required to support the ignition team:
 - a. one flare gun with flares
 - b. four pressure demand air packs
 - c. two nylon ropes tied to the ignition team
 - d. two men in a clear area equipped with air packs
 - e. portable propane bottle with copper line
4. The person with the final authority to ignite the well.

GENERAL EQUIPMENT

1. Two areas on the location will be designated as Briefing Areas. The one that is upwind from the well will be designated a the "Safe Briefing Area"
2. In the case of an emergency, personnel will assemble in the upwind area as per prior instructions from the operator's representative.
3. The H2S "Safety" trailer provide by TOTAL SAFETY will contain 10 air cylinders, a resuscitator, one 30-minute air pack and will have a windsock.
4. Two other windsocks will be installed.
5. A condition warning sign will be displayed at the location entrance.
6. A list of emergency telephone numbers will be kept on the rig floor, tool pusher's trailer and the Oil Company's trailer.
7. Two barricades will be available to block the entrance to location.
8. An undulating high and low pitch siren will be installed.
9. A telephone line or mobile phone will be available at the well site for incoming and outgoing communications.

CRITICAL OPERATIONS

These guidelines will be implemented during H2S alarms on drilling locations with the intent of minimizing catastrophic damage of “**critical tasks**” ONLY and exposure of field personnel (e.g. cement in the stack).

We will wait on Total Safety (or H2S Safety Company) for all other alarm events that aren't defined as “critical”.

- 1.) H2S alarm sounds, crews secure well, and muster based off of wind direction. MOC Operation, MOC Safety, and H2S service company notification will be made and representative from the H2S Service Company is in route to location.
- 2.) Two qualified in scope personnel will don SCBA, utilizing the "buddy system", and respond to area of H2S alarm location to verify the presence of H2S utilizing hand held four gas analyzer or other approved and provided method.
- 3.) If no H2S is found, the “all clear” will be authorized by the Marathon Oil Drilling Superintendent and HES to resume operations. H2S service company will still be required to respond.

Note: Personnel will return to muster area awaiting H2S service company and additional equipment if H2S is verified.

Note: Personnel will be trained annually on H2S and the elements of this guideline. The MOC HES Advisor and Co Man will receive hands on training from a H2S service company field tech, on how to properly identify the location of the alarming sensor, and the proper method for checking the alarmed area.

APPENDICES

EMERGENCY & MEDICAL FACILITIES:

Marathon Oil Corporation Emergency Numbers

Brent Evans	Drilling Manager	blevans@marathonoil.com	832 967-8474
Mark Bly	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467
Chad Butler	Drilling Superintendent	permiansuper@marathonoil.com	281-840-0467
Jacob Beaty	Drilling Engineer	jabeaty@marathonoil.com	713-296-1915
Noah Adams	HES Professional	njadams@marathonoil.com	713-591-4068
Nick Rogers	Lead HES Advisor	permianndches@marathonoil.com	281-659-3734
Scott Doughty	Lead HES Advisor	permianndches@marathonoil.com	281-659-3734
H&P 480	Company Man	Hp480@marathonoil.com	281-768-9946
H&P 498	Company Man	Hp498@marathonoil.com	281-745-0771
H&P 441	Company Man	Hp441@marathonoil.com	
H&P 423	Company Man	Hp423@marathonoil.com	
PRECISION 594	Company Man		
H&P 480	HES Advisor	Hp480hes@marathonoil.com	
H&P 498	HES Advisor	Hp498hes@marathonoil.com	
H&P 441	HES Advisor	HP441hes@marathonoil.com	
H&P 423	HES Advisor	Hp423hes@marathonoil.com	
PRECISION 594	HES Advisor		

Emergency Services Area Numbers: Or Call 911

Sheriff (Eddy County, NM)	575-887-7551	New Mexico Poison Control	800-222-1222
Sheriff (Lea County, NM)	575-396-3611	Border Patrol (Las Cruces, NM)	575-528-6600
New Mexico State Police	575-392-5580/5588	Energy Minerals & Natural Resources Dept.	575-748-1283
Carlsbad Medical Center	575-887-4100	Environmental Health Dept.	505-476-8600
Lea Regional Medical Center	575-492-5000	OSHA (Santa Fe, NM)	505-827-2855
Police (Carlsbad, NM)	575-885-2111		
Police (Hobbs, NM)	575-392-9265		
Fire (Carlsbad, NM)	575-885-3124		
Fire (Hobbs, NM)	575-397-9308		
Ambulance Service	911	TOTAL SAFETY H2S – SAFETY SERVICES	432-561-5049

1. For Life Flight, 1st dial “911” They will determine nearest helicopter and confirm the need for helicopter.

RESIDENTS AND LANDOWNERS

RESIDENCE

THERE ARE NO RESIDENCE WITHIN ANY RADIUS OF EXPOSURE.



ADDITIONAL INFORMATION

A. HYDROGEN SULFIDE ESSAY

A deadly enemy of those people employed in the petroleum industry, this gas can paralyze or kill quickly. At least part of the answer lies in education in the hazards, symptoms, characteristics, safe practices, treatment, and the proper use of personal protective equipment.

B. HYDROGEN SULFIDE HAZARDS

The principal hazard to personnel is asphyxiation or poisoning by inhalation. Hydrogen Sulfide is a colorless, flammable gas having an offensive odor and a sweetish taste. It is highly toxic and doubly hazardous because it is heavier than air (specific gravity = 1.19). It's offensive odor, like that of a rotten egg, has been used as an indicator by many old timers in the oil field, but is not a reliable warning of the presence of gas in a dangerous concentration because people differ greatly in their ability to detect smells. Where high concentrations are encountered, the olfactory nerves are rapidly paralyzed, diluting the sense of smell as a warning indicator. A concentration of a few hundredths of one percent higher than that causing irritation can cause asphyxia and death—in other words there is a very narrow margin between consciousness and unconsciousness, and between unconsciousness and death.

Where high concentrations cause respiratory paralysis, spontaneous breathing does not return unless artificial respiration is applied. Although breathing is paralyzed the heart may continue beating for ten minutes after the attack.

C. PHYSIOLOGICAL SYSTEMS

ACUTE: results in almost instantaneous asphyxia, with seeming respiratory paralysis acute poisoning, or strangulation, may occur after even a few seconds inhalation of high concentration and results in panting respiration, pallor, cramps, paralysis and almost immediate loss of consciousness with extreme rapidity from respiratory and cardiac paralysis. One breath of a sufficiently high concentration may have this result.

SUBACUTE: RESULTS IN IRRITATION, PRINCIPALLY OF THE EYES, PERSISTENT COUGH, TIGHTENING OR BURNING IN THE CHEST AND SKIN IRRITATION FOLLOWS BY DEPRESSION OF THE CENTRAL NERVOUS SYSTEM. The eye irritation ranges in severity from mild conjunctivitis to swelling and bulging of the conjunctiva photophobia (abnormal intolerance of light) and temporary blindness.

D. TREATMENT

1. Victim should be removed to fresh air immediately by rescuers wearing respiratory protective equipment. Protect yourself while rescuing.
2. If the victim is not breathing, begin immediately to apply artificial respiration. (See other chart for the chances for life after breathing has stopped.) If a resuscitator is available let another employee get it and prepare for use.
3. Treat for shock, keep victim warm and comfortable
4. Call a doctor, in all cases, victims of poisoning should be attended by a physician.

E. CHARACTERISTICS OF H₂S

1. Extremely Toxic (refer to chart for toxicity of Hydrogen Sulfide).
2. Heavier than air. Specific gravity= 1.19.
3. Colorless, has odor of rotten eggs.
4. Burns with a blue flame and produces sulfur Dioxide (SO₂) gas, which is very irritating to eyes and lungs. The SO₂ is also toxic and can cause serious injury.
5. H₂S is almost as toxic as hydrogen cyanide.
6. H₂S forms explosive mixture, with air between 4.3% and 46% by volume.
7. Between 5 and 6 times as toxic as carbon monoxide.
8. Produces irritation to eyes, throat, and respiratory tract.
9. Threshold Limit Value (TLV) maximum of eight hours exposure without protective respiratory equipment-10ppm.

F. SAFE PRACTICES

If you are faced with an H₂S problem in your operations, the following safe practices are recommended:

1. Be absolutely sure all concerned are familiar with the hazards concerning H₂S and how to avoid it.
2. All employees should know how to operate and maintain respiration equipment.
3. Be able to give and demonstrate artificial respiration.
4. Post areas where there is poisonous gas with suitable warning signs.
5. Be sure all new employees are thoroughly schooled before they are sent to the field-tomorrow may be too late.
6. Teach men to avoid gas whenever possible-work on the windward side, have fresh air mask available.
7. Never let bad judgment guide you-wear respiratory equipment when gauging tanks, etc. Never try to hold your breath in order to enter a contaminated atmosphere.
8. In areas of high concentration, a two-man operation is preferred.
9. Never enter a tank, cellar or other enclosed place where gas can accumulate without proper respiratory protective equipment and a safety belt secured to a lifeline held by another person outside.
10. Always check out danger areas first with H₂S detectors before allowing anyone to enter. DO NOT TRY TO DETERMINE THE PRESENCE OF GAS BY its ODOR.
11. Wear proper respiratory equipment for the job at hand. Never take a chance with equipment with which you are unfamiliar. If in doubt, consult your supervisor.
12. Carry out practice drills every month with emergency and maintenance breathing air equipment. Telling or showing a group how to operate equipment is not enough-make them show you.
13. Maximum care should be taken to prevent the escape of fumes into the air of working places by leaks, etc.
14. Communication such as radio and telephones should be provided for those people employed where H₂S may be present.

TOXICITY OF HYDROGEN SULFIDE TO MEN

H ₂ S Per Cent (PPM)**	0 - 2 Minutes	0 - 15 Minutes	15 - 30 Minutes	30 Minutes to 1 hour	1 - 4 Hours	4 - 8 Hours	4 - 48 Hours
0.005 (50)				Mild Conjunctiv- ities; respiratory tract irritation			
0.010 (100)				Throat			
0.010 (100)		Coughing; irritation of eyes; loss of sense of smell	Disturbed respiration; pain in eyes; sleepiness		Salivation & mucous dis- charge; sharp pain in eyes; coughing	Increased symptoms*	Hemorrhage & death*
0.015 (150)					Difficult breathing; blurred vision; light & shy		
0.020 (200)		Loss of sense of smell	Throat & eye irritation	Throat & eye irritation	Serious irritating effects		Hemorrhage & death*
0.025 (250)					Hemorrhage & death		
0.035 (350)	Irritation of eyes; loss of sense of smell	Irritation of eyes	Painful secretion of tears; weariness	Light & shy; nasal catarrh; pain in eyes; difficult breathing			
0.035 (350)		Irritation of eyes; loss of sense of smell	Difficult respiration coughing; irritation of eyes	Increased irritation of eyes and nasal tract; dull pain head; weariness; light shy	Dizziness weak- ness; increased irritation; death	Death*	
0.050 (500)	Coughing collapse & unconscious- ness	Respiratory disturbances; irritation of eyes; collapse	Serious eye irritation; palpitation of heart; few cases of death*	Severe pain in eyes and head dizziness; trem- bling of extre- mities; great weakness & death*			
0.060 (600)	Collapse *	Collapse*					
0.070 (700)	unconscious-	unconscious-					
0.808 (800)	ness; death*	ness; death*					
0.100 (1000)							
0.150 (1500)							

*Data secured from experiments of dogs which have susceptibility similar to men. **PPM - parts per million

MARATHON OIL PERMIAN LLC
DRILLING AND OPERATIONS PLAN

BLUE STEEL 21 WD FED COM 11H

SEC. 28, TWP. 23S, RNG. 29E
EDDY COUNTY, NEW MEXICO

1. GEOLOGICAL FORMATIONS

Formation at Surface	Elevation
Permian	2995

Formation	TVD	MD	Elevation	Lithology	Mineral Resources	Producing Formation
Rustler	0	0	2995	Anhydrite	Brine	No
Salado	395	395	2600	Salt/Anhydrite	Brine	No
Castile	1025	1025	1970	Salt/Anhydrite	Brine	No
Base of Salt (BX)	3005	3005	-10	Salt/Anhydrite	Brine	No
Lamar	3005	3005	-10	Sandstone/Shale	None	No
Bell Canyon	3057	3057	-62	Sandstone	Oil	No
Cherry Canyon	3895	3895	-900	Sandstone	Oil	No
Brushy Canyon	5038	5038	-2043	Sandstone	Oil	No
Bone Spring Lime	6684	6684	-3689	Limestone	None	No
Upper Avalon Shale	6759	6759	-3764	Shale	Oil	Yes
1st Bone Spring Sand	7721	7721	-4726	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	8002	8002	-5007	Limestone	None	No
2nd Bone Spring Sand	8500	8500	-5505	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	8843	8843	-5848	Limestone	Oil	No
3rd Bone Spring Sand	9650	9650	-6655	Sandstone	Oil	Yes
Wolfcamp	9981	9981	-6986	Sandstone/Shale/Carbonates	Natural Gas/Oil	Yes
Wolfcamp A	10120	10120	-7125	Sandstone/Shale/Carbonates	Natural Gas/Oil	Yes
Wolfcamp B	10360	10360	-7365	Sandstone/Shale/Carbonates	Natural Gas/Oil	No
Wolfcamp C	10709	10709	-7714	Sandstone/Shale/Carbonates	Natural Gas/Oil	No
Wolfcamp D	11079	11079	-8084	Sandstone/Shale/Carbonates	Natural Gas/Oil	No

2. BLOWOUT PREVENTER TESTING PROCEDURE

BOP installed and tested before drilling which hole?	Size	Min. Required WP	Type	✓	Type
12 1/4	13 5/8	5000	Annular	x	70% of working pressure
			Blind Ram	x	5000
			Pipe Ram		
			Double Ram	x	
			Other*		
8 3/4	13 5/8	5000	Annular	x	70% of working pressure
			Blind Ram	x	5000
			Pipe Ram		
			Double Ram	x	
			Other*		
6 3/4	13 5/8	5000	Annular	x	70% of working pressure
			Blind Ram	x	5000
			Pipe Ram		
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.	

3. CASING PROGRAM

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	17 1/2	13 3/8	0	420	0	420	54.5	J55	STC	5.52	2.5	2.5
Intermediate I	12 1/4	9 5/8	0	3050	0	3048	36	J55	LTC	1.39	1.42	1.8
Intermediate II	8 3/4	7 5/8	0	10200	0	9974	33	P110	Wedge 523	3.12	1.16	2.37
Production	6 3/4	5 1/2	0	21331	0	10860	23	P110	Wedge	1.73	1.2	2.09

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
	Y or N
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
	Y or N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	

	Y or N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
	Y or N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
	Y or N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

4. CEMENT PROGRAM

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sx)	Yield (ft3/sx)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	220	177	1.73	13.5	306	100	Class C	LCM
Surface	Tail	--	220	420	209	1.33	14.8	278	100	Class C	N/A
Intermediate I	Lead	--	0	2050	508	2.21	12.8	1124	75	Class C	Extender, Accelerator
Intermediate I	Tail	--	2050	3050	353	1.33	14.8	470	50	Class C	Retarder
Intermediate II	Lead	--	2750	9200	343	3.21	11	1102	70	Class C	Viscosifier, Retarder
Intermediate II	Tail	--	9200	10200	114	1.15	13.8	131	30	Class H	Extender, Fluid Loss, Dispersant
Production	Lead	--	8200	10200	68	3.21	11	217	30	Class H	Extender, Retarder, Defoamer, Viscosifier, Fluid Loss
Production	Tail	--	10200	21331	991	1.22	14.5	1209	30	Class H	Retarder, Extender, Fluid Loss, Dispersant

Stage tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot Hole Depth: N/A TVD/MD

KOP: N/A TVD/MD

Plug Top	Plug Bottom	Excess (%)	Quantity (sx)	Density (ppg)	Yield (ft3/sx)	Water gal/sk	Slurry Description and Cement Type

Attach plugging procedure for pilot hole: N/A

5. CIRCULATING MEDIUM

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max. Weight (ppg)
0	420	Water Based Mud	8.4	8.8
420	3050	Brine	8.8	9.8
3050	10200	Brine or Oil Based Mud	8.8	9.8
10200	21332	Oil Based Mud	13.5	14.0

Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

6. TESTING, LOGGING, CORING

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

GR from TD to surface (horizontal well - vertical portion of hole).

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

GR while drilling from Intermediate casing shoe to TD.

Coring operation description for the well:

Run gamma-ray (GR) and corrected neutron log (CNL) or analogous to surface for future development of the area, one per shared well pad not to exceed 200' radial distance.

Mud Logger: None

DST's: None

Open Hole Logs: GR while drilling from Intermediate casing shoe to TD.

7. ANTICIPATED PRESSURE

Anticipated Bottom Hole Pressure: 7341 PSI

Anticipated Bottom Hole Temperature: 195 °F

Anticipate Abnormal Pressure? No

Anticipated Abnormal Temperature? No

- A. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.
- B. No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- C. No losses are anticipated at this time.
- D. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- E. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

8. OTHER INFORMATION

A. Auxiliary Well Control and Monitoring Equipment

- i. A Kelly cock will be in the drill string at all times.
- ii. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
- iii. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM

- B.** Anticipated Starting Date and Duration of Operations
 - i.* Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.
- C.** No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- D.** No losses are anticipated at this time.
- E.** All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- F.** Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

Batch Drilling Plan

- Marathon Oil Permian LLC. respectfully requests the option to “batch” drill sections of a well with intentions of returning to the well for later completion.
- When it is determined that the use of a “batch” drilling process to increase overall efficiency and reduce rig time on location, the following steps will be utilized to ensure compliant well control before releasing drilling rig during the batch process.
- Succeeding a successful cement job, fluid levels will be monitored in both the annulus and casing string to be verified static.
- A mandrel hanger packoff will be ran and installed in the multi-bowl wellhead isolating and creating a barrier on the annulus. This packoff will be tested to 5,000 PSI validating the seals.
- At this point the well is secure and the drilling adapter will be removed from the wellhead.
- A 13-5/8” 5M temporary abandonment cap will be installed on the wellhead by stud and nut flange. The seals of the TA cap will then be pressure tested to 5,000 PSI.
- The drilling rig will skid to the next well on the pad to continue the batch drilling process.
- When returning to the well with the TA cap, the TA cap will be removed and the BOP will be nipped up on the wellhead.
- A BOP test will then be conducted according to Onshore Order #2 and drilling operations will resume on the subject well.

Request for Surface Rig

- Marathon Oil Permian LLC. Requests the option to contract a surface rig to drill, set surface casing and cement on the subject well. If the timing between rigs is such that Marathon Oil Permian LLC. would not be able to preset the surface section, the primary drilling rig will drill the well in its entirety per the APD.



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

Drilling Plan Data Report

05/01/2023

APD ID: 10400063578

Submission Date: 10/23/2020

Highlighted data
reflects the most
recent changes

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BLUE STEEL 21 WD FED COM

Well Number: 11H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
914725	RUSTLER	2995	0	0	ANHYDRITE	OTHER : BRINE	N
7704387	SALADO	2600	395	395	ANHYDRITE, SALT	OTHER : BRINE	N
7704388	CASTILE	1970	1025	1025	ANHYDRITE, SALT	OTHER : BRINE	N
914727	BASE OF SALT	-10	3005	3005	ANHYDRITE, SALT	OTHER : BRINE	N
914730	LAMAR	-10	3005	3005	SANDSTONE, SHALE	NONE	N
914734	BELL CANYON	-62	3057	3057	SANDSTONE	OIL	N
914731	CHERRY CANYON	-900	3895	3895	SANDSTONE	OIL	N
914735	BRUSHY CANYON	-2043	5038	5038	SANDSTONE	OIL	N
914736	BONE SPRING LIME	-3689	6684	6684	LIMESTONE	NONE	N
7704389	UPPER AVALON SHALE	-3764	6759	6759	SHALE	OIL	N
7704390	BONE SPRING 1ST	-4726	7721	7721	SANDSTONE	OIL	N
7704391	BONE SPRING 2ND	-5505	8500	8500	SANDSTONE	OIL	N
7704392	BONE SPRING 3RD	-6655	9650	9650	SANDSTONE	OIL	N
914737	WOLFCAMP	-6986	9981	9981	OTHER, SANDSTONE, SHALE : CARBONATES	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MARATHON OIL PERMIAN LLC**Well Name:** BLUE STEEL 21 WD FED COM**Well Number:** 11H**Pressure Rating (PSI):** 5M**Rating Depth:** 20000

Equipment: 13 5/8 5M Annular & BOP Stack will be installed and tested for the 12 1/4", 8 3/4", and 6 3/4" sections. Min WP is 5000, annular will be tested to 50% of the WP and BOP Stack will be tested 5000. Check and kill valve will meet or exceed minimum BOP requirements.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

Testing Procedure: BOP/BOPE will be tested to 250 psi low and the high pressure indicated above by an independent service company per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics. Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

Choke Diagram Attachment:

DRILL_2_CHOKE_5M_10M.TWO_CHOKE_MANIFOLD.BLM.r1_20201015084618.pdf

DRILL_2_CHOKE___Choke_Line_Flex_III_Rig_20201016082904.pdf

DRILL_2_CHOKE___Contitech_Hose_SN_663393_20201016082905.pdf

DRILL_2_CHOKE___Choke_Line_Test_Chart_SN_63393_20201016082905.pdf

BOP Diagram Attachment:

DRILL_2_BOP___10_5M_Flex.BOPE.BLM_20201016083107.pdf

DRILL_2_BOP___Well_Control_Plan___Permian_20201016083107.pdf

DRILL_2_BOP___WH_TH_4_String_20201016083107.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	420	0	420	2995	2575	420	J-55	54.5	ST&C	5.52	2.5	BUOY	2.5	BUOY	2.5
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3050	0	3047	2901	-52	3050	J-55	36	LT&C	1.39	1.42	BUOY	1.8	BUOY	1.8
3	INTERMEDIATE	8.75	7.625	NEW	API	N	0	10200	0	9974	3049	-6979	10200	P-110	33	OTHER - WEDGE 523	3.12	1.16	BUOY	2.37	BUOY	2.37

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BLUE STEEL 21 WD FED COM

Well Number: 11H

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
4	PRODUCTI ON	6.75	5.5	NEW	API	N	0	21331	0	10860	2999	-7865	21331	P- 110	23	OTHER - WEDGE	1.73	1.2	BUOY	2.09	BUOY	2.09

Casing Attachments

Casing ID: 1

String

SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DRILL_3__Red_Hills_WC_Surface_Casing_plot_20201016083406.pdf

Casing ID: 2

String

INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DRILL_3__Red_Hills_WC_Intermediate_I_Casing_plot_20201016083448.pdf

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BLUE STEEL 21 WD FED COM

Well Number: 11H

Casing Attachments

Casing ID: 3StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DRILL_3__Red_Hills_WC_Intermediate_II_Casing_plot_20201016083532.pdf

Casing ID: 4StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DRILL_3__Red_Hills_WC_Production_Casing_Plot_20201016083329.pdf

5.500_20.00_BEN_P110_CY_TLW_SC_5.875__20211019114309.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	220	177	1.73	13.5	306	100	Class C	LCM
SURFACE	Tail		220	420	209	1.33	14.8	278	100	CLASS C	N/A
INTERMEDIATE	Lead		0	2050	508	2.21	12.8	1124	75	CLASS C	EXTENDER, ACCELERATOR.
INTERMEDIATE	Tail		2050	3050	353	1.33	14.8	470	50	CLASS C	RETARDER

Operator Name: MARATHON OIL PERMIAN LLC

Well Name: BLUE STEEL 21 WD FED COM

Well Number: 11H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		2750	9200	343	3.21	11	1102	70	Class C	Viscosifier, Retarder.
INTERMEDIATE	Tail		9200	10200	114	1.15	13.8	131	30	CLASS H	Extender, Fluid Loss, Dispersant
PRODUCTION	Lead		8200	10200	68	3.21	11	217	30	CLASS H	EXTENDER, RETARDER, DEFOAMER, VISCOSIFIER, FLUID LOSS
PRODUCTION	Tail		10200	21331	991	1.22	14.5	1209	30	CLASS H	RETARDER, EXTENDER, FLUID LOSS, DISPERSANT

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: The necessary mud products for additional weight and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT.

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
10200	21332	OIL-BASED MUD	13.5	14							
0	420	WATER-BASED MUD	8.4	8.8							
420	3050	OTHER : BRINE	8.8	9.8							

Operator Name: MARATHON OIL PERMIAN LLC**Well Name:** BLUE STEEL 21 WD FED COM**Well Number:** 11H

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
3050	1020 0	OTHER : BRINE OR OBM	8.8	9.8							

Section 6 - Test, Logging, Coring

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

GR from TD to surface (horizontal well - vertical portion of hole). GR while drilling from Intermediate casing shoe to TD.

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

GAMMA RAY LOG,

Coring operation description for the well:

Run gamma-ray (GR) and corrected neutron log (CNL) or analogous to surface for future development of the area, one per shared well pad not to exceed 200 radial distance.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7341

Anticipated Surface Pressure: 4951

Anticipated Bottom Hole Temperature(F): 195

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

DRILL_7__GCP_BLUE_STEEL_FED__11H16H17H24H__04_29_2020_20201016084739.pdf

DRILL_7_update_BLUE_STEEL_21_FED_COM_Rig_Layout_20201023141930.pdf

DRILL_7_update_BLUE_STEEL_21_FED_COM_H2S_Layout_20201023141930.pdf

DRILL_7_update_Blue_Steel_21_Fed_Com_11H16H17H24H_H2S_Contingency_Plan_092618_20201023141942.pdf

Operator Name: MARATHON OIL PERMIAN LLC**Well Name:** BLUE STEEL 21 WD FED COM**Well Number:** 11H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

DRILL_8PD_Blue_Steel_Fee_FedCom_Surface_Lease_Map_20201015123351.pdf

DRILL_8__BLUE_STEEL_FEE__FED__S_ROW__Lease_Ownership_Map_20201015123351.pdf

DRILL_8_PD__Blue_Steel_21_WD_Fed_Com_11H__Plan_1__20201016085328.pdf

DRILL_8_PD__Blue_Steel_21_WD_Fed_Com_11H__Plan_1_AC_20201016085329.pdf

DRILL_PLAN_Blue_Steel_21_WD_Fed_Com_11H_rev_10.19.21_20211019114437.pdf

Other proposed operations facets description:

- Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
- Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM.

Potential Hazards:

- H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.
- No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- No losses are anticipated at this time.
- All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

Other proposed operations facets attachment:

DRILL_8_OF__Batch_Drilling_Plan_and_Surface_Rig_Request_20201016085236.pdf

Other Variance attachment:

1. DRILLING WELL CONTROL PLAN

1.1 WELL CONTROL - CERTIFICATIONS

Required IADC/IWCF Well Control Certifications Supervisor Level:

Any personnel who supervises or operates the BOP must possess a valid current IADC training certification and photo identification. This would include the onsite drilling supervisor, tool pusher/rig manager, driller, and any personnel that will be acting in these capacities. Another example of this may be a wireline or snubbing crew rigged up on the rig to assist the rig, the operator of each system must also have a valid control certification for their level of operation.

BLM recognizes IADC training as the industry approved accredited training. Online self-certifications will not be acceptable. Enforcement actions for the lack of a valid Supervisory Level certificate shall be prompt action to correct the deficiency. **Enforcement actions include but are not limited to immediate replacement of personnel lacking certifications, drilling operations being shut down or installment of a 10M annular.**

IADC Driller Level for all Drillers and general knowledge for the Assistant Driller, Derrick Hands, Floor Hands and Motor Hands is recognized by the BLM; however, a Driller Level certification will need to be presented only if acting in a temporary Driller Level certification capacity.

Well Control-Position/Roles

IADC Well control training and certification is targeted toward each role, e.g., Supervisor Level toward those who direct, Driller Level to those who act, Introductory to those who need to know.

- **Supervisor Level**
 - Specifies and has oversight that the correct actions are carried out
 - Role is to supervise well control equipment, training, testing, and well control events
 - Directs the testing of BOP and other well control equipment
 - Regularly direct well control crew drills
 - Land based rigs – usually runs the choke during a well kill operation
 - Due to role on the rig, training and certification is targeted more toward management of well control and managing an influx out of the well
- **Driller Level**
 - Performs an action to prevent or respond to well control accident
 - Role is to monitor the well via electronic devices while drilling and detect unplanned influxes
 - Assist with the testing of BOP and other well control equipment
 - Regularly assist with well control crew drills
 - When influx is detected, responsible to close the BOP
 - Due to role on the rig, training and certification is targeted more toward monitoring and shutting the well in (closing the BOP) when an influx is detected

(Well Control-Positions/Roles Continued)

- **Derrick Hand, Assistant Driller Introductory Level**
 - Role is to assist Driller with kick detection by physically monitoring the well at the mixing pits/tanks
 - Regularly record mud weights/viscosity for analysis by the Supervisor level and mud engineer so pre-influx signs can be detected
 - Mix required kill fluids as directed by Supervisor or Driller
 - Due to role on the rig, training and certification is targeted more toward monitoring for influxes, either via mud samples or visual signs on the pits/tanks
- **Motorman, Floor Hand Introductory Level**
 - Role is to assist the Supervisor, Driller, or Derrick Hand with detecting influxes
 - Be certain all valves are aligned for proper well control as directed by Supervisor
 - Perform Supervisor or Driller assigned tasks during a well control event
 - Due to role on the rig, training and certification is targeted more toward monitoring for influxes

1.2 WELL CONTROL-COMPONENT AND PREVENTER COMPATIBILITY CHECKLIST

The table below, which covers the drilling and casing of the 10M Stack portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

○ **Example 8-3/4" Production hole section, 10M requirement**

Component	OD	Preventer	RWP
Drill pipe	5"	Fixed lower 5" Upper 4.5-7" VBR	10M
HWDP	5"	Fixed lower 5" Upper 4.5-7" VBR	10M
Drill collars and MWD tools	6.25-6.75"	Upper 4.5-7" VBR	10M
Mud Motor	6.75"	Upper 4.5-7" VBR	10M
Production casing	5.5"	Upper 4.5-7" VBR	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

○ VBR = Variable Bore Ram. Compatible range listed in chart.

1.3 WELL CONTROL-BOP TESTING

BOP Test will be completed per Onshore Oil and Gas Order #2 Well Control requirements. The 5M Annular Preventer on a required 10M BOP stack will be tested to 70 % of rated working pressure including a 10 minute low pressure test. Pressure shall be maintained at least 10 minutes.

1.4 WELL CONTROL - DRILLS

The following drills are conducted and recorded in the Daily Drilling Report and the Contractor's reporting system while engaged in drilling operations:

Type	Frequency	Objective	Comments
Shallow gas kick drill - drilling	Once per well with crew on tour	Response training to a shallow gas influx	To be done prior to drilling surface hole if shallow gas is noted
Kick drill - drilling	Once per week per crew	Response training to an influx while drilling (bit on bottom)	Only one kick drill per week per crew is required, alternating between drilling and tripping.
Kick drill - tripping	Once per week per crew	Response training to an influx while tripping (bit off bottom). Practice stabbing TIW valve	
Choke drill	Once per well with crew on tour	Practice in operating the remotely operated choke with pressure in the well	Before drilling out of the last casing set above a prospective reservoir Include the scenario of flowing well with gas on drill floor as a table top
H ₂ S drill	Prior to drilling into a potential H ₂ S zone/reservoir	Practice in use of respiratory equipment	

1.5 WELL CONTROL – MONITORING

- Drilling operations which utilize static fluid levels in the wellbore as the active barrier element, a means of accurately monitoring fill-up and displacement volumes during trips are available to the driller and operator. A recirculating trip tank is installed and equipped with a volume indicator easily read from the driller's / operator's position. This data is recorded on a calibrated chart recorder or digitally. The actual volumes are compared to the calculated volumes.
- The On-Site Supervisor ensures hole-filling and pit monitoring procedures are established and documented for every rig operation.
- The well is kept full of fluid with a known density and monitored at all times even when out of the hole.
- Flow checks are a minimum of 15 minutes.
- A flow check is made:
 - In the event of a drilling break.
 - After indications of down hole gains or losses.
 - Prior to all trips out of the hole.
 - After pulling into the casing shoe.
 - Before the BHA enters the BOP stack.
 - If trip displacement is incorrect.

Well Control-Monitoring (Continued)

- Prior to dropping a survey instrument.
- Prior to dropping a core ball.
- After a well kill operation.
- When the mud density is reduced in the well.
- Flow checks may be made at any time at the sole discretion of the driller or his designate. The Onsite Supervisor ensures that personnel are aware of this authority and the authority to close the well in immediately without further consultation.
- Record slow circulating rates (SCR) after each crew change, bit trip, and 500' of new hole drilled and after any variance greater than 0.2 ppg in MW. Slow pump rate recordings should include return flow percent, TVD, MD & pressure. SCR's will be done on all pumps at 30, 40 & 50 SPM. Pressures will be recorded at the choke panel. SCR will be recorded in the IADC daily report and MRO Wellview daily report
- Drilling blind (i.e. without returns) is permissible only in known lithology where the absence of hydrocarbons has been predetermined and written approval of the Drilling Manager.
- All open hole logs to be run with pack-off, lubricator or Drilling Manager approved alternative means.
- The Drilling Contractor has a fully working pit level totalizer / monitoring system with read out for the driller and an audible alarm set to 10 BBL gain / loss volume. Systems are selectable to enable monitoring of all pits in use. Pit volumes are monitored at all times, especially when transferring fluids. Both systems data is recorded on a calibrated chart recorder or electronically.
- The Drilling Contractor has a fully working return mud flow indicator with drillers display and an audible alarm, and is adjustable to record any variance in return volumes.

1.6 WELL CONTROL – SHUT IN

- The “hard shut in” method (i.e. against a closed choke using either an annular or ram type preventer) is the Company standard.
- The HCR(s) or failsafe valves are left closed during drilling to prevent any erosion and buildup of solids. The adjustable choke should also be left closed.
- The rig specific shut in procedure, the BOP configuration along with space-out position for the tool joints is posted in the Driller's control cabin or doghouse.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Manager.
- During a well kill by circulation, constant bottom hole pressure is maintained throughout.
- Kill sheets are maintained by the Driller and posted in the Driller's control cabin or doghouse. The sheet is updated at a minimum every 500 feet.

2. SHUT-IN PROCEDURES:

2.1 PROCEDURE WHILE DRILLING

- Sound alarm (alert crew)
- Space out drill string – Stop rotating, pick the drill string up off bottom, and space out to ensure no tool joint is located in the BOP element selected for initial closure.
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
 - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify toolpusher/company representative
- Gather all relevant data required:
 - SIDPP and SICP
 - Hole Depth and Hole TVD
 - Pit gain
 - Time
 - Kick Volume
 - Pipe depth
 - MW in, MW out
 - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
- If pressure has built or is anticipated during the kill to reach 2,500 psi or greater, the annular preventer CANNOT be used as per Oil Company Well Control Policy, swap to the upper BOP pipe ram.

2.2 PROCEDURE WHILE TRIPPING

- Sound alarm (alert crew)
- Stab full opening safety valve in the drill string and close.
- Space out drill string (ensure no tool joint is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
 - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
 - SIDPP and SICP
 - Hole Depth and Hole TVD
 - Pit gain

Procedure While Tripping (Continued)

- o Time
 - o Kick Volume
 - o Pipe depth
 - o MW in, MW out
 - o SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
If pressure has built or is anticipated during the kill to reach X,XXX psi or greater, the annular preventer CANNOT be used as per Company Well Control Policy, swap to the upper BOP pipe ram.

2.3 PROCEDURE WHILE RUNNING CASING

- Sound alarm (alert crew)
- Stab crossover and full opening safety valve and close
- Space out casing (ensure no coupling is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
 - o **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
 - o SIDPP and SICP
 - o Hole Depth and Hole TVD
 - o Pit gain
 - o Time
 - o Kick Volume
 - o Pipe depth
 - o MW in, MW out
 - o SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
If pressure has built or is anticipated during the kill to reach 2,500 psi or greater, the annular preventer CANNOT be used, swap to the upper BOP pipe ram.

2.4 PROCEDURE WITH NO PIPE IN HOLE (OPEN HOLE)

- Sound alarm (alert crew)
- Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
- Confirm shut-in
- Notify toolpusher/company representative
- Gather all relevant data required:
 - Shut-In Pressure
 - Hole Depth and Hole TVD
 - Pit gain
 - Time
 - Kick Volume
 - MW in, MW out
 - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit.

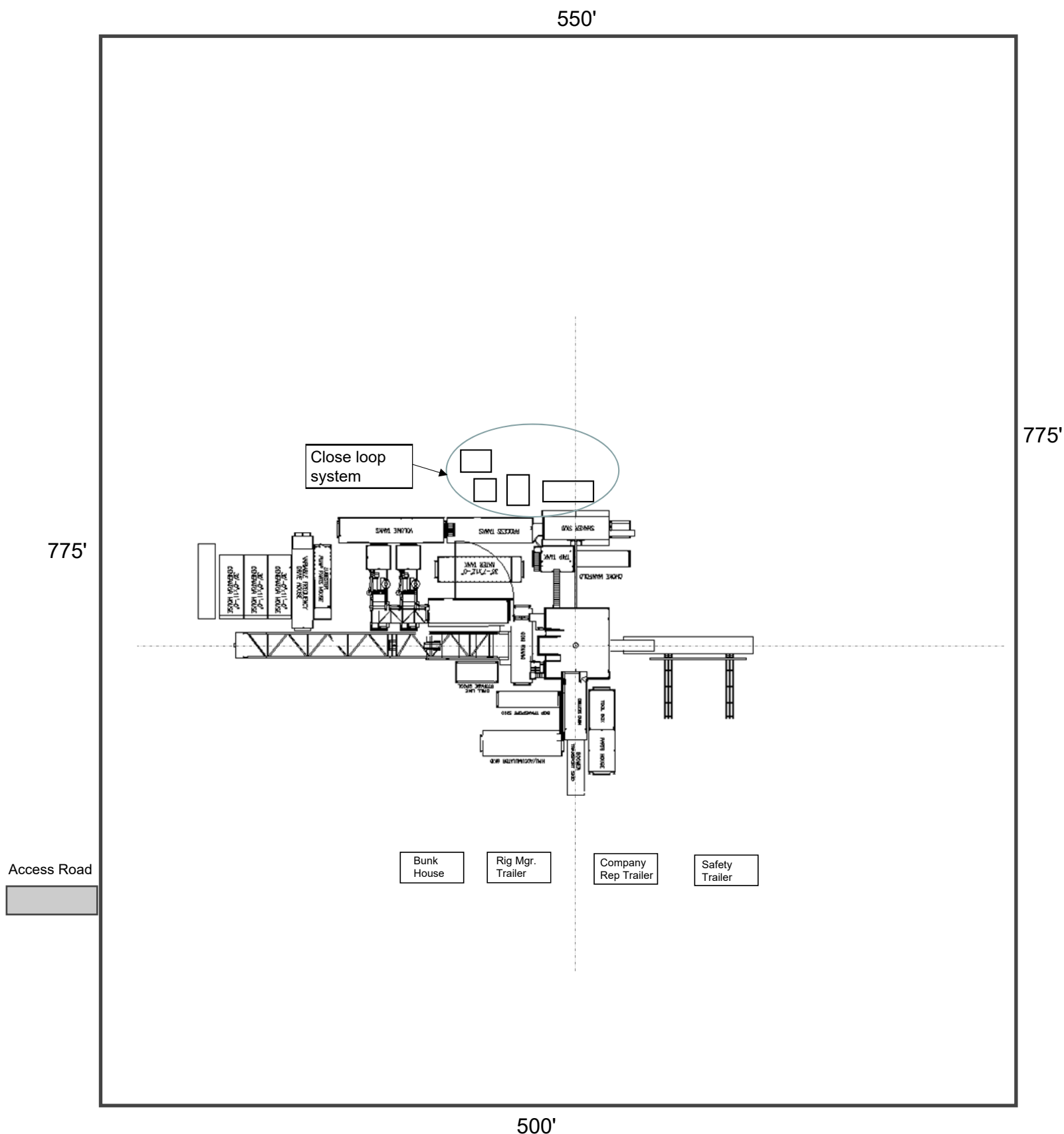
2.5 PROCEDURE WHILE PULLING BHA THRU STACK

- PRIOR to pulling last joint of drill pipe thru the stack.
 - Perform flow check, if flowing.
 - Sound alarm (alert crew).
 - Stab full opening safety valve and close
 - Space out drill string with tool joint just beneath the upper pipe ram.
 - Shut-in using upper pipe ram. (HCR and choke will already be in the closed position).
 - Confirm shut-in.
 - Notify toolpusher/company representative
 - Read and record the following:
 - SIDPP and SICP
 - Pit gain
 - Time
 - Regroup and identify forward plan
-
- **With BHA in the stack and compatible ram preventer and pipe combo immediately available.**
 - Sound alarm (alert crew)
 - Stab crossover and full opening safety valve and close
 - Space out drill string with upset just beneath the compatible pipe ram.
 - Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
 - Confirm shut-in
 - Notify toolpusher/company representative
 - Read and record the following:
 - SIDPP and SICP
 - Pit gain

Procedures While Pulling BHA thru Stack (Continued)

- o Time
 - Regroup and identify forward plan
- **With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.**
 - Sound alarm (alert crew)
 - If possible to pick up high enough, pull string clear of the stack and follow “Open Hole” scenario.
 - If impossible to pick up high enough to pull the string clear of the stack:
 - Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close
 - Space out drill string with tool joint just beneath the upper pipe ram.
 - Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
 - Confirm shut-in
 - Notify toolpusher/company representative
 - Read and record the following:
 - o SIDPP and SICP
 - o Pit gain
 - o Time

(Closed Loop System)



BLUE STEEL 21 FED COM

WD 11H, WD 16H, WD 17H, WD 24H

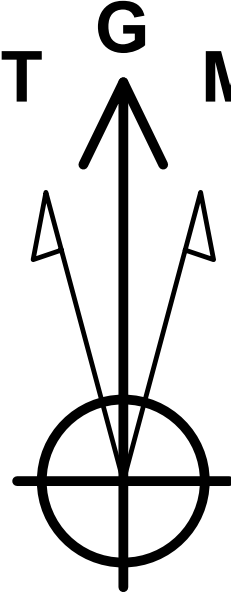


Marathon Oil Permian LLC

RKB (PD 582) 27' + GL @ 3022.00usft
2995.00

Project: Eddy County, New Mexico (NAD27)
Site: Blue Steel Pad (Grid)
Well: Blue Steel 21 WD Fed Com 11H
Wellbore: Wellbore #1
Design: Plan 1
Rig: PD 582

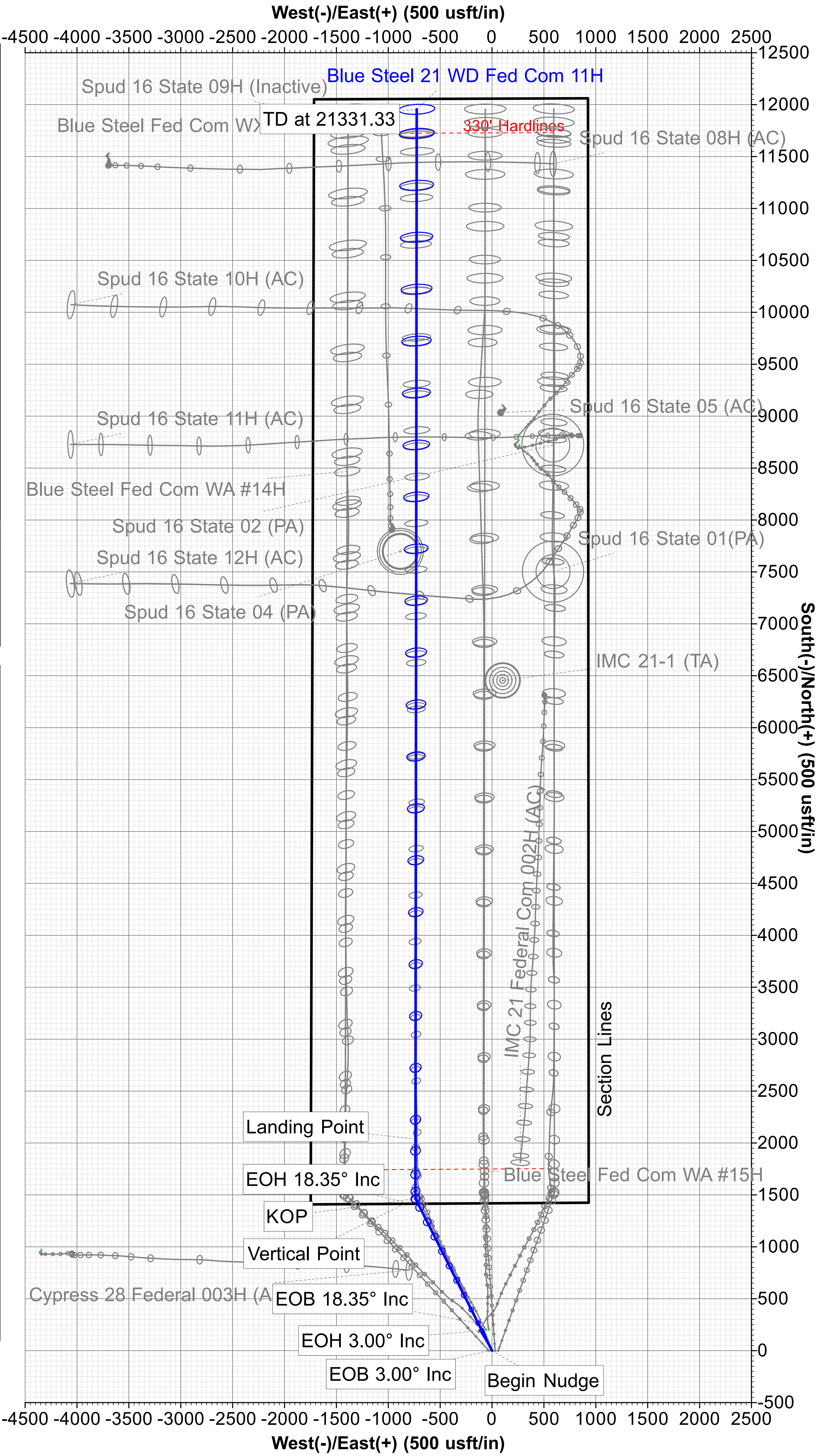
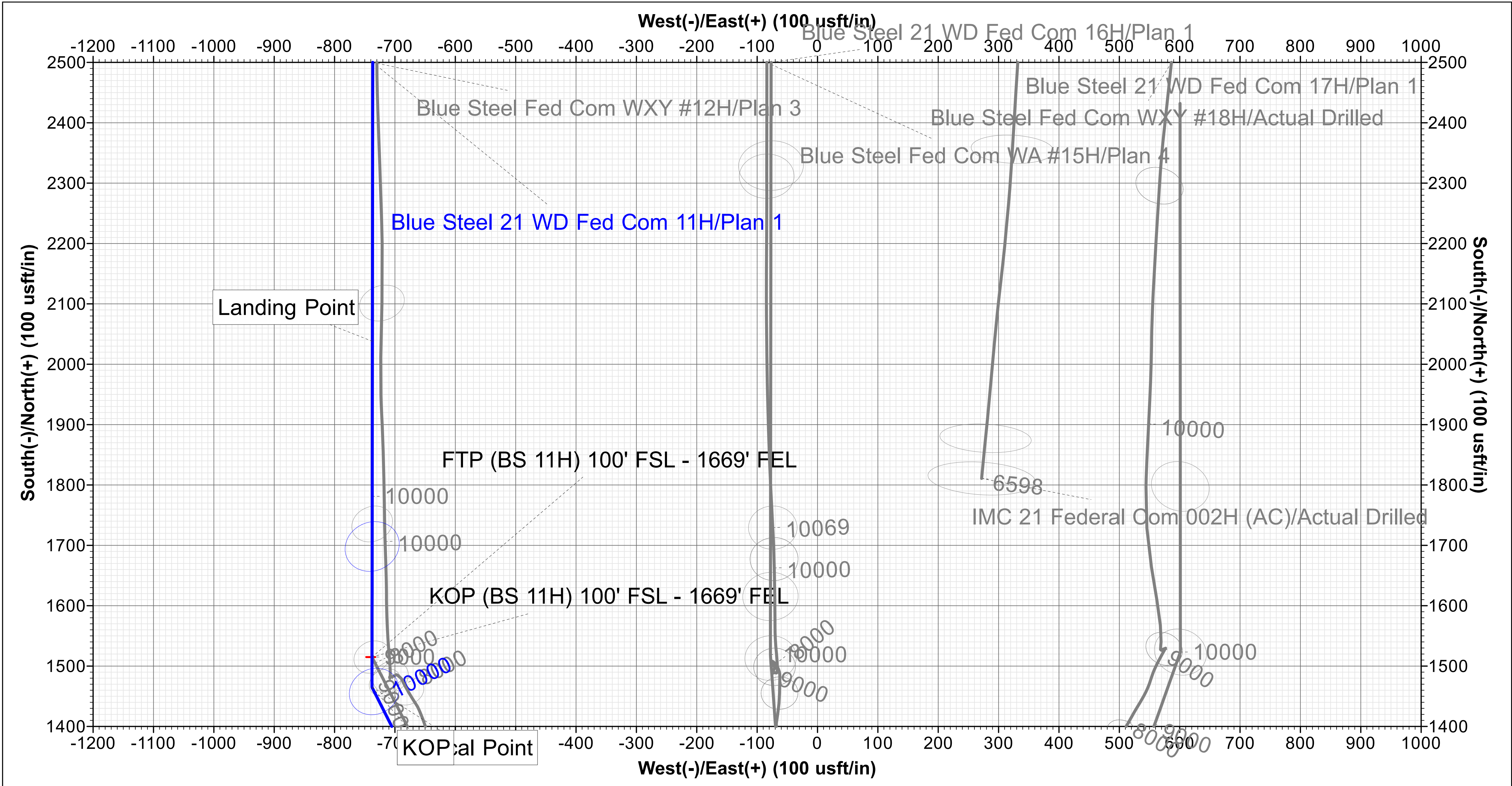
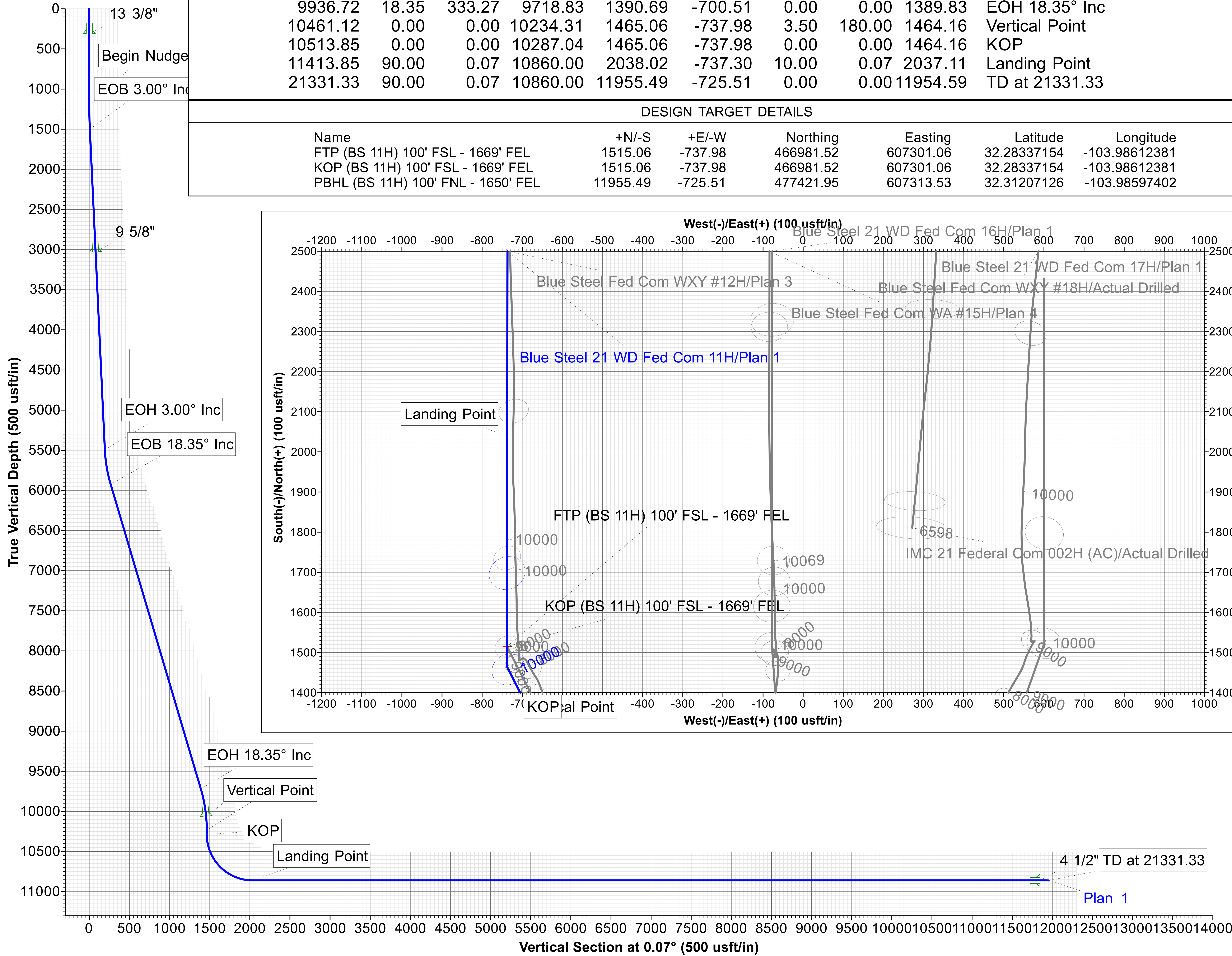
Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001



Azimuths to Grid North
True North: -0.19°
Magnetic North: 6.78°

Magnetic Field
Strength: 47774.2nT
Dip Angle: 60.04°
Date: 4/6/2020
Model: BGGM2019

WELL DETAILS									
2995.00									
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude				
0.00	0.00	465466.46	608039.04	32.27920018	-103.98375183				
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	Begin Nudge
1500.00	3.00	333.26	1499.86	7.01	-3.53	1.00	333.26	7.01	EOB 3.00° Inc
5500.00	3.00	333.26	5494.38	193.97	-97.73	0.00	0.00	193.85	EOH 3.00° Inc
5938.68	18.35	333.27	5924.18	266.34	-134.18	3.50	0.01	266.17	EOB 18.35° Inc
9936.72	18.35	333.27	9718.83	1390.69	-700.51	0.00	0.00	1389.83	EOH 18.35° Inc
10461.12	0.00	0.00	10234.31	1465.06	-737.98	3.50	180.00	1464.16	Vertical Point
10513.85	0.00	0.00	10287.04	1465.06	-737.98	0.00	0.00	1464.16	KOP
11413.85	90.00	0.07	10860.00	2038.02	-737.30	10.00	0.07	2037.11	Landing Point
21331.33	90.00	0.07	10860.00	11955.49	-725.51	0.00	0.00	11954.59	TD at 21331.33
DESIGN TARGET DETAILS									
Name				+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (BS 11H) 100' FSL - 1669' FEL				1515.06	-737.98	466981.52	607301.06	32.28337154	-103.98612381
KOP (BS 11H) 100' FSL - 1669' FEL				1515.06	-737.98	466981.52	607301.06	32.28337154	-103.98612381
PBHL (BS 11H) 100' FNL - 1650' FEL				11955.49	-725.51	477421.95	607313.53	32.31207126	-103.98597402



Marathon Oil Permian LLC

Eddy County, New Mexico (NAD27) Blue Steel Pad (Grid)

API#

Blue Steel 21 WD Fed Com 11H

1420' FNL - 938' FEL

Wellbore #1

Plan: Plan 1

Sperry Drilling Services

Combo Report

07 April, 2020

Well Coordinates: 32.27920017
-103.98375183

NAD 1927 (NADCON CONUS)
New Mexico East 3001
465,466.46 N
608,039.04 E

Ground Level: 2,995.00 usft

Local Coordinate Origin:

Centered on Well Blue Steel 21 WD Fed Com 11H

Viewing Datum:

RKB (PD 582) 27' + GL @ 3022.00usft

TVDs to System:

N

North Reference:

Grid

Unit System:

Midcon (2 decimal)

Version: 5000.15 Build: 91E

Report Version: Midcon Combo v1.15

HALLIBURTON

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid	Vertical	Local Coordinates		Map Coordinates		Dogleg	Vertical	Toolface	Comments
		Azimuth (°)	Depth (usft)	Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)	Rate (°/100usft)	Section (usft)	Angle (°)	
0.00	0.00	0.00	0.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
309.00	0.00	0.00	309.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	13 3/8"
400.00	0.00	0.00	400.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00 N	0.00 E	465,466.46	608,039.04	0.00	0.00	0.00	Begin Nudge
1,300.00	1.00	333.26	1,299.99	0.78 N	0.39 W	465,467.24	608,038.65	1.00	0.78	333.26	
1,400.00	2.00	333.26	1,399.96	3.12 N	1.57 W	465,469.58	608,037.47	1.00	3.12	0.00	
1,500.00	3.00	333.26	1,499.86	7.01 N	3.53 W	465,473.47	608,035.51	1.00	7.01	0.00	EOB 3.00° Inc
1,600.00	3.00	333.26	1,599.73	11.69 N	5.89 W	465,478.15	608,033.15	0.00	11.68	0.00	
1,700.00	3.00	333.26	1,699.59	16.36 N	8.24 W	465,482.82	608,030.80	0.00	16.35	0.00	
1,800.00	3.00	333.26	1,799.45	21.03 N	10.60 W	465,487.49	608,028.44	0.00	21.02	0.00	
1,900.00	3.00	333.26	1,899.31	25.71 N	12.95 W	465,492.17	608,026.09	0.00	25.69	0.00	
2,000.00	3.00	333.26	1,999.18	30.38 N	15.31 W	465,496.84	608,023.73	0.00	30.36	0.00	
2,100.00	3.00	333.26	2,099.04	35.06 N	17.66 W	465,501.52	608,021.38	0.00	35.03	0.00	
2,200.00	3.00	333.26	2,198.90	39.73 N	20.02 W	465,506.19	608,019.02	0.00	39.71	0.00	
2,300.00	3.00	333.26	2,298.77	44.40 N	22.37 W	465,510.86	608,016.67	0.00	44.38	0.00	
2,400.00	3.00	333.26	2,398.63	49.08 N	24.73 W	465,515.54	608,014.31	0.00	49.05	0.00	
2,500.00	3.00	333.26	2,498.49	53.75 N	27.08 W	465,520.21	608,011.96	0.00	53.72	0.00	
2,600.00	3.00	333.26	2,598.36	58.43 N	29.44 W	465,524.89	608,009.60	0.00	58.39	0.00	
2,700.00	3.00	333.26	2,698.22	63.10 N	31.79 W	465,529.56	608,007.25	0.00	63.06	0.00	
2,800.00	3.00	333.26	2,798.08	67.77 N	34.15 W	465,534.23	608,004.89	0.00	67.73	0.00	
2,900.00	3.00	333.26	2,897.94	72.45 N	36.50 W	465,538.91	608,002.54	0.00	72.40	0.00	
3,000.00	3.00	333.26	2,997.81	77.12 N	38.86 W	465,543.58	608,000.18	0.00	77.07	0.00	
3,030.00	3.00	333.26	3,027.77	78.52 N	39.56 W	465,544.98	607,999.48	0.00	78.47	0.00	9 5/8"
3,100.00	3.00	333.26	3,097.67	81.79 N	41.21 W	465,548.25	607,997.83	0.00	81.74	0.00	
3,200.00	3.00	333.26	3,197.53	86.47 N	43.56 W	465,552.93	607,995.48	0.00	86.42	0.00	
3,300.00	3.00	333.26	3,297.40	91.14 N	45.92 W	465,557.60	607,993.12	0.00	91.09	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
3,400.00	3.00	333.26	3,397.26	95.82 N	48.27 W	465,562.28	607,990.77	0.00	95.76	0.00	
3,500.00	3.00	333.26	3,497.12	100.49 N	50.63 W	465,566.95	607,988.41	0.00	100.43	0.00	
3,600.00	3.00	333.26	3,596.98	105.16 N	52.98 W	465,571.62	607,986.06	0.00	105.10	0.00	
3,700.00	3.00	333.26	3,696.85	109.84 N	55.34 W	465,576.30	607,983.70	0.00	109.77	0.00	
3,800.00	3.00	333.26	3,796.71	114.51 N	57.69 W	465,580.97	607,981.35	0.00	114.44	0.00	
3,900.00	3.00	333.26	3,896.57	119.19 N	60.05 W	465,585.65	607,978.99	0.00	119.11	0.00	
4,000.00	3.00	333.26	3,996.44	123.86 N	62.40 W	465,590.32	607,976.64	0.00	123.78	0.00	
4,100.00	3.00	333.26	4,096.30	128.53 N	64.76 W	465,594.99	607,974.28	0.00	128.45	0.00	
4,200.00	3.00	333.26	4,196.16	133.21 N	67.11 W	465,599.67	607,971.93	0.00	133.13	0.00	
4,300.00	3.00	333.26	4,296.03	137.88 N	69.47 W	465,604.34	607,969.57	0.00	137.80	0.00	
4,400.00	3.00	333.26	4,395.89	142.56 N	71.82 W	465,609.02	607,967.22	0.00	142.47	0.00	
4,500.00	3.00	333.26	4,495.75	147.23 N	74.18 W	465,613.69	607,964.86	0.00	147.14	0.00	
4,600.00	3.00	333.26	4,595.61	151.90 N	76.53 W	465,618.36	607,962.51	0.00	151.81	0.00	
4,700.00	3.00	333.26	4,695.48	156.58 N	78.89 W	465,623.04	607,960.15	0.00	156.48	0.00	
4,800.00	3.00	333.26	4,795.34	161.25 N	81.24 W	465,627.71	607,957.80	0.00	161.15	0.00	
4,900.00	3.00	333.26	4,895.20	165.93 N	83.60 W	465,632.39	607,955.44	0.00	165.82	0.00	
5,000.00	3.00	333.26	4,995.07	170.60 N	85.95 W	465,637.06	607,953.09	0.00	170.49	0.00	
5,100.00	3.00	333.26	5,094.93	175.27 N	88.31 W	465,641.73	607,950.73	0.00	175.16	0.00	
5,200.00	3.00	333.26	5,194.79	179.95 N	90.66 W	465,646.41	607,948.38	0.00	179.84	0.00	
5,300.00	3.00	333.26	5,294.66	184.62 N	93.02 W	465,651.08	607,946.02	0.00	184.51	0.00	
5,400.00	3.00	333.26	5,394.52	189.29 N	95.37 W	465,655.75	607,943.67	0.00	189.18	0.00	
5,500.00	3.00	333.26	5,494.38	193.97 N	97.73 W	465,660.43	607,941.31	0.00	193.85	0.00	EOH 3.00° Inc
5,600.00	6.50	333.26	5,594.02	201.36 N	101.45 W	465,667.82	607,937.59	3.50	201.24	0.01	
5,700.00	10.00	333.26	5,692.97	214.18 N	107.91 W	465,680.64	607,931.13	3.50	214.04	0.00	
5,800.00	13.50	333.27	5,790.86	232.36 N	117.06 W	465,698.82	607,921.98	3.50	232.22	0.00	
5,900.00	17.00	333.27	5,887.32	255.85 N	128.90 W	465,722.31	607,910.14	3.50	255.69	0.00	
5,938.68	18.35	333.27	5,924.18	266.34 N	134.18 W	465,732.80	607,904.86	3.50	266.17	0.00	EOB 18.35° Inc
6,000.00	18.35	333.27	5,982.38	283.58 N	142.87 W	465,750.04	607,896.17	0.00	283.41	0.00	
6,100.00	18.35	333.27	6,077.29	311.70 N	157.03 W	465,778.16	607,882.01	0.00	311.51	0.00	
6,200.00	18.35	333.27	6,172.20	339.83 N	171.20 W	465,806.29	607,867.84	0.00	339.62	0.00	
6,300.00	18.35	333.27	6,267.12	367.95 N	185.36 W	465,834.41	607,853.68	0.00	367.72	0.00	
6,400.00	18.35	333.27	6,362.03	396.07 N	199.53 W	465,862.53	607,839.51	0.00	395.83	0.00	
6,500.00	18.35	333.27	6,456.94	424.19 N	213.69 W	465,890.65	607,825.35	0.00	423.93	0.00	
6,600.00	18.35	333.27	6,551.86	452.32 N	227.86 W	465,918.78	607,811.18	0.00	452.04	0.00	
6,700.00	18.35	333.27	6,646.77	480.44 N	242.02 W	465,946.90	607,797.02	0.00	480.14	0.00	
6,800.00	18.35	333.27	6,741.68	508.56 N	256.19 W	465,975.02	607,782.85	0.00	508.25	0.00	
6,900.00	18.35	333.27	6,836.59	536.68 N	270.35 W	466,003.14	607,768.69	0.00	536.35	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured		Grid	Vertical	Local Coordinates		Map Coordinates		Dogleg	Vertical	Toolface	Comments
Depth	Inclination	Azimuth	Depth	Northing	Easting	Northing	Easting	Rate	Section	Angle	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(usft)	(°)	
7,000.00	18.35	333.27	6,931.51	564.81 N	284.52 W	466,031.27	607,754.52	0.00	564.46	0.00	
7,100.00	18.35	333.27	7,026.42	592.93 N	298.68 W	466,059.39	607,740.36	0.00	592.56	0.00	
7,200.00	18.35	333.27	7,121.33	621.05 N	312.85 W	466,087.51	607,726.19	0.00	620.67	0.00	
7,300.00	18.35	333.27	7,216.25	649.17 N	327.01 W	466,115.63	607,712.03	0.00	648.77	0.00	
7,400.00	18.35	333.27	7,311.16	677.30 N	341.18 W	466,143.76	607,697.86	0.00	676.88	0.00	
7,500.00	18.35	333.27	7,406.07	705.42 N	355.34 W	466,171.88	607,683.70	0.00	704.98	0.00	
7,600.00	18.35	333.27	7,500.99	733.54 N	369.51 W	466,200.00	607,669.53	0.00	733.09	0.00	
7,700.00	18.35	333.27	7,595.90	761.66 N	383.68 W	466,228.12	607,655.36	0.00	761.20	0.00	
7,800.00	18.35	333.27	7,690.81	789.79 N	397.84 W	466,256.25	607,641.20	0.00	789.30	0.00	
7,900.00	18.35	333.27	7,785.72	817.91 N	412.01 W	466,284.37	607,627.03	0.00	817.41	0.00	
8,000.00	18.35	333.27	7,880.64	846.03 N	426.17 W	466,312.49	607,612.87	0.00	845.51	0.00	
8,100.00	18.35	333.27	7,975.55	874.15 N	440.34 W	466,340.61	607,598.70	0.00	873.62	0.00	
8,200.00	18.35	333.27	8,070.46	902.28 N	454.50 W	466,368.74	607,584.54	0.00	901.72	0.00	
8,300.00	18.35	333.27	8,165.38	930.40 N	468.67 W	466,396.86	607,570.37	0.00	929.83	0.00	
8,400.00	18.35	333.27	8,260.29	958.52 N	482.83 W	466,424.98	607,556.21	0.00	957.93	0.00	
8,500.00	18.35	333.27	8,355.20	986.64 N	497.00 W	466,453.10	607,542.04	0.00	986.04	0.00	
8,600.00	18.35	333.27	8,450.12	1,014.77 N	511.16 W	466,481.23	607,527.88	0.00	1,014.14	0.00	
8,700.00	18.35	333.27	8,545.03	1,042.89 N	525.33 W	466,509.35	607,513.71	0.00	1,042.25	0.00	
8,800.00	18.35	333.27	8,639.94	1,071.01 N	539.49 W	466,537.47	607,499.55	0.00	1,070.35	0.00	
8,900.00	18.35	333.27	8,734.85	1,099.13 N	553.66 W	466,565.59	607,485.38	0.00	1,098.46	0.00	
9,000.00	18.35	333.27	8,829.77	1,127.26 N	567.82 W	466,593.72	607,471.22	0.00	1,126.56	0.00	
9,100.00	18.35	333.27	8,924.68	1,155.38 N	581.99 W	466,621.84	607,457.05	0.00	1,154.67	0.00	
9,200.00	18.35	333.27	9,019.59	1,183.50 N	596.16 W	466,649.96	607,442.88	0.00	1,182.77	0.00	
9,300.00	18.35	333.27	9,114.51	1,211.62 N	610.32 W	466,678.08	607,428.72	0.00	1,210.88	0.00	
9,400.00	18.35	333.27	9,209.42	1,239.75 N	624.49 W	466,706.21	607,414.55	0.00	1,238.98	0.00	
9,500.00	18.35	333.27	9,304.33	1,267.87 N	638.65 W	466,734.33	607,400.39	0.00	1,267.09	0.00	
9,600.00	18.35	333.27	9,399.24	1,295.99 N	652.82 W	466,762.45	607,386.22	0.00	1,295.19	0.00	
9,700.00	18.35	333.27	9,494.16	1,324.11 N	666.98 W	466,790.57	607,372.06	0.00	1,323.30	0.00	
9,800.00	18.35	333.27	9,589.07	1,352.24 N	681.15 W	466,818.70	607,357.89	0.00	1,351.40	0.00	
9,900.00	18.35	333.27	9,683.98	1,380.36 N	695.31 W	466,846.82	607,343.73	0.00	1,379.51	0.00	
9,936.72	18.35	333.27	9,718.83	1,390.69 N	700.51 W	466,857.15	607,338.53	0.00	1,389.83	0.00	EOH 18.35° Inc
10,000.00	16.14	333.27	9,779.27	1,407.44 N	708.95 W	466,873.90	607,330.09	3.50	1,406.57	180.00	
10,100.00	12.64	333.27	9,876.11	1,429.63 N	720.13 W	466,896.09	607,318.91	3.50	1,428.75	180.00	
10,200.00	9.14	333.27	9,974.30	1,446.50 N	728.63 W	466,912.96	607,310.41	3.50	1,445.61	180.00	
10,287.00	6.09	333.27	10,060.52	1,456.80 N	733.81 W	466,923.26	607,305.23	3.50	1,455.90	180.00	7"
10,300.00	5.64	333.27	10,073.45	1,457.98 N	734.41 W	466,924.44	607,304.63	3.50	1,457.09	-180.00	
10,400.00	2.14	333.27	10,173.21	1,464.04 N	737.46 W	466,930.50	607,301.58	3.50	1,463.14	180.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
10,461.12	0.00	0.00	10,234.31	1,465.06 N	737.98 W	466,931.52	607,301.06	3.50	1,464.16	180.00	Vertical Point
10,500.00	0.00	0.00	10,273.19	1,465.06 N	737.98 W	466,931.52	607,301.06	0.00	1,464.16	0.00	
10,513.85	0.00	0.00	10,287.04	1,465.06 N	737.98 W	466,931.52	607,301.06	0.00	1,464.16	0.00	KOP
10,600.00	8.62	0.07	10,372.87	1,471.53 N	737.97 W	466,937.99	607,301.07	10.00	1,470.62	0.07	
10,700.00	18.62	0.07	10,469.94	1,495.04 N	737.94 W	466,961.50	607,301.10	10.00	1,494.13	0.00	
10,800.00	28.62	0.07	10,561.44	1,535.04 N	737.89 W	467,001.50	607,301.15	10.00	1,534.14	0.00	
10,900.00	38.62	0.07	10,644.62	1,590.33 N	737.83 W	467,056.79	607,301.21	10.00	1,589.43	0.00	
11,000.00	48.62	0.07	10,716.92	1,659.23 N	737.75 W	467,125.69	607,301.29	10.00	1,658.33	0.00	
11,100.00	58.62	0.07	10,776.17	1,739.63 N	737.65 W	467,206.09	607,301.39	10.00	1,738.73	0.00	
11,200.00	68.62	0.07	10,820.55	1,829.10 N	737.54 W	467,295.56	607,301.50	10.00	1,828.20	0.00	
11,300.00	78.62	0.07	10,848.72	1,924.92 N	737.43 W	467,391.38	607,301.61	10.00	1,924.02	0.00	
11,400.00	88.62	0.07	10,859.83	2,024.17 N	737.31 W	467,490.63	607,301.73	10.00	2,023.27	0.00	
11,413.85	90.00	0.07	10,860.00	2,038.02 N	737.30 W	467,504.48	607,301.74	10.00	2,037.11	0.00	Landing Point
11,500.00	90.00	0.07	10,860.00	2,124.17 N	737.19 W	467,590.63	607,301.85	0.00	2,123.27	0.00	
11,600.00	90.00	0.07	10,860.00	2,224.17 N	737.07 W	467,690.63	607,301.97	0.00	2,223.27	0.00	
11,700.00	90.00	0.07	10,860.00	2,324.17 N	736.95 W	467,790.63	607,302.09	0.00	2,323.27	0.00	
11,800.00	90.00	0.07	10,860.00	2,424.17 N	736.84 W	467,890.63	607,302.20	0.00	2,423.27	0.00	
11,900.00	90.00	0.07	10,860.00	2,524.17 N	736.72 W	467,990.63	607,302.32	0.00	2,523.27	0.00	
12,000.00	90.00	0.07	10,860.00	2,624.17 N	736.60 W	468,090.63	607,302.44	0.00	2,623.27	0.00	
12,100.00	90.00	0.07	10,860.00	2,724.17 N	736.48 W	468,190.63	607,302.56	0.00	2,723.27	0.00	
12,200.00	90.00	0.07	10,860.00	2,824.17 N	736.36 W	468,290.63	607,302.68	0.00	2,823.27	0.00	
12,300.00	90.00	0.07	10,860.00	2,924.17 N	736.24 W	468,390.63	607,302.80	0.00	2,923.27	0.00	
12,400.00	90.00	0.07	10,860.00	3,024.17 N	736.12 W	468,490.63	607,302.92	0.00	3,023.27	0.00	
12,500.00	90.00	0.07	10,860.00	3,124.17 N	736.00 W	468,590.63	607,303.04	0.00	3,123.27	0.00	
12,600.00	90.00	0.07	10,860.00	3,224.17 N	735.89 W	468,690.63	607,303.15	0.00	3,223.27	0.00	
12,700.00	90.00	0.07	10,860.00	3,324.17 N	735.77 W	468,790.63	607,303.27	0.00	3,323.27	0.00	
12,800.00	90.00	0.07	10,860.00	3,424.17 N	735.65 W	468,890.63	607,303.39	0.00	3,423.27	0.00	
12,900.00	90.00	0.07	10,860.00	3,524.17 N	735.53 W	468,990.63	607,303.51	0.00	3,523.27	0.00	
13,000.00	90.00	0.07	10,860.00	3,624.17 N	735.41 W	469,090.63	607,303.63	0.00	3,623.27	0.00	
13,100.00	90.00	0.07	10,860.00	3,724.17 N	735.29 W	469,190.63	607,303.75	0.00	3,723.27	0.00	
13,200.00	90.00	0.07	10,860.00	3,824.17 N	735.17 W	469,290.63	607,303.87	0.00	3,823.27	0.00	
13,300.00	90.00	0.07	10,860.00	3,924.17 N	735.05 W	469,390.63	607,303.99	0.00	3,923.27	0.00	
13,400.00	90.00	0.07	10,860.00	4,024.17 N	734.93 W	469,490.63	607,304.11	0.00	4,023.27	0.00	
13,500.00	90.00	0.07	10,860.00	4,124.17 N	734.82 W	469,590.63	607,304.22	0.00	4,123.27	0.00	
13,600.00	90.00	0.07	10,860.00	4,224.17 N	734.70 W	469,690.63	607,304.34	0.00	4,223.27	0.00	
13,700.00	90.00	0.07	10,860.00	4,324.17 N	734.58 W	469,790.63	607,304.46	0.00	4,323.27	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured		Grid	Vertical	Local Coordinates		Map Coordinates		Dogleg	Vertical	Toolface	Comments
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)	Rate (°/100usft)	Section (usft)	Angle (°)	
13,800.00	90.00	0.07	10,860.00	4,424.17 N	734.46 W	469,890.63	607,304.58	0.00	4,423.27	0.00	
13,900.00	90.00	0.07	10,860.00	4,524.17 N	734.34 W	469,990.63	607,304.70	0.00	4,523.27	0.00	
14,000.00	90.00	0.07	10,860.00	4,624.17 N	734.22 W	470,090.63	607,304.82	0.00	4,623.27	0.00	
14,100.00	90.00	0.07	10,860.00	4,724.17 N	734.10 W	470,190.63	607,304.94	0.00	4,723.27	0.00	
14,200.00	90.00	0.07	10,860.00	4,824.17 N	733.98 W	470,290.63	607,305.06	0.00	4,823.27	0.00	
14,300.00	90.00	0.07	10,860.00	4,924.17 N	733.87 W	470,390.63	607,305.17	0.00	4,923.27	0.00	
14,400.00	90.00	0.07	10,860.00	5,024.17 N	733.75 W	470,490.63	607,305.29	0.00	5,023.27	0.00	
14,500.00	90.00	0.07	10,860.00	5,124.17 N	733.63 W	470,590.63	607,305.41	0.00	5,123.27	0.00	
14,600.00	90.00	0.07	10,860.00	5,224.17 N	733.51 W	470,690.63	607,305.53	0.00	5,223.27	0.00	
14,700.00	90.00	0.07	10,860.00	5,324.17 N	733.39 W	470,790.63	607,305.65	0.00	5,323.27	0.00	
14,800.00	90.00	0.07	10,860.00	5,424.17 N	733.27 W	470,890.63	607,305.77	0.00	5,423.27	0.00	
14,900.00	90.00	0.07	10,860.00	5,524.17 N	733.15 W	470,990.63	607,305.89	0.00	5,523.27	0.00	
15,000.00	90.00	0.07	10,860.00	5,624.17 N	733.03 W	471,090.63	607,306.01	0.00	5,623.27	0.00	
15,100.00	90.00	0.07	10,860.00	5,724.17 N	732.91 W	471,190.63	607,306.13	0.00	5,723.27	0.00	
15,200.00	90.00	0.07	10,860.00	5,824.17 N	732.80 W	471,290.63	607,306.24	0.00	5,823.27	0.00	
15,300.00	90.00	0.07	10,860.00	5,924.17 N	732.68 W	471,390.63	607,306.36	0.00	5,923.27	0.00	
15,400.00	90.00	0.07	10,860.00	6,024.17 N	732.56 W	471,490.63	607,306.48	0.00	6,023.27	0.00	
15,500.00	90.00	0.07	10,860.00	6,124.17 N	732.44 W	471,590.63	607,306.60	0.00	6,123.27	0.00	
15,600.00	90.00	0.07	10,860.00	6,224.17 N	732.32 W	471,690.63	607,306.72	0.00	6,223.27	0.00	
15,700.00	90.00	0.07	10,860.00	6,324.17 N	732.20 W	471,790.63	607,306.84	0.00	6,323.27	0.00	
15,800.00	90.00	0.07	10,860.00	6,424.17 N	732.08 W	471,890.63	607,306.96	0.00	6,423.27	0.00	
15,900.00	90.00	0.07	10,860.00	6,524.17 N	731.96 W	471,990.63	607,307.08	0.00	6,523.27	0.00	
16,000.00	90.00	0.07	10,860.00	6,624.17 N	731.85 W	472,090.63	607,307.19	0.00	6,623.27	0.00	
16,100.00	90.00	0.07	10,860.00	6,724.17 N	731.73 W	472,190.63	607,307.31	0.00	6,723.27	0.00	
16,200.00	90.00	0.07	10,860.00	6,824.17 N	731.61 W	472,290.63	607,307.43	0.00	6,823.27	0.00	
16,300.00	90.00	0.07	10,860.00	6,924.17 N	731.49 W	472,390.63	607,307.55	0.00	6,923.27	0.00	
16,400.00	90.00	0.07	10,860.00	7,024.17 N	731.37 W	472,490.63	607,307.67	0.00	7,023.27	0.00	
16,500.00	90.00	0.07	10,860.00	7,124.17 N	731.25 W	472,590.63	607,307.79	0.00	7,123.27	0.00	
16,600.00	90.00	0.07	10,860.00	7,224.17 N	731.13 W	472,690.63	607,307.91	0.00	7,223.27	0.00	
16,700.00	90.00	0.07	10,860.00	7,324.17 N	731.01 W	472,790.63	607,308.03	0.00	7,323.27	0.00	
16,800.00	90.00	0.07	10,860.00	7,424.17 N	730.89 W	472,890.63	607,308.15	0.00	7,423.27	0.00	
16,900.00	90.00	0.07	10,860.00	7,524.17 N	730.78 W	472,990.63	607,308.26	0.00	7,523.27	0.00	
17,000.00	90.00	0.07	10,860.00	7,624.17 N	730.66 W	473,090.63	607,308.38	0.00	7,623.27	0.00	
17,100.00	90.00	0.07	10,860.00	7,724.17 N	730.54 W	473,190.63	607,308.50	0.00	7,723.27	0.00	
17,200.00	90.00	0.07	10,860.00	7,824.17 N	730.42 W	473,290.63	607,308.62	0.00	7,823.27	0.00	
17,300.00	90.00	0.07	10,860.00	7,924.17 N	730.30 W	473,390.63	607,308.74	0.00	7,923.27	0.00	
17,400.00	90.00	0.07	10,860.00	8,024.17 N	730.18 W	473,490.63	607,308.86	0.00	8,023.27	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
17,500.00	90.00	0.07	10,860.00	8,124.17 N	730.06 W	473,590.63	607,308.98	0.00	8,123.27	0.00	
17,600.00	90.00	0.07	10,860.00	8,224.17 N	729.94 W	473,690.63	607,309.10	0.00	8,223.27	0.00	
17,700.00	90.00	0.07	10,860.00	8,324.17 N	729.83 W	473,790.63	607,309.21	0.00	8,323.27	0.00	
17,800.00	90.00	0.07	10,860.00	8,424.17 N	729.71 W	473,890.63	607,309.33	0.00	8,423.27	0.00	
17,900.00	90.00	0.07	10,860.00	8,524.17 N	729.59 W	473,990.63	607,309.45	0.00	8,523.27	0.00	
18,000.00	90.00	0.07	10,860.00	8,624.17 N	729.47 W	474,090.63	607,309.57	0.00	8,623.27	0.00	
18,100.00	90.00	0.07	10,860.00	8,724.17 N	729.35 W	474,190.63	607,309.69	0.00	8,723.27	0.00	
18,200.00	90.00	0.07	10,860.00	8,824.17 N	729.23 W	474,290.63	607,309.81	0.00	8,823.27	0.00	
18,300.00	90.00	0.07	10,860.00	8,924.17 N	729.11 W	474,390.63	607,309.93	0.00	8,923.27	0.00	
18,400.00	90.00	0.07	10,860.00	9,024.17 N	728.99 W	474,490.63	607,310.05	0.00	9,023.27	0.00	
18,500.00	90.00	0.07	10,860.00	9,124.17 N	728.87 W	474,590.63	607,310.17	0.00	9,123.27	0.00	
18,600.00	90.00	0.07	10,860.00	9,224.17 N	728.76 W	474,690.63	607,310.28	0.00	9,223.27	0.00	
18,700.00	90.00	0.07	10,860.00	9,324.17 N	728.64 W	474,790.63	607,310.40	0.00	9,323.27	0.00	
18,800.00	90.00	0.07	10,860.00	9,424.17 N	728.52 W	474,890.63	607,310.52	0.00	9,423.27	0.00	
18,900.00	90.00	0.07	10,860.00	9,524.17 N	728.40 W	474,990.63	607,310.64	0.00	9,523.27	0.00	
19,000.00	90.00	0.07	10,860.00	9,624.17 N	728.28 W	475,090.63	607,310.76	0.00	9,623.27	0.00	
19,100.00	90.00	0.07	10,860.00	9,724.16 N	728.16 W	475,190.62	607,310.88	0.00	9,723.27	0.00	
19,200.00	90.00	0.07	10,860.00	9,824.16 N	728.04 W	475,290.62	607,311.00	0.00	9,823.27	0.00	
19,300.00	90.00	0.07	10,860.00	9,924.16 N	727.92 W	475,390.62	607,311.12	0.00	9,923.27	0.00	
19,400.00	90.00	0.07	10,860.00	10,024.16 N	727.81 W	475,490.62	607,311.23	0.00	10,023.27	0.00	
19,500.00	90.00	0.07	10,860.00	10,124.16 N	727.69 W	475,590.62	607,311.35	0.00	10,123.27	0.00	
19,600.00	90.00	0.07	10,860.00	10,224.16 N	727.57 W	475,690.62	607,311.47	0.00	10,223.27	0.00	
19,700.00	90.00	0.07	10,860.00	10,324.16 N	727.45 W	475,790.62	607,311.59	0.00	10,323.27	0.00	
19,800.00	90.00	0.07	10,860.00	10,424.16 N	727.33 W	475,890.62	607,311.71	0.00	10,423.27	0.00	
19,900.00	90.00	0.07	10,860.00	10,524.16 N	727.21 W	475,990.62	607,311.83	0.00	10,523.27	0.00	
20,000.00	90.00	0.07	10,860.00	10,624.16 N	727.09 W	476,090.62	607,311.95	0.00	10,623.27	0.00	
20,100.00	90.00	0.07	10,860.00	10,724.16 N	726.97 W	476,190.62	607,312.07	0.00	10,723.27	0.00	
20,200.00	90.00	0.07	10,860.00	10,824.16 N	726.85 W	476,290.62	607,312.19	0.00	10,823.27	0.00	
20,300.00	90.00	0.07	10,860.00	10,924.16 N	726.74 W	476,390.62	607,312.30	0.00	10,923.27	0.00	
20,400.00	90.00	0.07	10,860.00	11,024.16 N	726.62 W	476,490.62	607,312.42	0.00	11,023.27	0.00	
20,500.00	90.00	0.07	10,860.00	11,124.16 N	726.50 W	476,590.62	607,312.54	0.00	11,123.27	0.00	
20,600.00	90.00	0.07	10,860.00	11,224.16 N	726.38 W	476,690.62	607,312.66	0.00	11,223.27	0.00	
20,700.00	90.00	0.07	10,860.00	11,324.16 N	726.26 W	476,790.62	607,312.78	0.00	11,323.27	0.00	
20,800.00	90.00	0.07	10,860.00	11,424.16 N	726.14 W	476,890.62	607,312.90	0.00	11,423.27	0.00	
20,900.00	90.00	0.07	10,860.00	11,524.16 N	726.02 W	476,990.62	607,313.02	0.00	11,523.27	0.00	
21,000.00	90.00	0.07	10,860.00	11,624.16 N	725.90 W	477,090.62	607,313.14	0.00	11,623.27	0.00	
21,100.00	90.00	0.07	10,860.00	11,724.16 N	725.78 W	477,190.62	607,313.26	0.00	11,723.27	0.00	

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Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Local Coordinates Easting (usft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
21,200.00	90.00	0.07	10,860.00	11,824.16 N	725.67 W	477,290.62	607,313.37	0.00	11,823.27	0.00	
21,300.00	90.00	0.07	10,860.00	11,924.16 N	725.55 W	477,390.62	607,313.49	0.00	11,923.27	0.00	
21,331.00	90.00	0.07	10,860.00	11,955.16 N	725.51 W	477,421.62	607,313.53	0.00	11,954.27	0.00	4 1/2"
21,331.33	90.00	0.07	10,860.00	11,955.49 N	725.51 W	477,421.95	607,313.53	0.00	11,954.59	0.00	TD at 21331.33

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,200.00	1,200.00	0.00	0.00	Begin Nudge
1,500.00	1,499.86	7.01	-3.53	EOB 3.00° Inc
5,500.00	5,494.38	193.97	-97.73	EOH 3.00° Inc
5,938.68	5,924.18	266.34	-134.18	EOB 18.35° Inc
9,936.72	9,718.83	1,390.69	-700.51	EOH 18.35° Inc
10,461.12	10,234.31	1,465.06	-737.98	Vertical Point
10,513.85	10,287.04	1,465.06	-737.98	KOP
11,413.85	10,860.00	2,038.02	-737.30	Landing Point
21,331.33	10,860.00	11,955.49	-725.51	TD at 21331.33

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	0.07	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	21,331.33	Plan 1	3_MWD+HRGM+AX

HALLIBURTON**Plan Report for Blue Steel 21 WD Fed Com 11H - Plan 1****Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
309.00	309.00	13 3/8"	13-3/8	17-1/2
3,030.00	3,027.77	9 5/8"	9-5/8	12-1/4
10,287.00	10,060.52	7"	7	8-3/4
21,331.00	10,860.00	4 1/2"	4-1/2	6-1/8

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
KOP (BS 11H) 100' FSL - 1669' FEL ()									
	0.00	0.00	0.00	1,515.06	-737.98	466,981.52	607,301.06	32.28337154	-103.98612381
- plan misses target center by 1685.24usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
PBHL (BS 11H) 100' FNL - 1650' FEL ()									
	0.00	0.00	0.00	11,955.49	-725.51	477,421.95	607,313.53	32.31207126	-103.98597402
- plan misses target center by 10860.00usft at 21331.32usft MD (10860.00 TVD, 11955.49 N, -725.51 E)									
- Point									
FTP (BS 11H) 100' FSL - 1669' FEL ()									
	0.00	0.00	0.00	1,515.06	-737.98	466,981.52	607,301.06	32.28337154	-103.98612381
- plan misses target center by 1685.24usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.59 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 11,413.85 usft
Net Tortousity applicable to Plans:	0.59 °/100usft	Directional Difficulty Index:	6.615

Audit Info

North Reference Sheet for Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 11H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB (PD 582) 27' + GL @ 3022.00usft. Northing and Easting are relative to Blue Steel 21 WD Fed Com 11H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.33333333°, Longitude Origin:0.00000000°, Latitude Origin:0.00000000°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99992246

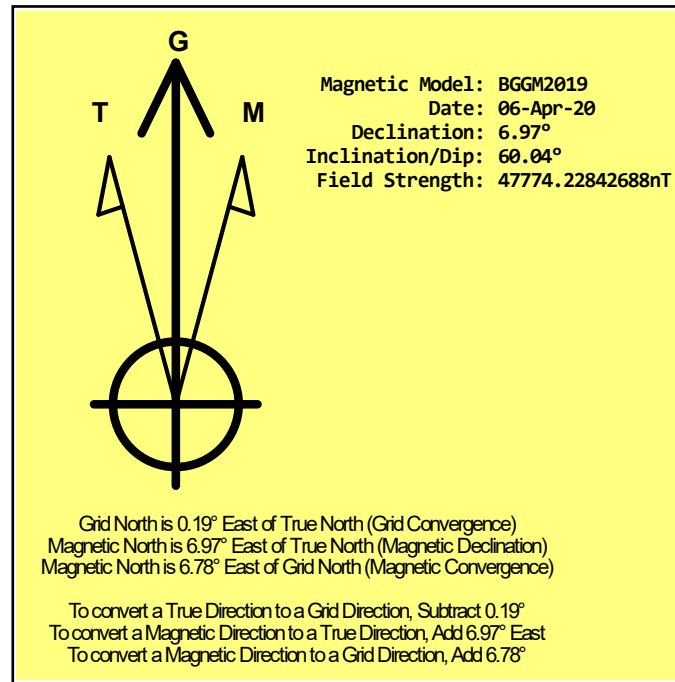
Grid Coordinates of Well: 465,466.46 usft N, 608,039.04 usft E

Geographical Coordinates of Well: 32.27920017, -103.98375183

Grid Convergence at Surface is: 0.19°

Based upon Minimum Curvature type calculations, at a Measured Depth of 21,331.33usft
the Bottom Hole Displacement is 11,977.48usft in the Direction of 356.53° (Grid).

Magnetic Convergence at surface is: -6.78° (6 April 2020 , BGGM2019)



Marathon Oil Permian LLC

Eddy County, New Mexico (NAD27) Blue Steel Pad (Grid)

API#

Blue Steel 21 WD Fed Com 11H

1420' FNL - 938' FEL

Wellbore #1

Sperry Drilling Services

Ellipse Separation

Anticollision Report

Minimum Magnetic Interference Warning level is 50' center to center

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Reference Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 11H - Wellbore #1 - Plan 1

Well Coordinates:	32.27920017	NAD 1927 (NADCON CONUS)
	-103.98375183	New Mexico East 3001
		465,466.46 N
		608,039.04 E

Site Error: 5.00 usft

Well Error: 0.50 usft

Ground Level: 2,995.00 usft

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Version: 5000.15 Build: 91E

Report Version: Midcon Ellipse v1.90

HALLIBURTON

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Anticollision Summary

Reference Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 11H - Wellbore #1 - Plan 1

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Site Name	Reference MD (usft)	Offset MD (usft)	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor	Summary Based on Minimum
Offset Well Name - Wellbore Name - Design							
Blue Steel Offsets							
Spud 16 State 08H (AC) - Wellbore #1 - Actual Drilled	-----		This well path is out of range due to filter settings		-----		
Spud 16 State 09H (Inactive) - Wellbore #1 - Actual Drilled	-----		This well path is out of range due to filter settings		-----		
Spud 16 State 10H (AC) - Wellbore #1 - Actual Drilled	-----		This well path is out of range due to filter settings		-----		
Spud 16 State 11H (AC) - Wellbore #1 - Actual Drilled	-----		This well path is out of range due to filter settings		-----		
Spud 16 State 12H - Wellbore #1 - Wellbore #1	-----		This well path is out of range due to filter settings		-----		
Spud 16 State 12H (AC) - Wellbore #1 - Actual Drilled	-----		This well path is out of range due to filter settings		-----		
Blue Steel Pad (Grid)							
Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1							
	1,200.00	1,200.00	30.06	20.94	90.10	3.296	Centre Distance
	1,300.00	1,299.99	30.46	20.63	118.30	3.099	Ellipse Separation
	21,331.33	21,328.86	673.68	305.60	101.56	1.830	Separation Factor
Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1							
	1,200.00	1,200.00	60.14	51.02	90.11	6.594	Centre Distance
	1,300.00	1,299.99	60.54	50.71	117.59	6.158	Ellipse Separation
	21,331.33	21,228.11	1,320.15	947.13	90.65	3.539	Separation Factor
Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1							
	1,003.62	1,003.62	30.02	22.29	-90.27	3.886	Centre Distance
	1,100.00	1,099.73	30.24	21.83	-89.81	3.597	Ellipse Separation
	21,331.33	21,408.62	670.86	303.38	-100.30	1.826	Separation Factor
Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled							
	981.99	982.02	216.36	209.45	-25.40	31.336	Centre Distance
	1,100.00	1,097.69	216.66	208.96	-25.60	28.122	Ellipse Separation
	17,900.00	17,098.00	898.66	691.20	-47.85	4.332	Separation Factor
Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4							
	981.99	982.02	216.36	209.45	-25.40	31.336	Centre Distance
	1,100.00	1,097.69	216.66	208.96	-25.60	28.122	Ellipse Separation

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Reference Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 11H - Wellbore #1 - Plan 1

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Site Name	Reference MD (usft)	Offset MD (usft)	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor	Summary Based on Minimum
Offset Well Name - Wellbore Name - Design							
Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4	21,100.00	20,353.08	899.36	620.27	-47.29	3.222	Separation Factor
Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled	9,600.00	9,524.03	614.96	539.23	97.80	8.120	Separation Factor
Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4	21,100.00	20,314.66	900.43	629.39	47.09	3.322	Separation Factor
Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled	9,959.77	9,870.79	115.17	48.91	23.13	1.738	Centre Distance / Ellipse Separation / Separation Factor
Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3	9,947.87	9,850.00	157.88	93.08	12.37	2.437	Centre Distance / Ellipse Separation / Separation Factor
Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled	1,420.39	1,415.52	217.13	207.26	-9.75	21.992	Centre Distance
	1,500.00	1,491.81	217.22	206.82	-8.88	20.898	Ellipse Separation
	21,104.71	20,160.00	1,518.44	1,214.68	60.51	4.999	Separation Factor
Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5	1,420.39	1,415.52	217.13	207.26	-9.75	21.992	Centre Distance
	1,500.00	1,491.81	217.22	206.82	-8.88	20.898	Ellipse Separation
	21,105.42	20,161.44	1,519.65	1,216.73	60.30	5.017	Separation Factor
Cypress 28 Federal 003H (AC) - Wellbore #1 - Actual Drilled	7,914.43	10,747.00	389.67	324.76	-69.24	6.004	Centre Distance / Ellipse Separation / Separation Factor
IMC 21 Federal Com 002H (AC) - Wellbore #1 - Actual Drilled	6,955.52	10,846.00	1,403.96	1,338.98	48.87	21.607	Centre Distance / Ellipse Separation
	7,200.00	10,846.00	1,425.08	1,357.75	48.87	21.166	Separation Factor
IMC 21-1 (TA) - Wellbore #1 - Actual Drilled	----- This well path is out of range due to filter settings -----						
Spud 16 State 01(PA) - Wellbore #1 - No Surveys	----- This well path is out of range due to filter settings -----						

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Reference Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 11H - Wellbore #1 - Plan 1

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

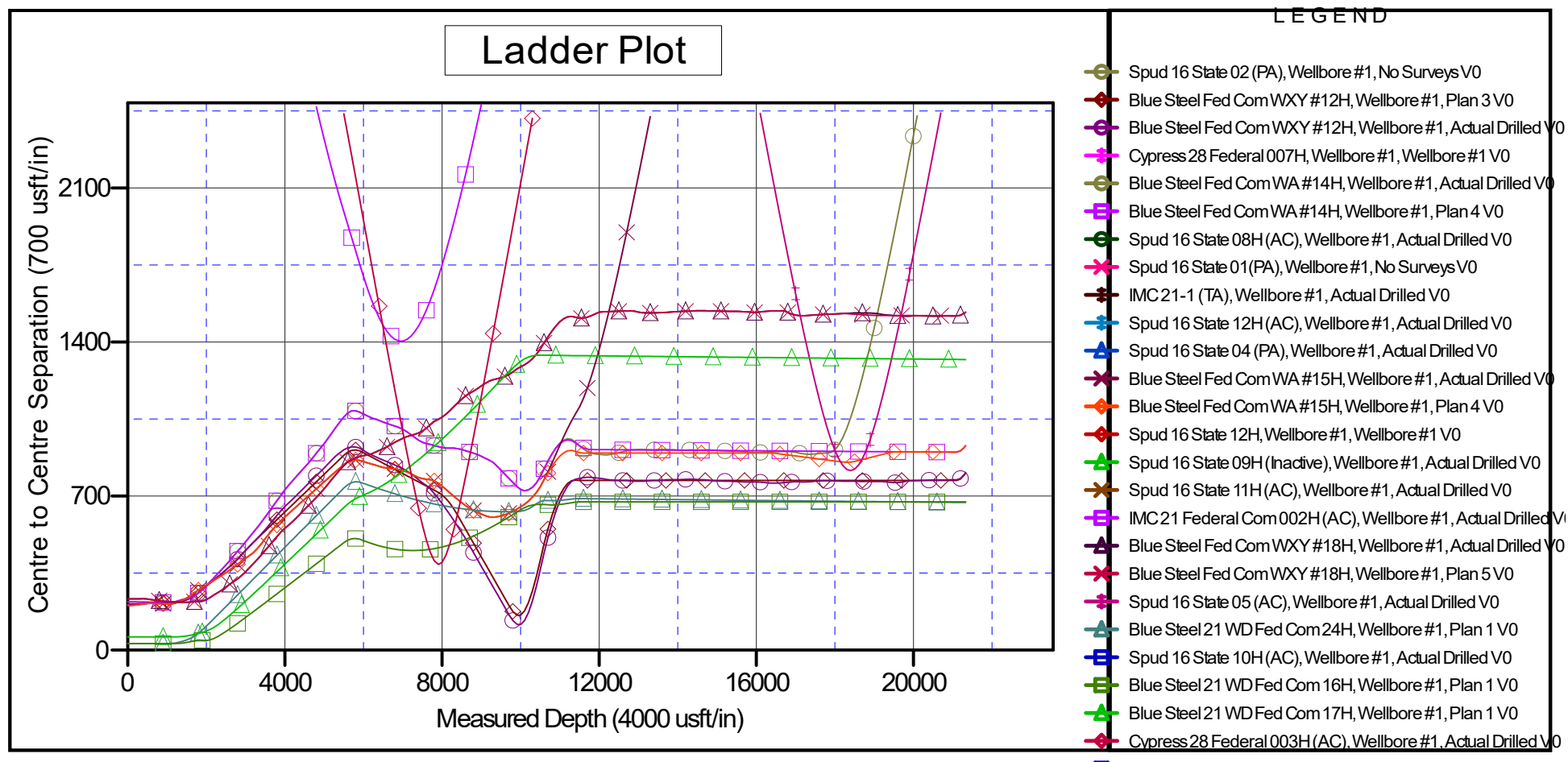
Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

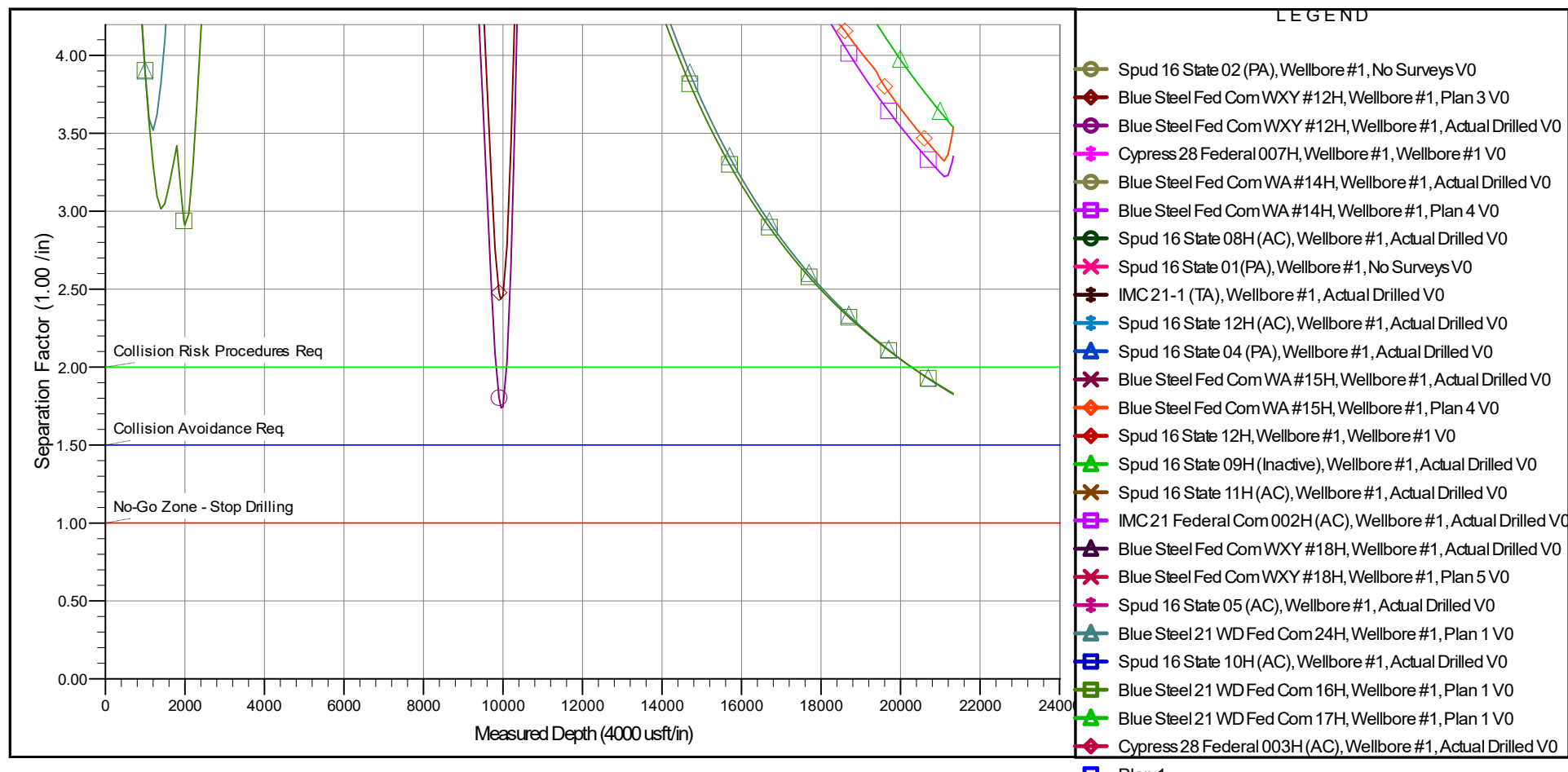
Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Site Name	Reference MD (usft)	Offset MD (usft)	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor	Summary Based on Minimum
Offset Well Name - Wellbore Name - Design							
Spud 16 State 02 (PA) - Wellbore #1 - No Surveys							----- This well path is out of range due to filter settings -----
Spud 16 State 04 (PA) - Wellbore #1 - Actual Drilled							----- This well path is out of range due to filter settings -----
Spud 16 State 05 (AC) - Wellbore #1 - Actual Drilled							
	18,398.83	10,833.50	815.76	663.61	91.29	5.361	Centre Distance
	18,400.00	10,833.50	815.76	663.61	91.29	5.361	Ellipse Separation / Separation Factor

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Ladder Plot: Measured Depth vs. Distance Between Centres



HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1****Separation Factor Plot: Measured Depth vs. Separation Factor**

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Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**Offset Well Listing**

Site Name	Well Name	Map Coordinates			Geographical Coordinates		Surface Uncertainty	
		Ground Level (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	Site Error (usft)	Well Error (usft)
Blue Steel Offsets	Spud 16 State 08H (AC)	2,971.00	476,995.81	604,345.14	32.31092591	-103.99558651	0.50	0.50
Blue Steel Offsets	Spud 16 State 09H (Inactive)	2,956.00	473,475.98	607,055.43	32.30122644	-103.98685075	0.50	0.50
Blue Steel Offsets	Spud 16 State 10H (AC)	2,963.00	474,287.48	608,299.48	32.30344607	-103.98281589	0.50	0.50
Blue Steel Offsets	Spud 16 State 11H (AC)	2,961.00	474,237.49	608,299.29	32.30330866	-103.98281700	0.50	0.50
Blue Steel Offsets	Spud 16 State 12H	2,961.00	474,187.49	608,299.25	32.30317119	-103.98281767	0.50	0.50
Blue Steel Offsets	Spud 16 State 12H (AC)	2,961.00	474,187.49	608,299.25	32.30317119	-103.98281767	0.50	0.50
Blue Steel Pad (Grid)	Blue Steel 21 WD Fed Com 16H	2,995.00	465,466.41	608,069.10	32.27919977	-103.98365457	5.00	0.50
Blue Steel Pad (Grid)	Blue Steel 21 WD Fed Com 17H	2,995.00	465,466.34	608,099.18	32.27919930	-103.98355724	5.00	0.50
Blue Steel Pad (Grid)	Blue Steel 21 WD Fed Com 24H	2,995.00	465,466.32	608,009.02	32.27920006	-103.98384897	5.00	0.50
Blue Steel Pad (Grid)	Blue Steel Fed Com WA #14H	2,995.00	465,666.37	607,949.21	32.27975051	-103.98404039	5.00	0.50
Blue Steel Pad (Grid)	Blue Steel Fed Com WA #15H	2,998.00	465,666.90	608,009.00	32.27975143	-103.98384692	5.00	0.50
Blue Steel Pad (Grid)	Blue Steel Fed Com WXY #12H	2,998.00	465,666.71	607,979.00	32.27975118	-103.98394399	5.00	0.50
Blue Steel Pad (Grid)	Blue Steel Fed Com WXY #18H	2,998.00	465,666.33	607,919.27	32.27975067	-103.98413726	5.00	0.50
Blue Steel Pad (Grid)	Cypress 28 Federal 003H (AC)	3,030.00	466,438.70	603,696.40	32.28191090	-103.99779325	5.00	0.50
Blue Steel Pad (Grid)	Cypress 28 Federal 007H	2,994.00	461,892.40	607,593.20	32.26937934	-103.98523193	5.00	0.50
Blue Steel Pad (Grid)	IMC 21 Federal Com 002H (AC)	2,960.00	471,746.90	608,549.50	32.29645999	-103.98203361	5.00	0.50
Blue Steel Pad (Grid)	IMC 21-1 (TA)	2,957.00	471,921.24	608,141.31	32.29694291	-103.98335280	5.00	0.50
Blue Steel Pad (Grid)	Spud 16 State 01(PA)	2,961.00	472,969.46	608,626.92	32.29982000	-103.98177010	5.00	164.00
Blue Steel Pad (Grid)	Spud 16 State 02 (PA)	2,970.00	474,188.34	608,625.05	32.30317060	-103.98176320	5.00	164.00
Blue Steel Pad (Grid)	Spud 16 State 04 (PA)	2,965.00	473,164.49	607,155.35	32.30036930	-103.98653060	5.00	164.00
Blue Steel Pad (Grid)	Spud 16 State 05 (AC)	2,962.00	474,571.17	608,141.51	32.30422732	-103.98332414	5.00	0.50

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	100.00	100.00	-0.05	30.06	0.52	30.06	27.74	90.10	12.956
200.00	200.00	0.00	0.00	0.70	200.00	200.00	-0.05	30.06	0.70	30.06	27.37	90.10	11.193
300.00	300.00	0.00	0.00	0.98	300.00	300.00	-0.05	30.06	0.98	30.06	26.81	90.10	9.235
400.00	400.00	0.00	0.00	1.31	400.00	400.00	-0.05	30.06	1.31	30.06	26.54	90.10	8.532
500.00	500.00	0.00	0.00	1.64	500.00	500.00	-0.05	30.06	1.64	30.06	25.86	90.10	7.163
600.00	600.00	0.00	0.00	1.99	600.00	600.00	-0.05	30.06	1.99	30.06	25.17	90.10	6.153
700.00	700.00	0.00	0.00	2.34	700.00	700.00	-0.05	30.06	2.34	30.06	24.48	90.10	5.384
800.00	800.00	0.00	0.00	2.69	800.00	800.00	-0.05	30.06	2.69	30.06	23.77	90.10	4.782
900.00	900.00	0.00	0.00	3.04	900.00	900.00	-0.05	30.06	3.04	30.06	23.07	90.10	4.300
1,000.00	1,000.00	0.00	0.00	3.39	1,000.00	1,000.00	-0.05	30.06	3.39	30.06	22.36	90.10	3.904
1,100.00	1,100.00	0.00	0.00	3.75	1,100.00	1,100.00	-0.05	30.06	3.75	30.06	21.65	90.10	3.575
1,200.00	1,200.00	0.00	0.00	4.10	1,200.00	1,200.00	-0.05	30.06	4.10	30.06	20.94	90.10	3.296
1,300.00	1,299.99	0.78	-0.39	4.46	1,299.99	1,299.99	-0.05	30.06	4.46	30.46	20.63	118.30	3.099
1,400.00	1,399.96	3.12	-1.57	4.81	1,399.96	1,399.96	-0.05	30.06	4.82	31.79	21.25	122.44	3.015
1,500.00	1,499.86	7.01	-3.53	5.17	1,499.86	1,499.86	-0.05	30.06	5.17	34.33	23.07	128.57	3.050
1,600.00	1,599.73	11.69	-5.89	5.53	1,599.73	1,599.73	-0.05	30.06	5.53	37.82	25.85	134.78	3.161
1,700.00	1,699.59	16.36	-8.24	5.88	1,699.59	1,699.59	-0.05	30.06	5.89	41.67	28.99	139.89	3.287
1,800.00	1,799.45	21.03	-10.60	6.24	1,799.45	1,799.45	-0.05	30.06	6.24	45.80	32.41	144.11	3.420
1,900.00	1,899.31	25.71	-12.95	6.60	1,903.30	1,902.33	12.57	29.16	6.63	44.22	30.13	134.17	3.138
1,973.85	1,973.07	29.16	-14.69	6.87	1,976.45	1,974.23	26.01	28.21	6.88	43.03	28.39	120.98	2.939
2,000.00	1,999.18	30.38	-15.31	6.96	2,002.35	1,999.68	30.76	27.87	6.97	43.18	28.35	116.23	2.911
2,100.00	2,099.04	35.06	-17.66	7.32	2,101.39	2,097.03	48.95	26.57	7.34	46.41	30.86	99.16	2.984
2,200.00	2,198.90	39.73	-20.02	7.68	2,200.44	2,194.38	67.14	25.28	7.71	53.14	36.88	85.31	3.269
2,300.00	2,298.77	44.40	-22.37	8.04	2,299.48	2,291.73	85.33	23.99	8.10	62.24	45.29	74.99	3.671
2,400.00	2,398.63	49.08	-24.73	8.40	2,398.53	2,389.09	103.52	22.69	8.49	72.83	55.17	67.46	4.125
2,500.00	2,498.49	53.75	-27.08	8.76	2,497.57	2,486.44	121.72	21.40	8.89	84.35	65.98	61.89	4.593
2,600.00	2,598.36	58.43	-29.44	9.12	2,596.62	2,583.79	139.91	20.11	9.29	96.47	77.39	57.69	5.057
2,700.00	2,698.22	63.10	-31.79	9.48	2,695.66	2,681.14	158.10	18.81	9.70	108.98	89.19	54.43	5.507
2,800.00	2,798.08	67.77	-34.15	9.85	2,794.71	2,778.49	176.29	17.52	10.11	121.77	101.26	51.85	5.937
2,900.00	2,897.94	72.45	-36.50	10.21	2,893.75	2,875.84	194.48	16.22	10.52	134.76	113.53	49.77	6.348

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,992.80	2,973.20	212.67	14.93	10.94	147.89	125.94	48.05	6.737
3,100.00	3,097.67	81.79	-41.21	10.93	3,091.84	3,070.55	230.86	13.64	11.36	161.13	138.71	46.61	7.187
3,200.00	3,197.53	86.47	-43.56	11.29	3,190.89	3,167.90	249.05	12.34	11.78	174.46	151.31	45.39	7.538
3,300.00	3,297.40	91.14	-45.92	11.66	3,289.93	3,265.25	267.24	11.05	12.21	187.85	163.98	44.34	7.870
3,400.00	3,397.26	95.82	-48.27	12.02	3,388.98	3,362.60	285.43	9.76	12.63	201.30	176.70	43.44	8.184
3,500.00	3,497.12	100.49	-50.63	12.38	3,488.02	3,459.95	303.62	8.46	13.06	214.79	189.46	42.64	8.481
3,600.00	3,596.98	105.16	-52.98	12.74	3,587.07	3,557.30	321.81	7.17	13.49	228.31	202.26	41.94	8.763
3,700.00	3,696.85	109.84	-55.34	13.11	3,686.11	3,654.66	340.00	5.87	13.92	241.87	215.09	41.32	9.030
3,800.00	3,796.71	114.51	-57.69	13.47	3,785.16	3,752.01	358.19	4.58	14.35	255.45	227.94	40.77	9.284
3,900.00	3,896.57	119.19	-60.05	13.83	3,884.20	3,849.36	376.38	3.29	14.79	269.05	240.81	40.27	9.526
4,000.00	3,996.44	123.86	-62.40	14.20	3,983.25	3,946.71	394.57	1.99	15.22	282.67	253.70	39.82	9.756
4,100.00	4,096.30	128.53	-64.76	14.56	4,082.29	4,044.06	412.76	0.70	15.66	296.31	266.60	39.41	9.974
4,200.00	4,196.16	133.21	-67.11	14.92	4,181.34	4,141.41	430.95	-0.59	16.10	309.96	279.52	39.03	10.183
4,300.00	4,296.03	137.88	-69.47	15.29	4,280.38	4,238.76	449.14	-1.89	16.53	323.62	292.45	38.69	10.382
4,400.00	4,395.89	142.56	-71.82	15.65	4,379.43	4,336.12	467.33	-3.18	16.97	337.29	305.38	38.38	10.572
4,500.00	4,495.75	147.23	-74.18	16.01	4,478.47	4,433.47	485.52	-4.48	17.41	350.97	318.33	38.09	10.754
4,600.00	4,595.61	151.90	-76.53	16.38	4,577.51	4,530.82	503.71	-5.77	17.85	364.66	331.29	37.82	10.928
4,700.00	4,695.48	156.58	-78.89	16.74	4,676.56	4,628.17	521.90	-7.06	18.29	378.35	344.25	37.57	11.094
4,800.00	4,795.34	161.25	-81.24	17.10	4,775.60	4,725.52	540.09	-8.36	18.73	392.05	357.22	37.34	11.254
4,900.00	4,895.20	165.93	-83.60	17.47	4,874.65	4,822.87	558.28	-9.65	19.17	405.76	370.19	37.12	11.407
5,000.00	4,995.07	170.60	-85.95	17.83	4,973.69	4,920.22	576.47	-10.94	19.62	419.48	383.17	36.92	11.554
5,100.00	5,094.93	175.27	-88.31	18.19	5,072.74	5,017.58	594.66	-12.24	20.06	433.19	396.15	36.73	11.695
5,200.00	5,194.79	179.95	-90.66	18.56	5,171.78	5,114.93	612.85	-13.53	20.50	446.92	409.14	36.56	11.831
5,300.00	5,294.66	184.62	-93.02	18.92	5,270.83	5,212.28	631.04	-14.83	20.95	460.64	422.13	36.39	11.961
5,400.00	5,394.52	189.29	-95.37	19.28	5,369.87	5,309.63	649.23	-16.12	21.39	474.37	435.13	36.23	12.087
5,500.00	5,494.38	193.97	-97.73	19.65	5,468.92	5,406.98	667.42	-17.41	21.83	488.11	448.13	36.08	12.208
5,600.00	5,594.02	201.36	-101.45	20.01	5,568.26	5,504.63	685.67	-18.71	22.28	499.39	458.66	35.91	12.262
5,700.00	5,692.97	214.18	-107.91	20.39	5,667.96	5,602.62	703.98	-20.01	22.73	505.76	464.28	36.25	12.191
5,800.00	5,790.86	232.36	-117.06	20.78	5,767.63	5,700.59	722.28	-21.31	23.17	507.29	465.03	37.09	12.003



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,866.92	5,798.18	740.52	-22.61	23.62	504.13	461.07	38.44	11.707
6,000.00	5,982.38	283.58	-142.87	21.60	5,965.62	5,895.19	758.65	-23.90	24.06	497.43	453.55	40.14	11.336
6,100.00	6,077.29	311.70	-157.03	22.02	6,064.26	5,992.15	776.76	-25.19	24.51	490.83	446.11	41.87	10.977
6,200.00	6,172.20	339.83	-171.20	22.45	6,162.90	6,089.10	794.88	-26.48	24.95	484.69	439.12	43.65	10.638
6,300.00	6,267.12	367.95	-185.36	22.88	6,261.54	6,186.05	812.99	-27.77	25.40	479.03	432.60	45.46	10.317
6,400.00	6,362.03	396.07	-199.53	23.31	6,360.18	6,283.01	831.11	-29.05	25.84	473.88	426.57	47.32	10.016
6,500.00	6,456.94	424.19	-213.69	23.76	6,458.82	6,379.96	849.23	-30.34	26.29	469.25	421.04	49.21	9.733
6,600.00	6,551.86	452.32	-227.86	24.20	6,557.46	6,476.92	867.34	-31.63	26.73	465.15	416.02	51.14	9.468
6,700.00	6,646.77	480.44	-242.02	24.65	6,656.10	6,573.87	885.46	-32.92	27.18	461.60	411.54	53.10	9.220
6,800.00	6,741.68	508.56	-256.19	25.11	6,754.74	6,670.82	903.57	-34.21	27.62	458.62	407.60	55.09	8.989
6,900.00	6,836.59	536.68	-270.35	25.57	6,853.38	6,767.78	921.69	-35.50	28.07	456.20	404.22	57.10	8.775
7,000.00	6,931.51	564.81	-284.52	26.03	6,952.02	6,864.73	939.81	-36.79	28.52	454.37	401.40	59.13	8.578
7,100.00	7,026.42	592.93	-298.68	26.50	7,050.66	6,961.68	957.92	-38.07	28.96	453.13	399.16	61.17	8.396
7,200.00	7,121.33	621.05	-312.85	26.97	7,149.30	7,058.64	976.04	-39.36	29.41	452.48	397.50	63.22	8.230
7,258.68	7,177.03	637.55	-321.16	27.25	7,207.18	7,115.53	986.67	-40.12	29.67	452.38	396.80	64.42	8.139
7,300.00	7,216.25	649.17	-327.01	27.44	7,247.94	7,155.59	994.15	-40.65	29.85	452.43	396.43	65.27	8.078
7,400.00	7,311.16	677.30	-341.18	27.92	7,346.58	7,252.55	1,012.27	-41.94	30.30	452.98	395.94	67.32	7.942
7,500.00	7,406.07	705.42	-355.34	28.40	7,445.22	7,349.50	1,030.39	-43.23	30.75	454.12	396.04	69.37	7.819
7,600.00	7,500.99	733.54	-369.51	28.88	7,543.86	7,446.45	1,048.50	-44.52	31.19	455.84	396.72	71.40	7.710
7,700.00	7,595.90	761.66	-383.68	29.36	7,642.50	7,543.41	1,066.62	-45.81	31.64	458.16	397.98	73.41	7.614
7,800.00	7,690.81	789.79	-397.84	29.85	7,741.14	7,640.36	1,084.73	-47.09	32.09	461.05	399.82	75.40	7.530
7,900.00	7,785.72	817.91	-412.01	30.34	7,839.78	7,737.32	1,102.85	-48.38	32.53	464.50	402.22	77.37	7.458
8,000.00	7,880.64	846.03	-426.17	30.83	7,938.42	7,834.27	1,120.97	-49.67	32.98	468.50	405.17	79.30	7.397
8,100.00	7,975.55	874.15	-440.34	31.33	8,037.06	7,931.22	1,139.08	-50.96	33.43	473.04	408.66	81.20	7.347
8,200.00	8,070.46	902.28	-454.50	31.82	8,135.70	8,028.18	1,157.20	-52.25	33.88	478.10	412.67	83.06	7.307
8,300.00	8,165.38	930.40	-468.67	32.32	8,234.35	8,125.13	1,175.31	-53.54	34.32	483.67	417.20	84.89	7.277
8,400.00	8,260.29	958.52	-482.83	32.82	8,332.99	8,222.08	1,193.43	-54.82	34.77	489.73	422.23	86.67	7.255
8,500.00	8,355.20	986.64	-497.00	33.32	8,431.63	8,319.04	1,211.55	-56.11	35.22	496.25	427.73	88.40	7.242
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,530.27	8,415.99	1,229.66	-57.40	35.67	503.23	433.69	90.10	7.236
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,628.91	8,512.95	1,247.78	-58.69	36.11	510.65	440.09	91.74	7.237

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,727.55	8,609.90	1,265.89	-59.98	36.56	518.48	446.91	93.34	7.245
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,826.19	8,706.85	1,284.01	-61.27	37.01	526.70	454.15	94.89	7.259
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,924.83	8,803.81	1,302.13	-62.56	37.46	535.30	461.76	96.39	7.279
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,023.47	8,900.76	1,320.24	-63.84	37.90	544.27	469.75	97.84	7.304
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,122.11	8,997.71	1,338.36	-65.13	38.35	553.57	478.09	99.25	7.334
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,220.75	9,094.67	1,356.47	-66.42	38.80	563.21	486.76	100.61	7.367
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,319.39	9,191.62	1,374.59	-67.71	39.25	573.15	495.75	101.92	7.405
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,418.03	9,288.58	1,392.71	-69.00	39.70	583.38	505.04	103.19	7.447
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,516.67	9,385.53	1,410.82	-70.29	40.15	593.90	514.62	104.42	7.491
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,615.31	9,482.48	1,428.94	-71.57	40.59	604.68	524.47	105.60	7.539
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,713.95	9,579.44	1,447.05	-72.86	41.04	615.70	534.57	106.75	7.589
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,812.59	9,676.39	1,465.17	-74.15	41.49	626.97	544.92	107.85	7.641
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,911.39	9,773.51	1,483.32	-75.44	41.94	638.06	555.10	109.04	7.691
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,010.81	9,871.22	1,501.57	-76.74	42.39	647.42	563.56	109.81	7.720
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,113.43	9,972.43	1,518.13	-77.92	42.84	654.64	569.91	110.19	7.726
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,214.48	10,073.45	1,519.14	-77.99	43.14	659.26	574.10	111.32	7.741
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,314.23	10,173.21	1,519.14	-77.99	43.44	661.77	575.99	111.94	7.715
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,414.22	10,273.19	1,519.14	-77.99	43.73	662.20	575.82	85.32	7.666
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,513.89	10,372.87	1,519.14	-77.99	44.03	661.69	574.70	85.85	7.606
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,608.86	10,467.79	1,520.97	-77.99	44.33	660.47	572.86	87.74	7.539
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,703.37	10,560.95	1,536.23	-77.97	44.74	659.92	571.53	89.83	7.465
10,807.99	10,568.43	1,538.92	-737.89	44.32	10,711.08	10,568.42	1,538.15	-77.97	44.78	659.92	571.45	90.00	7.459
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,801.94	10,654.05	1,568.22	-77.93	45.29	660.33	570.92	91.96	7.385
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,905.20	10,744.21	1,618.30	-77.87	46.00	661.71	571.04	94.07	7.298
11,100.00	10,776.17	1,739.63	-737.65	46.24	11,013.76	10,827.67	1,687.45	-77.78	46.87	663.93	571.82	96.12	7.208
11,200.00	10,820.55	1,829.10	-737.54	46.99	11,128.03	10,899.80	1,775.83	-77.68	47.90	666.74	573.03	98.02	7.115
11,300.00	10,848.72	1,924.92	-737.43	47.77	11,248.17	10,955.17	1,882.20	-77.55	49.07	669.78	574.32	99.68	7.017
11,400.00	10,859.83	2,024.17	-737.31	48.56	11,373.84	10,988.06	2,003.23	-77.40	50.36	672.58	575.22	101.03	6.908
11,500.00	10,860.00	2,124.17	-737.19	49.35	11,494.33	10,995.00	2,123.36	-77.25	51.62	673.61	574.20	101.56	6.776



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,600.00	10,860.00	2,224.17	-737.07	50.17	11,594.33	10,995.00	2,223.36	-77.13	52.68	673.61	572.32	101.56	6.650
11,700.00	10,860.00	2,324.17	-736.95	51.03	11,694.33	10,995.00	2,323.36	-77.01	53.78	673.61	570.39	101.56	6.526
11,800.00	10,860.00	2,424.17	-736.84	51.90	11,794.33	10,995.00	2,423.36	-76.89	54.90	673.62	568.40	101.56	6.402
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,894.33	10,995.00	2,523.36	-76.76	56.06	673.62	566.37	101.56	6.281
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,994.33	10,995.00	2,623.36	-76.64	57.23	673.62	564.29	101.56	6.161
12,100.00	10,860.00	2,724.17	-736.48	54.67	12,094.33	10,995.00	2,723.36	-76.52	58.43	673.63	562.16	101.56	6.043
12,200.00	10,860.00	2,824.17	-736.36	55.64	12,194.33	10,995.00	2,823.36	-76.40	59.65	673.63	559.99	101.56	5.928
12,300.00	10,860.00	2,924.17	-736.24	56.63	12,294.33	10,995.00	2,923.36	-76.27	60.89	673.63	557.79	101.56	5.815
12,400.00	10,860.00	3,024.17	-736.12	57.64	12,394.33	10,995.00	3,023.36	-76.15	62.15	673.64	555.54	101.56	5.704
12,500.00	10,860.00	3,124.17	-736.00	58.66	12,494.33	10,995.00	3,123.36	-76.03	63.43	673.64	553.27	101.56	5.596
12,600.00	10,860.00	3,224.17	-735.89	59.70	12,594.33	10,995.00	3,223.36	-75.91	64.72	673.64	550.95	101.56	5.491
12,700.00	10,860.00	3,324.17	-735.77	60.76	12,694.33	10,995.00	3,323.36	-75.79	66.03	673.65	548.61	101.56	5.388
12,800.00	10,860.00	3,424.17	-735.65	61.83	12,794.33	10,995.00	3,423.36	-75.66	67.36	673.65	546.24	101.56	5.287
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,894.33	10,995.00	3,523.36	-75.54	68.70	673.65	543.84	101.56	5.189
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,994.33	10,995.00	3,623.36	-75.42	70.05	673.66	541.42	101.56	5.094
13,100.00	10,860.00	3,724.17	-735.29	65.13	13,094.33	10,995.00	3,723.36	-75.30	71.42	673.66	538.97	101.56	5.001
13,200.00	10,860.00	3,824.17	-735.17	66.26	13,194.33	10,995.00	3,823.36	-75.17	72.80	673.66	536.49	101.56	4.911
13,300.00	10,860.00	3,924.17	-735.05	67.39	13,294.33	10,995.00	3,923.36	-75.05	74.19	673.67	534.00	101.56	4.823
13,400.00	10,860.00	4,024.17	-734.93	68.54	13,394.33	10,995.00	4,023.36	-74.93	75.59	673.67	531.48	101.56	4.738
13,500.00	10,860.00	4,124.17	-734.82	69.70	13,494.33	10,995.00	4,123.36	-74.81	77.00	673.67	528.94	101.56	4.655
13,600.00	10,860.00	4,224.17	-734.70	70.87	13,594.33	10,995.00	4,223.36	-74.69	78.42	673.68	526.39	101.56	4.574
13,700.00	10,860.00	4,324.17	-734.58	72.05	13,694.33	10,995.00	4,323.36	-74.56	79.85	673.68	523.81	101.56	4.495
13,800.00	10,860.00	4,424.17	-734.46	73.23	13,794.33	10,995.00	4,423.36	-74.44	81.28	673.68	521.22	101.56	4.419
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,894.33	10,995.00	4,523.36	-74.32	82.73	673.69	518.61	101.56	4.344
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,994.33	10,995.00	4,623.36	-74.20	84.18	673.69	515.99	101.56	4.272
14,100.00	10,860.00	4,724.17	-734.10	76.85	14,094.33	10,995.00	4,723.36	-74.08	85.64	673.69	513.35	101.56	4.202
14,200.00	10,860.00	4,824.17	-733.98	78.07	14,194.33	10,995.00	4,823.36	-73.95	87.11	673.70	510.70	101.56	4.133
14,300.00	10,860.00	4,924.17	-733.87	79.29	14,294.33	10,995.00	4,923.36	-73.83	88.58	673.70	508.04	101.56	4.067
14,400.00	10,860.00	5,024.17	-733.75	80.53	14,394.33	10,995.00	5,023.36	-73.71	90.06	673.70	505.36	101.56	4.002
14,500.00	10,860.00	5,124.17	-733.63	81.77	14,494.33	10,995.00	5,123.36	-73.59	91.55	673.71	502.67	101.56	3.939



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,600.00	10,860.00	5,224.17	-733.51	83.01	14,594.33	10,995.00	5,223.36	-73.46	93.04	673.71	499.97	101.56	3.878
14,700.00	10,860.00	5,324.17	-733.39	84.27	14,694.33	10,995.00	5,323.36	-73.34	94.53	673.71	497.26	101.56	3.818
14,800.00	10,860.00	5,424.17	-733.27	85.52	14,794.33	10,995.00	5,423.36	-73.22	96.04	673.72	494.54	101.56	3.760
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,894.33	10,995.00	5,523.36	-73.10	97.54	673.72	491.81	101.56	3.704
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,994.33	10,995.00	5,623.36	-72.98	99.05	673.72	489.07	101.56	3.649
15,100.00	10,860.00	5,724.17	-732.91	89.33	15,094.33	10,995.00	5,723.36	-72.85	100.57	673.73	486.32	101.56	3.595
15,200.00	10,860.00	5,824.17	-732.80	90.61	15,194.33	10,995.00	5,823.36	-72.73	102.09	673.73	483.56	101.56	3.543
15,300.00	10,860.00	5,924.17	-732.68	91.89	15,294.33	10,995.00	5,923.36	-72.61	103.61	673.73	480.79	101.56	3.492
15,400.00	10,860.00	6,024.17	-732.56	93.18	15,394.33	10,995.00	6,023.36	-72.49	105.14	673.74	478.01	101.56	3.442
15,500.00	10,860.00	6,124.17	-732.44	94.47	15,494.33	10,995.00	6,123.36	-72.36	106.67	673.74	475.23	101.56	3.394
15,600.00	10,860.00	6,224.17	-732.32	95.76	15,594.33	10,995.00	6,223.36	-72.24	108.21	673.74	472.44	101.56	3.347
15,700.00	10,860.00	6,324.17	-732.20	97.06	15,694.33	10,995.00	6,323.36	-72.12	109.75	673.75	469.64	101.56	3.301
15,800.00	10,860.00	6,424.17	-732.08	98.37	15,794.33	10,995.00	6,423.36	-72.00	111.29	673.75	466.84	101.56	3.256
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,894.33	10,995.00	6,523.36	-71.88	112.83	673.75	464.03	101.56	3.213
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,994.33	10,995.00	6,623.36	-71.75	114.38	673.76	461.21	101.56	3.170
16,100.00	10,860.00	6,724.17	-731.73	102.30	16,094.33	10,995.00	6,723.36	-71.63	115.93	673.76	458.39	101.56	3.128
16,200.00	10,860.00	6,824.17	-731.61	103.61	16,194.33	10,995.00	6,823.36	-71.51	117.49	673.76	455.56	101.56	3.088
16,300.00	10,860.00	6,924.17	-731.49	104.93	16,294.33	10,995.00	6,923.36	-71.39	119.04	673.76	452.73	101.56	3.048
16,400.00	10,860.00	7,024.17	-731.37	106.25	16,394.33	10,995.00	7,023.36	-71.27	120.60	673.77	449.89	101.56	3.009
16,500.00	10,860.00	7,124.17	-731.25	107.58	16,494.33	10,995.00	7,123.36	-71.14	122.16	673.77	447.04	101.56	2.972
16,600.00	10,860.00	7,224.17	-731.13	108.91	16,594.33	10,995.00	7,223.36	-71.02	123.73	673.77	444.19	101.56	2.935
16,700.00	10,860.00	7,324.17	-731.01	110.24	16,694.33	10,995.00	7,323.36	-70.90	125.29	673.78	441.34	101.56	2.899
16,800.00	10,860.00	7,424.17	-730.89	111.57	16,794.33	10,995.00	7,423.36	-70.78	126.86	673.78	438.48	101.56	2.863
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,894.33	10,995.00	7,523.36	-70.65	128.43	673.78	435.62	101.56	2.829
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,994.33	10,995.00	7,623.36	-70.53	130.01	673.79	432.75	101.56	2.795
17,100.00	10,860.00	7,724.17	-730.54	115.58	17,094.33	10,995.00	7,723.36	-70.41	131.58	673.79	429.88	101.56	2.762
17,200.00	10,860.00	7,824.17	-730.42	116.93	17,194.33	10,995.00	7,823.36	-70.29	133.16	673.79	427.00	101.56	2.730
17,300.00	10,860.00	7,924.17	-730.30	118.27	17,294.33	10,995.00	7,923.36	-70.17	134.73	673.80	424.12	101.56	2.699
17,400.00	10,860.00	8,024.17	-730.18	119.62	17,394.33	10,995.00	8,023.36	-70.04	136.31	673.80	421.24	101.56	2.668

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,500.00	10,860.00	8,124.17	-730.06	120.97	17,494.33	10,995.00	8,123.36	-69.92	137.90	673.80	418.35	101.56	2.638
17,600.00	10,860.00	8,224.17	-729.94	122.32	17,594.33	10,995.00	8,223.36	-69.80	139.48	673.81	415.46	101.56	2.608
17,700.00	10,860.00	8,324.17	-729.83	123.67	17,694.33	10,995.00	8,323.36	-69.68	141.07	673.81	412.57	101.56	2.579
17,800.00	10,860.00	8,424.17	-729.71	125.02	17,794.33	10,995.00	8,423.36	-69.55	142.65	673.81	409.67	101.56	2.551
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,894.33	10,995.00	8,523.36	-69.43	144.24	673.82	406.77	101.56	2.523
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,994.33	10,995.00	8,623.36	-69.31	145.83	673.82	403.87	101.56	2.496
18,100.00	10,860.00	8,724.17	-729.35	129.10	18,094.33	10,995.00	8,723.36	-69.19	147.42	673.82	400.96	101.56	2.469
18,200.00	10,860.00	8,824.17	-729.23	130.46	18,194.33	10,995.00	8,823.36	-69.07	149.01	673.83	398.06	101.56	2.443
18,300.00	10,860.00	8,924.17	-729.11	131.82	18,294.33	10,995.00	8,923.36	-68.94	150.61	673.83	395.14	101.56	2.418
18,400.00	10,860.00	9,024.17	-728.99	133.18	18,394.33	10,995.00	9,023.36	-68.82	152.20	673.83	392.23	101.56	2.393
18,500.00	10,860.00	9,124.17	-728.87	134.55	18,494.33	10,995.00	9,123.36	-68.70	153.80	673.84	389.31	101.56	2.368
18,600.00	10,860.00	9,224.17	-728.76	135.91	18,594.33	10,995.00	9,223.36	-68.58	155.39	673.84	386.40	101.56	2.344
18,700.00	10,860.00	9,324.17	-728.64	137.28	18,694.33	10,995.00	9,323.36	-68.46	156.99	673.84	383.47	101.56	2.321
18,800.00	10,860.00	9,424.17	-728.52	138.65	18,794.33	10,995.00	9,423.36	-68.33	158.59	673.85	380.55	101.56	2.298
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,894.33	10,995.00	9,523.36	-68.21	160.19	673.85	377.63	101.56	2.275
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,994.33	10,995.00	9,623.36	-68.09	161.79	673.85	374.70	101.56	2.253
19,100.00	10,860.00	9,724.16	-728.16	142.77	19,094.33	10,995.00	9,723.36	-67.97	163.40	673.86	371.77	101.56	2.231
19,200.00	10,860.00	9,824.16	-728.04	144.14	19,194.33	10,995.00	9,823.36	-67.84	165.00	673.86	368.83	101.56	2.209
19,300.00	10,860.00	9,924.16	-727.92	145.52	19,294.33	10,995.00	9,923.36	-67.72	166.61	673.86	365.90	101.56	2.188
19,400.00	10,860.00	10,024.16	-727.81	146.89	19,394.33	10,995.00	10,023.36	-67.60	168.21	673.87	362.96	101.56	2.167
19,500.00	10,860.00	10,124.16	-727.69	148.27	19,494.33	10,995.00	10,123.36	-67.48	169.82	673.87	360.03	101.56	2.147
19,600.00	10,860.00	10,224.16	-727.57	149.65	19,594.33	10,995.00	10,223.36	-67.36	171.42	673.87	357.09	101.56	2.127
19,700.00	10,860.00	10,324.16	-727.45	151.03	19,694.33	10,995.00	10,323.36	-67.23	173.03	673.88	354.14	101.56	2.108
19,800.00	10,860.00	10,424.16	-727.33	152.41	19,794.33	10,995.00	10,423.36	-67.11	174.64	673.88	351.20	101.56	2.088
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,894.33	10,995.00	10,523.36	-66.99	176.25	673.88	348.25	101.56	2.069
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,994.33	10,995.00	10,623.36	-66.87	177.86	673.89	345.31	101.56	2.051
20,100.00	10,860.00	10,724.16	-726.97	156.55	20,094.33	10,995.00	10,723.36	-66.74	179.47	673.89	342.36	101.56	2.033
20,200.00	10,860.00	10,824.16	-726.85	157.94	20,194.33	10,995.00	10,823.36	-66.62	181.09	673.89	339.41	101.56	2.015
20,300.00	10,860.00	10,924.16	-726.74	159.32	20,294.33	10,995.00	10,923.36	-66.50	182.70	673.90	336.46	101.56	1.997
20,400.00	10,860.00	11,024.16	-726.62	160.71	20,394.33	10,995.00	11,023.36	-66.38	184.31	673.90	333.50	101.56	1.980

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
20,500.00	10,860.00	11,124.16	-726.50	162.10	20,494.33	10,995.00	11,123.36	-66.26	185.93	673.90	330.55	101.56	1.963
20,600.00	10,860.00	11,224.16	-726.38	163.48	20,594.33	10,995.00	11,223.36	-66.13	187.54	673.91	327.59	101.56	1.946
20,700.00	10,860.00	11,324.16	-726.26	164.87	20,694.33	10,995.00	11,323.36	-66.01	189.16	673.91	324.64	101.56	1.929
20,800.00	10,860.00	11,424.16	-726.14	166.26	20,794.33	10,995.00	11,423.36	-65.89	190.77	673.91	321.68	101.56	1.913
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,894.33	10,995.00	11,523.36	-65.77	192.39	673.92	318.72	101.56	1.897
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,994.33	10,995.00	11,623.36	-65.65	194.01	673.92	315.76	101.56	1.882
21,100.00	10,860.00	11,724.16	-725.78	170.43	21,094.33	10,995.00	11,723.36	-65.52	195.63	673.92	312.79	101.56	1.866
21,200.00	10,860.00	11,824.16	-725.67	171.82	21,194.33	10,995.00	11,823.36	-65.40	197.25	673.93	309.83	101.56	1.851
21,300.00	10,860.00	11,924.16	-725.55	173.22	21,294.33	10,995.00	11,923.36	-65.28	198.86	673.93	306.86	101.56	1.836
21,331.33	10,860.00	11,955.49	-725.51	173.65	21,328.86	10,995.00	11,957.89	-65.50	199.42	673.68	305.60	101.56	1.830

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	100.00	100.00	-0.12	60.14	0.52	60.14	57.82	90.11	25.921
200.00	200.00	0.00	0.00	0.70	200.00	200.00	-0.12	60.14	0.70	60.14	57.45	90.11	22.393
300.00	300.00	0.00	0.00	0.98	300.00	300.00	-0.12	60.14	0.98	60.14	56.89	90.11	18.477
400.00	400.00	0.00	0.00	1.31	400.00	400.00	-0.12	60.14	1.31	60.14	56.62	90.11	17.071
500.00	500.00	0.00	0.00	1.64	500.00	500.00	-0.12	60.14	1.64	60.14	55.94	90.11	14.330
600.00	600.00	0.00	0.00	1.99	600.00	600.00	-0.12	60.14	1.99	60.14	55.25	90.11	12.309
700.00	700.00	0.00	0.00	2.34	700.00	700.00	-0.12	60.14	2.34	60.14	54.56	90.11	10.772
800.00	800.00	0.00	0.00	2.69	800.00	800.00	-0.12	60.14	2.69	60.14	53.85	90.11	9.568
900.00	900.00	0.00	0.00	3.04	900.00	900.00	-0.12	60.14	3.04	60.14	53.15	90.11	8.602
1,000.00	1,000.00	0.00	0.00	3.39	1,000.00	1,000.00	-0.12	60.14	3.39	60.14	52.44	90.11	7.811
1,100.00	1,100.00	0.00	0.00	3.75	1,100.00	1,100.00	-0.12	60.14	3.75	60.14	51.73	90.11	7.151
1,200.00	1,200.00	0.00	0.00	4.10	1,200.00	1,200.00	-0.12	60.14	4.10	60.14	51.02	90.11	6.594
1,300.00	1,299.99	0.78	-0.39	4.46	1,299.99	1,299.99	-0.12	60.14	4.46	60.54	50.71	117.59	6.158
1,400.00	1,399.96	3.12	-1.57	4.81	1,399.96	1,399.96	-0.12	60.14	4.82	61.80	51.25	119.73	5.862
1,500.00	1,499.86	7.01	-3.53	5.17	1,499.86	1,499.86	-0.12	60.14	5.17	64.07	52.82	123.10	5.694
1,600.00	1,599.73	11.69	-5.89	5.53	1,599.42	1,599.41	1.10	60.57	5.53	67.30	55.34	125.74	5.626
1,700.00	1,699.59	16.36	-8.24	5.88	1,699.02	1,698.93	4.76	61.87	5.88	71.07	58.40	126.07	5.609
1,800.00	1,799.45	21.03	-10.60	6.24	1,798.55	1,798.25	10.87	64.04	6.24	75.34	61.96	124.42	5.630
1,900.00	1,899.31	25.71	-12.95	6.60	1,897.86	1,897.14	19.39	67.07	6.59	80.30	66.21	121.15	5.698
2,000.00	1,999.18	30.38	-15.31	6.96	1,996.81	1,995.41	30.28	70.94	6.95	86.33	71.53	116.66	5.832
2,100.00	2,099.04	35.06	-17.66	7.32	2,095.29	2,092.88	43.50	75.63	7.31	93.88	78.37	111.36	6.054
2,200.00	2,198.90	39.73	-20.02	7.68	2,193.16	2,189.36	58.98	81.13	7.68	103.41	87.20	105.67	6.381
2,300.00	2,298.77	44.40	-22.37	8.04	2,290.31	2,284.69	76.65	87.41	8.06	115.28	98.39	99.99	6.826
2,400.00	2,398.63	49.08	-24.73	8.40	2,388.79	2,381.07	95.70	94.17	8.45	128.91	111.32	94.91	7.326
2,500.00	2,498.49	53.75	-27.08	8.76	2,487.27	2,477.45	114.75	100.94	8.85	143.36	125.05	90.82	7.830
2,600.00	2,598.36	58.43	-29.44	9.12	2,585.75	2,573.83	133.80	107.70	9.26	158.40	139.37	87.48	8.326
2,700.00	2,698.22	63.10	-31.79	9.48	2,684.23	2,670.21	152.85	114.47	9.67	173.87	154.13	84.72	8.806
2,800.00	2,798.08	67.77	-34.15	9.85	2,782.70	2,766.59	171.90	121.24	10.09	189.68	169.21	82.42	9.268
2,900.00	2,897.94	72.45	-36.50	10.21	2,881.18	2,862.97	190.95	128.00	10.51	205.74	184.55	80.47	9.710
3,000.00	2,997.81	77.12	-38.86	10.57	2,979.66	2,959.35	210.00	134.77	10.94	222.00	200.08	78.81	10.130

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,100.00	3,097.67	81.79	-41.21	10.93	3,078.14	3,055.73	229.06	141.53	11.37	238.41	216.02	77.37	10.650
3,200.00	3,197.53	86.47	-43.56	11.29	3,176.62	3,152.11	248.11	148.30	11.80	254.95	231.84	76.12	11.030
3,300.00	3,297.40	91.14	-45.92	11.66	3,275.10	3,248.50	267.16	155.07	12.24	271.60	247.76	75.02	11.391
3,400.00	3,397.26	95.82	-48.27	12.02	3,373.58	3,344.88	286.21	161.83	12.68	288.34	263.76	74.05	11.733
3,500.00	3,497.12	100.49	-50.63	12.38	3,472.05	3,441.26	305.26	168.60	13.12	305.14	279.84	73.18	12.058
3,600.00	3,596.98	105.16	-52.98	12.74	3,570.53	3,537.64	324.31	175.36	13.56	322.01	295.97	72.40	12.366
3,700.00	3,696.85	109.84	-55.34	13.11	3,669.01	3,634.02	343.36	182.13	14.00	338.93	312.15	71.71	12.660
3,800.00	3,796.71	114.51	-57.69	13.47	3,767.49	3,730.40	362.41	188.90	14.45	355.89	328.38	71.07	12.939
3,900.00	3,896.57	119.19	-60.05	13.83	3,865.97	3,826.78	381.46	195.66	14.90	372.89	344.65	70.50	13.204
4,000.00	3,996.44	123.86	-62.40	14.20	3,964.45	3,923.16	400.51	202.43	15.35	389.92	360.95	69.98	13.457
4,100.00	4,096.30	128.53	-64.76	14.56	4,062.92	4,019.54	419.56	209.19	15.80	406.99	377.28	69.49	13.698
4,200.00	4,196.16	133.21	-67.11	14.92	4,161.40	4,115.92	438.61	215.96	16.25	424.08	393.63	69.05	13.928
4,300.00	4,296.03	137.88	-69.47	15.29	4,259.88	4,212.30	457.66	222.73	16.70	441.19	410.00	68.65	14.148
4,400.00	4,395.89	142.56	-71.82	15.65	4,358.36	4,308.69	476.71	229.49	17.16	458.32	426.40	68.27	14.358
4,500.00	4,495.75	147.23	-74.18	16.01	4,456.84	4,405.07	495.77	236.26	17.61	475.47	442.81	67.92	14.559
4,600.00	4,595.61	151.90	-76.53	16.38	4,555.32	4,501.45	514.82	243.03	18.07	492.64	459.24	67.59	14.751
4,700.00	4,695.48	156.58	-78.89	16.74	4,653.79	4,597.83	533.87	249.79	18.52	509.82	475.68	67.29	14.935
4,800.00	4,795.34	161.25	-81.24	17.10	4,752.27	4,694.21	552.92	256.56	18.98	527.01	492.14	67.00	15.112
4,900.00	4,895.20	165.93	-83.60	17.47	4,850.75	4,790.59	571.97	263.32	19.44	544.21	508.60	66.74	15.282
5,000.00	4,995.07	170.60	-85.95	17.83	4,949.23	4,886.97	591.02	270.09	19.89	561.43	525.08	66.49	15.445
5,100.00	5,094.93	175.27	-88.31	18.19	5,047.71	4,983.35	610.07	276.86	20.35	578.65	541.56	66.25	15.601
5,200.00	5,194.79	179.95	-90.66	18.56	5,146.19	5,079.73	629.12	283.62	20.81	595.89	558.06	66.03	15.752
5,300.00	5,294.66	184.62	-93.02	18.92	5,244.66	5,176.11	648.17	290.39	21.27	613.13	574.56	65.82	15.897
5,400.00	5,394.52	189.29	-95.37	19.28	5,343.14	5,272.50	667.22	297.15	21.73	630.38	591.07	65.63	16.036
5,500.00	5,494.38	193.97	-97.73	19.65	5,441.62	5,368.88	686.27	303.92	22.19	647.64	607.59	65.44	16.171
5,600.00	5,594.02	201.36	-101.45	20.01	5,540.31	5,465.47	705.36	310.70	22.66	663.64	622.83	64.99	16.264
5,700.00	5,692.97	214.18	-107.91	20.39	5,639.19	5,562.24	724.49	317.49	23.12	677.11	635.53	65.09	16.284
5,800.00	5,790.86	232.36	-117.06	20.78	5,737.89	5,658.83	743.58	324.27	23.58	688.16	645.77	65.71	16.235
5,900.00	5,887.32	255.85	-128.90	21.18	5,836.03	5,754.88	762.57	331.02	24.04	697.01	653.79	66.81	16.126

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
6,000.00	5,982.38	283.58	-142.87	21.60	5,933.46	5,850.24	781.42	337.71	24.50	704.45	660.37	68.41	15.978
6,100.00	6,077.29	311.70	-157.03	22.02	6,030.82	5,945.52	800.25	344.40	24.96	712.37	667.41	70.11	15.842
6,200.00	6,172.20	339.83	-171.20	22.45	6,128.18	6,040.81	819.09	351.09	25.42	720.93	675.07	71.77	15.720
6,300.00	6,267.12	367.95	-185.36	22.88	6,225.54	6,136.09	837.92	357.78	25.88	730.10	683.33	73.39	15.613
6,400.00	6,362.03	396.07	-199.53	23.31	6,322.89	6,231.38	856.75	364.47	26.34	739.86	692.18	74.97	15.518
6,500.00	6,456.94	424.19	-213.69	23.76	6,420.25	6,326.66	875.59	371.16	26.79	750.19	701.58	76.52	15.435
6,600.00	6,551.86	452.32	-227.86	24.20	6,517.61	6,421.95	894.42	377.85	27.25	761.06	711.52	78.02	15.364
6,700.00	6,646.77	480.44	-242.02	24.65	6,614.97	6,517.23	913.26	384.54	27.71	772.45	721.98	79.47	15.304
6,800.00	6,741.68	508.56	-256.19	25.11	6,712.33	6,612.52	932.09	391.22	28.17	784.35	732.93	80.89	15.253
6,900.00	6,836.59	536.68	-270.35	25.57	6,809.69	6,707.80	950.92	397.91	28.63	796.72	744.35	82.27	15.212
7,000.00	6,931.51	564.81	-284.52	26.03	6,907.04	6,803.09	969.76	404.60	29.09	809.55	756.21	83.60	15.179
7,100.00	7,026.42	592.93	-298.68	26.50	7,004.40	6,898.37	988.59	411.29	29.55	822.81	768.51	84.89	15.154
7,200.00	7,121.33	621.05	-312.85	26.97	7,101.76	6,993.66	1,007.43	417.98	30.01	836.48	781.22	86.15	15.137
7,300.00	7,216.25	649.17	-327.01	27.44	7,199.12	7,088.94	1,026.26	424.67	30.47	850.55	794.32	87.36	15.126
7,400.00	7,311.16	677.30	-341.18	27.92	7,296.48	7,184.23	1,045.09	431.36	30.93	864.99	807.78	88.53	15.121
7,500.00	7,406.07	705.42	-355.34	28.40	7,393.84	7,279.51	1,063.93	438.05	31.39	879.78	821.61	89.67	15.122
7,600.00	7,500.99	733.54	-369.51	28.88	7,491.20	7,374.80	1,082.76	444.74	31.86	894.92	835.76	90.77	15.129
7,700.00	7,595.90	761.66	-383.68	29.36	7,588.55	7,470.08	1,101.60	451.43	32.32	910.37	850.24	91.84	15.140
7,800.00	7,690.81	789.79	-397.84	29.85	7,685.91	7,565.37	1,120.43	458.12	32.78	926.13	865.02	92.86	15.155
7,900.00	7,785.72	817.91	-412.01	30.34	7,783.27	7,660.65	1,139.27	464.81	33.24	942.18	880.10	93.86	15.175
8,000.00	7,880.64	846.03	-426.17	30.83	7,880.63	7,755.94	1,158.10	471.49	33.70	958.51	895.44	94.82	15.198
8,100.00	7,975.55	874.15	-440.34	31.33	7,977.99	7,851.22	1,176.93	478.18	34.16	975.10	911.05	95.75	15.225
8,200.00	8,070.46	902.28	-454.50	31.82	8,075.35	7,946.51	1,195.77	484.87	34.62	991.93	926.90	96.65	15.254
8,300.00	8,165.38	930.40	-468.67	32.32	8,172.71	8,041.79	1,214.60	491.56	35.09	1,009.00	943.00	97.52	15.287
8,400.00	8,260.29	958.52	-482.83	32.82	8,270.06	8,137.08	1,233.44	498.25	35.55	1,026.30	959.31	98.37	15.322
8,500.00	8,355.20	986.64	-497.00	33.32	8,367.42	8,232.36	1,252.27	504.94	36.01	1,043.80	975.84	99.18	15.359
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,464.78	8,327.65	1,271.10	511.63	36.47	1,061.51	992.57	99.97	15.398
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,562.14	8,422.93	1,289.94	518.32	36.93	1,079.42	1,009.50	100.73	15.439
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,659.50	8,518.22	1,308.77	525.01	37.40	1,097.50	1,026.61	101.47	15.481
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,756.86	8,613.50	1,327.61	531.70	37.86	1,115.76	1,043.89	102.19	15.525

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,854.21	8,708.79	1,346.44	538.39	38.32	1,134.19	1,061.35	102.88	15.571
9,100.00	8,924.68	1,155.38	-581.99	36.36	8,951.57	8,804.07	1,365.27	545.07	38.78	1,152.77	1,078.95	103.55	15.617
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,048.93	8,899.36	1,384.11	551.76	39.25	1,171.50	1,096.72	104.20	15.665
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,146.29	8,994.64	1,402.94	558.45	39.71	1,190.38	1,114.62	104.83	15.713
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,243.65	9,089.93	1,421.78	565.14	40.17	1,209.39	1,132.66	105.44	15.762
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,341.01	9,185.21	1,440.61	571.83	40.64	1,228.53	1,150.83	106.03	15.811
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,450.14	9,292.18	1,460.99	579.07	41.14	1,247.49	1,168.73	106.70	15.839
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,564.62	9,404.97	1,479.39	585.60	41.65	1,265.32	1,185.49	107.52	15.849
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,678.62	9,517.83	1,494.54	590.98	42.13	1,282.05	1,201.17	108.44	15.853
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,791.95	9,630.45	1,506.44	595.21	42.57	1,297.77	1,215.91	109.46	15.852
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,904.79	9,742.90	1,515.17	598.31	42.98	1,312.20	1,229.38	110.82	15.845
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,018.28	9,856.23	1,520.78	600.30	43.36	1,323.73	1,240.04	112.11	15.818
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,132.35	9,970.27	1,523.22	601.17	43.71	1,332.02	1,247.53	113.14	15.766
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,235.53	10,073.45	1,523.33	601.21	44.01	1,337.22	1,252.25	113.83	15.737
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,335.29	10,173.21	1,523.33	601.21	44.30	1,339.98	1,254.37	114.18	15.651
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,435.27	10,273.19	1,523.33	601.21	44.59	1,340.45	1,254.23	87.51	15.546
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,528.88	10,366.66	1,526.99	601.21	44.89	1,340.34	1,253.45	87.55	15.427
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,620.34	10,456.33	1,544.50	601.20	45.30	1,340.12	1,252.37	87.75	15.273
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,712.49	10,542.71	1,576.33	601.18	45.82	1,339.84	1,251.02	88.01	15.086
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,805.56	10,623.63	1,622.09	601.15	46.45	1,339.52	1,249.45	88.32	14.872
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,900.00	10,697.08	1,681.29	601.11	47.17	1,339.19	1,247.69	88.69	14.635
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,995.22	10,760.29	1,752.36	601.07	47.99	1,338.88	1,245.80	89.10	14.384
11,200.00	10,820.55	1,829.10	-737.54	46.99	11,092.20	10,811.68	1,834.47	601.02	48.89	1,338.61	1,243.82	89.54	14.123
11,300.00	10,848.72	1,924.92	-737.43	47.77	11,190.84	10,849.00	1,925.64	600.97	49.85	1,338.40	1,241.82	89.99	13.859
11,400.00	10,859.83	2,024.17	-737.31	48.56	11,291.26	10,870.37	2,023.63	600.91	50.87	1,338.26	1,239.84	90.45	13.598
11,500.00	10,860.00	2,124.17	-737.19	49.35	11,392.81	10,875.00	2,124.98	600.85	51.92	1,338.12	1,237.84	90.64	13.343
11,600.00	10,860.00	2,224.17	-737.07	50.17	11,492.81	10,875.00	2,224.98	600.79	52.97	1,337.95	1,235.75	90.64	13.093
11,700.00	10,860.00	2,324.17	-736.95	51.03	11,592.81	10,875.00	2,324.98	600.73	54.05	1,337.77	1,233.62	90.64	12.844
11,800.00	10,860.00	2,424.17	-736.84	51.90	11,692.81	10,875.00	2,424.98	600.67	55.16	1,337.59	1,231.42	90.64	12.599



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,792.81	10,875.00	2,524.98	600.61	56.30	1,337.41	1,229.18	90.64	12.357
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,892.81	10,875.00	2,624.98	600.55	57.46	1,337.23	1,226.89	90.64	12.119
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,992.81	10,875.00	2,724.97	600.49	58.65	1,337.05	1,224.55	90.64	11.885
12,200.00	10,860.00	2,824.17	-736.36	55.64	12,092.81	10,875.00	2,824.97	600.43	59.86	1,336.87	1,222.17	90.64	11.655
12,300.00	10,860.00	2,924.17	-736.24	56.63	12,192.81	10,875.00	2,924.97	600.37	61.09	1,336.69	1,219.75	90.64	11.431
12,400.00	10,860.00	3,024.17	-736.12	57.64	12,292.81	10,875.00	3,024.97	600.31	62.34	1,336.51	1,217.30	90.64	11.211
12,500.00	10,860.00	3,124.17	-736.00	58.66	12,392.81	10,875.00	3,124.97	600.25	63.60	1,336.33	1,214.80	90.64	10.996
12,600.00	10,860.00	3,224.17	-735.89	59.70	12,492.81	10,875.00	3,224.97	600.19	64.89	1,336.16	1,212.28	90.64	10.786
12,700.00	10,860.00	3,324.17	-735.77	60.76	12,592.80	10,875.00	3,324.97	600.13	66.19	1,335.98	1,209.72	90.64	10.581
12,800.00	10,860.00	3,424.17	-735.65	61.83	12,692.80	10,875.00	3,424.97	600.06	67.51	1,335.80	1,207.13	90.64	10.382
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,792.80	10,875.00	3,524.97	600.00	68.84	1,335.62	1,204.51	90.64	10.187
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,892.80	10,875.00	3,624.97	599.94	70.18	1,335.44	1,201.87	90.64	9.998
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,992.80	10,875.00	3,724.97	599.88	71.54	1,335.26	1,199.20	90.64	9.814
13,200.00	10,860.00	3,824.17	-735.17	66.26	13,092.80	10,875.00	3,824.97	599.82	72.91	1,335.08	1,196.51	90.64	9.634
13,300.00	10,860.00	3,924.17	-735.05	67.39	13,192.80	10,875.00	3,924.97	599.76	74.29	1,334.90	1,193.79	90.64	9.460
13,400.00	10,860.00	4,024.17	-734.93	68.54	13,292.80	10,875.00	4,024.97	599.70	75.68	1,334.72	1,191.05	90.64	9.290
13,500.00	10,860.00	4,124.17	-734.82	69.70	13,392.80	10,875.00	4,124.97	599.64	77.09	1,334.54	1,188.30	90.64	9.125
13,600.00	10,860.00	4,224.17	-734.70	70.87	13,492.80	10,875.00	4,224.97	599.58	78.50	1,334.36	1,185.52	90.64	8.965
13,700.00	10,860.00	4,324.17	-734.58	72.05	13,592.80	10,875.00	4,324.97	599.52	79.92	1,334.19	1,182.73	90.64	8.809
13,800.00	10,860.00	4,424.17	-734.46	73.23	13,692.80	10,875.00	4,424.97	599.46	81.35	1,334.01	1,179.91	90.64	8.657
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,792.80	10,875.00	4,524.97	599.40	82.79	1,333.83	1,177.08	90.64	8.510
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,892.80	10,875.00	4,624.97	599.34	84.24	1,333.65	1,174.24	90.64	8.366
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,992.80	10,875.00	4,724.97	599.28	85.69	1,333.47	1,171.38	90.64	8.227
14,200.00	10,860.00	4,824.17	-733.98	78.07	14,092.80	10,875.00	4,824.97	599.22	87.15	1,333.29	1,168.50	90.64	8.091
14,300.00	10,860.00	4,924.17	-733.87	79.29	14,192.80	10,875.00	4,924.97	599.16	88.62	1,333.11	1,165.62	90.64	7.959
14,400.00	10,860.00	5,024.17	-733.75	80.53	14,292.80	10,875.00	5,024.97	599.10	90.09	1,332.93	1,162.72	90.64	7.831
14,500.00	10,860.00	5,124.17	-733.63	81.77	14,392.80	10,875.00	5,124.97	599.04	91.58	1,332.75	1,159.80	90.64	7.706
14,600.00	10,860.00	5,224.17	-733.51	83.01	14,492.80	10,875.00	5,224.97	598.98	93.06	1,332.57	1,156.88	90.64	7.585
14,700.00	10,860.00	5,324.17	-733.39	84.27	14,592.80	10,875.00	5,324.97	598.92	94.55	1,332.40	1,153.94	90.65	7.466
14,800.00	10,860.00	5,424.17	-733.27	85.52	14,692.80	10,875.00	5,424.97	598.86	96.05	1,332.22	1,151.00	90.65	7.351

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,792.80	10,875.00	5,524.97	598.80	97.55	1,332.04	1,148.04	90.65	7.240
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,892.80	10,875.00	5,624.97	598.74	99.06	1,331.86	1,145.08	90.65	7.131
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,992.80	10,875.00	5,724.97	598.68	100.57	1,331.68	1,142.10	90.65	7.024
15,200.00	10,860.00	5,824.17	-732.80	90.61	15,092.80	10,875.00	5,824.97	598.62	102.09	1,331.50	1,139.12	90.65	6.921
15,300.00	10,860.00	5,924.17	-732.68	91.89	15,192.80	10,875.00	5,924.97	598.56	103.61	1,331.32	1,136.12	90.65	6.820
15,400.00	10,860.00	6,024.17	-732.56	93.18	15,292.80	10,875.00	6,024.97	598.50	105.13	1,331.14	1,133.12	90.65	6.722
15,500.00	10,860.00	6,124.17	-732.44	94.47	15,392.80	10,875.00	6,124.97	598.44	106.66	1,330.96	1,130.12	90.65	6.627
15,600.00	10,860.00	6,224.17	-732.32	95.76	15,492.80	10,875.00	6,224.97	598.38	108.19	1,330.78	1,127.10	90.65	6.534
15,700.00	10,860.00	6,324.17	-732.20	97.06	15,592.80	10,875.00	6,324.97	598.32	109.73	1,330.61	1,124.08	90.65	6.443
15,800.00	10,860.00	6,424.17	-732.08	98.37	15,692.80	10,875.00	6,424.97	598.26	111.27	1,330.43	1,121.05	90.65	6.354
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,792.80	10,875.00	6,524.97	598.20	112.81	1,330.25	1,118.01	90.65	6.268
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,892.80	10,875.00	6,624.97	598.14	114.35	1,330.07	1,114.97	90.65	6.183
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,992.80	10,875.00	6,724.97	598.08	115.90	1,329.89	1,111.92	90.65	6.101
16,200.00	10,860.00	6,824.17	-731.61	103.61	16,092.80	10,875.00	6,824.97	598.02	117.45	1,329.71	1,108.86	90.65	6.021
16,300.00	10,860.00	6,924.17	-731.49	104.93	16,192.80	10,875.00	6,924.97	597.96	119.00	1,329.53	1,105.80	90.65	5.943
16,400.00	10,860.00	7,024.17	-731.37	106.25	16,292.80	10,875.00	7,024.97	597.90	120.56	1,329.35	1,102.74	90.65	5.866
16,500.00	10,860.00	7,124.17	-731.25	107.58	16,392.80	10,875.00	7,124.97	597.84	122.12	1,329.17	1,099.67	90.65	5.791
16,600.00	10,860.00	7,224.17	-731.13	108.91	16,492.80	10,875.00	7,224.97	597.78	123.68	1,328.99	1,096.59	90.65	5.718
16,700.00	10,860.00	7,324.17	-731.01	110.24	16,592.80	10,875.00	7,324.97	597.72	125.24	1,328.81	1,093.51	90.65	5.647
16,800.00	10,860.00	7,424.17	-730.89	111.57	16,692.80	10,875.00	7,424.97	597.66	126.81	1,328.64	1,090.42	90.65	5.578
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,792.80	10,875.00	7,524.97	597.60	128.38	1,328.46	1,087.33	90.65	5.509
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,892.80	10,875.00	7,624.97	597.54	129.95	1,328.28	1,084.24	90.65	5.443
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,992.80	10,875.00	7,724.97	597.48	131.52	1,328.10	1,081.14	90.65	5.378
17,200.00	10,860.00	7,824.17	-730.42	116.93	17,092.80	10,875.00	7,824.97	597.42	133.10	1,327.92	1,078.04	90.65	5.314
17,300.00	10,860.00	7,924.17	-730.30	118.27	17,192.80	10,875.00	7,924.97	597.36	134.67	1,327.74	1,074.93	90.65	5.252
17,400.00	10,860.00	8,024.17	-730.18	119.62	17,292.80	10,875.00	8,024.97	597.30	136.25	1,327.56	1,071.82	90.65	5.191
17,500.00	10,860.00	8,124.17	-730.06	120.97	17,392.80	10,875.00	8,124.97	597.23	137.83	1,327.38	1,068.71	90.65	5.132
17,600.00	10,860.00	8,224.17	-729.94	122.32	17,492.80	10,875.00	8,224.97	597.17	139.41	1,327.20	1,065.59	90.65	5.073
17,700.00	10,860.00	8,324.17	-729.83	123.67	17,592.80	10,875.00	8,324.96	597.11	140.99	1,327.02	1,062.47	90.65	5.016

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,800.00	10,860.00	8,424.17	-729.71	125.02	17,692.80	10,875.00	8,424.96	597.05	142.58	1,326.85	1,059.35	90.65	4.960
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,792.80	10,875.00	8,524.96	596.99	144.16	1,326.67	1,056.22	90.65	4.905
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,892.80	10,875.00	8,624.96	596.93	145.75	1,326.49	1,053.09	90.65	4.852
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,992.80	10,875.00	8,724.96	596.87	147.34	1,326.31	1,049.96	90.65	4.799
18,200.00	10,860.00	8,824.17	-729.23	130.46	18,092.80	10,875.00	8,824.96	596.81	148.93	1,326.13	1,046.82	90.65	4.748
18,300.00	10,860.00	8,924.17	-729.11	131.82	18,192.80	10,875.00	8,924.96	596.75	150.52	1,325.95	1,043.68	90.65	4.698
18,400.00	10,860.00	9,024.17	-728.99	133.18	18,292.80	10,875.00	9,024.96	596.69	152.12	1,325.77	1,040.54	90.65	4.648
18,500.00	10,860.00	9,124.17	-728.87	134.55	18,392.80	10,875.00	9,124.96	596.63	153.71	1,325.59	1,037.40	90.65	4.600
18,600.00	10,860.00	9,224.17	-728.76	135.91	18,492.80	10,875.00	9,224.96	596.57	155.31	1,325.41	1,034.25	90.65	4.552
18,700.00	10,860.00	9,324.17	-728.64	137.28	18,592.80	10,875.00	9,324.96	596.51	156.90	1,325.23	1,031.10	90.65	4.506
18,800.00	10,860.00	9,424.17	-728.52	138.65	18,692.80	10,875.00	9,424.96	596.45	158.50	1,325.06	1,027.95	90.65	4.460
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,792.80	10,875.00	9,524.96	596.39	160.10	1,324.88	1,024.80	90.65	4.415
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,892.79	10,875.00	9,624.96	596.33	161.70	1,324.70	1,021.64	90.65	4.371
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,992.79	10,875.00	9,724.96	596.27	163.30	1,324.52	1,018.49	90.65	4.328
19,200.00	10,860.00	9,824.16	-728.04	144.14	19,092.79	10,875.00	9,824.96	596.21	164.91	1,324.34	1,015.33	90.65	4.286
19,300.00	10,860.00	9,924.16	-727.92	145.52	19,192.79	10,875.00	9,924.96	596.15	166.51	1,324.16	1,012.16	90.65	4.244
19,400.00	10,860.00	10,024.16	-727.81	146.89	19,292.79	10,875.00	10,024.96	596.09	168.11	1,323.98	1,009.00	90.65	4.203
19,500.00	10,860.00	10,124.16	-727.69	148.27	19,392.79	10,875.00	10,124.96	596.03	169.72	1,323.80	1,005.83	90.65	4.163
19,600.00	10,860.00	10,224.16	-727.57	149.65	19,492.79	10,875.00	10,224.96	595.97	171.32	1,323.62	1,002.67	90.65	4.124
19,700.00	10,860.00	10,324.16	-727.45	151.03	19,592.79	10,875.00	10,324.96	595.91	172.93	1,323.44	999.50	90.65	4.085
19,800.00	10,860.00	10,424.16	-727.33	152.41	19,692.79	10,875.00	10,424.96	595.85	174.54	1,323.26	996.32	90.65	4.047
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,792.79	10,875.00	10,524.96	595.79	176.15	1,323.09	993.15	90.65	4.010
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,892.79	10,875.00	10,624.96	595.73	177.76	1,322.91	989.98	90.65	3.974
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,992.79	10,875.00	10,724.96	595.67	179.37	1,322.73	986.80	90.65	3.938
20,200.00	10,860.00	10,824.16	-726.85	157.94	20,092.79	10,875.00	10,824.96	595.61	180.98	1,322.55	983.62	90.65	3.902
20,300.00	10,860.00	10,924.16	-726.74	159.32	20,192.79	10,875.00	10,924.96	595.55	182.59	1,322.37	980.44	90.65	3.867
20,400.00	10,860.00	11,024.16	-726.62	160.71	20,292.79	10,875.00	11,024.96	595.49	184.20	1,322.19	977.26	90.65	3.833
20,500.00	10,860.00	11,124.16	-726.50	162.10	20,392.79	10,875.00	11,124.96	595.43	185.82	1,322.01	974.08	90.65	3.800
20,600.00	10,860.00	11,224.16	-726.38	163.48	20,492.79	10,875.00	11,224.96	595.37	187.43	1,321.83	970.89	90.65	3.767
20,700.00	10,860.00	11,324.16	-726.26	164.87	20,592.79	10,875.00	11,324.96	595.31	189.05	1,321.65	967.71	90.65	3.734

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
20,800.00	10,860.00	11,424.16	-726.14	166.26	20,692.79	10,875.00	11,424.96	595.25	190.66	1,321.47	964.52	90.65	3.702
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,792.79	10,875.00	11,524.96	595.19	192.28	1,321.30	961.33	90.65	3.671
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,892.79	10,875.00	11,624.96	595.13	193.89	1,321.12	958.14	90.65	3.640
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,992.79	10,875.00	11,724.96	595.07	195.51	1,320.94	954.95	90.65	3.609
21,200.00	10,860.00	11,824.16	-725.67	171.82	21,092.79	10,875.00	11,824.96	595.01	197.13	1,320.76	951.76	90.65	3.579
21,300.00	10,860.00	11,924.16	-725.55	173.22	21,210.43	10,875.00	11,942.59	594.80	199.03	1,320.56	948.28	90.65	3.547
21,331.33	10,860.00	11,955.49	-725.51	173.65	21,228.11	10,875.00	11,960.28	594.55	199.32	1,320.15	947.13	90.65	3.539

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	100.00	100.00	-0.14	-30.02	0.52	30.02	27.70	-90.27	12.939
200.00	200.00	0.00	0.00	0.70	200.00	200.00	-0.14	-30.02	0.70	30.02	27.33	-90.27	11.178
300.00	300.00	0.00	0.00	0.98	300.00	300.00	-0.14	-30.02	0.98	30.02	26.77	-90.27	9.223
400.00	400.00	0.00	0.00	1.31	400.00	400.00	-0.14	-30.02	1.31	30.02	26.50	-90.27	8.521
500.00	500.00	0.00	0.00	1.64	500.00	500.00	-0.14	-30.02	1.64	30.02	25.82	-90.27	7.153
600.00	600.00	0.00	0.00	1.99	600.00	600.00	-0.14	-30.02	1.99	30.02	25.13	-90.27	6.145
700.00	700.00	0.00	0.00	2.34	700.00	700.00	-0.14	-30.02	2.34	30.02	24.44	-90.27	5.377
800.00	800.00	0.00	0.00	2.69	800.00	800.00	-0.14	-30.02	2.69	30.02	23.73	-90.27	4.776
900.00	900.00	0.00	0.00	3.04	900.00	900.00	-0.14	-30.02	3.04	30.02	23.03	-90.27	4.294
1,000.00	1,000.00	0.00	0.00	3.39	1,000.00	1,000.00	-0.14	-30.02	3.39	30.02	22.32	-90.27	3.899
1,003.62	1,003.62	0.00	0.00	3.41	1,003.62	1,003.62	-0.14	-30.02	3.41	30.02	22.29	-90.27	3.886
1,100.00	1,100.00	0.00	0.00	3.75	1,099.73	1,099.73	0.10	-30.24	3.75	30.24	21.83	-89.81	3.597
1,200.00	1,200.00	0.00	0.00	4.10	1,199.14	1,199.10	2.00	-31.99	4.10	32.06	22.95	-86.41	3.520
1,300.00	1,299.99	0.78	-0.39	4.46	1,298.38	1,298.21	5.81	-35.48	4.45	35.49	25.68	-55.07	3.618
1,400.00	1,399.96	3.12	-1.57	4.81	1,397.46	1,396.98	11.49	-40.70	4.80	40.13	29.63	-51.08	3.821
1,500.00	1,499.86	7.01	-3.53	5.17	1,496.34	1,495.32	19.05	-47.64	5.16	45.94	34.75	-47.81	4.105
1,600.00	1,599.73	11.69	-5.89	5.53	1,594.91	1,593.06	28.44	-56.26	5.53	53.50	41.63	-44.63	4.506
1,700.00	1,699.59	16.36	-8.24	5.88	1,693.01	1,689.98	39.63	-66.53	5.90	63.50	50.95	-41.23	5.060
1,800.00	1,799.45	21.03	-10.60	6.24	1,790.52	1,785.89	52.57	-78.41	6.28	76.01	62.79	-38.02	5.751
1,900.00	1,899.31	25.71	-12.95	6.60	1,887.31	1,880.62	67.19	-91.83	6.68	91.07	77.19	-35.19	6.563
2,000.00	1,999.18	30.38	-15.31	6.96	1,984.67	1,975.46	83.42	-106.73	7.09	108.33	93.77	-32.81	7.441
2,100.00	2,099.04	35.06	-17.66	7.32	2,083.03	2,071.21	100.00	-121.96	7.52	125.98	110.71	-31.03	8.250
2,200.00	2,198.90	39.73	-20.02	7.68	2,181.40	2,166.96	116.59	-137.18	7.96	143.72	127.73	-29.69	8.991
2,300.00	2,298.77	44.40	-22.37	8.04	2,279.76	2,262.72	133.17	-152.41	8.40	161.52	144.82	-28.64	9.670
2,400.00	2,398.63	49.08	-24.73	8.40	2,378.13	2,358.47	149.76	-167.63	8.86	179.36	161.94	-27.81	10.294
2,500.00	2,498.49	53.75	-27.08	8.76	2,476.49	2,454.22	166.34	-182.86	9.31	197.24	179.09	-27.12	10.869
2,600.00	2,598.36	58.43	-29.44	9.12	2,574.86	2,549.98	182.93	-198.08	9.77	215.13	196.26	-26.55	11.399
2,700.00	2,698.22	63.10	-31.79	9.48	2,673.22	2,645.73	199.51	-213.31	10.24	233.05	213.45	-26.06	11.891
2,800.00	2,798.08	67.77	-34.15	9.85	2,771.59	2,741.49	216.09	-228.53	10.71	250.97	230.65	-25.65	12.347
2,900.00	2,897.94	72.45	-36.50	10.21	2,869.95	2,837.24	232.68	-243.76	11.18	268.91	247.86	-25.29	12.772

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,968.32	2,932.99	249.26	-258.98	11.65	286.86	265.07	-24.97	13.168
3,100.00	3,097.67	81.79	-41.21	10.93	3,066.68	3,028.75	265.85	-274.21	12.13	304.82	282.55	-24.69	13.693
3,200.00	3,197.53	86.47	-43.56	11.29	3,165.05	3,124.50	282.43	-289.43	12.61	322.78	299.78	-24.45	14.038
3,300.00	3,297.40	91.14	-45.92	11.66	3,263.41	3,220.25	299.02	-304.66	13.09	340.74	317.02	-24.22	14.362
3,400.00	3,397.26	95.82	-48.27	12.02	3,361.78	3,316.01	315.60	-319.88	13.57	358.71	334.26	-24.03	14.666
3,500.00	3,497.12	100.49	-50.63	12.38	3,460.14	3,411.76	332.18	-335.10	14.06	376.69	351.50	-23.85	14.952
3,600.00	3,596.98	105.16	-52.98	12.74	3,558.51	3,507.52	348.77	-350.33	14.54	394.67	368.74	-23.68	15.222
3,700.00	3,696.85	109.84	-55.34	13.11	3,656.87	3,603.27	365.35	-365.55	15.03	412.65	385.99	-23.53	15.477
3,800.00	3,796.71	114.51	-57.69	13.47	3,755.24	3,699.02	381.94	-380.78	15.52	430.63	403.23	-23.40	15.718
3,900.00	3,896.57	119.19	-60.05	13.83	3,853.60	3,794.78	398.52	-396.00	16.01	448.62	420.48	-23.27	15.946
4,000.00	3,996.44	123.86	-62.40	14.20	3,951.96	3,890.53	415.11	-411.23	16.49	466.60	437.73	-23.15	16.162
4,100.00	4,096.30	128.53	-64.76	14.56	4,050.33	3,986.28	431.69	-426.45	16.98	484.59	454.99	-23.05	16.368
4,200.00	4,196.16	133.21	-67.11	14.92	4,148.69	4,082.04	448.27	-441.68	17.48	502.58	472.24	-22.95	16.563
4,300.00	4,296.03	137.88	-69.47	15.29	4,247.06	4,177.79	464.86	-456.90	17.97	520.58	489.49	-22.85	16.749
4,400.00	4,395.89	142.56	-71.82	15.65	4,345.42	4,273.55	481.44	-472.13	18.46	538.57	506.75	-22.77	16.926
4,500.00	4,495.75	147.23	-74.18	16.01	4,443.79	4,369.30	498.03	-487.35	18.95	556.56	524.01	-22.69	17.095
4,600.00	4,595.61	151.90	-76.53	16.38	4,542.15	4,465.05	514.61	-502.58	19.45	574.56	541.26	-22.61	17.256
4,700.00	4,695.48	156.58	-78.89	16.74	4,640.52	4,560.81	531.19	-517.80	19.94	592.56	558.52	-22.54	17.411
4,800.00	4,795.34	161.25	-81.24	17.10	4,738.88	4,656.56	547.78	-533.03	20.43	610.55	575.78	-22.47	17.558
4,900.00	4,895.20	165.93	-83.60	17.47	4,837.25	4,752.31	564.36	-548.25	20.93	628.55	593.04	-22.41	17.700
5,000.00	4,995.07	170.60	-85.95	17.83	4,935.61	4,848.07	580.95	-563.48	21.42	646.55	610.30	-22.35	17.835
5,100.00	5,094.93	175.27	-88.31	18.19	5,033.98	4,943.82	597.53	-578.70	21.92	664.55	627.56	-22.29	17.965
5,200.00	5,194.79	179.95	-90.66	18.56	5,132.34	5,039.58	614.12	-593.93	22.41	682.55	644.82	-22.24	18.090
5,300.00	5,294.66	184.62	-93.02	18.92	5,230.71	5,135.33	630.70	-609.15	22.91	700.55	662.08	-22.19	18.210
5,400.00	5,394.52	189.29	-95.37	19.28	5,329.07	5,231.08	647.28	-624.38	23.41	718.55	679.34	-22.14	18.325
5,500.00	5,494.38	193.97	-97.73	19.65	5,427.44	5,326.84	663.87	-639.60	23.90	736.55	696.60	-22.09	18.436
5,600.00	5,594.02	201.36	-101.45	20.01	5,526.26	5,423.03	680.53	-654.90	24.40	751.76	711.06	-21.94	18.473
5,700.00	5,692.97	214.18	-107.91	20.39	5,625.74	5,519.88	697.30	-670.30	24.91	761.35	719.90	-22.03	18.368
5,800.00	5,790.86	232.36	-117.06	20.78	5,725.51	5,617.00	714.12	-685.74	25.41	765.32	723.11	-22.36	18.130

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,825.21	5,714.05	730.93	-701.17	25.92	763.69	720.71	-22.94	17.768
6,000.00	5,982.38	283.58	-142.87	21.60	5,924.58	5,810.78	747.69	-716.55	26.42	757.60	713.84	-23.68	17.313
6,100.00	6,077.29	311.70	-157.03	22.02	6,023.90	5,907.47	764.43	-731.92	26.92	751.20	706.66	-24.41	16.866
6,200.00	6,172.20	339.83	-171.20	22.45	6,123.23	6,004.16	781.18	-747.30	27.42	744.93	699.60	-25.15	16.435
6,300.00	6,267.12	367.95	-185.36	22.88	6,222.56	6,100.85	797.93	-762.67	27.93	738.79	692.67	-25.91	16.018
6,400.00	6,362.03	396.07	-199.53	23.31	6,321.89	6,197.55	814.67	-778.05	28.43	732.78	685.86	-26.67	15.616
6,500.00	6,456.94	424.19	-213.69	23.76	6,421.21	6,294.24	831.42	-793.42	28.94	726.90	679.17	-27.45	15.228
6,600.00	6,551.86	452.32	-227.86	24.20	6,520.54	6,390.93	848.17	-808.79	29.44	721.17	672.61	-28.25	14.853
6,700.00	6,646.77	480.44	-242.02	24.65	6,619.87	6,487.62	864.91	-824.17	29.94	715.57	666.19	-29.05	14.492
6,800.00	6,741.68	508.56	-256.19	25.11	6,719.20	6,584.31	881.66	-839.54	30.45	710.12	659.90	-29.87	14.142
6,900.00	6,836.59	536.68	-270.35	25.57	6,818.52	6,681.00	898.40	-854.92	30.95	704.81	653.76	-30.70	13.804
7,000.00	6,931.51	564.81	-284.52	26.03	6,917.85	6,777.69	915.15	-870.29	31.46	699.66	647.75	-31.54	13.478
7,100.00	7,026.42	592.93	-298.68	26.50	7,017.18	6,874.38	931.90	-885.66	31.96	694.67	641.89	-32.40	13.163
7,200.00	7,121.33	621.05	-312.85	26.97	7,116.51	6,971.07	948.64	-901.04	32.47	689.83	636.18	-33.26	12.859
7,300.00	7,216.25	649.17	-327.01	27.44	7,215.83	7,067.76	965.39	-916.41	32.97	685.15	630.62	-34.14	12.564
7,400.00	7,311.16	677.30	-341.18	27.92	7,315.16	7,164.46	982.14	-931.78	33.48	680.64	625.21	-35.03	12.280
7,500.00	7,406.07	705.42	-355.34	28.40	7,414.49	7,261.15	998.88	-947.16	33.98	676.29	619.96	-35.94	12.006
7,600.00	7,500.99	733.54	-369.51	28.88	7,513.82	7,357.84	1,015.63	-962.53	34.49	672.12	614.87	-36.85	11.741
7,700.00	7,595.90	761.66	-383.68	29.36	7,613.14	7,454.53	1,032.38	-977.91	34.99	668.12	609.95	-37.77	11.485
7,800.00	7,690.81	789.79	-397.84	29.85	7,712.47	7,551.22	1,049.12	-993.28	35.50	664.30	605.18	-38.71	11.238
7,900.00	7,785.72	817.91	-412.01	30.34	7,811.80	7,647.91	1,065.87	-1,008.65	36.00	660.66	600.59	-39.65	11.000
8,000.00	7,880.64	846.03	-426.17	30.83	7,911.13	7,744.60	1,082.62	-1,024.03	36.51	657.20	596.17	-40.61	10.769
8,100.00	7,975.55	874.15	-440.34	31.33	8,010.45	7,841.29	1,099.36	-1,039.40	37.01	653.93	591.93	-41.57	10.547
8,200.00	8,070.46	902.28	-454.50	31.82	8,109.78	7,937.98	1,116.11	-1,054.78	37.52	650.85	587.86	-42.55	10.333
8,300.00	8,165.38	930.40	-468.67	32.32	8,209.11	8,034.68	1,132.86	-1,070.15	38.02	647.96	583.97	-43.53	10.126
8,400.00	8,260.29	958.52	-482.83	32.82	8,308.44	8,131.37	1,149.60	-1,085.52	38.53	645.27	580.27	-44.52	9.927
8,500.00	8,355.20	986.64	-497.00	33.32	8,407.76	8,228.06	1,166.35	-1,100.90	39.04	642.77	576.75	-45.52	9.736
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,507.09	8,324.75	1,183.10	-1,116.27	39.54	640.47	573.41	-46.53	9.551
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,606.42	8,421.44	1,199.84	-1,131.65	40.05	638.38	570.27	-47.54	9.373
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,705.75	8,518.13	1,216.59	-1,147.02	40.55	636.49	567.32	-48.56	9.202

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,805.07	8,614.82	1,233.34	-1,162.39	41.06	634.80	564.56	-49.59	9.037
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,904.40	8,711.51	1,250.08	-1,177.77	41.57	633.32	562.00	-50.62	8.879
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,003.73	8,808.20	1,266.83	-1,193.14	42.07	632.06	559.63	-51.66	8.728
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,103.06	8,904.90	1,283.58	-1,208.52	42.58	631.00	557.47	-52.69	8.582
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,202.38	9,001.59	1,300.32	-1,223.89	43.08	630.15	555.50	-53.74	8.442
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,301.71	9,098.28	1,317.07	-1,239.26	43.59	629.51	553.74	-54.78	8.308
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,401.04	9,194.97	1,333.82	-1,254.64	44.10	629.08	552.18	-55.83	8.180
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,500.37	9,291.66	1,350.56	-1,270.01	44.60	628.87	550.82	-56.88	8.057
9,649.34	9,446.08	1,309.87	-659.81	39.19	9,549.38	9,339.37	1,358.83	-1,277.60	44.85	628.85	550.23	-57.39	7.999
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,599.70	9,388.35	1,367.31	-1,285.38	45.11	628.87	549.67	-57.92	7.940
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,699.02	9,485.04	1,384.06	-1,300.76	45.62	629.09	548.72	-58.97	7.828
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,798.35	9,581.73	1,400.80	-1,316.13	46.12	629.52	547.98	-60.02	7.721
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,897.78	9,678.52	1,417.57	-1,331.52	46.63	630.75	548.06	-61.00	7.628
10,100.00	9,876.11	1,429.63	-720.13	41.48	9,997.53	9,775.63	1,434.38	-1,346.96	47.14	634.85	551.15	-61.62	7.584
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,097.27	9,872.72	1,451.20	-1,362.40	47.65	641.88	557.29	-61.85	7.589
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,196.62	9,969.43	1,467.95	-1,377.78	48.15	651.80	566.69	-61.69	7.659
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,308.92	10,078.90	1,486.38	-1,394.70	48.72	664.35	578.54	-61.07	7.743
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,448.63	10,216.80	1,502.69	-1,409.67	49.31	675.11	588.60	-86.79	7.805
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,590.61	10,358.36	1,510.33	-1,416.68	49.80	679.98	592.79	-86.65	7.799
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,700.00	10,467.63	1,514.07	-1,417.16	50.12	679.49	591.18	-88.48	7.694
10,790.05	10,552.67	1,530.35	-737.90	44.22	10,787.24	10,553.35	1,529.85	-1,417.11	50.47	679.21	589.66	-90.12	7.584
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,797.01	10,562.77	1,532.43	-1,417.10	50.51	679.22	589.52	-90.31	7.572
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,897.32	10,656.43	1,567.98	-1,417.00	51.02	679.64	588.44	-92.15	7.452
11,000.00	10,716.92	1,659.23	-737.75	45.53	11,001.87	10,745.90	1,621.80	-1,416.83	51.65	680.73	587.99	-93.96	7.340
11,100.00	10,776.17	1,739.63	-737.65	46.24	11,111.05	10,827.27	1,694.35	-1,416.61	52.41	682.38	588.15	-95.69	7.241
11,200.00	10,820.55	1,829.10	-737.54	46.99	11,225.06	10,895.97	1,785.10	-1,416.33	53.30	684.38	588.78	-97.27	7.159
11,300.00	10,848.72	1,924.92	-737.43	47.77	11,343.82	10,946.98	1,892.11	-1,416.00	54.32	686.43	589.62	-98.63	7.090
11,400.00	10,859.83	2,024.17	-737.31	48.56	11,466.84	10,975.42	2,011.55	-1,415.64	55.44	688.22	590.31	-99.69	7.029
11,500.00	10,860.00	2,124.17	-737.19	49.35	11,581.73	10,980.00	2,126.25	-1,415.29	56.52	688.63	589.30	-100.04	6.932



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,600.00	10,860.00	2,224.17	-737.07	50.17	11,681.73	10,980.00	2,226.25	-1,414.98	57.49	688.45	587.28	-100.04	6.805
11,700.00	10,860.00	2,324.17	-736.95	51.03	11,781.73	10,980.00	2,326.24	-1,414.67	58.49	688.26	585.20	-100.04	6.678
11,800.00	10,860.00	2,424.17	-736.84	51.90	11,881.73	10,980.00	2,426.24	-1,414.37	59.53	688.08	583.07	-100.04	6.552
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,981.73	10,980.00	2,526.24	-1,414.06	60.59	687.90	580.88	-100.05	6.428
12,000.00	10,860.00	2,624.17	-736.60	53.73	12,081.73	10,980.00	2,626.24	-1,413.76	61.68	687.71	578.65	-100.05	6.306
12,100.00	10,860.00	2,724.17	-736.48	54.67	12,181.73	10,980.00	2,726.24	-1,413.45	62.79	687.53	576.37	-100.05	6.185
12,200.00	10,860.00	2,824.17	-736.36	55.64	12,281.73	10,980.00	2,826.24	-1,413.14	63.93	687.34	574.05	-100.05	6.067
12,300.00	10,860.00	2,924.17	-736.24	56.63	12,381.73	10,980.00	2,926.24	-1,412.84	65.09	687.16	571.69	-100.06	5.951
12,400.00	10,860.00	3,024.17	-736.12	57.64	12,481.73	10,980.00	3,026.24	-1,412.53	66.27	686.97	569.28	-100.06	5.837
12,500.00	10,860.00	3,124.17	-736.00	58.66	12,581.73	10,980.00	3,126.24	-1,412.22	67.47	686.79	566.85	-100.06	5.726
12,600.00	10,860.00	3,224.17	-735.89	59.70	12,681.73	10,980.00	3,226.24	-1,411.92	68.69	686.60	564.37	-100.07	5.617
12,700.00	10,860.00	3,324.17	-735.77	60.76	12,781.73	10,980.00	3,326.24	-1,411.61	69.93	686.42	561.87	-100.07	5.511
12,800.00	10,860.00	3,424.17	-735.65	61.83	12,881.73	10,980.00	3,426.24	-1,411.31	71.18	686.24	559.33	-100.07	5.408
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,981.73	10,980.00	3,526.24	-1,411.00	72.45	686.05	556.77	-100.07	5.307
13,000.00	10,860.00	3,624.17	-735.41	64.02	13,081.72	10,980.00	3,626.24	-1,410.69	73.74	685.87	554.17	-100.08	5.208
13,100.00	10,860.00	3,724.17	-735.29	65.13	13,181.72	10,980.00	3,726.24	-1,410.39	75.04	685.68	551.55	-100.08	5.112
13,200.00	10,860.00	3,824.17	-735.17	66.26	13,281.72	10,980.00	3,826.24	-1,410.08	76.35	685.50	548.91	-100.08	5.019
13,300.00	10,860.00	3,924.17	-735.05	67.39	13,381.72	10,980.00	3,926.23	-1,409.78	77.68	685.31	546.24	-100.08	4.928
13,400.00	10,860.00	4,024.17	-734.93	68.54	13,481.72	10,980.00	4,026.23	-1,409.47	79.02	685.13	543.55	-100.09	4.839
13,500.00	10,860.00	4,124.17	-734.82	69.70	13,581.72	10,980.00	4,126.23	-1,409.16	80.37	684.94	540.84	-100.09	4.753
13,600.00	10,860.00	4,224.17	-734.70	70.87	13,681.72	10,980.00	4,226.23	-1,408.86	81.73	684.76	538.11	-100.09	4.669
13,700.00	10,860.00	4,324.17	-734.58	72.05	13,781.72	10,980.00	4,326.23	-1,408.55	83.11	684.58	535.36	-100.10	4.588
13,800.00	10,860.00	4,424.17	-734.46	73.23	13,881.72	10,980.00	4,426.23	-1,408.25	84.49	684.39	532.60	-100.10	4.509
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,981.72	10,980.00	4,526.23	-1,407.94	85.88	684.21	529.81	-100.10	4.432
14,000.00	10,860.00	4,624.17	-734.22	75.63	14,081.72	10,980.00	4,626.23	-1,407.63	87.28	684.02	527.01	-100.10	4.357
14,100.00	10,860.00	4,724.17	-734.10	76.85	14,181.72	10,980.00	4,726.23	-1,407.33	88.69	683.84	524.20	-100.11	4.284
14,200.00	10,860.00	4,824.17	-733.98	78.07	14,281.72	10,980.00	4,826.23	-1,407.02	90.11	683.65	521.37	-100.11	4.213
14,300.00	10,860.00	4,924.17	-733.87	79.29	14,381.72	10,980.00	4,926.23	-1,406.71	91.54	683.47	518.52	-100.11	4.144
14,400.00	10,860.00	5,024.17	-733.75	80.53	14,481.72	10,980.00	5,026.23	-1,406.41	92.97	683.28	515.67	-100.11	4.076
14,500.00	10,860.00	5,124.17	-733.63	81.77	14,581.72	10,980.00	5,126.23	-1,406.10	94.41	683.10	512.80	-100.12	4.011

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,600.00	10,860.00	5,224.17	-733.51	83.01	14,681.72	10,980.00	5,226.23	-1,405.80	95.86	682.92	509.91	-100.12	3.947
14,700.00	10,860.00	5,324.17	-733.39	84.27	14,781.72	10,980.00	5,326.23	-1,405.49	97.32	682.73	507.02	-100.12	3.886
14,800.00	10,860.00	5,424.17	-733.27	85.52	14,881.72	10,980.00	5,426.22	-1,405.18	98.78	682.55	504.12	-100.13	3.825
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,981.72	10,980.00	5,526.22	-1,404.88	100.24	682.36	501.20	-100.13	3.767
15,000.00	10,860.00	5,624.17	-733.03	88.05	15,081.72	10,980.00	5,626.22	-1,404.57	101.71	682.18	498.28	-100.13	3.709
15,100.00	10,860.00	5,724.17	-732.91	89.33	15,181.72	10,980.00	5,726.22	-1,404.27	103.19	681.99	495.34	-100.13	3.654
15,200.00	10,860.00	5,824.17	-732.80	90.61	15,281.72	10,980.00	5,826.22	-1,403.96	104.67	681.81	492.40	-100.14	3.600
15,300.00	10,860.00	5,924.17	-732.68	91.89	15,381.72	10,980.00	5,926.22	-1,403.65	106.16	681.63	489.45	-100.14	3.547
15,400.00	10,860.00	6,024.17	-732.56	93.18	15,481.72	10,980.00	6,026.22	-1,403.35	107.66	681.44	486.49	-100.14	3.495
15,500.00	10,860.00	6,124.17	-732.44	94.47	15,581.72	10,980.00	6,126.22	-1,403.04	109.15	681.26	483.52	-100.15	3.445
15,600.00	10,860.00	6,224.17	-732.32	95.76	15,681.72	10,980.00	6,226.22	-1,402.73	110.65	681.07	480.54	-100.15	3.396
15,700.00	10,860.00	6,324.17	-732.20	97.06	15,781.72	10,980.00	6,326.22	-1,402.43	112.16	680.89	477.56	-100.15	3.349
15,800.00	10,860.00	6,424.17	-732.08	98.37	15,881.72	10,980.00	6,426.22	-1,402.12	113.67	680.70	474.57	-100.15	3.302
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,981.72	10,980.00	6,526.22	-1,401.82	115.18	680.52	471.57	-100.16	3.257
16,000.00	10,860.00	6,624.17	-731.85	100.98	16,081.72	10,980.00	6,626.22	-1,401.51	116.70	680.33	468.57	-100.16	3.213
16,100.00	10,860.00	6,724.17	-731.73	102.30	16,181.72	10,980.00	6,726.22	-1,401.20	118.22	680.15	465.56	-100.16	3.169
16,200.00	10,860.00	6,824.17	-731.61	103.61	16,281.72	10,980.00	6,826.22	-1,400.90	119.75	679.97	462.54	-100.16	3.127
16,300.00	10,860.00	6,924.17	-731.49	104.93	16,381.72	10,980.00	6,926.22	-1,400.59	121.27	679.78	459.52	-100.17	3.086
16,400.00	10,860.00	7,024.17	-731.37	106.25	16,481.72	10,980.00	7,026.21	-1,400.29	122.81	679.60	456.49	-100.17	3.046
16,500.00	10,860.00	7,124.17	-731.25	107.58	16,581.72	10,980.00	7,126.21	-1,399.98	124.34	679.41	453.46	-100.17	3.007
16,600.00	10,860.00	7,224.17	-731.13	108.91	16,681.72	10,980.00	7,226.21	-1,399.67	125.88	679.23	450.42	-100.18	2.969
16,700.00	10,860.00	7,324.17	-731.01	110.24	16,781.72	10,980.00	7,326.21	-1,399.37	127.42	679.04	447.38	-100.18	2.931
16,800.00	10,860.00	7,424.17	-730.89	111.57	16,881.72	10,980.00	7,426.21	-1,399.06	128.96	678.86	444.33	-100.18	2.895
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,981.72	10,980.00	7,526.21	-1,398.76	130.51	678.68	441.28	-100.18	2.859
17,000.00	10,860.00	7,624.17	-730.66	114.24	17,081.72	10,980.00	7,626.21	-1,398.45	132.05	678.49	438.22	-100.19	2.824
17,100.00	10,860.00	7,724.17	-730.54	115.58	17,181.72	10,980.00	7,726.21	-1,398.14	133.61	678.31	435.16	-100.19	2.790
17,200.00	10,860.00	7,824.17	-730.42	116.93	17,281.72	10,980.00	7,826.21	-1,397.84	135.16	678.12	432.10	-100.19	2.756
17,300.00	10,860.00	7,924.17	-730.30	118.27	17,381.72	10,980.00	7,926.21	-1,397.53	136.71	677.94	429.03	-100.20	2.724
17,400.00	10,860.00	8,024.17	-730.18	119.62	17,481.72	10,980.00	8,026.21	-1,397.22	138.27	677.75	425.96	-100.20	2.692

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,500.00	10,860.00	8,124.17	-730.06	120.97	17,581.72	10,980.00	8,126.21	-1,396.92	139.83	677.57	422.88	-100.20	2.660
17,600.00	10,860.00	8,224.17	-729.94	122.32	17,681.72	10,980.00	8,226.21	-1,396.61	141.39	677.38	419.80	-100.20	2.630
17,700.00	10,860.00	8,324.17	-729.83	123.67	17,781.72	10,980.00	8,326.21	-1,396.31	142.96	677.20	416.72	-100.21	2.600
17,800.00	10,860.00	8,424.17	-729.71	125.02	17,881.72	10,980.00	8,426.21	-1,396.00	144.52	677.02	413.63	-100.21	2.570
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,981.72	10,980.00	8,526.20	-1,395.69	146.09	676.83	410.54	-100.21	2.542
18,000.00	10,860.00	8,624.17	-729.47	127.74	18,081.72	10,980.00	8,626.20	-1,395.39	147.66	676.65	407.45	-100.22	2.514
18,100.00	10,860.00	8,724.17	-729.35	129.10	18,181.72	10,980.00	8,726.20	-1,395.08	149.23	676.46	404.36	-100.22	2.486
18,200.00	10,860.00	8,824.17	-729.23	130.46	18,281.72	10,980.00	8,826.20	-1,394.78	150.81	676.28	401.26	-100.22	2.459
18,300.00	10,860.00	8,924.17	-729.11	131.82	18,381.72	10,980.00	8,926.20	-1,394.47	152.38	676.09	398.16	-100.22	2.433
18,400.00	10,860.00	9,024.17	-728.99	133.18	18,481.72	10,980.00	9,026.20	-1,394.16	153.96	675.91	395.05	-100.23	2.407
18,500.00	10,860.00	9,124.17	-728.87	134.55	18,581.72	10,980.00	9,126.20	-1,393.86	155.53	675.73	391.94	-100.23	2.381
18,600.00	10,860.00	9,224.17	-728.76	135.91	18,681.72	10,980.00	9,226.20	-1,393.55	157.11	675.54	388.84	-100.23	2.356
18,700.00	10,860.00	9,324.17	-728.64	137.28	18,781.71	10,980.00	9,326.20	-1,393.24	158.70	675.36	385.72	-100.23	2.332
18,800.00	10,860.00	9,424.17	-728.52	138.65	18,881.71	10,980.00	9,426.20	-1,392.94	160.28	675.17	382.61	-100.24	2.308
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,981.71	10,980.00	9,526.20	-1,392.63	161.86	674.99	379.49	-100.24	2.284
19,000.00	10,860.00	9,624.17	-728.28	141.39	19,081.71	10,980.00	9,626.20	-1,392.33	163.45	674.80	376.37	-100.24	2.261
19,100.00	10,860.00	9,724.16	-728.16	142.77	19,181.71	10,980.00	9,726.20	-1,392.02	165.03	674.62	373.25	-100.25	2.239
19,200.00	10,860.00	9,824.16	-728.04	144.14	19,281.71	10,980.00	9,826.20	-1,391.71	166.62	674.44	370.13	-100.25	2.216
19,300.00	10,860.00	9,924.16	-727.92	145.52	19,381.71	10,980.00	9,926.20	-1,391.41	168.21	674.25	367.00	-100.25	2.194
19,400.00	10,860.00	10,024.16	-727.81	146.89	19,481.71	10,980.00	10,026.20	-1,391.10	169.80	674.07	363.88	-100.25	2.173
19,500.00	10,860.00	10,124.16	-727.69	148.27	19,581.71	10,980.00	10,126.19	-1,390.80	171.39	673.88	360.75	-100.26	2.152
19,600.00	10,860.00	10,224.16	-727.57	149.65	19,681.71	10,980.00	10,226.19	-1,390.49	172.99	673.70	357.62	-100.26	2.131
19,700.00	10,860.00	10,324.16	-727.45	151.03	19,781.71	10,980.00	10,326.19	-1,390.18	174.58	673.51	354.48	-100.26	2.111
19,800.00	10,860.00	10,424.16	-727.33	152.41	19,881.71	10,980.00	10,426.19	-1,389.88	176.17	673.33	351.35	-100.27	2.091
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,981.71	10,980.00	10,526.19	-1,389.57	177.77	673.15	348.21	-100.27	2.072
20,000.00	10,860.00	10,624.16	-727.09	155.17	20,081.71	10,980.00	10,626.19	-1,389.27	179.37	672.96	345.08	-100.27	2.052
20,100.00	10,860.00	10,724.16	-726.97	156.55	20,181.71	10,980.00	10,726.19	-1,388.96	180.96	672.78	341.94	-100.27	2.034
20,200.00	10,860.00	10,824.16	-726.85	157.94	20,281.71	10,980.00	10,826.19	-1,388.65	182.56	672.59	338.79	-100.28	2.015
20,300.00	10,860.00	10,924.16	-726.74	159.32	20,381.71	10,980.00	10,926.19	-1,388.35	184.16	672.41	335.65	-100.28	1.997
20,400.00	10,860.00	11,024.16	-726.62	160.71	20,481.71	10,980.00	11,026.19	-1,388.04	185.76	672.22	332.51	-100.28	1.979

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - Wellbore #1 - Plan 1

Survey Program: 0-3_MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
20,500.00	10,860.00	11,124.16	-726.50	162.10	20,581.71	10,980.00	11,126.19	-1,387.73	187.37	672.04	329.36	-100.29	1.961
20,600.00	10,860.00	11,224.16	-726.38	163.48	20,681.71	10,980.00	11,226.19	-1,387.43	188.97	671.86	326.21	-100.29	1.944
20,700.00	10,860.00	11,324.16	-726.26	164.87	20,781.71	10,980.00	11,326.19	-1,387.12	190.57	671.67	323.07	-100.29	1.927
20,800.00	10,860.00	11,424.16	-726.14	166.26	20,881.71	10,980.00	11,426.19	-1,386.82	192.18	671.49	319.92	-100.29	1.910
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,981.71	10,980.00	11,526.19	-1,386.51	193.78	671.30	316.76	-100.30	1.893
21,000.00	10,860.00	11,624.16	-725.90	169.04	21,081.71	10,980.00	11,626.18	-1,386.20	195.39	671.12	313.61	-100.30	1.877
21,100.00	10,860.00	11,724.16	-725.78	170.43	21,181.71	10,980.00	11,726.18	-1,385.90	196.99	670.93	310.46	-100.30	1.861
21,200.00	10,860.00	11,824.16	-725.67	171.82	21,281.71	10,980.00	11,826.18	-1,385.59	198.60	670.75	307.30	-100.31	1.846
21,219.52	10,860.00	11,843.69	-725.64	172.10	21,300.00	10,980.00	11,844.47	-1,385.54	198.89	670.71	306.65	-100.31	1.842
21,300.00	10,860.00	11,924.16	-725.55	173.22	21,379.60	10,980.00	11,924.07	-1,385.55	200.17	670.82	304.33	-100.30	1.830
21,331.33	10,860.00	11,955.49	-725.51	173.65	21,408.62	10,980.00	11,953.09	-1,385.55	200.64	670.86	303.38	-100.30	1.826

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	100.93	100.93	199.66	-89.70	0.54	218.89	216.55	-24.19	93.418
200.00	200.00	0.00	0.00	0.70	200.62	200.62	199.08	-89.90	0.74	218.44	215.71	-24.30	79.984
300.00	300.00	0.00	0.00	0.98	300.38	300.37	198.48	-90.79	0.92	218.26	215.07	-24.58	68.374
400.00	400.00	0.00	0.00	1.31	400.29	400.28	198.01	-91.42	1.08	218.10	214.80	-24.78	66.123
500.00	500.00	0.00	0.00	1.64	500.54	500.52	197.58	-91.96	1.26	217.93	214.12	-24.96	57.191
600.00	600.00	0.00	0.00	1.99	600.93	600.91	197.06	-92.29	1.50	217.61	213.21	-25.09	49.516
700.00	700.00	0.00	0.00	2.34	700.78	700.76	196.61	-92.35	1.77	217.22	212.20	-25.16	43.256
800.00	800.00	0.00	0.00	2.69	800.84	800.82	196.19	-92.38	2.08	216.85	211.18	-25.22	38.200
900.00	900.00	0.00	0.00	3.04	900.69	900.68	195.71	-92.53	2.40	216.48	210.13	-25.30	34.100
981.99	981.99	0.00	0.00	3.33	982.02	982.00	195.45	-92.79	2.66	216.36	209.45	-25.40	31.336
1,000.00	1,000.00	0.00	0.00	3.39	999.94	999.92	195.41	-92.88	2.72	216.36	209.33	-25.42	30.788
1,100.00	1,100.00	0.00	0.00	3.75	1,097.69	1,097.66	195.38	-93.61	3.04	216.66	208.96	-25.60	28.122
1,200.00	1,200.00	0.00	0.00	4.10	1,190.81	1,190.75	197.07	-95.30	3.35	219.10	210.74	-25.81	26.206
1,300.00	1,299.99	0.78	-0.39	4.46	1,283.74	1,283.50	201.69	-98.72	3.66	224.29	215.28	0.66	24.895
1,400.00	1,399.96	3.12	-1.57	4.81	1,382.21	1,381.64	208.11	-103.49	3.98	229.66	219.98	0.30	23.708
1,500.00	1,499.86	7.01	-3.53	5.17	1,480.65	1,479.75	214.44	-108.53	4.32	233.36	222.99	-0.11	22.501
1,600.00	1,599.73	11.69	-5.89	5.53	1,572.01	1,570.62	221.71	-114.49	4.64	238.22	227.21	-0.60	21.632
1,700.00	1,699.59	16.36	-8.24	5.88	1,662.19	1,659.82	231.66	-123.20	4.96	247.29	235.65	-1.35	21.246
1,800.00	1,799.45	21.03	-10.60	6.24	1,757.44	1,753.56	244.05	-134.66	5.31	259.30	246.99	-2.33	21.072
1,900.00	1,899.31	25.71	-12.95	6.60	1,846.75	1,841.14	257.02	-146.40	5.65	273.31	260.39	-3.21	21.158
2,000.00	1,999.18	30.38	-15.31	6.96	1,937.28	1,929.18	272.98	-160.14	6.01	291.08	277.54	-4.05	21.498
2,100.00	2,099.04	35.06	-17.66	7.32	2,034.10	2,022.97	291.10	-175.92	6.41	310.47	296.23	-4.92	21.814
2,200.00	2,198.90	39.73	-20.02	7.68	2,136.47	2,122.27	309.64	-192.48	6.85	329.34	314.35	-5.77	21.973
2,300.00	2,298.77	44.40	-22.37	8.04	2,230.91	2,213.91	326.24	-208.18	7.25	348.08	332.42	-6.58	22.219
2,400.00	2,398.63	49.08	-24.73	8.40	2,329.66	2,309.61	343.58	-225.28	7.69	367.26	350.87	-7.43	22.406
2,500.00	2,498.49	53.75	-27.08	8.76	2,425.67	2,402.59	360.81	-241.91	8.11	386.83	369.74	-8.14	22.634
2,600.00	2,598.36	58.43	-29.44	9.12	2,521.57	2,495.48	378.32	-258.00	8.55	406.40	388.60	-8.70	22.842
2,700.00	2,698.22	63.10	-31.79	9.48	2,610.08	2,580.67	395.89	-274.39	8.96	428.28	409.86	-9.23	23.254
2,800.00	2,798.08	67.77	-34.15	9.85	2,718.58	2,685.29	415.90	-295.03	9.46	449.41	430.16	-9.99	23.337
2,900.00	2,897.94	72.45	-36.50	10.21	2,812.77	2,776.36	431.38	-313.37	9.90	469.33	449.38	-10.77	23.527

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,904.59	2,864.58	446.94	-333.54	10.34	491.28	470.66	-11.65	23.827
3,100.00	3,097.67	81.79	-41.21	10.93	3,002.22	2,958.30	463.06	-355.68	10.82	513.49	492.39	-12.61	24.341
3,200.00	3,197.53	86.47	-43.56	11.29	3,104.10	3,056.19	479.11	-378.86	11.31	535.32	513.45	-13.58	24.476
3,300.00	3,297.40	91.14	-45.92	11.66	3,198.48	3,146.96	493.76	-400.19	11.78	556.99	534.42	-14.41	24.675
3,400.00	3,397.26	95.82	-48.27	12.02	3,285.65	3,230.55	508.64	-419.88	12.21	579.92	556.72	-15.04	24.994
3,500.00	3,497.12	100.49	-50.63	12.38	3,380.19	3,320.97	527.09	-440.45	12.69	604.13	580.22	-15.46	25.266
3,600.00	3,596.98	105.16	-52.98	12.74	3,470.07	3,406.79	545.81	-459.45	13.15	628.94	604.36	-15.71	25.595
3,700.00	3,696.85	109.84	-55.34	13.11	3,573.57	3,505.57	567.55	-481.40	13.68	653.93	628.55	-15.98	25.766
3,800.00	3,796.71	114.51	-57.69	13.47	3,670.11	3,597.89	587.98	-500.91	14.17	678.34	652.22	-16.14	25.977
3,900.00	3,896.57	119.19	-60.05	13.83	3,764.17	3,687.75	607.85	-520.32	14.66	703.03	676.21	-16.31	26.210
4,000.00	3,996.44	123.86	-62.40	14.20	3,869.99	3,788.83	629.95	-542.51	15.20	727.82	700.17	-16.52	26.321
4,100.00	4,096.30	128.53	-64.76	14.56	3,989.76	3,904.27	653.22	-564.31	15.80	749.49	720.89	-16.65	26.209
4,200.00	4,196.16	133.21	-67.11	14.92	4,091.69	4,002.89	671.88	-582.11	16.30	769.90	740.53	-16.77	26.213
4,300.00	4,296.03	137.88	-69.47	15.29	4,191.22	4,099.26	689.67	-599.50	16.78	790.01	759.89	-16.91	26.226
4,400.00	4,395.89	142.56	-71.82	15.65	4,286.88	4,191.87	706.55	-616.50	17.25	810.17	779.33	-17.06	26.266
4,500.00	4,495.75	147.23	-74.18	16.01	4,386.95	4,288.74	724.10	-634.48	17.73	830.40	798.80	-17.22	26.275
4,600.00	4,595.61	151.90	-76.53	16.38	4,483.48	4,382.30	740.31	-651.78	18.20	850.08	817.75	-17.40	26.292
4,700.00	4,695.48	156.58	-78.89	16.74	4,555.00	4,451.17	753.88	-665.49	18.56	872.10	839.25	-17.50	26.552
4,800.00	4,795.34	161.25	-81.24	17.10	4,663.17	4,555.12	775.10	-686.61	19.11	894.98	861.29	-17.63	26.568
4,900.00	4,895.20	165.93	-83.60	17.47	4,763.27	4,651.57	793.70	-705.83	19.61	916.86	882.41	-17.78	26.613
5,000.00	4,995.07	170.60	-85.95	17.83	4,852.47	4,737.56	810.23	-722.87	20.06	938.67	903.55	-17.90	26.726
5,100.00	5,094.93	175.27	-88.31	18.19	4,926.24	4,808.19	826.27	-736.83	20.44	962.60	926.95	-17.89	27.002
5,200.00	5,194.79	179.95	-90.66	18.56	5,017.73	4,895.41	847.44	-754.59	20.93	987.92	951.57	-17.84	27.183
5,300.00	5,294.66	184.62	-93.02	18.92	5,121.92	4,994.73	871.32	-775.07	21.48	1,013.27	976.11	-17.80	27.267
5,400.00	5,394.52	189.29	-95.37	19.28	5,239.34	5,107.24	896.46	-797.38	22.09	1,037.03	998.94	-17.81	27.225
5,500.00	5,494.38	193.97	-97.73	19.65	5,347.63	5,211.46	917.80	-817.58	22.64	1,059.32	1,020.39	-17.87	27.211
5,600.00	5,594.02	201.36	-101.45	20.01	5,468.19	5,327.94	939.96	-839.39	23.24	1,077.45	1,037.59	-17.84	27.033
5,700.00	5,692.97	214.18	-107.91	20.39	5,607.51	5,463.49	962.63	-862.19	23.90	1,087.10	1,046.21	-18.08	26.586
5,800.00	5,790.86	232.36	-117.06	20.78	5,734.05	5,587.58	979.69	-880.14	24.46	1,087.25	1,045.45	-18.53	26.011

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,809.00	5,661.12	989.56	-890.71	24.79	1,081.60	1,039.21	-18.95	25.511
6,000.00	5,982.38	283.58	-142.87	21.60	5,899.00	5,749.12	1,002.60	-904.36	25.20	1,072.98	1,029.89	-19.48	24.902
6,100.00	6,077.29	311.70	-157.03	22.02	6,006.32	5,853.93	1,018.66	-920.89	25.69	1,064.50	1,020.61	-20.09	24.250
6,200.00	6,172.20	339.83	-171.20	22.45	6,093.70	5,939.31	1,031.63	-934.28	26.10	1,056.00	1,011.42	-20.59	23.688
6,300.00	6,267.12	367.95	-185.36	22.88	6,167.00	6,010.55	1,044.05	-946.20	26.44	1,049.67	1,004.52	-20.98	23.245
6,400.00	6,362.03	396.07	-199.53	23.31	6,284.41	6,124.59	1,064.43	-965.26	27.01	1,043.75	997.69	-21.59	22.658
6,500.00	6,456.94	424.19	-213.69	23.76	6,386.85	6,224.41	1,080.92	-981.31	27.49	1,036.63	989.76	-22.17	22.120
6,600.00	6,551.86	452.32	-227.86	24.20	6,479.13	6,314.25	1,096.01	-996.04	27.92	1,030.00	982.40	-22.69	21.641
6,700.00	6,646.77	480.44	-242.02	24.65	6,576.41	6,408.84	1,112.04	-1,012.15	28.38	1,024.02	975.66	-23.26	21.172
6,800.00	6,741.68	508.56	-256.19	25.11	6,678.50	6,508.16	1,128.46	-1,029.17	28.87	1,017.99	968.81	-23.89	20.700
6,900.00	6,836.59	536.68	-270.35	25.57	6,787.33	6,614.16	1,145.36	-1,047.07	29.38	1,011.56	961.52	-24.59	20.214
7,000.00	6,931.51	564.81	-284.52	26.03	6,911.58	6,735.67	1,162.62	-1,066.42	29.95	1,003.54	952.55	-25.45	19.679
7,100.00	7,026.42	592.93	-298.68	26.50	7,036.58	6,858.59	1,177.19	-1,083.82	30.48	992.96	941.03	-26.39	19.123
7,200.00	7,121.33	621.05	-312.85	26.97	7,157.10	6,977.59	1,188.89	-1,098.83	30.98	980.24	927.43	-27.38	18.562
7,300.00	7,216.25	649.17	-327.01	27.44	7,251.93	7,071.37	1,197.83	-1,109.70	31.36	966.75	913.16	-28.16	18.040
7,400.00	7,311.16	677.30	-341.18	27.92	7,332.00	7,150.44	1,206.47	-1,118.91	31.69	954.31	900.00	-28.78	17.570
7,500.00	7,406.07	705.42	-355.34	28.40	7,400.38	7,217.64	1,215.52	-1,127.72	31.99	944.60	889.63	-29.26	17.185
7,600.00	7,500.99	733.54	-369.51	28.88	7,469.73	7,285.27	1,226.63	-1,138.32	32.31	938.48	882.89	-29.72	16.882
7,700.00	7,595.90	761.66	-383.68	29.36	7,561.74	7,374.46	1,242.60	-1,154.30	32.76	934.98	878.60	-30.33	16.584
7,800.00	7,690.81	789.79	-397.84	29.85	7,686.72	7,496.14	1,262.05	-1,175.15	33.35	930.12	872.70	-31.26	16.198
7,900.00	7,785.72	817.91	-412.01	30.34	7,768.99	7,576.34	1,274.76	-1,188.33	33.73	924.79	866.64	-31.87	15.902
8,000.00	7,880.64	846.03	-426.17	30.83	7,867.83	7,672.36	1,291.97	-1,204.29	34.21	920.71	861.70	-32.50	15.602
8,100.00	7,975.55	874.15	-440.34	31.33	7,938.53	7,740.74	1,305.34	-1,216.23	34.56	918.18	858.55	-32.92	15.396
8,128.69	8,002.78	882.22	-444.40	31.47	7,959.00	7,760.43	1,309.47	-1,220.00	34.66	918.06	858.25	-33.04	15.349
8,200.00	8,070.46	902.28	-454.50	31.82	8,024.98	7,823.78	1,322.97	-1,232.59	35.00	918.29	857.90	-33.41	15.206
8,300.00	8,165.38	930.40	-468.67	32.32	8,142.22	7,936.49	1,346.42	-1,254.73	35.60	918.35	856.90	-34.11	14.945
8,400.00	8,260.29	958.52	-482.83	32.82	8,264.91	8,055.52	1,368.19	-1,275.00	36.19	915.03	852.50	-34.90	14.633
8,500.00	8,355.20	986.64	-497.00	33.32	8,372.45	8,159.83	1,388.02	-1,292.00	36.71	911.76	848.28	-35.54	14.363
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,483.12	8,267.75	1,406.78	-1,307.79	37.23	906.39	841.94	-36.25	14.063
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,586.45	8,368.75	1,422.48	-1,322.93	37.70	900.74	835.36	-37.03	13.776

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,686.84	8,467.06	1,436.13	-1,337.98	38.15	894.86	828.55	-37.91	13.495
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,790.45	8,568.47	1,450.01	-1,354.06	38.61	889.63	822.36	-38.85	13.225
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,920.09	8,696.31	1,463.52	-1,370.74	39.16	880.66	812.30	-40.19	12.883
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,012.80	8,787.80	1,473.10	-1,382.22	39.54	871.81	802.53	-41.16	12.583
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,123.54	8,897.12	1,484.43	-1,395.82	40.00	863.14	792.85	-42.35	12.279
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,251.02	9,023.46	1,494.22	-1,409.67	40.49	852.71	781.37	-43.91	11.953
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,408.13	9,180.14	1,500.66	-1,418.68	41.02	836.47	764.20	-46.11	11.575
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,505.48	9,277.42	1,502.75	-1,421.55	41.31	817.82	744.55	-47.61	11.162
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,606.13	9,378.03	1,503.25	-1,424.48	41.61	799.30	725.01	-49.34	10.759
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,705.50	9,477.36	1,503.29	-1,426.95	41.89	780.98	705.65	-51.16	10.366
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,812.97	9,584.80	1,504.73	-1,428.33	42.21	762.60	686.24	-53.09	9.987
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,896.87	9,668.08	1,513.99	-1,427.24	42.49	744.19	666.75	-54.03	9.609
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,962.87	9,731.39	1,532.39	-1,426.44	42.76	729.86	651.39	-53.63	9.302
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,021.00	9,784.04	1,556.87	-1,427.35	43.03	724.45	645.25	-52.45	9.147
10,103.65	9,879.68	1,430.34	-720.49	41.49	10,021.00	9,784.04	1,556.87	-1,427.35	43.03	724.44	645.22	-52.45	9.145
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,093.23	9,844.99	1,595.51	-1,429.39	43.42	728.01	648.42	-50.35	9.147
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,182.24	9,914.45	1,651.10	-1,430.35	43.92	739.53	660.01	-46.99	9.300
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,255.18	9,967.75	1,700.84	-1,428.70	44.34	759.00	679.63	-43.96	9.563
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,308.11	10,004.19	1,739.18	-1,426.76	44.65	788.62	709.78	-68.30	10.002
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,349.56	10,031.07	1,770.70	-1,425.50	44.90	824.04	745.98	-63.28	10.556
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,374.00	10,046.16	1,789.91	-1,424.96	45.05	859.38	782.38	-58.94	11.161
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,444.27	10,085.76	1,847.90	-1,423.27	45.50	891.01	814.33	-53.81	11.620
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,502.00	10,113.62	1,898.41	-1,421.38	45.88	918.75	842.52	-50.12	12.052
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,556.85	10,136.98	1,947.99	-1,419.26	46.25	940.31	864.41	-47.47	12.390
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,617.03	10,160.11	2,003.48	-1,416.76	46.67	954.11	878.25	-45.70	12.576
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,665.00	10,176.32	2,048.60	-1,415.47	47.01	960.62	884.65	-44.94	12.644
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,749.23	10,201.84	2,128.86	-1,414.24	47.64	958.19	881.17	-45.12	12.441
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,829.60	10,224.00	2,206.11	-1,413.27	48.26	945.68	867.22	-46.57	12.053
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,900.51	10,241.12	2,274.90	-1,412.01	48.82	927.96	847.87	-47.48	11.587

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,954.00	10,251.04	2,327.43	-1,410.40	49.25	913.70	832.15	-47.88	11.204
11,700.00	10,860.00	2,324.17	-736.95	51.03	11,049.00	10,261.67	2,421.69	-1,406.03	50.02	902.87	819.70	-48.20	10.856
11,800.00	10,860.00	2,424.17	-736.84	51.90	11,102.38	10,263.93	2,474.94	-1,402.99	50.46	895.34	810.84	-48.18	10.595
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,177.23	10,263.54	2,549.65	-1,398.66	51.08	891.40	805.59	-47.98	10.388
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,267.27	10,261.08	2,639.54	-1,393.90	51.85	889.37	802.31	-47.66	10.215
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,363.31	10,258.42	2,735.42	-1,389.23	52.70	887.75	799.39	-47.34	10.047
12,163.80	10,860.00	2,787.97	-736.40	55.29	11,417.84	10,256.77	2,789.88	-1,387.15	53.19	887.34	798.11	-47.17	9.945
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,447.57	10,255.80	2,819.59	-1,386.30	53.47	887.41	797.69	-47.09	9.891
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,528.61	10,253.40	2,900.58	-1,385.86	54.23	889.11	797.91	-46.96	9.749
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,617.00	10,251.21	2,988.93	-1,387.81	55.09	892.50	799.68	-46.95	9.615
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,711.00	10,248.67	3,082.84	-1,391.07	56.03	896.97	802.45	-46.98	9.490
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,814.28	10,245.63	3,186.01	-1,394.54	57.08	901.52	805.26	-46.99	9.366
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,908.47	10,242.36	3,280.09	-1,397.51	58.06	906.27	808.31	-46.97	9.251
12,800.00	10,860.00	3,424.17	-735.65	61.83	12,036.55	10,240.04	3,408.11	-1,400.89	59.41	909.48	809.65	-47.02	9.111
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,143.45	10,240.55	3,514.98	-1,403.01	60.54	910.68	808.94	-47.14	8.951
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,248.42	10,241.17	3,619.94	-1,404.86	61.68	911.66	808.00	-47.25	8.795
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,359.07	10,243.41	3,730.55	-1,406.76	62.89	911.64	805.95	-47.44	8.625
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,465.80	10,246.94	3,837.20	-1,408.41	64.07	910.64	802.84	-47.68	8.448
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,556.40	10,249.85	3,927.74	-1,409.92	65.09	909.80	799.91	-47.88	8.279
13,327.54	10,860.00	3,951.71	-735.02	67.71	12,581.18	10,250.41	3,952.51	-1,410.35	65.37	909.76	799.30	-47.93	8.236
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,646.34	10,251.03	4,017.66	-1,411.19	66.11	910.05	798.14	-48.00	8.131
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,746.55	10,250.72	4,117.87	-1,411.94	67.25	910.91	797.04	-48.02	8.000
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,843.38	10,249.61	4,214.69	-1,412.05	68.36	911.85	796.09	-47.98	7.877
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,960.53	10,248.85	4,331.83	-1,411.35	69.72	911.91	794.26	-47.92	7.751
13,800.00	10,860.00	4,424.17	-734.46	73.23	13,062.81	10,248.53	4,434.09	-1,409.66	70.91	910.98	791.46	-47.84	7.622
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,162.03	10,248.33	4,533.30	-1,408.09	72.07	910.03	788.61	-47.77	7.495
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,259.50	10,249.01	4,630.77	-1,407.47	73.22	909.18	785.75	-47.78	7.366
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,354.15	10,248.98	4,725.42	-1,406.92	74.35	908.86	783.44	-47.76	7.246
14,110.54	10,860.00	4,734.70	-734.09	76.98	13,364.24	10,248.93	4,735.50	-1,406.87	74.47	908.86	783.23	-47.75	7.234
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,448.33	10,248.39	4,819.60	-1,406.55	75.48	909.08	781.68	-47.72	7.136

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,551.10	10,247.85	4,922.36	-1,407.08	76.73	909.91	780.48	-47.72	7.030
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,658.20	10,248.76	5,029.46	-1,407.13	78.04	909.44	777.91	-47.77	6.914
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,755.75	10,249.43	5,127.00	-1,407.20	79.23	909.12	775.48	-47.81	6.803
14,546.92	10,860.00	5,171.09	-733.57	82.35	13,800.47	10,249.53	5,171.73	-1,407.13	79.78	909.04	774.43	-47.81	6.753
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,845.35	10,249.15	5,216.60	-1,407.02	80.34	909.29	773.60	-47.79	6.701
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,943.28	10,246.56	5,314.49	-1,406.38	81.55	910.67	773.09	-47.65	6.619
14,800.00	10,860.00	5,424.17	-733.27	85.52	14,069.60	10,244.16	5,440.76	-1,403.96	83.12	910.69	771.33	-47.44	6.535
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,169.00	10,244.73	5,540.14	-1,402.01	84.35	908.95	767.58	-47.39	6.429
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,266.02	10,244.89	5,637.14	-1,400.10	85.57	907.47	764.09	-47.32	6.329
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,362.46	10,245.12	5,733.57	-1,398.70	86.78	906.34	760.91	-47.28	6.232
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,465.23	10,245.62	5,836.33	-1,397.49	88.08	905.22	757.73	-47.25	6.137
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,564.48	10,245.75	5,935.56	-1,395.74	89.33	903.93	754.41	-47.19	6.046
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,656.96	10,244.81	6,028.01	-1,393.85	90.51	903.21	751.73	-47.07	5.963
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,755.40	10,243.13	6,126.43	-1,391.91	91.77	903.02	749.64	-46.91	5.888
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,859.02	10,242.50	6,230.03	-1,390.64	93.10	902.62	747.24	-46.83	5.809
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,967.75	10,243.47	6,338.76	-1,390.22	94.50	901.83	744.30	-46.87	5.725
15,800.00	10,860.00	6,424.17	-732.08	98.37	15,074.83	10,248.19	6,445.72	-1,391.19	95.89	899.56	739.50	-47.13	5.620
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,163.76	10,252.75	6,534.51	-1,393.05	97.05	897.71	734.99	-47.43	5.517
15,965.99	10,860.00	6,590.16	-731.89	100.54	15,220.24	10,254.55	6,590.95	-1,394.26	97.79	897.39	733.00	-47.57	5.459
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,251.28	10,255.14	6,621.98	-1,394.83	98.20	897.44	732.23	-47.63	5.432
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,345.12	10,255.57	6,715.81	-1,396.08	99.43	898.20	730.68	-47.70	5.362
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,444.71	10,255.50	6,815.39	-1,397.40	100.73	899.31	729.52	-47.76	5.297
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,546.42	10,254.66	6,917.10	-1,397.82	102.07	900.26	728.31	-47.75	5.236
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,647.85	10,253.93	7,018.53	-1,398.13	103.41	901.06	726.95	-47.73	5.175
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,749.27	10,253.46	7,119.95	-1,398.45	104.74	901.70	725.40	-47.73	5.115
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,848.98	10,253.00	7,219.65	-1,398.65	106.06	902.24	723.76	-47.72	5.055
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,951.42	10,252.39	7,322.09	-1,398.65	107.42	902.74	722.09	-47.69	4.997
16,800.00	10,860.00	7,424.17	-730.89	111.57	16,060.55	10,250.80	7,431.19	-1,396.85	108.86	902.59	720.02	-47.55	4.944
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,169.49	10,248.27	7,540.02	-1,392.72	110.30	901.46	717.22	-47.26	4.893

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,283.72	10,246.55	7,654.10	-1,387.08	111.80	898.95	713.15	-46.94	4.838
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,387.15	10,248.36	7,757.44	-1,383.47	113.17	895.29	707.44	-46.87	4.766
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,477.97	10,251.44	7,848.20	-1,382.21	114.38	892.05	701.77	-46.97	4.688
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,563.56	10,252.93	7,933.77	-1,381.35	115.53	890.22	697.58	-47.00	4.621
17,355.23	10,860.00	7,979.39	-730.23	119.01	16,609.97	10,253.69	7,980.17	-1,381.69	116.15	889.94	695.96	-47.06	4.588
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,648.13	10,254.37	8,018.32	-1,382.48	116.66	890.12	695.00	-47.12	4.562
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,736.56	10,254.92	8,106.72	-1,384.70	117.86	891.61	694.04	-47.25	4.513
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,837.75	10,255.45	8,207.85	-1,387.86	119.23	893.64	693.52	-47.42	4.465
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,943.27	10,256.17	8,313.33	-1,390.71	120.66	895.26	692.59	-47.58	4.417
17,800.00	10,860.00	8,424.17	-729.71	125.02	17,045.55	10,257.41	8,415.57	-1,393.16	122.04	896.31	691.07	-47.75	4.367
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	898.66	691.20	-47.85	4.332
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	910.48	702.73	-47.85	4.383
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	932.94	726.83	-47.85	4.526
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	965.28	762.43	-47.85	4.759
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,006.55	808.15	-47.85	5.073
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,055.72	862.53	-47.85	5.465
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,111.72	924.14	-47.85	5.926
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,173.59	991.72	-47.85	6.453
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,240.45	1,064.18	-47.85	7.037
18,800.00	10,860.00	9,424.17	-728.52	138.65	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,311.53	1,140.63	-47.85	7.675
18,900.00	10,860.00	9,524.17	-728.40	140.02	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,386.18	1,220.35	-47.85	8.359
19,000.00	10,860.00	9,624.17	-728.28	141.39	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,463.86	1,302.74	-47.85	9.086
19,100.00	10,860.00	9,724.16	-728.16	142.77	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,544.11	1,387.34	-47.85	9.850
19,200.00	10,860.00	9,824.16	-728.04	144.14	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,626.55	1,473.78	-47.85	10.647
19,300.00	10,860.00	9,924.16	-727.92	145.52	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,710.86	1,561.75	-47.85	11.474
19,400.00	10,860.00	10,024.16	-727.81	146.89	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,796.79	1,651.02	-47.85	12.326
19,500.00	10,860.00	10,124.16	-727.69	148.27	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,884.10	1,741.38	-47.85	13.201
19,600.00	10,860.00	10,224.16	-727.57	149.65	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	1,972.62	1,832.68	-47.85	14.096
19,700.00	10,860.00	10,324.16	-727.45	151.03	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	2,062.19	1,924.79	-47.85	15.009
19,800.00	10,860.00	10,424.16	-727.33	152.41	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	2,152.67	2,017.59	-47.85	15.936

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
19,900.00	10,860.00	10,524.16	-727.21	153.79	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	2,243.97	2,111.01	-47.85	16.877
20,000.00	10,860.00	10,624.16	-727.09	155.17	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	2,335.98	2,204.96	-47.85	17.829
20,100.00	10,860.00	10,724.16	-726.97	156.55	17,098.00	10,258.10	8,468.00	-1,394.53	122.76	2,428.62	2,299.38	-47.85	18.792

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	100.93	100.93	199.66	-89.70	0.54	218.89	216.55	-24.19	93.418
200.00	200.00	0.00	0.00	0.70	200.62	200.62	199.08	-89.90	0.74	218.44	215.71	-24.30	79.984
300.00	300.00	0.00	0.00	0.98	300.38	300.37	198.48	-90.79	0.92	218.26	215.07	-24.58	68.374
400.00	400.00	0.00	0.00	1.31	400.29	400.28	198.01	-91.42	1.08	218.10	214.80	-24.78	66.123
500.00	500.00	0.00	0.00	1.64	500.54	500.52	197.58	-91.96	1.26	217.93	214.12	-24.96	57.191
600.00	600.00	0.00	0.00	1.99	600.93	600.91	197.06	-92.29	1.50	217.61	213.21	-25.09	49.516
700.00	700.00	0.00	0.00	2.34	700.78	700.76	196.61	-92.35	1.77	217.22	212.20	-25.16	43.256
800.00	800.00	0.00	0.00	2.69	800.84	800.82	196.19	-92.38	2.08	216.85	211.18	-25.22	38.200
900.00	900.00	0.00	0.00	3.04	900.69	900.68	195.71	-92.53	2.40	216.48	210.13	-25.30	34.100
981.99	981.99	0.00	0.00	3.33	982.02	982.00	195.45	-92.79	2.66	216.36	209.45	-25.40	31.336
1,000.00	1,000.00	0.00	0.00	3.39	999.94	999.92	195.41	-92.88	2.72	216.36	209.33	-25.42	30.788
1,100.00	1,100.00	0.00	0.00	3.75	1,097.69	1,097.66	195.38	-93.61	3.04	216.66	208.96	-25.60	28.122
1,200.00	1,200.00	0.00	0.00	4.10	1,190.81	1,190.75	197.07	-95.30	3.35	219.10	210.74	-25.81	26.206
1,300.00	1,299.99	0.78	-0.39	4.46	1,283.74	1,283.50	201.69	-98.72	3.66	224.29	215.28	0.66	24.895
1,400.00	1,399.96	3.12	-1.57	4.81	1,382.21	1,381.64	208.11	-103.49	3.98	229.66	219.98	0.30	23.708
1,500.00	1,499.86	7.01	-3.53	5.17	1,480.65	1,479.75	214.44	-108.53	4.32	233.36	222.99	-0.11	22.501
1,600.00	1,599.73	11.69	-5.89	5.53	1,572.01	1,570.62	221.71	-114.49	4.64	238.22	227.21	-0.60	21.632
1,700.00	1,699.59	16.36	-8.24	5.88	1,662.19	1,659.82	231.66	-123.20	4.96	247.29	235.65	-1.35	21.246
1,800.00	1,799.45	21.03	-10.60	6.24	1,757.44	1,753.56	244.05	-134.66	5.31	259.30	246.99	-2.33	21.072
1,900.00	1,899.31	25.71	-12.95	6.60	1,846.75	1,841.14	257.02	-146.40	5.65	273.31	260.39	-3.21	21.158
2,000.00	1,999.18	30.38	-15.31	6.96	1,937.28	1,929.18	272.98	-160.14	6.01	291.08	277.54	-4.05	21.498
2,100.00	2,099.04	35.06	-17.66	7.32	2,034.10	2,022.97	291.10	-175.92	6.41	310.47	296.23	-4.92	21.814
2,200.00	2,198.90	39.73	-20.02	7.68	2,136.47	2,122.27	309.64	-192.48	6.85	329.34	314.35	-5.77	21.973
2,300.00	2,298.77	44.40	-22.37	8.04	2,230.91	2,213.91	326.24	-208.18	7.25	348.08	332.42	-6.58	22.219
2,400.00	2,398.63	49.08	-24.73	8.40	2,329.66	2,309.61	343.58	-225.28	7.69	367.26	350.87	-7.43	22.406
2,500.00	2,498.49	53.75	-27.08	8.76	2,425.67	2,402.59	360.81	-241.91	8.11	386.83	369.74	-8.14	22.634
2,600.00	2,598.36	58.43	-29.44	9.12	2,521.57	2,495.48	378.32	-258.00	8.55	406.40	388.60	-8.70	22.842
2,700.00	2,698.22	63.10	-31.79	9.48	2,610.08	2,580.67	395.89	-274.39	8.96	428.28	409.86	-9.23	23.254
2,800.00	2,798.08	67.77	-34.15	9.85	2,718.58	2,685.29	415.90	-295.03	9.46	449.41	430.16	-9.99	23.337
2,900.00	2,897.94	72.45	-36.50	10.21	2,812.77	2,776.36	431.38	-313.37	9.90	469.33	449.38	-10.77	23.527

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,904.59	2,864.58	446.94	-333.54	10.34	491.28	470.66	-11.65	23.827
3,100.00	3,097.67	81.79	-41.21	10.93	3,002.22	2,958.30	463.06	-355.68	10.82	513.49	492.29	-12.61	24.215
3,200.00	3,197.53	86.47	-43.56	11.29	3,104.10	3,056.19	479.11	-378.86	11.31	535.32	513.45	-13.58	24.476
3,300.00	3,297.40	91.14	-45.92	11.66	3,198.48	3,146.96	493.76	-400.19	11.78	556.99	534.42	-14.41	24.675
3,400.00	3,397.26	95.82	-48.27	12.02	3,285.65	3,230.55	508.64	-419.88	12.21	579.92	556.72	-15.04	24.994
3,500.00	3,497.12	100.49	-50.63	12.38	3,380.19	3,320.97	527.09	-440.45	12.69	604.13	580.22	-15.46	25.266
3,600.00	3,596.98	105.16	-52.98	12.74	3,470.07	3,406.79	545.81	-459.45	13.15	628.94	604.36	-15.71	25.595
3,700.00	3,696.85	109.84	-55.34	13.11	3,573.57	3,505.57	567.55	-481.40	13.68	653.93	628.55	-15.98	25.766
3,800.00	3,796.71	114.51	-57.69	13.47	3,670.11	3,597.89	587.98	-500.91	14.17	678.34	652.22	-16.14	25.977
3,900.00	3,896.57	119.19	-60.05	13.83	3,764.17	3,687.75	607.85	-520.32	14.66	703.03	676.21	-16.31	26.210
4,000.00	3,996.44	123.86	-62.40	14.20	3,869.99	3,788.83	629.95	-542.51	15.20	727.82	700.17	-16.52	26.321
4,100.00	4,096.30	128.53	-64.76	14.56	3,989.76	3,904.27	653.22	-564.31	15.80	749.49	720.89	-16.65	26.209
4,200.00	4,196.16	133.21	-67.11	14.92	4,091.69	4,002.89	671.88	-582.11	16.30	769.90	740.53	-16.77	26.213
4,300.00	4,296.03	137.88	-69.47	15.29	4,191.22	4,099.26	689.67	-599.50	16.78	790.01	759.89	-16.91	26.226
4,400.00	4,395.89	142.56	-71.82	15.65	4,286.88	4,191.87	706.55	-616.50	17.25	810.17	779.33	-17.06	26.266
4,500.00	4,495.75	147.23	-74.18	16.01	4,386.95	4,288.74	724.10	-634.48	17.73	830.40	798.80	-17.22	26.275
4,600.00	4,595.61	151.90	-76.53	16.38	4,483.48	4,382.30	740.31	-651.78	18.20	850.08	817.75	-17.40	26.292
4,700.00	4,695.48	156.58	-78.89	16.74	4,555.00	4,451.17	753.88	-665.49	18.56	872.10	839.25	-17.50	26.552
4,800.00	4,795.34	161.25	-81.24	17.10	4,663.17	4,555.12	775.10	-686.61	19.11	894.98	861.29	-17.63	26.568
4,900.00	4,895.20	165.93	-83.60	17.47	4,763.27	4,651.57	793.70	-705.83	19.61	916.86	882.41	-17.78	26.613
5,000.00	4,995.07	170.60	-85.95	17.83	4,852.47	4,737.56	810.23	-722.87	20.06	938.67	903.55	-17.90	26.726
5,100.00	5,094.93	175.27	-88.31	18.19	4,926.24	4,808.19	826.27	-736.83	20.44	962.60	926.95	-17.89	27.002
5,200.00	5,194.79	179.95	-90.66	18.56	5,017.73	4,895.41	847.44	-754.59	20.93	987.92	951.57	-17.84	27.183
5,300.00	5,294.66	184.62	-93.02	18.92	5,121.92	4,994.73	871.32	-775.07	21.48	1,013.27	976.11	-17.80	27.267
5,400.00	5,394.52	189.29	-95.37	19.28	5,239.34	5,107.24	896.46	-797.38	22.09	1,037.03	998.94	-17.81	27.225
5,500.00	5,494.38	193.97	-97.73	19.65	5,347.63	5,211.46	917.80	-817.58	22.64	1,059.32	1,020.39	-17.87	27.211
5,600.00	5,594.02	201.36	-101.45	20.01	5,468.19	5,327.94	939.96	-839.39	23.24	1,077.45	1,037.59	-17.84	27.033
5,700.00	5,692.97	214.18	-107.91	20.39	5,607.51	5,463.49	962.63	-862.19	23.90	1,087.10	1,046.21	-18.08	26.586
5,800.00	5,790.86	232.36	-117.06	20.78	5,734.05	5,587.58	979.69	-880.14	24.46	1,087.25	1,045.45	-18.53	26.011



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,809.00	5,661.12	989.56	-890.71	24.79	1,081.60	1,039.21	-18.95	25.511
6,000.00	5,982.38	283.58	-142.87	21.60	5,899.00	5,749.12	1,002.60	-904.36	25.20	1,072.98	1,029.89	-19.48	24.902
6,100.00	6,077.29	311.70	-157.03	22.02	6,006.32	5,853.93	1,018.66	-920.89	25.69	1,064.50	1,020.61	-20.09	24.250
6,200.00	6,172.20	339.83	-171.20	22.45	6,093.70	5,939.31	1,031.63	-934.28	26.10	1,056.00	1,011.42	-20.59	23.688
6,300.00	6,267.12	367.95	-185.36	22.88	6,167.00	6,010.55	1,044.05	-946.20	26.44	1,049.67	1,004.52	-20.98	23.245
6,400.00	6,362.03	396.07	-199.53	23.31	6,284.41	6,124.59	1,064.43	-965.26	27.01	1,043.75	997.69	-21.59	22.658
6,500.00	6,456.94	424.19	-213.69	23.76	6,386.85	6,224.41	1,080.92	-981.31	27.49	1,036.63	989.76	-22.17	22.120
6,600.00	6,551.86	452.32	-227.86	24.20	6,479.13	6,314.25	1,096.01	-996.04	27.92	1,030.00	982.40	-22.69	21.641
6,700.00	6,646.77	480.44	-242.02	24.65	6,576.41	6,408.84	1,112.04	-1,012.15	28.38	1,024.02	975.66	-23.26	21.172
6,800.00	6,741.68	508.56	-256.19	25.11	6,678.50	6,508.16	1,128.46	-1,029.17	28.87	1,017.99	968.81	-23.89	20.700
6,900.00	6,836.59	536.68	-270.35	25.57	6,787.33	6,614.16	1,145.36	-1,047.07	29.38	1,011.56	961.52	-24.59	20.214
7,000.00	6,931.51	564.81	-284.52	26.03	6,911.58	6,735.67	1,162.62	-1,066.42	29.95	1,003.54	952.55	-25.45	19.679
7,100.00	7,026.42	592.93	-298.68	26.50	7,036.58	6,858.59	1,177.19	-1,083.82	30.48	992.96	941.03	-26.39	19.123
7,200.00	7,121.33	621.05	-312.85	26.97	7,157.10	6,977.59	1,188.89	-1,098.83	30.98	980.24	927.43	-27.38	18.562
7,300.00	7,216.25	649.17	-327.01	27.44	7,251.93	7,071.37	1,197.83	-1,109.70	31.36	966.75	913.16	-28.16	18.040
7,400.00	7,311.16	677.30	-341.18	27.92	7,332.00	7,150.44	1,206.47	-1,118.91	31.69	954.31	900.00	-28.78	17.570
7,500.00	7,406.07	705.42	-355.34	28.40	7,400.38	7,217.64	1,215.52	-1,127.72	31.99	944.60	889.63	-29.26	17.185
7,600.00	7,500.99	733.54	-369.51	28.88	7,469.73	7,285.27	1,226.63	-1,138.32	32.31	938.48	882.89	-29.72	16.882
7,700.00	7,595.90	761.66	-383.68	29.36	7,561.74	7,374.46	1,242.60	-1,154.30	32.76	934.98	878.60	-30.33	16.584
7,800.00	7,690.81	789.79	-397.84	29.85	7,686.72	7,496.14	1,262.05	-1,175.15	33.35	930.12	872.70	-31.26	16.198
7,900.00	7,785.72	817.91	-412.01	30.34	7,768.99	7,576.34	1,274.76	-1,188.33	33.73	924.79	866.64	-31.87	15.902
8,000.00	7,880.64	846.03	-426.17	30.83	7,867.83	7,672.36	1,291.97	-1,204.29	34.21	920.71	861.70	-32.50	15.602
8,100.00	7,975.55	874.15	-440.34	31.33	7,938.53	7,740.74	1,305.34	-1,216.23	34.56	918.18	858.55	-32.92	15.396
8,128.69	8,002.78	882.22	-444.40	31.47	7,959.00	7,760.43	1,309.47	-1,220.00	34.66	918.06	858.25	-33.04	15.349
8,200.00	8,070.46	902.28	-454.50	31.82	8,024.98	7,823.78	1,322.97	-1,232.59	35.00	918.29	857.90	-33.41	15.206
8,300.00	8,165.38	930.40	-468.67	32.32	8,142.22	7,936.49	1,346.42	-1,254.73	35.60	918.35	856.90	-34.11	14.945
8,400.00	8,260.29	958.52	-482.83	32.82	8,264.91	8,055.52	1,368.19	-1,275.00	36.19	915.03	852.50	-34.90	14.633
8,500.00	8,355.20	986.64	-497.00	33.32	8,372.45	8,159.83	1,388.02	-1,292.00	36.71	911.76	848.28	-35.54	14.363
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,483.12	8,267.75	1,406.78	-1,307.79	37.23	906.39	841.94	-36.25	14.063
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,586.45	8,368.75	1,422.48	-1,322.93	37.70	900.74	835.36	-37.03	13.776

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,686.84	8,467.06	1,436.13	-1,337.98	38.15	894.86	828.55	-37.91	13.495
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,790.45	8,568.47	1,450.01	-1,354.06	38.61	889.63	822.36	-38.85	13.225
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,920.09	8,696.31	1,463.52	-1,370.74	39.16	880.66	812.30	-40.19	12.883
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,012.80	8,787.80	1,473.10	-1,382.22	39.54	871.81	802.53	-41.16	12.583
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,123.54	8,897.12	1,484.43	-1,395.82	40.00	863.14	792.85	-42.35	12.279
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,251.02	9,023.46	1,494.22	-1,409.67	40.49	852.71	781.37	-43.91	11.953
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,408.13	9,180.14	1,500.66	-1,418.68	41.02	836.47	764.20	-46.11	11.575
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,505.48	9,277.42	1,502.75	-1,421.55	41.31	817.82	744.55	-47.61	11.162
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,606.13	9,378.03	1,503.25	-1,424.48	41.61	799.30	725.01	-49.34	10.759
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,705.50	9,477.36	1,503.29	-1,426.95	41.89	780.98	705.65	-51.16	10.366
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,812.97	9,584.80	1,504.73	-1,428.33	42.21	762.60	686.24	-53.09	9.987
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,896.87	9,668.08	1,513.99	-1,427.24	42.49	744.19	666.75	-54.03	9.609
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,962.87	9,731.39	1,532.39	-1,426.44	42.76	729.86	651.39	-53.63	9.302
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,021.00	9,784.04	1,556.87	-1,427.35	43.03	724.45	645.25	-52.45	9.147
10,103.65	9,879.68	1,430.34	-720.49	41.49	10,021.00	9,784.04	1,556.87	-1,427.35	43.03	724.44	645.22	-52.45	9.145
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,093.23	9,844.99	1,595.51	-1,429.39	43.42	728.01	648.42	-50.35	9.147
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,182.24	9,914.45	1,651.10	-1,430.35	43.92	739.53	659.91	-46.99	9.287
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,255.18	9,967.75	1,700.84	-1,428.70	44.34	759.00	679.53	-43.96	9.550
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,308.11	10,004.19	1,739.18	-1,426.76	44.65	788.62	709.67	-68.30	9.989
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,349.56	10,031.07	1,770.70	-1,425.50	44.90	824.04	745.87	-63.28	10.542
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,400.00	10,061.71	1,810.75	-1,424.53	45.21	858.91	781.41	-58.03	11.082
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,450.00	10,090.36	1,851.72	-1,424.07	45.54	890.53	813.71	-53.78	11.593
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,500.00	10,116.93	1,894.07	-1,423.64	45.87	917.08	840.74	-50.48	12.013
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,566.79	10,148.90	1,952.69	-1,422.93	46.33	937.15	860.83	-47.89	12.279
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,625.83	10,173.69	2,006.26	-1,422.18	46.75	950.08	873.69	-46.37	12.438
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,685.32	10,195.27	2,061.67	-1,421.31	47.18	955.31	878.56	-45.73	12.447
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,750.00	10,214.77	2,123.33	-1,420.24	47.67	952.63	875.10	-45.96	12.287
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,800.00	10,226.95	2,171.80	-1,419.33	48.05	942.06	863.50	-47.00	11.991
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,863.78	10,238.79	2,234.45	-1,418.07	48.54	928.25	848.21	-47.63	11.596

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,924.48	10,246.15	2,294.68	-1,416.77	49.02	918.56	837.08	-47.92	11.272
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,985.87	10,249.69	2,355.94	-1,415.35	49.51	913.07	830.19	-48.03	11.016
11,800.00	10,860.00	2,424.17	-736.84	51.90	11,059.11	10,250.00	2,429.16	-1,413.98	50.11	911.40	827.15	-47.99	10.817
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,156.11	10,250.00	2,526.16	-1,413.67	50.93	911.25	825.51	-47.98	10.629
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,256.11	10,250.00	2,626.16	-1,413.38	51.80	911.12	823.86	-47.97	10.442
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,356.11	10,250.00	2,726.16	-1,413.08	52.70	910.99	822.17	-47.96	10.257
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,456.11	10,250.00	2,826.16	-1,412.79	53.62	910.86	820.44	-47.96	10.074
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,556.11	10,250.00	2,926.16	-1,412.50	54.56	910.73	818.68	-47.95	9.895
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,656.11	10,250.00	3,026.16	-1,412.20	55.53	910.60	816.89	-47.94	9.718
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,756.11	10,250.00	3,126.15	-1,411.91	56.51	910.47	815.07	-47.93	9.544
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,856.11	10,250.00	3,226.15	-1,411.61	57.51	910.34	813.22	-47.93	9.374
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,956.11	10,250.00	3,326.15	-1,411.32	58.54	910.21	811.35	-47.92	9.207
12,800.00	10,860.00	3,424.17	-735.65	61.83	12,056.10	10,250.00	3,426.15	-1,411.03	59.58	910.08	809.45	-47.91	9.044
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,156.10	10,250.00	3,526.15	-1,410.73	60.63	909.95	807.52	-47.90	8.884
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,256.10	10,250.00	3,626.15	-1,410.44	61.70	909.82	805.58	-47.90	8.728
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,356.10	10,250.00	3,726.15	-1,410.15	62.79	909.69	803.61	-47.89	8.576
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,456.10	10,250.00	3,826.15	-1,409.85	63.88	909.56	801.62	-47.88	8.427
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,556.10	10,250.00	3,926.15	-1,409.56	65.00	909.43	799.61	-47.87	8.281
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,656.10	10,250.00	4,026.15	-1,409.26	66.12	909.30	797.59	-47.87	8.140
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,756.10	10,250.00	4,126.15	-1,408.97	67.25	909.17	795.54	-47.86	8.001
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,856.10	10,250.00	4,226.15	-1,408.68	68.40	909.04	793.48	-47.85	7.867
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,956.10	10,250.00	4,326.15	-1,408.38	69.56	908.91	791.41	-47.85	7.735
13,800.00	10,860.00	4,424.17	-734.46	73.23	13,056.10	10,250.00	4,426.15	-1,408.09	70.73	908.78	789.32	-47.84	7.607
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,156.10	10,250.00	4,526.15	-1,407.80	71.90	908.65	787.21	-47.83	7.482
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,256.10	10,250.00	4,626.15	-1,407.50	73.09	908.52	785.10	-47.82	7.361
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,356.10	10,250.00	4,726.15	-1,407.21	74.28	908.39	782.96	-47.82	7.242
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,456.10	10,250.00	4,826.14	-1,406.92	75.49	908.26	780.82	-47.81	7.127
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,556.10	10,250.00	4,926.14	-1,406.62	76.70	908.13	778.67	-47.80	7.015
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,656.10	10,250.00	5,026.14	-1,406.33	77.91	908.00	776.50	-47.79	6.905
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,756.10	10,250.00	5,126.14	-1,406.03	79.14	907.87	774.33	-47.79	6.798

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,856.10	10,250.00	5,226.14	-1,405.74	80.37	907.74	772.14	-47.78	6.694
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,956.10	10,250.00	5,326.14	-1,405.45	81.61	907.61	769.95	-47.77	6.593
14,800.00	10,860.00	5,424.17	-733.27	85.52	14,056.10	10,250.00	5,426.14	-1,405.15	82.85	907.48	767.74	-47.76	6.494
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,156.10	10,250.00	5,526.14	-1,404.86	84.10	907.36	765.53	-47.76	6.398
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,256.10	10,250.00	5,626.14	-1,404.57	85.36	907.23	763.31	-47.75	6.304
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,356.10	10,250.00	5,726.14	-1,404.27	86.62	907.10	761.08	-47.74	6.212
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,456.10	10,250.00	5,826.14	-1,403.98	87.89	906.97	758.84	-47.73	6.123
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,556.10	10,250.00	5,926.14	-1,403.68	89.16	906.84	756.60	-47.73	6.036
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,656.10	10,250.00	6,026.14	-1,403.39	90.44	906.71	754.35	-47.72	5.951
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,756.10	10,250.00	6,126.14	-1,403.10	91.72	906.58	752.09	-47.71	5.868
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,856.10	10,250.00	6,226.14	-1,402.80	93.00	906.45	749.83	-47.70	5.788
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,956.10	10,250.00	6,326.14	-1,402.51	94.29	906.32	747.56	-47.70	5.709
15,800.00	10,860.00	6,424.17	-732.08	98.37	15,056.10	10,250.00	6,426.14	-1,402.22	95.59	906.19	745.29	-47.69	5.632
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,156.10	10,250.00	6,526.13	-1,401.92	96.88	906.06	743.00	-47.68	5.557
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,256.10	10,250.00	6,626.13	-1,401.63	98.18	905.93	740.72	-47.67	5.483
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,356.10	10,250.00	6,726.13	-1,401.34	99.49	905.80	738.43	-47.67	5.412
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,456.10	10,250.00	6,826.13	-1,401.04	100.80	905.67	736.13	-47.66	5.342
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,556.10	10,250.00	6,926.13	-1,400.75	102.11	905.54	733.83	-47.65	5.274
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,656.10	10,250.00	7,026.13	-1,400.45	103.42	905.42	731.53	-47.64	5.207
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,756.10	10,250.00	7,126.13	-1,400.16	104.74	905.29	729.22	-47.64	5.142
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,856.10	10,250.00	7,226.13	-1,399.87	106.06	905.16	726.90	-47.63	5.078
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,956.10	10,250.00	7,326.13	-1,399.57	107.39	905.03	724.59	-47.62	5.016
16,800.00	10,860.00	7,424.17	-730.89	111.57	16,056.10	10,250.00	7,426.13	-1,399.28	108.71	904.90	722.27	-47.62	4.955
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,156.10	10,250.00	7,526.13	-1,398.99	110.04	904.77	719.94	-47.61	4.895
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,256.10	10,250.00	7,626.13	-1,398.69	111.37	904.64	717.61	-47.60	4.837
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,356.10	10,250.00	7,726.13	-1,398.40	112.71	904.51	715.28	-47.59	4.780
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,456.10	10,250.00	7,826.13	-1,398.10	114.04	904.38	712.95	-47.59	4.724
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,556.10	10,250.00	7,926.13	-1,397.81	115.38	904.25	710.61	-47.58	4.670
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,656.10	10,250.00	8,026.13	-1,397.52	116.72	904.12	708.27	-47.57	4.616

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,756.10	10,250.00	8,126.13	-1,397.22	118.06	904.00	705.92	-47.56	4.564
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,856.10	10,250.00	8,226.12	-1,396.93	119.41	903.87	703.58	-47.56	4.513
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,956.10	10,250.00	8,326.12	-1,396.64	120.75	903.74	701.23	-47.55	4.463
17,800.00	10,860.00	8,424.17	-729.71	125.02	17,056.10	10,250.00	8,426.12	-1,396.34	122.10	903.61	698.87	-47.54	4.414
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,156.10	10,250.00	8,526.12	-1,396.05	123.45	903.48	696.52	-47.53	4.365
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,256.10	10,250.00	8,626.12	-1,395.76	124.81	903.35	694.16	-47.53	4.318
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,356.10	10,250.00	8,726.12	-1,395.46	126.16	903.22	691.80	-47.52	4.272
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,456.10	10,250.00	8,826.12	-1,395.17	127.51	903.09	689.44	-47.51	4.227
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,556.10	10,250.00	8,926.12	-1,394.87	128.87	902.96	687.08	-47.50	4.183
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,656.10	10,250.00	9,026.12	-1,394.58	130.23	902.83	684.71	-47.50	4.139
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,756.10	10,250.00	9,126.12	-1,394.29	131.59	902.71	682.35	-47.49	4.096
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,856.10	10,250.00	9,226.12	-1,393.99	132.95	902.58	679.98	-47.48	4.055
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,956.10	10,250.00	9,326.12	-1,393.70	134.32	902.45	677.60	-47.47	4.014
18,800.00	10,860.00	9,424.17	-728.52	138.65	18,056.10	10,250.00	9,426.12	-1,393.41	135.68	902.32	675.23	-47.47	3.973
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,156.10	10,250.00	9,526.12	-1,393.11	137.05	902.19	672.86	-47.46	3.934
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,256.10	10,250.00	9,626.12	-1,392.82	138.41	902.06	670.48	-47.45	3.895
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,356.10	10,250.00	9,726.12	-1,392.52	139.78	901.93	668.10	-47.44	3.857
19,200.00	10,860.00	9,824.16	-728.04	144.14	18,456.10	10,250.00	9,826.12	-1,392.23	141.15	901.80	665.72	-47.44	3.820
19,300.00	10,860.00	9,924.16	-727.92	145.52	18,556.10	10,250.00	9,926.12	-1,391.94	142.52	901.67	663.34	-47.43	3.783
19,400.00	10,860.00	10,024.16	-727.81	146.89	18,656.09	10,250.00	10,026.11	-1,391.64	143.90	901.55	660.96	-47.42	3.747
19,500.00	10,860.00	10,124.16	-727.69	148.27	18,756.09	10,250.00	10,126.11	-1,391.35	145.27	901.42	658.57	-47.41	3.712
19,600.00	10,860.00	10,224.16	-727.57	149.65	18,856.09	10,250.00	10,226.11	-1,391.06	146.64	901.29	656.19	-47.41	3.677
19,700.00	10,860.00	10,324.16	-727.45	151.03	18,956.09	10,250.00	10,326.11	-1,390.76	148.02	901.16	653.80	-47.40	3.643
19,800.00	10,860.00	10,424.16	-727.33	152.41	19,056.09	10,250.00	10,426.11	-1,390.47	149.40	901.03	651.41	-47.39	3.610
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,156.09	10,250.00	10,526.11	-1,390.18	150.77	900.90	649.02	-47.38	3.577
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,256.09	10,250.00	10,626.11	-1,389.88	152.15	900.77	646.63	-47.38	3.544
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,356.09	10,250.00	10,726.11	-1,389.59	153.53	900.65	644.24	-47.37	3.513
20,200.00	10,860.00	10,824.16	-726.85	157.94	19,456.09	10,250.00	10,826.11	-1,389.29	154.91	900.52	641.85	-47.36	3.481
20,300.00	10,860.00	10,924.16	-726.74	159.32	19,556.09	10,250.00	10,926.11	-1,389.00	156.29	900.39	639.45	-47.35	3.451
20,400.00	10,860.00	11,024.16	-726.62	160.71	19,656.09	10,250.00	11,026.11	-1,388.71	157.68	900.26	637.06	-47.34	3.420

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4

Survey Program: 59-3_Gyro-NS_OWSG, 371-3_MWD+HRGM+AX, 10374-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
20,500.00	10,860.00	11,124.16	-726.50	162.10	19,756.09	10,250.00	11,126.11	-1,388.41	159.06	900.13	634.66	-47.34	3.391
20,600.00	10,860.00	11,224.16	-726.38	163.48	19,856.09	10,250.00	11,226.11	-1,388.12	160.44	900.00	632.27	-47.33	3.362
20,700.00	10,860.00	11,324.16	-726.26	164.87	19,956.09	10,250.00	11,326.11	-1,387.83	161.83	899.87	629.87	-47.32	3.333
20,800.00	10,860.00	11,424.16	-726.14	166.26	20,056.09	10,250.00	11,426.11	-1,387.53	163.21	899.75	627.47	-47.31	3.305
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,156.09	10,250.00	11,526.11	-1,387.24	164.60	899.62	625.07	-47.31	3.277
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,256.09	10,250.00	11,626.11	-1,386.94	165.99	899.49	622.67	-47.30	3.249
21,081.75	10,860.00	11,705.91	-725.81	170.18	20,337.84	10,250.00	11,707.85	-1,386.70	167.12	899.38	620.71	-47.29	3.227
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,353.08	10,250.00	11,723.09	-1,386.66	167.33	899.36	620.27	-47.29	3.222
21,200.00	10,860.00	11,824.16	-725.67	171.82	20,353.08	10,250.00	11,723.09	-1,386.66	167.33	905.11	624.98	-47.29	3.231
21,300.00	10,860.00	11,924.16	-725.55	173.22	20,353.08	10,250.00	11,723.09	-1,386.66	167.33	921.74	643.51	-47.29	3.313
21,331.33	10,860.00	11,955.49	-725.51	173.65	20,353.08	10,250.00	11,723.09	-1,386.66	167.33	929.10	652.03	-47.29	3.353

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	99.68	99.67	200.95	-30.41	0.56	203.27	200.90	-8.60	85.977
200.00	200.00	0.00	0.00	0.70	199.88	199.86	202.51	-31.43	0.78	204.96	202.19	-8.82	74.010
300.00	300.00	0.00	0.00	0.98	298.15	298.10	204.35	-32.29	1.02	206.95	203.65	-8.98	62.882
400.00	400.00	0.00	0.00	1.31	396.32	396.23	206.95	-33.43	1.20	209.74	206.33	-9.18	61.487
500.00	500.00	0.00	0.00	1.64	501.03	500.91	209.38	-34.27	1.34	212.18	208.29	-9.29	54.562
600.00	600.00	0.00	0.00	1.99	605.10	604.97	209.49	-33.45	1.53	212.15	207.73	-9.07	47.967
700.00	700.00	0.00	0.00	2.34	704.62	704.48	208.87	-32.29	1.76	211.35	206.35	-8.79	42.222
800.00	800.00	0.00	0.00	2.69	804.42	804.28	208.32	-31.56	2.03	210.70	205.08	-8.61	37.449
900.00	900.00	0.00	0.00	3.04	904.29	904.14	207.79	-31.19	2.32	210.12	203.85	-8.54	33.508
1,000.00	1,000.00	0.00	0.00	3.39	1,003.99	1,003.84	207.32	-31.08	2.63	209.64	202.71	-8.53	30.253
1,068.61	1,068.61	0.00	0.00	3.64	1,071.76	1,071.61	207.08	-31.21	2.84	209.42	202.04	-8.57	28.360
1,100.00	1,100.00	0.00	0.00	3.75	1,101.24	1,101.09	207.20	-31.35	2.93	209.57	201.98	-8.60	27.616
1,200.00	1,200.00	0.00	0.00	4.10	1,192.21	1,192.02	209.51	-32.11	3.22	212.24	204.01	-8.71	25.793
1,300.00	1,299.99	0.78	-0.39	4.46	1,282.22	1,281.75	216.44	-33.46	3.51	219.21	210.36	18.00	24.750
1,400.00	1,399.96	3.12	-1.57	4.81	1,377.34	1,376.30	226.66	-35.39	3.83	227.65	218.14	18.07	23.936
1,500.00	1,499.86	7.01	-3.53	5.17	1,470.38	1,468.58	238.27	-37.69	4.16	236.26	226.11	18.22	23.271
1,600.00	1,599.73	11.69	-5.89	5.53	1,562.18	1,559.15	253.11	-39.65	4.49	247.64	236.85	18.63	22.958
1,700.00	1,699.59	16.36	-8.24	5.88	1,661.51	1,656.84	270.98	-41.18	4.86	260.78	249.30	19.22	22.708
1,800.00	1,799.45	21.03	-10.60	6.24	1,763.49	1,757.35	288.22	-42.61	5.24	272.85	260.64	19.76	22.347
1,900.00	1,899.31	25.71	-12.95	6.60	1,864.60	1,857.12	304.58	-43.82	5.63	284.19	271.26	20.28	21.976
2,000.00	1,999.18	30.38	-15.31	6.96	1,966.96	1,958.26	320.25	-44.84	6.02	294.66	281.00	20.79	21.563
2,100.00	2,099.04	35.06	-17.66	7.32	2,062.94	2,053.08	335.08	-45.36	6.39	305.25	290.90	21.32	21.268
2,200.00	2,198.90	39.73	-20.02	7.68	2,158.99	2,147.75	351.34	-44.77	6.77	317.25	302.21	22.03	21.091
2,300.00	2,298.77	44.40	-22.37	8.04	2,262.34	2,249.66	368.39	-43.27	7.18	328.81	313.02	22.89	20.822
2,400.00	2,398.63	49.08	-24.73	8.40	2,361.65	2,347.72	384.09	-41.65	7.57	339.74	323.23	23.68	20.578
2,500.00	2,498.49	53.75	-27.08	8.76	2,457.72	2,442.49	399.80	-40.51	7.96	351.30	334.10	24.34	20.418
2,600.00	2,598.36	58.43	-29.44	9.12	2,550.80	2,534.13	416.09	-40.63	8.34	364.10	346.23	24.74	20.368
2,700.00	2,698.22	63.10	-31.79	9.48	2,654.41	2,635.95	435.20	-41.88	8.76	377.92	359.28	25.00	20.277
2,800.00	2,798.08	67.77	-34.15	9.85	2,758.05	2,738.17	452.31	-42.27	9.18	389.73	370.33	25.35	20.093
2,900.00	2,897.94	72.45	-36.50	10.21	2,845.18	2,823.95	467.56	-41.99	9.54	402.58	382.56	25.72	20.107

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,949.56	2,926.47	487.11	-41.61	9.98	416.69	395.89	26.15	20.039
3,100.00	3,097.67	81.79	-41.21	10.93	3,053.63	3,029.01	504.90	-41.41	10.41	429.13	407.83	26.52	20.143
3,200.00	3,197.53	86.47	-43.56	11.29	3,138.40	3,112.40	520.13	-41.33	10.76	442.53	420.62	26.79	20.196
3,300.00	3,297.40	91.14	-45.92	11.66	3,209.00	3,181.17	536.05	-40.35	11.07	460.64	438.29	27.12	20.606
3,400.00	3,397.26	95.82	-48.27	12.02	3,299.00	3,268.04	559.55	-39.74	11.48	482.29	459.29	27.43	20.974
3,500.00	3,497.12	100.49	-50.63	12.38	3,389.46	3,354.87	584.82	-41.50	11.91	505.72	482.08	27.44	21.391
3,600.00	3,596.98	105.16	-52.98	12.74	3,504.27	3,465.46	615.45	-44.85	12.45	527.78	503.21	27.32	21.479
3,700.00	3,696.85	109.84	-55.34	13.11	3,604.18	3,561.96	641.12	-48.25	12.91	548.93	523.60	27.18	21.674
3,800.00	3,796.71	114.51	-57.69	13.47	3,709.63	3,664.21	666.65	-51.88	13.40	568.55	542.41	27.04	21.753
3,900.00	3,896.57	119.19	-60.05	13.83	3,815.34	3,766.92	691.41	-55.15	13.88	587.42	560.48	26.95	21.803
4,000.00	3,996.44	123.86	-62.40	14.20	3,923.22	3,872.19	714.92	-57.12	14.36	604.62	576.86	26.99	21.780
4,100.00	4,096.30	128.53	-64.76	14.56	4,024.67	3,971.40	736.03	-59.14	14.81	620.84	592.32	27.01	21.769
4,200.00	4,196.16	133.21	-67.11	14.92	4,123.82	4,068.41	756.42	-61.09	15.25	636.81	607.56	27.04	21.765
4,300.00	4,296.03	137.88	-69.47	15.29	4,221.58	4,164.08	776.53	-61.21	15.68	652.81	622.82	27.22	21.770
4,400.00	4,395.89	142.56	-71.82	15.65	4,318.42	4,258.79	796.71	-60.37	16.11	669.09	638.38	27.48	21.790
4,500.00	4,495.75	147.23	-74.18	16.01	4,417.75	4,355.92	817.48	-59.69	16.55	685.46	654.01	27.71	21.796
4,600.00	4,595.61	151.90	-76.53	16.38	4,518.86	4,454.84	838.40	-59.30	17.00	701.60	669.39	27.92	21.785
4,700.00	4,695.48	156.58	-78.89	16.74	4,619.52	4,553.39	858.86	-59.15	17.44	717.39	684.43	28.09	21.767
4,800.00	4,795.34	161.25	-81.24	17.10	4,718.15	4,649.99	878.81	-59.28	17.88	733.06	699.37	28.23	21.757
4,900.00	4,895.20	165.93	-83.60	17.47	4,818.45	4,748.23	899.04	-59.43	18.32	748.69	714.24	28.37	21.738
5,000.00	4,995.07	170.60	-85.95	17.83	4,913.00	4,840.81	918.22	-59.49	18.74	764.44	729.30	28.50	21.751
5,100.00	5,094.93	175.27	-88.31	18.19	5,008.32	4,934.05	938.05	-59.28	19.16	780.73	744.87	28.64	21.774
5,200.00	5,194.79	179.95	-90.66	18.56	5,110.53	5,034.01	959.37	-59.22	19.62	797.06	760.44	28.78	21.764
5,300.00	5,294.66	184.62	-93.02	18.92	5,215.70	5,137.05	980.43	-59.72	20.08	812.54	775.12	28.88	21.720
5,400.00	5,394.52	189.29	-95.37	19.28	5,314.91	5,234.28	1,000.15	-60.57	20.52	827.85	789.70	28.94	21.700
5,500.00	5,494.38	193.97	-97.73	19.65	5,415.25	5,332.65	1,019.86	-61.98	20.96	842.92	804.02	28.96	21.669
5,600.00	5,594.02	201.36	-101.45	20.01	5,520.15	5,435.55	1,040.20	-63.12	21.41	855.10	815.42	28.91	21.548
5,700.00	5,692.97	214.18	-107.91	20.39	5,617.04	5,530.68	1,058.57	-63.49	21.83	861.56	821.15	29.17	21.318
5,800.00	5,790.86	232.36	-117.06	20.78	5,702.07	5,614.00	1,075.52	-63.20	22.21	863.81	822.75	29.66	21.037

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,792.62	5,702.45	1,094.86	-62.16	22.62	862.38	820.62	30.47	20.651
6,000.00	5,982.38	283.58	-142.87	21.60	5,898.70	5,806.06	1,117.61	-60.70	23.09	857.04	814.44	31.63	20.119
6,100.00	6,077.29	311.70	-157.03	22.02	5,996.47	5,901.66	1,138.06	-59.52	23.53	851.05	807.67	32.69	19.621
6,200.00	6,172.20	339.83	-171.20	22.45	6,089.69	5,992.71	1,158.02	-58.57	23.95	845.83	801.71	33.69	19.171
6,300.00	6,267.12	367.95	-185.36	22.88	6,193.80	6,094.43	1,180.19	-57.81	24.42	840.75	795.78	34.81	18.697
6,400.00	6,362.03	396.07	-199.53	23.31	6,298.43	6,196.76	1,201.98	-56.99	24.89	835.54	789.72	35.96	18.234
6,500.00	6,456.94	424.19	-213.69	23.76	6,386.32	6,282.83	1,219.77	-56.25	25.28	830.12	783.57	36.94	17.833
6,600.00	6,551.86	452.32	-227.86	24.20	6,467.17	6,361.45	1,238.60	-56.00	25.65	827.76	780.54	37.79	17.532
6,700.00	6,646.77	480.44	-242.02	24.65	6,573.16	6,464.48	1,263.50	-56.05	26.15	825.90	777.77	38.89	17.162
6,800.00	6,741.68	508.56	-256.19	25.11	6,679.52	6,568.08	1,287.54	-56.28	26.64	823.38	774.35	39.99	16.791
6,900.00	6,836.59	536.68	-270.35	25.57	6,784.36	6,670.44	1,310.23	-55.93	27.11	820.34	770.40	41.15	16.425
7,000.00	6,931.51	564.81	-284.52	26.03	6,898.95	6,782.54	1,333.93	-56.99	27.62	816.34	765.41	42.34	16.029
7,100.00	7,026.42	592.93	-298.68	26.50	7,017.12	6,898.50	1,356.43	-60.27	28.14	810.50	758.57	43.48	15.609
7,200.00	7,121.33	621.05	-312.85	26.97	7,138.51	7,018.13	1,376.49	-64.67	28.64	802.22	749.31	44.68	15.161
7,300.00	7,216.25	649.17	-327.01	27.44	7,239.98	7,118.46	1,391.32	-67.97	29.05	792.49	738.70	45.77	14.731
7,400.00	7,311.16	677.30	-341.18	27.92	7,317.81	7,195.41	1,402.94	-68.33	29.37	784.29	729.71	46.77	14.369
7,500.00	7,406.07	705.42	-355.34	28.40	7,393.78	7,270.28	1,415.71	-66.67	29.69	779.17	723.83	47.85	14.080
7,600.00	7,500.99	733.54	-369.51	28.88	7,479.83	7,354.69	1,432.25	-64.34	30.06	776.92	720.76	49.07	13.833
7,700.00	7,595.90	761.66	-383.68	29.36	7,605.52	7,478.05	1,456.26	-62.83	30.61	774.60	717.30	50.73	13.519
7,800.00	7,690.81	789.79	-397.84	29.85	7,728.29	7,599.38	1,474.93	-62.42	31.11	768.67	710.30	52.44	13.170
7,900.00	7,785.72	817.91	-412.01	30.34	7,876.79	7,746.96	1,491.08	-63.36	31.67	759.25	699.82	54.70	12.775
8,000.00	7,880.64	846.03	-426.17	30.83	7,990.24	7,860.17	1,498.11	-66.04	32.05	745.28	684.92	56.54	12.347
8,100.00	7,975.55	874.15	-440.34	31.33	8,096.30	7,966.10	1,502.45	-68.57	32.40	730.15	668.86	58.43	11.912
8,200.00	8,070.46	902.28	-454.50	31.82	8,199.50	8,069.23	1,505.34	-71.13	32.72	714.62	652.38	60.38	11.482
8,300.00	8,165.38	930.40	-468.67	32.32	8,299.04	8,168.71	1,507.46	-73.87	33.03	699.18	635.99	62.37	11.064
8,400.00	8,260.29	958.52	-482.83	32.82	8,395.44	8,265.07	1,508.85	-76.17	33.32	684.28	620.10	64.43	10.662
8,500.00	8,355.20	986.64	-497.00	33.32	8,498.09	8,367.70	1,508.03	-76.48	33.62	669.90	604.74	66.97	10.282
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,589.75	8,459.33	1,505.63	-75.30	33.86	656.48	590.29	69.51	9.919
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,684.45	8,553.98	1,503.19	-73.99	34.12	644.69	577.48	72.23	9.592
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,777.25	8,646.75	1,500.82	-72.72	34.37	634.53	566.28	74.97	9.298

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,870.35	8,739.80	1,498.33	-70.80	34.63	626.51	557.24	77.84	9.045
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,981.60	8,851.00	1,495.54	-71.34	34.94	618.44	548.22	81.18	8.807
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,077.32	8,946.67	1,492.82	-73.13	35.20	610.87	539.67	84.09	8.579
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,164.19	9,033.49	1,490.22	-74.26	35.44	605.45	533.26	86.80	8.386
9,294.38	9,109.17	1,210.04	-609.52	37.36	9,240.27	9,109.55	1,488.63	-74.03	35.66	603.63	530.54	89.21	8.259
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,244.69	9,113.97	1,488.58	-73.98	35.67	603.64	530.50	89.35	8.253
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,329.08	9,198.34	1,488.85	-72.39	35.93	605.86	531.84	91.91	8.185
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,428.61	9,297.85	1,489.40	-70.53	36.23	609.86	534.95	94.88	8.142
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,524.03	9,393.25	1,488.51	-68.83	36.52	614.96	539.23	97.80	8.120
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,619.48	9,488.69	1,488.95	-67.41	36.81	621.87	545.34	100.56	8.126
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,712.10	9,581.27	1,491.10	-66.67	37.11	630.06	552.76	103.01	8.150
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,803.42	9,672.15	1,499.66	-66.48	37.45	640.23	562.13	104.81	8.198
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,897.80	9,764.17	1,520.15	-67.82	37.88	651.21	572.23	105.71	8.245
10,100.00	9,876.11	1,429.63	-720.13	41.48	9,972.74	9,833.58	1,548.10	-69.94	38.28	662.46	582.74	105.20	8.310
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,039.85	9,891.49	1,581.92	-70.41	38.68	677.46	597.23	103.80	8.444
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,122.74	9,959.94	1,628.66	-70.93	39.21	694.92	614.27	101.31	8.616
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,188.00	10,010.88	1,669.41	-71.78	39.65	715.99	635.26	99.08	8.869
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,248.78	10,055.06	1,711.10	-73.14	40.08	742.59	662.16	69.69	9.233
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,274.00	10,072.42	1,729.38	-74.03	40.26	774.20	695.29	65.59	9.811
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,274.00	10,072.42	1,729.38	-74.03	40.26	810.01	733.75	62.15	10.622
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,274.00	10,072.42	1,729.38	-74.03	40.26	848.87	775.53	58.48	11.574
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,274.00	10,072.42	1,729.38	-74.03	40.26	889.28	818.86	54.79	12.629
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,274.00	10,072.42	1,729.38	-74.03	40.26	929.90	862.18	51.25	13.733
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,274.00	10,072.42	1,729.38	-74.03	40.26	969.53	904.11	47.96	14.819
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,007.17	943.47	45.01	15.811
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,041.95	979.31	42.45	16.635
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,073.13	1,010.86	40.28	17.234
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,104.84	1,042.40	40.01	17.696
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,144.32	1,081.50	40.01	18.214

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,190.91	1,127.54	40.01	18.792
11,800.00	10,860.00	2,424.17	-736.84	51.90	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,243.81	1,179.79	40.01	19.427
11,900.00	10,860.00	2,524.17	-736.72	52.80	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,302.26	1,237.53	40.01	20.119
12,000.00	10,860.00	2,624.17	-736.60	53.73	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,365.53	1,300.08	40.01	20.865
12,100.00	10,860.00	2,724.17	-736.48	54.67	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,432.99	1,366.84	40.01	21.660
12,200.00	10,860.00	2,824.17	-736.36	55.64	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,504.09	1,437.24	40.01	22.502
12,300.00	10,860.00	2,924.17	-736.24	56.63	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,578.31	1,510.82	40.01	23.385
12,400.00	10,860.00	3,024.17	-736.12	57.64	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,655.26	1,587.16	40.01	24.306
12,500.00	10,860.00	3,124.17	-736.00	58.66	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,734.55	1,665.89	40.01	25.261
12,600.00	10,860.00	3,224.17	-735.89	59.70	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,815.90	1,746.70	40.01	26.244
12,700.00	10,860.00	3,324.17	-735.77	60.76	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,899.02	1,829.34	40.01	27.254
12,800.00	10,860.00	3,424.17	-735.65	61.83	10,274.00	10,072.42	1,729.38	-74.03	40.26	1,983.70	1,913.58	40.01	28.287
12,900.00	10,860.00	3,524.17	-735.53	62.92	10,274.00	10,072.42	1,729.38	-74.03	40.26	2,069.75	1,999.21	40.01	29.340
13,000.00	10,860.00	3,624.17	-735.41	64.02	10,274.00	10,072.42	1,729.38	-74.03	40.26	2,157.01	2,086.08	40.01	30.411
13,100.00	10,860.00	3,724.17	-735.29	65.13	10,274.00	10,072.42	1,729.38	-74.03	40.26	2,245.33	2,174.04	40.01	31.498
13,200.00	10,860.00	3,824.17	-735.17	66.26	10,274.00	10,072.42	1,729.38	-74.03	40.26	2,334.58	2,262.97	40.01	32.598
13,300.00	10,860.00	3,924.17	-735.05	67.39	10,274.00	10,072.42	1,729.38	-74.03	40.26	2,424.68	2,352.76	40.01	33.710

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	99.68	99.67	200.95	-30.41	0.56	203.27	200.90	-8.60	85.977
200.00	200.00	0.00	0.00	0.70	199.88	199.86	202.51	-31.43	0.78	204.96	202.19	-8.82	74.010
300.00	300.00	0.00	0.00	0.98	298.15	298.10	204.35	-32.29	1.02	206.95	203.65	-8.98	62.882
400.00	400.00	0.00	0.00	1.31	396.32	396.23	206.95	-33.43	1.20	209.74	206.33	-9.18	61.487
500.00	500.00	0.00	0.00	1.64	501.03	500.91	209.38	-34.27	1.34	212.18	208.29	-9.29	54.562
600.00	600.00	0.00	0.00	1.99	605.10	604.97	209.49	-33.45	1.53	212.15	207.73	-9.07	47.967
700.00	700.00	0.00	0.00	2.34	704.62	704.48	208.87	-32.29	1.76	211.35	206.35	-8.79	42.222
800.00	800.00	0.00	0.00	2.69	804.42	804.28	208.32	-31.56	2.03	210.70	205.08	-8.61	37.449
900.00	900.00	0.00	0.00	3.04	904.29	904.14	207.79	-31.19	2.32	210.12	203.85	-8.54	33.508
1,000.00	1,000.00	0.00	0.00	3.39	1,003.99	1,003.84	207.32	-31.08	2.63	209.64	202.71	-8.53	30.253
1,068.61	1,068.61	0.00	0.00	3.64	1,071.76	1,071.61	207.08	-31.21	2.84	209.42	202.04	-8.57	28.360
1,100.00	1,100.00	0.00	0.00	3.75	1,101.24	1,101.09	207.20	-31.35	2.93	209.57	201.98	-8.60	27.616
1,200.00	1,200.00	0.00	0.00	4.10	1,192.21	1,192.02	209.51	-32.11	3.22	212.24	204.01	-8.71	25.793
1,300.00	1,299.99	0.78	-0.39	4.46	1,282.22	1,281.75	216.44	-33.46	3.51	219.21	210.36	18.00	24.750
1,400.00	1,399.96	3.12	-1.57	4.81	1,377.34	1,376.30	226.66	-35.39	3.83	227.65	218.14	18.07	23.936
1,500.00	1,499.86	7.01	-3.53	5.17	1,470.38	1,468.58	238.27	-37.69	4.16	236.26	226.11	18.22	23.271
1,600.00	1,599.73	11.69	-5.89	5.53	1,562.18	1,559.15	253.11	-39.65	4.49	247.64	236.85	18.63	22.958
1,700.00	1,699.59	16.36	-8.24	5.88	1,661.51	1,656.84	270.98	-41.18	4.86	260.78	249.30	19.22	22.708
1,800.00	1,799.45	21.03	-10.60	6.24	1,763.49	1,757.35	288.22	-42.61	5.24	272.85	260.64	19.76	22.347
1,900.00	1,899.31	25.71	-12.95	6.60	1,864.60	1,857.12	304.58	-43.82	5.63	284.19	271.26	20.28	21.976
2,000.00	1,999.18	30.38	-15.31	6.96	1,966.96	1,958.26	320.25	-44.84	6.02	294.66	281.00	20.79	21.563
2,100.00	2,099.04	35.06	-17.66	7.32	2,062.94	2,053.08	335.08	-45.36	6.39	305.25	290.90	21.32	21.268
2,200.00	2,198.90	39.73	-20.02	7.68	2,158.99	2,147.75	351.34	-44.77	6.77	317.25	302.21	22.03	21.091
2,300.00	2,298.77	44.40	-22.37	8.04	2,262.34	2,249.66	368.39	-43.27	7.18	328.81	313.02	22.89	20.822
2,400.00	2,398.63	49.08	-24.73	8.40	2,361.65	2,347.72	384.09	-41.65	7.57	339.74	323.23	23.68	20.578
2,500.00	2,498.49	53.75	-27.08	8.76	2,457.72	2,442.49	399.80	-40.51	7.96	351.30	334.10	24.34	20.418
2,600.00	2,598.36	58.43	-29.44	9.12	2,550.80	2,534.13	416.09	-40.63	8.34	364.10	346.23	24.74	20.368
2,700.00	2,698.22	63.10	-31.79	9.48	2,654.41	2,635.95	435.20	-41.88	8.76	377.92	359.28	25.00	20.277
2,800.00	2,798.08	67.77	-34.15	9.85	2,758.05	2,738.17	452.31	-42.27	9.18	389.73	370.33	25.35	20.093
2,900.00	2,897.94	72.45	-36.50	10.21	2,845.18	2,823.95	467.56	-41.99	9.54	402.58	382.56	25.72	20.107



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,949.56	2,926.47	487.11	-41.61	9.98	416.69	395.89	26.15	20.039
3,100.00	3,097.67	81.79	-41.21	10.93	3,053.63	3,029.01	504.90	-41.41	10.41	429.13	407.83	26.52	20.143
3,200.00	3,197.53	86.47	-43.56	11.29	3,138.40	3,112.40	520.13	-41.33	10.76	442.53	420.62	26.79	20.196
3,300.00	3,297.40	91.14	-45.92	11.66	3,209.00	3,181.17	536.05	-40.35	11.07	460.64	438.29	27.12	20.606
3,400.00	3,397.26	95.82	-48.27	12.02	3,299.00	3,268.04	559.55	-39.74	11.48	482.29	459.29	27.43	20.974
3,500.00	3,497.12	100.49	-50.63	12.38	3,389.46	3,354.87	584.82	-41.50	11.91	505.72	482.08	27.44	21.391
3,600.00	3,596.98	105.16	-52.98	12.74	3,504.27	3,465.46	615.45	-44.85	12.45	527.78	503.21	27.32	21.479
3,700.00	3,696.85	109.84	-55.34	13.11	3,604.18	3,561.96	641.12	-48.25	12.91	548.93	523.60	27.18	21.674
3,800.00	3,796.71	114.51	-57.69	13.47	3,709.63	3,664.21	666.65	-51.88	13.40	568.55	542.41	27.04	21.753
3,900.00	3,896.57	119.19	-60.05	13.83	3,815.34	3,766.92	691.41	-55.15	13.88	587.42	560.48	26.95	21.803
4,000.00	3,996.44	123.86	-62.40	14.20	3,923.22	3,872.19	714.92	-57.12	14.36	604.62	576.86	26.99	21.780
4,100.00	4,096.30	128.53	-64.76	14.56	4,024.67	3,971.40	736.03	-59.14	14.81	620.84	592.32	27.01	21.769
4,200.00	4,196.16	133.21	-67.11	14.92	4,123.82	4,068.41	756.42	-61.09	15.25	636.81	607.56	27.04	21.765
4,300.00	4,296.03	137.88	-69.47	15.29	4,221.58	4,164.08	776.53	-61.21	15.68	652.81	622.82	27.22	21.770
4,400.00	4,395.89	142.56	-71.82	15.65	4,318.42	4,258.79	796.71	-60.37	16.11	669.09	638.38	27.48	21.790
4,500.00	4,495.75	147.23	-74.18	16.01	4,417.75	4,355.92	817.48	-59.69	16.55	685.46	654.01	27.71	21.796
4,600.00	4,595.61	151.90	-76.53	16.38	4,518.86	4,454.84	838.40	-59.30	17.00	701.60	669.39	27.92	21.785
4,700.00	4,695.48	156.58	-78.89	16.74	4,619.52	4,553.39	858.86	-59.15	17.44	717.39	684.43	28.09	21.767
4,800.00	4,795.34	161.25	-81.24	17.10	4,718.15	4,649.99	878.81	-59.28	17.88	733.06	699.37	28.23	21.757
4,900.00	4,895.20	165.93	-83.60	17.47	4,818.45	4,748.23	899.04	-59.43	18.32	748.69	714.24	28.37	21.738
5,000.00	4,995.07	170.60	-85.95	17.83	4,913.00	4,840.81	918.22	-59.49	18.74	764.44	729.30	28.50	21.751
5,100.00	5,094.93	175.27	-88.31	18.19	5,008.32	4,934.05	938.05	-59.28	19.16	780.73	744.87	28.64	21.774
5,200.00	5,194.79	179.95	-90.66	18.56	5,110.53	5,034.01	959.37	-59.22	19.62	797.06	760.44	28.78	21.764
5,300.00	5,294.66	184.62	-93.02	18.92	5,215.70	5,137.05	980.43	-59.72	20.08	812.54	775.12	28.88	21.720
5,400.00	5,394.52	189.29	-95.37	19.28	5,314.91	5,234.28	1,000.15	-60.57	20.52	827.85	789.70	28.94	21.700
5,500.00	5,494.38	193.97	-97.73	19.65	5,415.25	5,332.65	1,019.86	-61.98	20.96	842.92	804.02	28.96	21.669
5,600.00	5,594.02	201.36	-101.45	20.01	5,520.15	5,435.55	1,040.20	-63.12	21.41	855.10	815.42	28.91	21.548
5,700.00	5,692.97	214.18	-107.91	20.39	5,617.04	5,530.68	1,058.57	-63.49	21.83	861.56	821.15	29.17	21.318
5,800.00	5,790.86	232.36	-117.06	20.78	5,702.07	5,614.00	1,075.52	-63.20	22.21	863.81	822.75	29.66	21.037

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,792.62	5,702.45	1,094.86	-62.16	22.62	862.38	820.62	30.47	20.651
6,000.00	5,982.38	283.58	-142.87	21.60	5,898.70	5,806.06	1,117.61	-60.70	23.09	857.04	814.44	31.63	20.119
6,100.00	6,077.29	311.70	-157.03	22.02	5,996.47	5,901.66	1,138.06	-59.52	23.53	851.05	807.67	32.69	19.621
6,200.00	6,172.20	339.83	-171.20	22.45	6,089.69	5,992.71	1,158.02	-58.57	23.95	845.83	801.71	33.69	19.171
6,300.00	6,267.12	367.95	-185.36	22.88	6,193.80	6,094.43	1,180.19	-57.81	24.42	840.75	795.78	34.81	18.697
6,400.00	6,362.03	396.07	-199.53	23.31	6,298.43	6,196.76	1,201.98	-56.99	24.89	835.54	789.72	35.96	18.234
6,500.00	6,456.94	424.19	-213.69	23.76	6,386.32	6,282.83	1,219.77	-56.25	25.28	830.12	783.57	36.94	17.833
6,600.00	6,551.86	452.32	-227.86	24.20	6,467.17	6,361.45	1,238.60	-56.00	25.65	827.76	780.54	37.79	17.532
6,700.00	6,646.77	480.44	-242.02	24.65	6,573.16	6,464.48	1,263.50	-56.05	26.15	825.90	777.77	38.89	17.162
6,800.00	6,741.68	508.56	-256.19	25.11	6,679.52	6,568.08	1,287.54	-56.28	26.64	823.38	774.35	39.99	16.791
6,900.00	6,836.59	536.68	-270.35	25.57	6,784.36	6,670.44	1,310.23	-55.93	27.11	820.34	770.40	41.15	16.425
7,000.00	6,931.51	564.81	-284.52	26.03	6,898.95	6,782.54	1,333.93	-56.99	27.62	816.34	765.41	42.34	16.029
7,100.00	7,026.42	592.93	-298.68	26.50	7,017.12	6,898.50	1,356.43	-60.27	28.14	810.50	758.57	43.48	15.609
7,200.00	7,121.33	621.05	-312.85	26.97	7,138.51	7,018.13	1,376.49	-64.67	28.64	802.22	749.31	44.68	15.161
7,300.00	7,216.25	649.17	-327.01	27.44	7,239.98	7,118.46	1,391.32	-67.97	29.05	792.49	738.70	45.77	14.731
7,400.00	7,311.16	677.30	-341.18	27.92	7,317.81	7,195.41	1,402.94	-68.33	29.37	784.29	729.71	46.77	14.369
7,500.00	7,406.07	705.42	-355.34	28.40	7,393.78	7,270.28	1,415.71	-66.67	29.69	779.17	723.83	47.85	14.080
7,600.00	7,500.99	733.54	-369.51	28.88	7,479.83	7,354.69	1,432.25	-64.34	30.06	776.92	720.76	49.07	13.833
7,700.00	7,595.90	761.66	-383.68	29.36	7,605.52	7,478.05	1,456.26	-62.83	30.61	774.60	717.30	50.73	13.519
7,800.00	7,690.81	789.79	-397.84	29.85	7,728.29	7,599.38	1,474.93	-62.42	31.11	768.67	710.30	52.44	13.170
7,900.00	7,785.72	817.91	-412.01	30.34	7,876.79	7,746.96	1,491.08	-63.36	31.67	759.25	699.82	54.70	12.775
8,000.00	7,880.64	846.03	-426.17	30.83	7,990.24	7,860.17	1,498.11	-66.04	32.05	745.28	684.92	56.54	12.347
8,100.00	7,975.55	874.15	-440.34	31.33	8,096.30	7,966.10	1,502.45	-68.57	32.40	730.15	668.86	58.43	11.912
8,200.00	8,070.46	902.28	-454.50	31.82	8,199.50	8,069.23	1,505.34	-71.13	32.72	714.62	652.38	60.38	11.482
8,300.00	8,165.38	930.40	-468.67	32.32	8,299.04	8,168.71	1,507.46	-73.87	33.03	699.18	635.99	62.37	11.064
8,400.00	8,260.29	958.52	-482.83	32.82	8,395.44	8,265.07	1,508.85	-76.17	33.32	684.28	620.10	64.43	10.662
8,500.00	8,355.20	986.64	-497.00	33.32	8,498.09	8,367.70	1,508.03	-76.48	33.62	669.90	604.74	66.97	10.282
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,589.75	8,459.33	1,505.63	-75.30	33.86	656.48	590.29	69.51	9.919
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,684.45	8,553.98	1,503.19	-73.99	34.12	644.69	577.48	72.23	9.592
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,777.25	8,646.75	1,500.82	-72.72	34.37	634.53	566.28	74.97	9.298

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,870.35	8,739.80	1,498.33	-70.80	34.63	626.51	557.24	77.84	9.045
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,981.60	8,851.00	1,495.54	-71.34	34.94	618.44	548.22	81.18	8.807
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,077.32	8,946.67	1,492.82	-73.13	35.20	610.87	539.67	84.09	8.579
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,164.19	9,033.49	1,490.22	-74.26	35.44	605.45	533.26	86.80	8.386
9,294.38	9,109.17	1,210.04	-609.52	37.36	9,240.27	9,109.55	1,488.63	-74.03	35.66	603.63	530.54	89.21	8.259
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,244.69	9,113.97	1,488.58	-73.98	35.67	603.64	530.50	89.35	8.253
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,329.08	9,198.34	1,488.85	-72.39	35.93	605.86	531.84	91.91	8.185
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,428.61	9,297.85	1,489.40	-70.53	36.23	609.86	534.95	94.88	8.142
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,524.03	9,393.25	1,488.51	-68.83	36.52	614.96	539.23	97.80	8.120
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,619.48	9,488.69	1,488.95	-67.41	36.81	621.87	545.34	100.56	8.126
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,712.10	9,581.27	1,491.10	-66.67	37.11	630.06	552.76	103.01	8.150
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,803.42	9,672.15	1,499.66	-66.48	37.45	640.23	562.13	104.81	8.198
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,897.80	9,764.17	1,520.15	-67.82	37.88	651.21	572.23	105.71	8.245
10,100.00	9,876.11	1,429.63	-720.13	41.48	9,972.74	9,833.58	1,548.10	-69.94	38.28	662.46	582.74	105.20	8.310
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,039.85	9,891.49	1,581.92	-70.41	38.68	677.46	597.23	103.80	8.444
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,122.74	9,959.94	1,628.66	-70.93	39.21	694.92	614.16	101.31	8.605
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,188.00	10,010.88	1,669.41	-71.78	39.65	715.99	635.16	99.08	8.858
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,248.78	10,055.06	1,711.10	-73.14	40.08	742.59	662.05	69.69	9.221
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,300.00	10,089.54	1,748.91	-75.06	40.45	773.55	693.79	64.37	9.699
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,343.90	10,116.32	1,783.63	-76.87	40.78	804.66	726.08	59.57	10.240
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,400.00	10,147.16	1,830.44	-78.98	41.22	833.99	756.43	55.07	10.752
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,450.00	10,171.47	1,874.08	-80.60	41.63	859.76	783.30	51.66	11.245
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,500.00	10,192.67	1,919.33	-81.95	42.04	880.75	805.34	49.09	11.679
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,550.00	10,210.67	1,965.96	-83.02	42.45	896.08	821.57	47.31	12.026
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,600.00	10,225.36	2,013.74	-83.82	42.88	905.15	831.31	46.29	12.259
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,650.00	10,236.67	2,062.43	-84.33	43.30	907.60	834.12	46.01	12.352
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,700.00	10,244.56	2,111.79	-84.56	43.73	903.34	829.82	46.46	12.287
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,750.00	10,248.98	2,161.58	-84.50	44.16	896.90	823.07	46.75	12.148
11,576.44	10,860.00	2,200.61	-737.10	49.98	10,788.28	10,250.00	2,199.84	-84.26	44.49	895.52	821.51	46.80	12.099

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,811.81	10,250.00	2,223.37	-84.16	44.70	895.58	821.27	46.81	12.052
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,911.81	10,250.00	2,323.37	-84.04	45.58	895.58	819.99	46.81	11.848
11,800.00	10,860.00	2,424.17	-736.84	51.90	11,011.81	10,250.00	2,423.37	-83.92	46.49	895.58	818.66	46.81	11.643
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,111.81	10,250.00	2,523.37	-83.80	47.42	895.58	817.29	46.81	11.438
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,211.81	10,250.00	2,623.37	-83.67	48.38	895.59	815.87	46.81	11.234
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,311.81	10,250.00	2,723.37	-83.55	49.36	895.59	814.40	46.81	11.031
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,411.81	10,250.00	2,823.37	-83.43	50.36	895.59	812.90	46.81	10.830
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,511.81	10,250.00	2,923.37	-83.31	51.39	895.59	811.36	46.81	10.632
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,611.81	10,250.00	3,023.37	-83.19	52.43	895.60	809.78	46.81	10.436
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,711.81	10,250.00	3,123.37	-83.06	53.49	895.60	808.16	46.81	10.243
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,811.81	10,250.00	3,223.37	-82.94	54.57	895.60	806.51	46.81	10.053
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,911.81	10,250.00	3,323.37	-82.82	55.66	895.60	804.83	46.81	9.867
12,800.00	10,860.00	3,424.17	-735.65	61.83	12,011.81	10,250.00	3,423.37	-82.70	56.77	895.61	803.13	46.81	9.684
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,111.81	10,250.00	3,523.37	-82.57	57.89	895.61	801.39	46.81	9.506
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,211.81	10,250.00	3,623.37	-82.45	59.03	895.61	799.63	46.81	9.331
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,311.81	10,250.00	3,723.37	-82.33	60.17	895.61	797.84	46.81	9.160
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,411.81	10,250.00	3,823.37	-82.21	61.33	895.62	796.04	46.81	8.994
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,511.81	10,250.00	3,923.37	-82.09	62.51	895.62	794.20	46.81	8.831
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,611.81	10,250.00	4,023.37	-81.96	63.69	895.62	792.35	46.81	8.673
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,711.81	10,250.00	4,123.37	-81.84	64.88	895.62	790.48	46.81	8.518
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,811.81	10,250.00	4,223.37	-81.72	66.08	895.63	788.59	46.81	8.367
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,911.81	10,250.00	4,323.37	-81.60	67.29	895.63	786.68	46.81	8.221
13,800.00	10,860.00	4,424.17	-734.46	73.23	13,011.81	10,250.00	4,423.37	-81.47	68.51	895.63	784.75	46.81	8.078
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,111.81	10,250.00	4,523.37	-81.35	69.74	895.63	782.81	46.81	7.938
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,211.81	10,250.00	4,623.37	-81.23	70.97	895.64	780.85	46.81	7.803
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,311.81	10,250.00	4,723.37	-81.11	72.22	895.64	778.88	46.81	7.671
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,411.81	10,250.00	4,823.37	-80.99	73.47	895.64	776.90	46.81	7.543
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,511.81	10,250.00	4,923.37	-80.86	74.72	895.64	774.90	46.81	7.418
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,611.81	10,250.00	5,023.37	-80.74	75.98	895.65	772.89	46.81	7.296
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,711.81	10,250.00	5,123.37	-80.62	77.25	895.65	770.87	46.81	7.178

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,811.81	10,250.00	5,223.37	-80.50	78.52	895.65	768.84	46.81	7.063
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,911.81	10,250.00	5,323.37	-80.38	79.80	895.65	766.79	46.81	6.950
14,800.00	10,860.00	5,424.17	-733.27	85.52	14,011.81	10,250.00	5,423.37	-80.25	81.09	895.66	764.74	46.81	6.841
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,111.81	10,250.00	5,523.37	-80.13	82.38	895.66	762.67	46.81	6.735
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,211.81	10,250.00	5,623.37	-80.01	83.67	895.66	760.60	46.81	6.632
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,311.81	10,250.00	5,723.37	-79.89	84.97	895.66	758.52	46.81	6.531
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,411.81	10,250.00	5,823.37	-79.76	86.27	895.67	756.43	46.81	6.433
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,511.81	10,250.00	5,923.37	-79.64	87.58	895.67	754.33	46.81	6.337
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,611.81	10,250.00	6,023.37	-79.52	88.89	895.67	752.22	46.81	6.244
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,711.81	10,250.00	6,123.37	-79.40	90.20	895.67	750.11	46.81	6.153
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,811.81	10,250.00	6,223.37	-79.28	91.52	895.68	747.99	46.81	6.065
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,911.81	10,250.00	6,323.37	-79.15	92.84	895.68	745.86	46.81	5.979
15,800.00	10,860.00	6,424.17	-732.08	98.37	15,011.81	10,250.00	6,423.37	-79.03	94.16	895.68	743.73	46.81	5.894
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,111.81	10,250.00	6,523.37	-78.91	95.49	895.68	741.59	46.81	5.813
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,211.81	10,250.00	6,623.37	-78.79	96.82	895.69	739.44	46.81	5.733
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,311.81	10,250.00	6,723.37	-78.66	98.15	895.69	737.29	46.81	5.655
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,411.81	10,250.00	6,823.37	-78.54	99.48	895.69	735.13	46.81	5.579
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,511.81	10,250.00	6,923.37	-78.42	100.82	895.69	732.97	46.81	5.504
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,612.70	10,250.00	7,024.26	-78.30	102.18	895.69	730.78	46.81	5.431
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,732.98	10,250.00	7,144.52	-80.67	103.79	894.11	726.64	46.70	5.339
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,832.93	10,250.00	7,244.41	-83.80	105.14	891.75	722.36	46.56	5.265
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,932.88	10,250.00	7,344.31	-86.92	106.49	889.40	718.09	46.42	5.192
16,800.00	10,860.00	7,424.17	-730.89	111.57	16,032.83	10,250.00	7,444.21	-90.05	107.85	887.05	713.83	46.27	5.121
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,132.77	10,250.00	7,544.11	-93.17	109.20	884.71	709.57	46.13	5.052
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,232.72	10,250.00	7,644.01	-96.30	110.56	882.37	705.33	45.98	4.984
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,332.67	10,250.00	7,743.91	-99.42	111.92	880.04	701.10	45.83	4.918
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,432.61	10,250.00	7,843.80	-102.55	113.28	877.71	696.88	45.69	4.854
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,532.56	10,250.00	7,943.70	-105.67	114.64	875.39	692.66	45.54	4.791
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,632.51	10,250.00	8,043.60	-108.80	116.01	873.08	688.46	45.39	4.729

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,732.46	10,250.00	8,143.50	-111.92	117.37	870.77	684.27	45.24	4.669
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,832.40	10,250.00	8,243.40	-115.04	118.74	868.47	680.09	45.09	4.610
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,932.35	10,250.00	8,343.30	-118.17	120.11	866.17	675.92	44.94	4.553
17,800.00	10,860.00	8,424.17	-729.71	125.02	17,032.30	10,250.00	8,443.20	-121.29	121.48	863.88	671.77	44.78	4.497
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,132.25	10,250.00	8,543.09	-124.42	122.85	861.60	667.62	44.63	4.442
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,232.19	10,250.00	8,642.99	-127.54	124.23	859.32	663.49	44.48	4.388
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,332.14	10,250.00	8,742.89	-130.67	125.60	857.05	659.37	44.32	4.336
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,427.53	10,250.00	8,838.23	-133.65	126.92	854.80	655.39	44.17	4.287
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,514.10	10,250.00	8,924.79	-135.05	128.11	853.63	652.60	44.10	4.246
18,307.73	10,860.00	8,931.90	-729.10	131.92	17,520.50	10,250.00	8,931.19	-135.05	128.20	853.62	652.47	44.10	4.244
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,600.00	10,250.00	9,010.68	-133.85	129.29	854.48	651.63	44.15	4.212
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,679.59	10,250.00	9,090.19	-130.44	130.38	857.35	652.72	44.31	4.190
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,774.67	10,250.00	9,185.08	-124.40	131.68	861.71	654.45	44.60	4.158
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,874.47	10,250.00	9,284.67	-117.96	133.04	866.18	656.05	44.89	4.122
18,800.00	10,860.00	9,424.17	-728.52	138.65	17,974.27	10,250.00	9,384.27	-111.52	134.41	870.66	657.66	45.19	4.088
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,074.07	10,250.00	9,483.86	-105.08	135.78	875.17	659.29	45.48	4.054
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,173.87	10,250.00	9,583.45	-98.63	137.15	879.70	660.94	45.77	4.021
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,273.67	10,250.00	9,683.04	-92.19	138.52	884.26	662.60	46.06	3.989
19,200.00	10,860.00	9,824.16	-728.04	144.14	18,373.47	10,250.00	9,782.63	-85.75	139.89	888.84	664.29	46.34	3.958
19,300.00	10,860.00	9,924.16	-727.92	145.52	18,473.27	10,250.00	9,882.22	-79.31	141.26	893.43	665.98	46.62	3.928
19,400.00	10,860.00	10,024.16	-727.81	146.89	18,579.30	10,250.00	9,988.04	-72.60	142.72	897.98	667.35	46.91	3.894
19,500.00	10,860.00	10,124.16	-727.69	148.27	18,709.05	10,250.00	10,117.71	-68.39	144.51	900.27	665.91	47.08	3.841
19,600.00	10,860.00	10,224.16	-727.57	149.65	18,814.66	10,250.00	10,223.32	-68.15	145.97	900.33	663.52	47.09	3.802
19,700.00	10,860.00	10,324.16	-727.45	151.03	18,914.66	10,250.00	10,323.32	-68.03	147.36	900.34	661.26	47.09	3.766
19,800.00	10,860.00	10,424.16	-727.33	152.41	19,014.66	10,250.00	10,423.32	-67.90	148.75	900.34	658.99	47.09	3.730
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,114.66	10,250.00	10,523.32	-67.77	150.14	900.35	656.72	47.09	3.696
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,214.66	10,250.00	10,623.32	-67.64	151.53	900.36	654.45	47.09	3.661
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,314.66	10,250.00	10,723.32	-67.51	152.93	900.36	652.18	47.09	3.628
20,200.00	10,860.00	10,824.16	-726.85	157.94	19,414.66	10,250.00	10,823.32	-67.39	154.32	900.37	649.91	47.09	3.595
20,300.00	10,860.00	10,924.16	-726.74	159.32	19,514.66	10,250.00	10,923.32	-67.26	155.71	900.38	647.63	47.09	3.562

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM+AX, 10274-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
20,400.00	10,860.00	11,024.16	-726.62	160.71	19,614.66	10,250.00	11,023.32	-67.13	157.10	900.38	645.36	47.09	3.531
20,500.00	10,860.00	11,124.16	-726.50	162.10	19,714.66	10,250.00	11,123.32	-67.00	158.50	900.39	643.08	47.09	3.499
20,600.00	10,860.00	11,224.16	-726.38	163.48	19,814.66	10,250.00	11,223.32	-66.88	159.89	900.40	640.80	47.09	3.468
20,700.00	10,860.00	11,324.16	-726.26	164.87	19,914.66	10,250.00	11,323.32	-66.75	161.29	900.40	638.52	47.09	3.438
20,800.00	10,860.00	11,424.16	-726.14	166.26	20,014.66	10,250.00	11,423.32	-66.62	162.69	900.41	636.24	47.09	3.408
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,114.66	10,250.00	11,523.32	-66.49	164.08	900.42	633.96	47.09	3.379
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,214.66	10,250.00	11,623.32	-66.36	165.48	900.42	631.68	47.09	3.350
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,314.66	10,250.00	11,723.32	-66.24	166.88	900.43	629.39	47.09	3.322
21,200.00	10,860.00	11,824.16	-725.67	171.82	20,319.23	10,250.00	11,727.89	-66.23	166.94	905.48	636.36	47.09	3.365
21,300.00	10,860.00	11,924.16	-725.55	173.22	20,319.23	10,250.00	11,727.89	-66.23	166.94	921.41	657.11	47.09	3.486
21,331.33	10,860.00	11,955.49	-725.51	173.65	20,319.23	10,250.00	11,727.89	-66.23	166.94	928.56	666.28	47.09	3.540

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	102.84	102.84	200.20	-59.84	0.56	208.95	206.31	-16.64	79.065
200.00	200.00	0.00	0.00	0.70	202.32	202.32	200.54	-59.59	0.79	209.21	206.16	-16.55	68.623
300.00	300.00	0.00	0.00	0.98	301.42	301.42	201.22	-59.36	0.97	209.79	206.27	-16.44	59.600
400.00	400.00	0.00	0.00	1.31	400.75	400.74	202.18	-59.30	1.15	210.71	206.90	-16.35	55.409
500.00	500.00	0.00	0.00	1.64	500.99	500.97	203.30	-59.20	1.31	211.76	207.46	-16.24	49.305
600.00	600.00	0.00	0.00	1.99	600.95	600.93	204.42	-58.80	1.52	212.71	207.87	-16.05	43.871
700.00	700.00	0.00	0.00	2.34	701.16	701.13	205.48	-58.49	1.78	213.65	208.19	-15.89	39.152
800.00	800.00	0.00	0.00	2.69	802.32	802.29	206.14	-58.33	2.07	214.24	208.14	-15.80	35.115
900.00	900.00	0.00	0.00	3.04	902.84	902.81	206.35	-58.21	2.38	214.40	207.64	-15.75	31.716
1,000.00	1,000.00	0.00	0.00	3.39	1,002.60	1,002.57	206.45	-58.55	2.68	214.59	207.17	-15.83	28.911
1,100.00	1,100.00	0.00	0.00	3.75	1,103.17	1,103.13	206.42	-59.00	3.00	214.68	206.59	-15.95	26.529
1,155.77	1,155.77	0.00	0.00	3.95	1,158.81	1,158.77	206.22	-59.39	3.18	214.60	206.14	-16.07	25.345
1,200.00	1,200.00	0.00	0.00	4.10	1,200.02	1,199.98	206.37	-59.93	3.31	214.91	206.15	-16.19	24.537
1,300.00	1,299.99	0.78	-0.39	4.46	1,290.58	1,290.47	208.76	-62.39	3.61	217.38	207.97	10.13	23.104
1,400.00	1,399.96	3.12	-1.57	4.81	1,382.67	1,382.22	214.96	-67.18	3.93	222.74	212.68	9.51	22.141
1,500.00	1,499.86	7.01	-3.53	5.17	1,478.84	1,477.83	223.36	-73.21	4.27	228.67	217.93	8.85	21.301
1,600.00	1,599.73	11.69	-5.89	5.53	1,571.64	1,569.90	233.15	-79.51	4.60	235.68	224.30	8.30	20.698
1,700.00	1,699.59	16.36	-8.24	5.88	1,662.62	1,659.69	245.76	-86.85	4.93	246.26	234.24	7.76	20.485
1,800.00	1,799.45	21.03	-10.60	6.24	1,754.03	1,749.39	261.20	-95.22	5.28	260.11	247.45	7.26	20.555
1,900.00	1,899.31	25.71	-12.95	6.60	1,852.31	1,845.48	279.61	-104.64	5.66	275.87	262.51	6.82	20.652
2,000.00	1,999.18	30.38	-15.31	6.96	1,953.23	1,944.28	298.04	-113.72	6.07	290.99	276.90	6.49	20.652
2,100.00	2,099.04	35.06	-17.66	7.32	2,056.79	2,045.92	315.81	-122.54	6.48	304.91	290.06	6.20	20.537
2,200.00	2,198.90	39.73	-20.02	7.68	2,152.28	2,139.64	332.20	-130.60	6.87	318.81	303.28	5.98	20.524
2,300.00	2,298.77	44.40	-22.37	8.04	2,250.64	2,236.09	349.73	-138.74	7.28	333.28	317.03	5.82	20.512
2,400.00	2,398.63	49.08	-24.73	8.40	2,346.61	2,330.13	367.21	-146.61	7.68	348.11	331.16	5.72	20.546
2,500.00	2,498.49	53.75	-27.08	8.76	2,442.85	2,424.15	385.88	-155.19	8.08	364.28	346.64	5.59	20.648
2,600.00	2,598.36	58.43	-29.44	9.12	2,544.83	2,523.93	404.92	-164.17	8.52	379.75	361.35	5.44	20.643
2,700.00	2,698.22	63.10	-31.79	9.48	2,637.12	2,614.17	422.10	-173.06	8.92	395.50	376.43	5.21	20.748
2,800.00	2,798.08	67.77	-34.15	9.85	2,726.11	2,700.63	439.89	-184.30	9.32	413.65	393.95	4.71	21.003
2,900.00	2,897.94	72.45	-36.50	10.21	2,823.03	2,794.40	460.18	-198.04	9.76	433.34	412.93	4.07	21.231

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,922.88	2,891.17	480.99	-211.14	10.22	452.56	431.40	3.59	21.391
3,100.00	3,097.67	81.79	-41.21	10.93	3,024.52	2,989.83	502.55	-222.62	10.59	471.41	449.74	3.38	21.750
3,200.00	3,197.53	86.47	-43.56	11.29	3,126.28	3,088.83	523.15	-234.03	10.86	489.33	467.11	3.14	22.017
3,300.00	3,297.40	91.14	-45.92	11.66	3,218.40	3,178.35	541.97	-244.92	10.99	507.68	485.12	2.89	22.502
3,400.00	3,397.26	95.82	-48.27	12.02	3,312.49	3,269.54	561.87	-256.81	11.14	527.05	504.12	2.60	22.992
3,500.00	3,497.12	100.49	-50.63	12.38	3,406.62	3,360.63	582.21	-268.95	11.31	546.96	523.66	2.33	23.476
3,600.00	3,596.98	105.16	-52.98	12.74	3,496.28	3,447.09	602.49	-281.31	11.49	568.19	544.54	2.05	24.018
3,700.00	3,696.85	109.84	-55.34	13.11	3,592.09	3,539.25	624.72	-295.20	11.71	590.28	566.21	1.74	24.519
3,800.00	3,796.71	114.51	-57.69	13.47	3,694.65	3,637.99	648.64	-309.22	11.96	612.14	587.58	1.50	24.925
3,900.00	3,896.57	119.19	-60.05	13.83	3,801.46	3,741.19	673.47	-320.99	12.23	632.77	607.69	1.51	25.227
4,000.00	3,996.44	123.86	-62.40	14.20	3,912.49	3,848.93	698.52	-330.64	12.51	651.80	626.16	1.70	25.420
4,100.00	4,096.30	128.53	-64.76	14.56	4,018.61	3,952.33	720.65	-339.61	12.78	669.13	642.96	1.82	25.561
4,200.00	4,196.16	133.21	-67.11	14.92	4,117.74	4,049.06	740.48	-348.30	13.05	685.84	659.16	1.88	25.703
4,300.00	4,296.03	137.88	-69.47	15.29	4,210.17	4,139.17	759.16	-357.01	13.30	703.01	675.85	1.88	25.885
4,400.00	4,395.89	142.56	-71.82	15.65	4,303.32	4,229.78	778.59	-366.46	13.58	721.08	693.43	1.86	26.078
4,500.00	4,495.75	147.23	-74.18	16.01	4,401.80	4,325.51	799.16	-376.99	13.88	739.40	711.21	1.81	26.230
4,600.00	4,595.61	151.90	-76.53	16.38	4,501.05	4,421.99	819.60	-388.10	14.19	757.68	728.94	1.71	26.365
4,700.00	4,695.48	156.58	-78.89	16.74	4,605.00	4,523.12	840.39	-400.20	14.53	775.63	746.30	1.56	26.445
4,800.00	4,795.34	161.25	-81.24	17.10	4,707.04	4,622.55	859.78	-412.41	14.86	792.79	762.87	1.36	26.500
4,900.00	4,895.20	165.93	-83.60	17.47	4,802.83	4,715.90	878.08	-423.62	15.17	809.95	779.48	1.20	26.580
5,000.00	4,995.07	170.60	-85.95	17.83	4,892.80	4,803.47	896.59	-432.82	15.48	827.79	796.79	1.19	26.705
5,100.00	5,094.93	175.27	-88.31	18.19	4,984.71	4,892.72	916.73	-441.62	15.81	846.58	815.04	1.25	26.839
5,200.00	5,194.79	179.95	-90.66	18.56	5,081.95	4,987.03	938.22	-451.50	16.16	865.80	833.66	1.28	26.943
5,300.00	5,294.66	184.62	-93.02	18.92	5,218.12	5,119.79	965.82	-463.87	16.64	882.86	849.88	1.33	26.767
5,400.00	5,394.52	189.29	-95.37	19.28	5,328.53	5,228.15	985.31	-472.13	17.01	896.81	863.16	1.40	26.646
5,500.00	5,494.38	193.97	-97.73	19.65	5,439.96	5,337.68	1,003.99	-480.53	17.38	910.04	875.71	1.43	26.504
5,600.00	5,594.02	201.36	-101.45	20.01	5,533.00	5,429.29	1,018.47	-487.88	17.69	919.31	884.39	1.41	26.326
5,700.00	5,692.97	214.18	-107.91	20.39	5,623.00	5,517.69	1,033.15	-496.22	18.00	923.74	888.24	1.34	26.024
5,800.00	5,790.86	232.36	-117.06	20.78	5,712.00	5,604.90	1,048.60	-505.00	18.32	923.28	887.21	1.29	25.597

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,802.00	5,692.85	1,065.78	-513.31	18.65	918.01	881.36	1.32	25.045
6,000.00	5,982.38	283.58	-142.87	21.60	5,912.90	5,801.24	1,087.10	-523.10	19.07	907.81	870.43	1.39	24.286
6,100.00	6,077.29	311.70	-157.03	22.02	6,002.81	5,889.21	1,103.79	-531.10	19.41	896.57	858.59	1.43	23.610
6,200.00	6,172.20	339.83	-171.20	22.45	6,082.01	5,966.38	1,120.08	-538.37	19.72	887.25	848.76	1.50	23.048
6,300.00	6,267.12	367.95	-185.36	22.88	6,175.45	6,057.07	1,141.03	-546.54	20.10	879.48	840.36	1.65	22.479
6,400.00	6,362.03	396.07	-199.53	23.31	6,282.43	6,160.98	1,165.00	-555.17	20.54	871.42	831.56	1.87	21.861
6,500.00	6,456.94	424.19	-213.69	23.76	6,376.74	6,252.63	1,185.82	-562.91	20.92	863.13	822.63	2.05	21.308
6,600.00	6,551.86	452.32	-227.86	24.20	6,465.80	6,338.91	1,206.55	-570.60	21.30	856.14	815.02	2.23	20.822
6,700.00	6,646.77	480.44	-242.02	24.65	6,573.87	6,443.49	1,232.03	-580.16	21.76	849.57	807.69	2.44	20.284
6,800.00	6,741.68	508.56	-256.19	25.11	6,684.03	6,550.56	1,256.14	-589.57	22.22	841.25	798.59	2.64	19.718
6,900.00	6,836.59	536.68	-270.35	25.57	6,773.30	6,637.31	1,276.00	-596.65	22.60	833.05	789.76	2.84	19.243
7,000.00	6,931.51	564.81	-284.52	26.03	6,891.42	6,752.14	1,301.77	-606.64	23.09	824.70	780.56	3.06	18.684
7,100.00	7,026.42	592.93	-298.68	26.50	7,004.48	6,862.59	1,323.88	-616.31	23.55	814.25	769.31	3.20	18.119
7,200.00	7,121.33	621.05	-312.85	26.97	7,111.07	6,967.07	1,342.88	-625.60	23.97	802.24	756.55	3.27	17.558
7,300.00	7,216.25	649.17	-327.01	27.44	7,221.51	7,075.46	1,361.83	-634.98	24.40	789.56	743.10	3.34	16.994
7,400.00	7,311.16	677.30	-341.18	27.92	7,335.64	7,187.91	1,379.81	-642.41	24.83	774.73	727.49	3.52	16.399
7,500.00	7,406.07	705.42	-355.34	28.40	7,415.00	7,266.07	1,392.80	-647.02	25.12	760.27	712.42	3.71	15.888
7,600.00	7,500.99	733.54	-369.51	28.88	7,506.21	7,355.58	1,409.32	-652.75	25.48	747.61	699.09	3.94	15.407
7,700.00	7,595.90	761.66	-383.68	29.36	7,649.94	7,497.25	1,431.58	-661.98	26.02	732.51	683.07	4.20	14.815
7,800.00	7,690.81	789.79	-397.84	29.85	7,774.67	7,621.07	1,444.40	-669.80	26.43	712.58	662.39	4.25	14.196
7,900.00	7,785.72	817.91	-412.01	30.34	7,883.45	7,729.35	1,453.23	-675.20	26.77	690.24	639.35	4.33	13.563
8,000.00	7,880.64	846.03	-426.17	30.83	7,993.70	7,839.26	1,460.68	-679.57	27.09	666.31	614.75	4.46	12.921
8,100.00	7,975.55	874.15	-440.34	31.33	8,093.68	7,939.07	1,465.91	-682.56	27.38	640.63	588.38	4.62	12.262
8,200.00	8,070.46	902.28	-454.50	31.82	8,189.82	8,035.00	1,471.34	-685.56	27.66	615.38	562.45	4.78	11.626
8,300.00	8,165.38	930.40	-468.67	32.32	8,298.36	8,143.38	1,476.77	-687.86	27.96	589.23	535.65	5.06	10.996
8,400.00	8,260.29	958.52	-482.83	32.82	8,391.85	8,236.77	1,480.15	-690.28	28.22	561.99	507.71	5.23	10.354
8,500.00	8,355.20	986.64	-497.00	33.32	8,493.39	8,338.20	1,483.42	-693.90	28.49	534.75	479.82	5.32	9.734
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,599.07	8,443.82	1,485.67	-696.51	28.77	506.15	450.60	5.50	9.111
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,704.42	8,549.15	1,485.48	-698.50	29.02	475.26	419.13	5.66	8.467
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,799.71	8,644.43	1,484.67	-699.64	29.24	443.58	386.79	5.87	7.812



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,893.74	8,738.45	1,484.21	-700.23	29.46	412.03	354.57	6.21	7.171
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,988.18	8,832.89	1,483.74	-701.27	29.68	380.64	322.50	6.54	6.548
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,083.40	8,928.09	1,483.16	-702.72	29.91	349.31	290.50	6.86	5.940
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,177.83	9,022.50	1,482.29	-704.80	30.14	317.93	258.44	7.11	5.344
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,271.21	9,115.86	1,481.85	-706.77	30.37	286.92	226.72	7.45	4.766
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,366.08	9,210.71	1,482.08	-708.09	30.62	256.35	195.43	8.09	4.208
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,463.82	9,308.45	1,482.08	-708.64	30.86	225.36	163.78	9.11	3.660
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,560.82	9,405.45	1,480.98	-708.64	31.09	193.25	131.01	10.52	3.105
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,653.82	9,498.43	1,479.85	-708.24	31.31	161.12	98.02	12.55	2.553
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,734.59	9,579.08	1,483.58	-707.69	31.54	134.63	70.12	15.60	2.087
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,820.92	9,664.46	1,496.17	-707.96	31.86	118.65	52.90	20.24	1.805
9,959.77	9,740.93	1,396.58	-703.48	40.79	9,870.79	9,713.02	1,507.40	-708.65	32.08	115.17	48.91	23.13	1.738
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,903.81	9,744.55	1,517.19	-709.40	32.23	116.05	49.65	25.04	1.748
10,100.00	9,876.11	1,429.63	-720.13	41.48	9,984.14	9,818.36	1,548.63	-711.73	32.66	133.87	67.94	28.31	2.031
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,056.44	9,880.30	1,585.77	-713.47	33.10	170.40	106.00	30.09	2.646
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,117.85	9,928.41	1,623.87	-714.03	33.50	223.28	161.05	31.27	3.588
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,168.81	9,964.70	1,659.62	-714.77	33.87	288.96	228.76	32.15	4.799
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,194.00	9,981.31	1,678.53	-715.39	34.05	364.74	307.59	6.04	6.382
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,242.63	10,010.49	1,717.39	-716.57	34.44	440.92	384.38	4.05	7.799
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,284.00	10,031.98	1,752.72	-717.28	34.76	511.15	456.05	3.03	9.278
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,312.74	10,044.98	1,778.34	-717.72	35.00	573.97	521.16	2.46	10.868
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,373.00	10,066.75	1,834.47	-718.87	35.51	630.37	578.20	1.93	12.084
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,373.00	10,066.75	1,834.47	-718.87	35.51	676.53	627.83	1.76	13.891
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,416.66	10,077.43	1,876.76	-720.14	35.89	715.22	667.83	1.48	15.091
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,462.00	10,083.51	1,921.62	-722.12	36.29	745.96	699.70	1.21	16.125
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,497.26	10,085.59	1,956.79	-723.42	36.60	766.92	721.87	1.06	17.021
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,552.00	10,086.32	2,011.52	-723.40	37.09	776.74	732.18	1.03	17.432
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,630.43	10,084.05	2,089.90	-721.68	37.80	779.86	735.26	1.14	17.484
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,745.76	10,079.76	2,205.13	-721.24	38.88	783.63	738.27	1.16	17.275

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,852.44	10,077.79	2,311.75	-724.36	39.92	785.41	739.35	0.92	17.054
11,800.00	10,860.00	2,424.17	-736.84	51.90	10,979.64	10,077.99	2,438.86	-728.94	41.21	785.19	737.90	0.57	16.603
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,083.69	10,080.23	2,542.87	-729.86	42.29	783.02	734.96	0.50	16.293
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,180.56	10,082.53	2,639.72	-730.07	43.31	780.65	731.96	0.48	16.034
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,292.84	10,084.94	2,751.97	-730.72	44.52	778.57	728.81	0.42	15.647
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,385.67	10,088.31	2,844.72	-731.52	45.54	774.98	724.61	0.36	15.387
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,476.77	10,090.09	2,935.81	-731.45	46.55	773.01	722.06	0.35	15.170
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,570.80	10,091.13	3,029.83	-732.03	47.61	771.90	720.24	0.30	14.942
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,667.64	10,091.61	3,126.67	-732.23	48.72	771.40	718.93	0.28	14.703
12,579.68	10,860.00	3,203.85	-735.91	59.49	11,744.82	10,091.74	3,203.85	-732.40	49.61	771.27	718.14	0.26	14.516
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,765.00	10,091.73	3,224.03	-732.42	49.84	771.28	717.96	0.26	14.467
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,871.53	10,091.79	3,330.45	-736.70	51.10	771.23	716.76	-0.07	14.158
12,800.00	10,860.00	3,424.17	-735.65	61.83	11,984.85	10,094.87	3,443.58	-742.15	52.46	768.40	712.52	-0.49	13.752
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,065.84	10,095.83	3,524.56	-742.91	53.43	767.20	710.81	-0.55	13.606
12,902.47	10,860.00	3,526.64	-735.53	62.94	12,067.92	10,095.83	3,526.65	-742.91	53.46	767.20	710.80	-0.55	13.602
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,162.54	10,095.15	3,621.25	-743.30	54.60	767.90	710.56	-0.59	13.393
13,085.76	10,860.00	3,709.93	-735.31	64.97	12,251.30	10,095.40	3,710.02	-742.88	55.68	767.63	709.32	-0.57	13.164
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,263.61	10,095.39	3,722.33	-742.79	55.83	767.65	709.24	-0.56	13.142
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,355.15	10,094.51	3,813.85	-742.12	56.95	768.59	709.33	-0.52	12.971
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,452.61	10,092.99	3,911.31	-741.30	58.15	770.14	709.87	-0.46	12.777
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,567.29	10,091.86	4,025.97	-740.38	59.57	771.16	709.39	-0.40	12.485
13,445.29	10,860.00	4,069.46	-734.88	69.07	12,610.78	10,091.93	4,069.46	-740.18	60.12	771.09	708.85	-0.39	12.390
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,661.00	10,091.83	4,119.68	-739.98	60.75	771.20	708.47	-0.38	12.293
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,753.89	10,090.92	4,212.57	-739.43	61.92	772.18	708.49	-0.35	12.124
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,856.52	10,089.52	4,315.17	-738.26	63.21	773.54	708.62	-0.27	11.915
13,800.00	10,860.00	4,424.17	-734.46	73.23	12,963.03	10,088.65	4,421.67	-737.09	64.57	774.36	708.09	-0.19	11.684
13,888.36	10,860.00	4,512.52	-734.35	74.29	13,053.89	10,088.71	4,512.53	-735.96	65.73	774.29	706.90	-0.12	11.489
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,064.75	10,088.70	4,523.39	-735.82	65.87	774.30	706.79	-0.11	11.469
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,160.90	10,088.28	4,619.53	-734.54	67.10	774.73	706.12	-0.02	11.292
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,260.78	10,087.64	4,719.40	-733.23	68.39	775.37	705.54	0.06	11.104

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,360.37	10,087.02	4,818.97	-731.86	69.68	776.00	704.95	0.16	10.922
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,463.14	10,086.49	4,921.74	-730.54	71.01	776.52	704.15	0.25	10.730
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,570.99	10,086.68	5,029.57	-729.03	72.42	776.35	702.50	0.35	10.512
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,675.81	10,088.00	5,134.38	-727.46	73.79	775.09	699.83	0.46	10.299
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,769.11	10,088.84	5,227.65	-725.77	75.02	774.21	697.86	0.57	10.140
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,874.56	10,089.23	5,333.10	-726.41	76.42	773.85	696.03	0.52	9.944
14,800.00	10,860.00	5,424.17	-733.27	85.52	13,987.05	10,091.61	5,445.55	-728.18	77.91	771.70	692.20	0.38	9.706
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,076.47	10,093.64	5,534.94	-728.96	79.10	769.45	688.90	0.31	9.553
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,167.99	10,094.35	5,626.45	-729.73	80.32	768.66	687.01	0.25	9.414
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,271.70	10,094.81	5,730.16	-730.43	81.71	768.22	685.11	0.18	9.244
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,368.15	10,095.30	5,826.61	-729.89	83.00	767.71	683.36	0.22	9.101
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,470.05	10,095.78	5,928.50	-729.59	84.37	767.24	681.47	0.23	8.946
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,570.34	10,096.33	6,028.79	-729.80	85.72	766.68	679.55	0.21	8.798
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,671.21	10,097.04	6,129.66	-729.77	87.08	765.98	677.45	0.20	8.652
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,774.18	10,097.87	6,232.63	-729.53	88.47	765.18	675.18	0.21	8.502
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,869.32	10,098.85	6,327.77	-729.55	89.76	764.16	672.92	0.20	8.375
15,763.81	10,860.00	6,387.98	-732.13	97.89	14,929.53	10,098.93	6,387.98	-729.43	90.57	764.07	672.04	0.20	8.302
15,800.00	10,860.00	6,424.17	-732.08	98.37	14,965.14	10,098.92	6,423.59	-729.48	91.05	764.08	671.56	0.20	8.259
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,066.80	10,098.91	6,525.24	-730.03	92.43	764.10	670.13	0.15	8.131
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,168.44	10,099.16	6,626.88	-730.55	93.82	763.84	668.42	0.10	8.005
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,272.57	10,099.75	6,731.01	-730.87	95.24	763.28	666.33	0.06	7.873
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,381.69	10,101.46	6,840.11	-731.01	96.73	761.71	663.08	0.04	7.723
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,477.75	10,103.54	6,936.14	-731.88	98.04	759.56	659.61	-0.03	7.600
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,566.03	10,104.17	7,024.42	-732.75	99.25	758.83	657.78	-0.10	7.509
16,402.72	10,860.00	7,026.89	-731.37	106.29	15,568.51	10,104.17	7,026.89	-732.78	99.28	758.83	657.75	-0.11	7.507
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,664.97	10,103.85	7,123.35	-733.68	100.61	759.15	656.69	-0.18	7.409
16,551.97	10,860.00	7,176.14	-731.19	108.27	15,717.76	10,103.91	7,176.14	-733.55	101.33	759.10	655.87	-0.18	7.354
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,758.56	10,103.71	7,216.94	-733.35	101.89	759.32	655.62	-0.17	7.322
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,852.18	10,102.19	7,310.54	-733.02	103.17	760.93	655.99	-0.15	7.251



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
16,800.00	10,860.00	7,424.17	-730.89	111.57	15,956.50	10,100.52	7,414.85	-732.90	104.61	762.54	656.02	-0.15	7.159
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,054.79	10,099.30	7,513.13	-732.78	105.96	763.78	655.88	-0.15	7.078
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,153.00	10,097.70	7,611.33	-732.15	107.31	765.41	656.13	-0.11	7.004
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,275.43	10,098.09	7,733.75	-732.41	109.00	764.97	653.60	-0.14	6.869
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,367.58	10,098.78	7,825.89	-731.79	110.27	764.23	651.63	-0.10	6.787
17,221.57	10,860.00	7,845.73	-730.39	117.22	16,387.42	10,098.80	7,845.73	-731.50	110.55	764.20	651.34	-0.08	6.771
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,460.47	10,098.52	7,918.77	-730.18	111.55	764.50	650.67	0.01	6.716
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,554.80	10,097.50	8,013.09	-728.70	112.85	765.58	650.48	0.11	6.651
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,653.54	10,095.86	8,111.78	-726.47	114.22	767.25	650.74	0.27	6.585
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,756.78	10,094.41	8,214.99	-724.60	115.64	768.66	650.62	0.40	6.512
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,861.65	10,093.48	8,319.86	-723.73	117.09	769.56	649.91	0.45	6.432
17,800.00	10,860.00	8,424.17	-729.71	125.02	16,967.01	10,093.28	8,425.21	-722.84	118.55	769.75	648.49	0.51	6.348
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,068.62	10,093.47	8,526.82	-722.63	119.96	769.57	646.80	0.52	6.268
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,172.31	10,094.20	8,630.51	-723.05	121.40	768.86	644.50	0.48	6.183
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,269.94	10,094.86	8,728.14	-723.61	122.76	768.17	642.40	0.43	6.108
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,366.90	10,095.17	8,825.10	-723.95	124.11	767.84	640.67	0.39	6.038
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,466.97	10,095.21	8,925.16	-724.82	125.51	767.80	639.14	0.32	5.968
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,568.03	10,095.43	9,026.22	-724.92	126.91	767.58	637.41	0.30	5.896
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,669.39	10,095.78	9,127.58	-725.05	128.33	767.23	635.53	0.29	5.826
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,768.34	10,096.15	9,226.53	-725.29	129.71	766.86	633.69	0.26	5.759
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,868.36	10,096.53	9,326.55	-725.72	131.10	766.48	631.82	0.22	5.692
18,735.41	10,860.00	9,359.58	-728.59	137.77	17,901.39	10,096.58	9,359.58	-725.88	131.56	766.42	631.30	0.20	5.672
18,800.00	10,860.00	9,424.17	-728.52	138.65	17,964.17	10,096.44	9,422.36	-726.23	132.44	766.57	630.53	0.17	5.635
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,068.52	10,096.53	9,526.70	-726.98	133.90	766.48	628.82	0.11	5.568
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,169.01	10,096.96	9,627.19	-726.76	135.30	766.05	626.88	0.11	5.504
19,072.89	10,860.00	9,697.06	-728.19	142.39	18,238.87	10,097.15	9,697.05	-726.79	136.28	765.85	625.68	0.10	5.464
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,263.94	10,097.11	9,722.12	-726.85	136.63	765.89	625.36	0.10	5.450
19,200.00	10,860.00	9,824.16	-728.04	144.14	18,363.05	10,096.62	9,821.23	-727.08	138.02	766.39	624.39	0.07	5.397
19,300.00	10,860.00	9,924.16	-727.92	145.52	18,497.28	10,098.58	9,955.42	-728.01	139.90	765.06	620.68	-0.01	5.299
19,400.00	10,860.00	10,024.16	-727.81	146.89	18,582.49	10,100.83	10,040.60	-728.76	141.09	762.35	616.80	-0.07	5.238

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 3114-3_MWD+HRGM+AX, 20267-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
19,500.00	10,860.00	10,124.16	-727.69	148.27	18,669.62	10,101.95	10,127.71	-729.69	142.32	761.06	614.33	-0.15	5.187
19,534.71	10,860.00	10,158.88	-727.64	148.75	18,700.79	10,102.03	10,158.88	-730.15	142.75	760.98	613.82	-0.19	5.171
19,600.00	10,860.00	10,224.16	-727.57	149.65	18,758.12	10,101.78	10,216.20	-731.11	143.56	761.27	613.35	-0.27	5.146
19,700.00	10,860.00	10,324.16	-727.45	151.03	18,838.00	10,099.88	10,296.05	-732.24	144.68	763.65	614.82	-0.36	5.131
19,800.00	10,860.00	10,424.16	-727.33	152.41	18,942.78	10,096.42	10,400.77	-733.11	146.16	766.96	616.45	-0.43	5.096
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,056.08	10,093.12	10,514.01	-732.19	147.75	769.96	617.56	-0.37	5.052
19,996.47	10,860.00	10,620.63	-727.10	155.12	19,162.71	10,093.48	10,620.64	-732.58	149.24	769.54	615.39	-0.41	4.992
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,165.72	10,093.48	10,623.65	-732.60	149.29	769.54	615.35	-0.41	4.991
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,263.66	10,092.99	10,721.59	-732.66	150.66	770.04	614.39	-0.42	4.947
20,200.00	10,860.00	10,824.16	-726.85	157.94	19,355.26	10,092.35	10,813.18	-731.53	151.95	770.74	613.84	-0.35	4.912
20,300.00	10,860.00	10,924.16	-726.74	159.32	19,465.57	10,091.17	10,923.46	-729.81	153.49	771.84	613.16	-0.23	4.864
20,400.00	10,860.00	11,024.16	-726.62	160.71	19,560.97	10,090.78	11,018.86	-728.65	154.83	772.24	612.20	-0.15	4.825
20,500.00	10,860.00	11,124.16	-726.50	162.10	19,661.77	10,090.15	11,119.65	-727.06	156.25	772.87	611.30	-0.04	4.784
20,600.00	10,860.00	11,224.16	-726.38	163.48	19,764.55	10,089.58	11,222.40	-725.30	157.69	773.42	610.29	0.08	4.741
20,700.00	10,860.00	11,324.16	-726.26	164.87	19,869.58	10,089.90	11,327.43	-724.35	159.16	773.11	608.33	0.14	4.692
20,766.57	10,860.00	11,390.73	-726.18	165.80	19,932.88	10,090.09	11,390.73	-723.67	160.05	772.92	607.23	0.19	4.665
20,800.00	10,860.00	11,424.16	-726.14	166.26	19,962.89	10,090.02	11,420.73	-723.26	160.47	772.99	606.89	0.21	4.654
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,061.40	10,089.24	11,519.22	-721.64	161.86	773.78	606.22	0.32	4.618
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,163.77	10,088.82	11,621.59	-720.08	163.30	774.21	605.08	0.43	4.578
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,267.00	10,088.96	11,724.81	-718.89	165.30	774.07	603.21	0.51	4.530
21,100.65	10,860.00	11,724.82	-725.78	170.44	20,267.00	10,088.96	11,724.81	-718.89	165.30	774.07	603.22	0.51	4.531
21,200.00	10,860.00	11,824.16	-725.67	171.82	20,267.00	10,088.96	11,724.81	-718.89	165.30	780.42	612.15	0.51	4.638
21,300.00	10,860.00	11,924.16	-725.55	173.22	20,267.00	10,088.96	11,724.81	-718.89	165.30	799.33	635.42	0.51	4.877
21,331.33	10,860.00	11,955.49	-725.51	173.65	20,267.00	10,088.96	11,724.81	-718.89	165.30	807.71	645.46	0.51	4.978

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	102.84	102.84	200.20	-59.84	0.56	208.95	206.59	-16.64	88.286
200.00	200.00	0.00	0.00	0.70	202.32	202.32	200.54	-59.59	0.79	209.21	206.44	-16.55	75.455
300.00	300.00	0.00	0.00	0.98	301.42	301.42	201.22	-59.36	0.97	209.79	206.55	-16.44	64.672
400.00	400.00	0.00	0.00	1.31	400.75	400.74	202.18	-59.30	1.15	210.71	207.34	-16.35	62.515
500.00	500.00	0.00	0.00	1.64	500.99	500.97	203.30	-59.20	1.31	211.76	207.90	-16.24	54.824
600.00	600.00	0.00	0.00	1.99	600.95	600.93	204.42	-58.80	1.52	212.71	208.30	-16.05	48.166
700.00	700.00	0.00	0.00	2.34	701.16	701.13	205.48	-58.49	1.78	213.65	208.62	-15.89	42.520
800.00	800.00	0.00	0.00	2.69	802.32	802.29	206.14	-58.33	2.07	214.24	208.57	-15.80	37.792
900.00	900.00	0.00	0.00	3.04	902.84	902.81	206.35	-58.21	2.38	214.40	208.08	-15.75	33.882
1,000.00	1,000.00	0.00	0.00	3.39	1,002.60	1,002.57	206.45	-58.55	2.68	214.59	207.60	-15.83	30.699
1,100.00	1,100.00	0.00	0.00	3.75	1,103.17	1,103.13	206.42	-59.00	3.00	214.68	207.02	-15.95	28.026
1,155.77	1,155.77	0.00	0.00	3.95	1,158.81	1,158.77	206.22	-59.39	3.18	214.60	206.57	-16.07	26.709
1,200.00	1,200.00	0.00	0.00	4.10	1,200.02	1,199.98	206.37	-59.93	3.31	214.91	206.59	-16.19	25.811
1,300.00	1,299.99	0.78	-0.39	4.46	1,290.58	1,290.47	208.76	-62.39	3.61	217.38	208.40	10.13	24.217
1,400.00	1,399.96	3.12	-1.57	4.81	1,382.67	1,382.22	214.96	-67.18	3.93	222.74	213.11	9.51	23.135
1,500.00	1,499.86	7.01	-3.53	5.17	1,478.84	1,477.83	223.36	-73.21	4.27	228.67	218.36	8.85	22.194
1,600.00	1,599.73	11.69	-5.89	5.53	1,571.64	1,569.90	233.15	-79.51	4.60	235.68	224.73	8.30	21.515
1,700.00	1,699.59	16.36	-8.24	5.88	1,662.62	1,659.69	245.76	-86.85	4.93	246.26	234.67	7.76	21.249
1,800.00	1,799.45	21.03	-10.60	6.24	1,754.03	1,749.39	261.20	-95.22	5.28	260.11	247.89	7.26	21.282
1,900.00	1,899.31	25.71	-12.95	6.60	1,852.31	1,845.48	279.61	-104.64	5.66	275.87	262.95	6.82	21.342
2,000.00	1,999.18	30.38	-15.31	6.96	1,953.23	1,944.28	298.04	-113.72	6.07	290.99	277.33	6.49	21.306
2,100.00	2,099.04	35.06	-17.66	7.32	2,056.79	2,045.92	315.81	-122.54	6.48	304.91	290.50	6.20	21.152
2,200.00	2,198.90	39.73	-20.02	7.68	2,152.28	2,139.64	332.20	-130.60	6.87	318.81	303.71	5.98	21.112
2,300.00	2,298.77	44.40	-22.37	8.04	2,250.64	2,236.09	349.73	-138.74	7.28	333.28	317.47	5.82	21.073
2,400.00	2,398.63	49.08	-24.73	8.40	2,346.61	2,330.13	367.21	-146.61	7.68	348.11	331.60	5.72	21.084
2,500.00	2,498.49	53.75	-27.08	8.76	2,442.85	2,424.15	385.88	-155.19	8.08	364.28	347.07	5.59	21.167
2,600.00	2,598.36	58.43	-29.44	9.12	2,544.83	2,523.93	404.92	-164.17	8.52	379.75	361.79	5.44	21.139
2,700.00	2,698.22	63.10	-31.79	9.48	2,637.12	2,614.17	422.10	-173.06	8.92	395.50	376.87	5.21	21.229
2,800.00	2,798.08	67.77	-34.15	9.85	2,726.11	2,700.63	439.89	-184.30	9.32	413.65	394.39	4.71	21.474
2,900.00	2,897.94	72.45	-36.50	10.21	2,823.03	2,794.40	460.18	-198.04	9.76	433.34	413.36	4.07	21.691

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
3,000.00	2,997.81	77.12	-38.86	10.57	2,922.88	2,891.17	480.99	-211.14	10.22	452.56	431.83	3.59	21.837
3,100.00	3,097.67	81.79	-41.21	10.93	3,022.02	2,987.38	502.18	-222.31	10.54	471.55	450.37	3.39	22.264
3,200.00	3,197.53	86.47	-43.56	11.29	3,128.74	3,091.26	523.95	-233.40	10.68	489.26	467.83	3.25	22.831
3,300.00	3,297.40	91.14	-45.92	11.66	3,227.24	3,187.26	543.60	-243.40	10.82	506.47	484.66	3.13	23.217
3,400.00	3,397.26	95.82	-48.27	12.02	3,325.75	3,283.27	563.24	-253.40	10.97	523.69	501.47	3.01	23.574
3,500.00	3,497.12	100.49	-50.63	12.38	3,424.25	3,379.27	582.88	-263.40	11.15	540.90	518.27	2.91	23.903
3,600.00	3,596.98	105.16	-52.98	12.74	3,522.75	3,475.28	602.52	-273.40	11.34	558.12	535.06	2.81	24.205
3,700.00	3,696.85	109.84	-55.34	13.11	3,621.25	3,571.28	622.16	-283.40	11.54	575.34	551.84	2.71	24.480
3,800.00	3,796.71	114.51	-57.69	13.47	3,719.75	3,667.29	641.80	-293.40	11.76	592.56	568.60	2.63	24.731
3,900.00	3,896.57	119.19	-60.05	13.83	3,818.26	3,763.29	661.44	-303.40	11.99	609.78	585.35	2.54	24.959
4,000.00	3,996.44	123.86	-62.40	14.20	3,916.76	3,859.30	681.08	-313.40	12.24	627.01	602.09	2.47	25.165
4,100.00	4,096.30	128.53	-64.76	14.56	4,015.26	3,955.30	700.72	-323.40	12.49	644.23	618.82	2.39	25.350
4,200.00	4,196.16	133.21	-67.11	14.92	4,113.76	4,051.30	720.37	-333.40	12.76	661.46	635.53	2.32	25.517
4,300.00	4,296.03	137.88	-69.47	15.29	4,212.26	4,147.31	740.01	-343.40	13.04	678.68	652.24	2.25	25.666
4,400.00	4,395.89	142.56	-71.82	15.65	4,310.77	4,243.31	759.65	-353.40	13.33	695.91	668.93	2.19	25.798
4,500.00	4,495.75	147.23	-74.18	16.01	4,409.27	4,339.32	779.29	-363.40	13.63	713.14	685.62	2.13	25.915
4,600.00	4,595.61	151.90	-76.53	16.38	4,507.77	4,435.32	798.93	-373.40	13.93	730.37	702.30	2.07	26.019
4,700.00	4,695.48	156.58	-78.89	16.74	4,606.27	4,531.33	818.57	-383.39	14.25	747.60	718.96	2.02	26.110
4,800.00	4,795.34	161.25	-81.24	17.10	4,704.77	4,627.33	838.21	-393.39	14.57	764.83	735.62	1.96	26.189
4,900.00	4,895.20	165.93	-83.60	17.47	4,803.28	4,723.34	857.85	-403.39	14.90	782.06	752.27	1.91	26.258
5,000.00	4,995.07	170.60	-85.95	17.83	4,901.78	4,819.34	877.49	-413.39	15.24	799.29	768.92	1.87	26.317
5,100.00	5,094.93	175.27	-88.31	18.19	5,000.28	4,915.35	897.13	-423.39	15.58	816.52	785.55	1.82	26.367
5,200.00	5,194.79	179.95	-90.66	18.56	5,098.78	5,011.35	916.78	-433.39	15.93	833.75	802.18	1.78	26.410
5,300.00	5,294.66	184.62	-93.02	18.92	5,197.29	5,107.36	936.42	-443.39	16.29	850.98	818.80	1.73	26.445
5,400.00	5,394.52	189.29	-95.37	19.28	5,295.79	5,203.36	956.06	-453.39	16.65	868.22	835.42	1.69	26.474
5,500.00	5,494.38	193.97	-97.73	19.65	5,394.29	5,299.37	975.70	-463.39	17.01	885.45	852.03	1.65	26.497
5,600.00	5,594.02	201.36	-101.45	20.01	5,493.26	5,395.82	995.43	-473.44	17.38	899.67	865.62	1.60	26.424
5,700.00	5,692.97	214.18	-107.91	20.39	5,592.91	5,492.95	1,015.30	-483.55	17.76	907.82	873.13	1.57	26.170
5,800.00	5,790.86	232.36	-117.06	20.78	5,692.87	5,590.38	1,035.24	-493.70	18.14	909.87	874.53	1.56	25.746

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,900.00	5,887.32	255.85	-128.90	21.18	5,792.77	5,687.75	1,055.16	-503.84	18.53	905.82	869.83	1.57	25.165
6,000.00	5,982.38	283.58	-142.87	21.60	5,892.37	5,784.81	1,075.01	-513.95	18.91	896.83	860.17	1.58	24.467
6,100.00	6,077.29	311.70	-157.03	22.02	5,991.92	5,881.84	1,094.86	-524.06	19.31	887.37	850.05	1.59	23.778
6,200.00	6,172.20	339.83	-171.20	22.45	6,091.47	5,978.87	1,114.72	-534.16	19.70	877.92	839.93	1.60	23.110
6,300.00	6,267.12	367.95	-185.36	22.88	6,191.02	6,075.90	1,134.57	-544.27	20.10	868.47	829.80	1.61	22.461
6,400.00	6,362.03	396.07	-199.53	23.31	6,290.57	6,172.93	1,154.42	-554.37	20.50	859.02	819.67	1.62	21.832
6,500.00	6,456.94	424.19	-213.69	23.76	6,390.13	6,269.95	1,174.27	-564.48	20.90	849.56	809.53	1.64	21.221
6,600.00	6,551.86	452.32	-227.86	24.20	6,489.68	6,366.98	1,194.12	-574.59	21.31	840.11	799.39	1.65	20.629
6,700.00	6,646.77	480.44	-242.02	24.65	6,589.23	6,464.01	1,213.97	-584.69	21.72	830.66	789.24	1.66	20.054
6,800.00	6,741.68	508.56	-256.19	25.11	6,688.78	6,561.04	1,233.82	-594.80	22.13	821.21	779.08	1.67	19.496
6,900.00	6,836.59	536.68	-270.35	25.57	6,788.33	6,658.07	1,253.67	-604.90	22.54	811.75	768.93	1.68	18.955
7,000.00	6,931.51	564.81	-284.52	26.03	6,887.89	6,755.09	1,273.52	-615.01	22.95	802.30	758.77	1.70	18.429
7,100.00	7,026.42	592.93	-298.68	26.50	6,987.44	6,852.12	1,293.37	-625.12	23.37	792.85	748.60	1.71	17.919
7,200.00	7,121.33	621.05	-312.85	26.97	7,086.99	6,949.15	1,313.22	-635.22	23.79	783.40	738.43	1.72	17.423
7,300.00	7,216.25	649.17	-327.01	27.44	7,186.54	7,046.18	1,333.07	-645.33	24.21	773.94	728.26	1.74	16.942
7,400.00	7,311.16	677.30	-341.18	27.92	7,286.09	7,143.21	1,352.92	-655.43	24.63	764.49	718.09	1.75	16.474
7,500.00	7,406.07	705.42	-355.34	28.40	7,385.65	7,240.23	1,372.77	-665.54	25.05	755.04	707.91	1.77	16.020
7,600.00	7,500.99	733.54	-369.51	28.88	7,485.20	7,337.26	1,392.62	-675.65	25.47	745.59	697.73	1.78	15.579
7,700.00	7,595.90	761.66	-383.68	29.36	7,584.75	7,434.29	1,412.47	-685.75	25.90	736.14	687.55	1.80	15.150
7,800.00	7,690.81	789.79	-397.84	29.85	7,684.30	7,531.32	1,432.32	-695.86	26.33	726.68	677.36	1.81	14.733
7,900.00	7,785.72	817.91	-412.01	30.34	7,786.93	7,631.35	1,452.76	-706.26	26.77	717.21	667.13	1.83	14.320
8,000.00	7,880.64	846.03	-426.17	30.83	7,918.95	7,760.77	1,475.94	-718.06	27.30	705.04	654.03	1.86	13.822
8,100.00	7,975.55	874.15	-440.34	31.33	8,049.21	7,889.51	1,493.58	-727.04	27.78	688.34	636.51	1.92	13.279
8,200.00	8,070.46	902.28	-454.50	31.82	8,177.23	8,016.77	1,505.82	-733.27	28.20	667.22	614.66	1.99	12.694
8,300.00	8,165.38	930.40	-468.67	32.32	8,302.56	8,141.85	1,512.87	-736.87	28.56	641.80	588.61	2.09	12.066
8,400.00	8,260.29	958.52	-482.83	32.82	8,424.04	8,263.29	1,515.06	-737.98	28.86	612.24	558.51	2.22	11.395
8,500.00	8,355.20	986.64	-497.00	33.32	8,518.95	8,358.20	1,515.06	-737.98	29.09	580.77	526.38	2.34	10.678
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,613.86	8,453.12	1,515.06	-737.98	29.31	549.31	494.26	2.47	9.978
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,708.78	8,548.03	1,515.06	-737.98	29.54	517.85	462.13	2.62	9.294
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,803.69	8,642.94	1,515.06	-737.98	29.77	486.39	430.01	2.79	8.627

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,898.60	8,737.85	1,515.06	-737.98	30.00	454.94	397.88	2.99	7.974
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,993.51	8,832.77	1,515.06	-737.98	30.23	423.49	365.76	3.21	7.336
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,088.43	8,927.68	1,515.06	-737.98	30.47	392.05	333.64	3.46	6.712
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,183.34	9,022.59	1,515.06	-737.98	30.70	360.62	301.53	3.77	6.103
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,278.25	9,117.51	1,515.06	-737.98	30.94	329.20	269.42	4.13	5.507
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,373.17	9,212.42	1,515.06	-737.98	31.18	297.79	237.32	4.56	4.925
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,468.08	9,307.33	1,515.06	-737.98	31.43	266.40	205.24	5.10	4.355
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,562.99	9,402.24	1,515.06	-737.98	31.67	235.04	173.17	5.78	3.799
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,657.90	9,497.16	1,515.06	-737.98	31.92	203.72	141.12	6.67	3.254
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,736.47	9,575.63	1,517.87	-737.98	32.15	175.88	112.11	7.96	2.758
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,813.29	9,651.34	1,530.55	-737.96	32.43	160.15	95.52	10.65	2.478
9,947.87	9,729.55	1,393.44	-701.90	40.73	9,850.00	9,686.76	1,540.17	-737.95	32.59	157.88	93.08	12.37	2.437
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,891.24	9,725.72	1,553.65	-737.94	32.79	159.42	94.57	14.55	2.458
10,100.00	9,876.11	1,429.63	-720.13	41.48	9,966.53	9,793.95	1,585.34	-737.90	33.20	178.37	114.07	18.48	2.774
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,035.17	9,852.06	1,621.81	-737.86	33.62	215.64	152.56	21.58	3.418
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,100.00	9,902.57	1,662.40	-737.81	34.05	268.38	206.50	23.94	4.337
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,150.00	9,938.21	1,697.45	-737.77	34.40	333.35	273.13	25.73	5.535
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,185.30	9,961.46	1,724.00	-737.74	34.67	407.56	349.26	0.05	6.990
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,222.41	9,984.09	1,753.40	-737.71	34.95	482.64	425.75	-0.01	8.484
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,250.00	9,999.66	1,776.17	-737.68	35.17	550.48	495.75	-0.01	10.059
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,300.00	10,025.01	1,819.25	-737.63	35.57	609.72	556.00	-0.01	11.349
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,350.00	10,046.51	1,864.38	-737.58	35.99	660.63	608.08	-0.01	12.572
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,383.26	10,058.59	1,895.36	-737.54	36.28	702.22	651.69	-0.01	13.897
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,425.21	10,071.24	1,935.34	-737.50	36.64	734.48	685.52	-0.01	15.003
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,467.49	10,081.00	1,976.48	-737.45	37.01	757.04	709.55	-0.01	15.942
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,500.00	10,086.42	2,008.53	-737.41	37.30	769.86	723.98	-0.01	16.779
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,550.00	10,091.19	2,058.28	-737.36	37.75	772.40	727.36	-0.01	17.150
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,615.90	10,091.96	2,124.17	-737.28	38.35	771.04	726.31	-0.01	17.236
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,715.90	10,091.96	2,224.17	-737.16	39.28	771.04	725.81	-0.01	17.046

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,815.90	10,091.96	2,324.17	-737.05	40.23	771.04	725.26	-0.01	16.841
11,800.00	10,860.00	2,424.17	-736.84	51.90	10,915.90	10,091.96	2,424.17	-736.93	41.22	771.04	724.66	-0.01	16.624
11,900.00	10,860.00	2,524.17	-736.72	52.80	11,015.90	10,091.96	2,524.17	-736.82	42.23	771.04	724.01	-0.01	16.397
12,000.00	10,860.00	2,624.17	-736.60	53.73	11,115.90	10,091.96	2,624.17	-736.70	43.26	771.04	723.33	-0.01	16.161
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,215.90	10,091.96	2,724.17	-736.59	44.32	771.04	722.60	-0.01	15.918
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,315.90	10,091.96	2,824.17	-736.47	45.40	771.04	721.83	-0.01	15.669
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,415.90	10,091.96	2,924.17	-736.36	46.50	771.04	721.02	-0.01	15.417
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,515.90	10,091.96	3,024.17	-736.24	47.61	771.04	720.18	-0.01	15.161
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,615.90	10,091.96	3,124.17	-736.13	48.74	771.04	719.30	-0.01	14.904
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,715.90	10,091.96	3,224.17	-736.01	49.89	771.04	718.39	-0.01	14.647
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,815.90	10,091.96	3,324.17	-735.90	51.05	771.03	717.45	-0.01	14.390
12,800.00	10,860.00	3,424.17	-735.65	61.83	11,915.90	10,091.96	3,424.17	-735.78	52.23	771.03	716.48	-0.01	14.134
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,015.90	10,091.96	3,524.17	-735.67	53.42	771.03	715.49	-0.01	13.880
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,115.90	10,091.96	3,624.17	-735.55	54.61	771.03	714.46	-0.01	13.629
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,215.90	10,091.96	3,724.17	-735.44	55.82	771.03	713.41	-0.01	13.381
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,315.90	10,091.97	3,824.17	-735.32	57.05	771.03	712.34	-0.01	13.137
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,415.90	10,091.97	3,924.17	-735.21	58.28	771.03	711.24	-0.01	12.896
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,515.90	10,091.97	4,024.17	-735.10	59.51	771.03	710.13	-0.01	12.660
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,615.90	10,091.97	4,124.17	-734.98	60.76	771.03	708.99	-0.01	12.428
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,715.90	10,091.97	4,224.17	-734.87	62.02	771.03	707.84	-0.01	12.201
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,815.90	10,091.97	4,324.17	-734.75	63.28	771.03	706.67	-0.01	11.979
13,800.00	10,860.00	4,424.17	-734.46	73.23	12,915.90	10,091.97	4,424.17	-734.64	64.55	771.03	705.48	-0.01	11.762
13,900.00	10,860.00	4,524.17	-734.34	74.43	13,015.90	10,091.97	4,524.17	-734.52	65.83	771.03	704.27	-0.01	11.550
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,115.90	10,091.97	4,624.17	-734.41	67.11	771.03	703.05	-0.01	11.343
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,215.90	10,091.97	4,724.17	-734.29	68.40	771.03	701.82	-0.01	11.141
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,315.90	10,091.97	4,824.17	-734.18	69.69	771.03	700.57	-0.01	10.943
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,415.90	10,091.97	4,924.17	-734.06	70.99	771.03	699.31	-0.01	10.751
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,515.90	10,091.97	5,024.17	-733.95	72.30	771.03	698.04	-0.01	10.564
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,615.90	10,091.97	5,124.17	-733.83	73.61	771.03	696.76	-0.02	10.381
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,715.90	10,091.97	5,224.17	-733.72	74.92	771.03	695.46	-0.02	10.203

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,815.90	10,091.97	5,324.17	-733.60	76.24	771.03	694.16	-0.02	10.030
14,800.00	10,860.00	5,424.17	-733.27	85.52	13,915.90	10,091.97	5,424.17	-733.49	77.56	771.03	692.84	-0.02	9.862
14,900.00	10,860.00	5,524.17	-733.15	86.79	14,015.90	10,091.97	5,524.17	-733.37	78.89	771.03	691.52	-0.02	9.697
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,115.90	10,091.97	5,624.17	-733.26	80.22	771.03	690.18	-0.02	9.538
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,215.90	10,091.97	5,724.17	-733.14	81.55	771.02	688.84	-0.02	9.382
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,315.90	10,091.97	5,824.17	-733.03	82.89	771.02	687.49	-0.02	9.230
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,415.90	10,091.97	5,924.17	-732.91	84.22	771.02	686.14	-0.02	9.083
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,515.90	10,091.98	6,024.17	-732.80	85.57	771.02	684.77	-0.02	8.939
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,615.90	10,091.98	6,124.17	-732.68	86.91	771.02	683.40	-0.02	8.799
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,715.90	10,091.98	6,224.17	-732.57	88.26	771.02	682.02	-0.02	8.663
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,815.90	10,091.98	6,324.17	-732.45	89.61	771.02	680.64	-0.02	8.531
15,800.00	10,860.00	6,424.17	-732.08	98.37	14,915.90	10,091.98	6,424.17	-732.34	90.96	771.02	679.25	-0.02	8.401
15,900.00	10,860.00	6,524.17	-731.96	99.67	15,015.90	10,091.98	6,524.17	-732.22	92.32	771.02	677.85	-0.02	8.276
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,115.90	10,091.98	6,624.17	-732.11	93.68	771.02	676.45	-0.02	8.153
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,215.90	10,091.98	6,724.17	-731.99	95.04	771.02	675.05	-0.02	8.034
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,315.90	10,091.98	6,824.17	-731.88	96.40	771.02	673.63	-0.02	7.917
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,415.90	10,091.98	6,924.17	-731.76	97.76	771.02	672.22	-0.02	7.804
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,515.90	10,091.98	7,024.17	-731.65	99.13	771.02	670.80	-0.02	7.693
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,615.90	10,091.98	7,124.17	-731.53	100.50	771.02	669.37	-0.02	7.585
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,715.90	10,091.98	7,224.17	-731.42	101.86	771.02	667.94	-0.02	7.480
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,815.90	10,091.98	7,324.17	-731.30	103.24	771.02	666.51	-0.02	7.377
16,800.00	10,860.00	7,424.17	-730.89	111.57	15,915.90	10,091.98	7,424.17	-731.19	104.61	771.02	665.07	-0.02	7.277
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,015.90	10,091.98	7,524.17	-731.07	105.98	771.02	663.63	-0.02	7.180
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,115.90	10,091.98	7,624.17	-730.96	107.36	771.02	662.19	-0.02	7.084
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,215.90	10,091.98	7,724.17	-730.84	108.74	771.02	660.74	-0.02	6.991
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,315.90	10,091.98	7,824.17	-730.73	110.11	771.02	659.29	-0.02	6.901
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,415.90	10,091.98	7,924.17	-730.61	111.49	771.02	657.83	-0.02	6.812
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,515.90	10,091.98	8,024.17	-730.50	112.87	771.02	656.37	-0.02	6.725
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,615.90	10,091.98	8,124.17	-730.38	114.26	771.01	654.91	-0.02	6.641

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,715.90	10,091.98	8,224.17	-730.27	115.64	771.01	653.45	-0.02	6.558
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,815.90	10,091.99	8,324.17	-730.15	117.02	771.01	651.98	-0.02	6.477
17,800.00	10,860.00	8,424.17	-729.71	125.02	16,915.90	10,091.99	8,424.17	-730.04	118.41	771.01	650.51	-0.02	6.398
17,900.00	10,860.00	8,524.17	-729.59	126.38	17,015.90	10,091.99	8,524.17	-729.92	119.80	771.01	649.04	-0.02	6.321
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,115.90	10,091.99	8,624.17	-729.81	121.19	771.01	647.57	-0.03	6.246
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,215.90	10,091.99	8,724.17	-729.69	122.57	771.01	646.09	-0.03	6.172
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,315.90	10,091.99	8,824.17	-729.58	123.96	771.01	644.61	-0.03	6.100
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,415.90	10,091.99	8,924.17	-729.46	125.36	771.01	643.13	-0.03	6.029
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,515.90	10,091.99	9,024.17	-729.35	126.75	771.01	641.65	-0.03	5.960
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,615.90	10,091.99	9,124.17	-729.23	128.14	771.01	640.17	-0.03	5.893
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,715.90	10,091.99	9,224.17	-729.12	129.53	771.01	638.68	-0.03	5.826
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,815.90	10,091.99	9,324.17	-729.00	130.93	771.01	637.19	-0.03	5.762
18,800.00	10,860.00	9,424.17	-728.52	138.65	17,915.90	10,091.99	9,424.17	-728.89	132.32	771.01	635.70	-0.03	5.698
18,900.00	10,860.00	9,524.17	-728.40	140.02	18,015.90	10,091.99	9,524.17	-728.77	133.72	771.01	634.21	-0.03	5.636
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,115.90	10,091.99	9,624.17	-728.66	135.11	771.01	632.71	-0.03	5.575
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,215.90	10,091.99	9,724.17	-728.54	136.51	771.01	631.22	-0.03	5.515
19,200.00	10,860.00	9,824.16	-728.04	144.14	18,315.90	10,091.99	9,824.17	-728.43	137.91	771.01	629.72	-0.03	5.457
19,300.00	10,860.00	9,924.16	-727.92	145.52	18,415.90	10,091.99	9,924.17	-728.31	139.31	771.01	628.22	-0.03	5.400
19,400.00	10,860.00	10,024.16	-727.81	146.89	18,515.90	10,091.99	10,024.17	-728.20	140.71	771.01	626.72	-0.03	5.344
19,500.00	10,860.00	10,124.16	-727.69	148.27	18,615.90	10,091.99	10,124.17	-728.08	142.11	771.01	625.22	-0.03	5.289
19,600.00	10,860.00	10,224.16	-727.57	149.65	18,715.90	10,091.99	10,224.17	-727.97	143.51	771.01	623.72	-0.03	5.235
19,700.00	10,860.00	10,324.16	-727.45	151.03	18,815.90	10,091.99	10,324.17	-727.85	144.91	771.01	622.21	-0.03	5.182
19,800.00	10,860.00	10,424.16	-727.33	152.41	18,915.90	10,091.99	10,424.17	-727.74	146.31	771.01	620.71	-0.03	5.130
19,900.00	10,860.00	10,524.16	-727.21	153.79	19,015.90	10,091.99	10,524.17	-727.62	147.71	771.01	619.20	-0.03	5.079
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,115.90	10,092.00	10,624.17	-727.51	149.12	771.00	617.69	-0.03	5.029
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,215.90	10,092.00	10,724.17	-727.39	150.52	771.00	616.18	-0.03	4.980
20,200.00	10,860.00	10,824.16	-726.85	157.94	19,315.90	10,092.00	10,824.17	-727.28	151.92	771.00	614.67	-0.03	4.932
20,300.00	10,860.00	10,924.16	-726.74	159.32	19,415.90	10,092.00	10,924.17	-727.16	153.33	771.00	613.16	-0.03	4.885
20,400.00	10,860.00	11,024.16	-726.62	160.71	19,515.90	10,092.00	11,024.17	-727.05	154.73	771.00	611.64	-0.03	4.838
20,500.00	10,860.00	11,124.16	-726.50	162.10	19,615.90	10,092.00	11,124.17	-726.93	156.14	771.00	610.13	-0.03	4.793

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3

Survey Program: 30-3_Gyro-NS_OWSG, 417-3_MWD+HRGM, 2971-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
20,600.00	10,860.00	11,224.16	-726.38	163.48	19,715.90	10,092.00	11,224.17	-726.82	157.54	771.00	608.61	-0.03	4.748
20,700.00	10,860.00	11,324.16	-726.26	164.87	19,815.90	10,092.00	11,324.17	-726.70	158.95	771.00	607.10	-0.03	4.704
20,800.00	10,860.00	11,424.16	-726.14	166.26	19,915.90	10,092.00	11,424.17	-726.59	160.36	771.00	605.58	-0.03	4.661
20,900.00	10,860.00	11,524.16	-726.02	167.65	20,015.90	10,092.00	11,524.17	-726.47	161.76	771.00	604.06	-0.03	4.618
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,115.90	10,092.00	11,624.17	-726.36	163.17	771.00	602.54	-0.03	4.577
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,215.90	10,092.00	11,724.17	-726.24	164.58	771.00	601.02	-0.03	4.536
21,101.32	10,860.00	11,725.49	-725.78	170.45	20,217.23	10,092.00	11,725.49	-726.24	164.60	771.00	601.00	-0.03	4.535
21,200.00	10,860.00	11,824.16	-725.67	171.82	20,217.23	10,092.00	11,725.49	-726.24	164.60	777.29	609.55	-0.03	4.634
21,300.00	10,860.00	11,924.16	-725.55	173.22	20,217.23	10,092.00	11,725.49	-726.24	164.60	796.19	632.59	-0.03	4.867
21,331.33	10,860.00	11,955.49	-725.51	173.65	20,217.23	10,092.00	11,725.49	-726.24	164.60	804.58	642.59	-0.03	4.967



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	103.82	103.82	199.22	-120.49	0.52	232.83	230.50	-31.16	100.125
163.32	163.32	0.00	0.00	0.61	166.34	166.32	198.45	-121.48	0.61	232.68	230.17	-31.47	92.739
200.00	200.00	0.00	0.00	0.70	202.36	202.33	198.13	-122.10	0.69	232.73	230.06	-31.64	87.002
300.00	300.00	0.00	0.00	0.98	302.56	302.51	197.39	-123.81	0.86	233.01	229.89	-32.10	74.533
400.00	400.00	0.00	0.00	1.31	403.09	403.03	196.57	-125.36	1.03	233.14	229.90	-32.53	71.905
500.00	500.00	0.00	0.00	1.64	508.49	508.41	194.56	-126.41	1.21	232.09	228.32	-33.01	61.575
600.00	600.00	0.00	0.00	1.99	609.38	609.25	191.39	-126.54	1.47	229.53	225.17	-33.47	52.597
700.00	700.00	0.00	0.00	2.34	709.07	708.89	188.20	-126.53	1.75	226.85	221.86	-33.91	45.382
800.00	800.00	0.00	0.00	2.69	808.26	808.03	185.24	-126.65	2.06	224.45	218.80	-34.36	39.674
900.00	900.00	0.00	0.00	3.04	907.70	907.44	182.58	-126.73	2.38	222.29	215.96	-34.77	35.103
1,000.00	1,000.00	0.00	0.00	3.39	1,006.46	1,006.17	180.33	-126.99	2.71	220.58	213.57	-35.15	31.443
1,100.00	1,100.00	0.00	0.00	3.75	1,105.38	1,105.06	178.39	-127.72	3.05	219.41	211.70	-35.60	28.473
1,200.00	1,200.00	0.00	0.00	4.10	1,204.59	1,204.25	176.55	-129.01	3.39	218.67	210.27	-36.16	26.028
1,300.00	1,299.99	0.78	-0.39	4.46	1,301.53	1,301.17	175.30	-130.59	3.72	217.75	208.66	-9.98	23.972
1,400.00	1,399.96	3.12	-1.57	4.81	1,396.29	1,395.90	177.28	-131.07	4.02	217.15	207.41	-9.89	22.293
1,420.39	1,420.34	3.78	-1.91	4.89	1,415.52	1,415.11	178.22	-130.95	4.09	217.13	207.26	-9.75	21.992
1,500.00	1,499.86	7.01	-3.53	5.17	1,491.81	1,491.21	183.31	-129.90	4.33	217.22	206.82	-8.88	20.898
1,600.00	1,599.73	11.69	-5.89	5.53	1,588.30	1,587.21	192.59	-127.05	4.64	218.28	207.23	-7.06	19.747
1,700.00	1,699.59	16.36	-8.24	5.88	1,691.12	1,689.09	204.83	-120.63	4.99	219.85	208.09	-4.06	18.702
1,800.00	1,799.45	21.03	-10.60	6.24	1,794.46	1,791.33	216.24	-110.88	5.34	219.74	207.27	-0.45	17.623
1,803.59	1,803.04	21.20	-10.68	6.25	1,797.71	1,794.54	216.60	-110.54	5.35	219.74	207.25	-0.33	17.590
1,900.00	1,899.31	25.71	-12.95	6.60	1,884.80	1,880.41	228.03	-101.67	5.66	222.00	208.89	3.05	16.934
2,000.00	1,999.18	30.38	-15.31	6.96	1,976.18	1,969.89	243.70	-91.80	6.00	228.91	215.16	6.97	16.653
2,100.00	2,099.04	35.06	-17.66	7.32	2,071.49	2,062.61	262.60	-80.39	6.36	239.30	224.89	11.25	16.606
2,200.00	2,198.90	39.73	-20.02	7.68	2,172.70	2,161.17	282.34	-68.64	6.76	250.76	235.62	15.30	16.562
2,300.00	2,298.77	44.40	-22.37	8.04	2,274.35	2,260.52	300.43	-57.06	7.16	261.64	245.76	18.89	16.479
2,400.00	2,398.63	49.08	-24.73	8.40	2,371.22	2,355.06	317.34	-44.44	7.55	272.99	256.42	22.37	16.475
2,500.00	2,498.49	53.75	-27.08	8.76	2,467.94	2,449.07	335.03	-30.08	7.96	286.13	268.87	25.92	16.577
2,600.00	2,598.36	58.43	-29.44	9.12	2,572.19	2,550.55	353.22	-14.67	8.39	299.50	281.47	29.39	16.611
2,700.00	2,698.22	63.10	-31.79	9.48	2,676.99	2,653.06	368.89	0.47	8.83	311.24	292.44	32.55	16.555



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
2,800.00	2,798.08	67.77	-34.15	9.85	2,766.58	2,740.69	382.65	12.97	9.21	324.06	304.63	34.96	16.679
2,900.00	2,897.94	72.45	-36.50	10.21	2,864.01	2,835.89	398.96	25.77	9.62	338.70	318.57	37.22	16.823
3,000.00	2,997.81	77.12	-38.86	10.57	2,952.12	2,921.86	415.46	35.73	10.00	355.35	334.61	38.78	17.136
3,100.00	3,097.67	81.79	-41.21	10.93	3,049.61	3,016.74	436.01	44.65	10.26	374.01	353.00	39.96	17.800
3,200.00	3,197.53	86.47	-43.56	11.29	3,147.78	3,112.40	456.56	52.64	10.37	392.42	371.04	40.90	18.355
3,300.00	3,297.40	91.14	-45.92	11.66	3,241.32	3,203.39	476.82	60.38	10.49	411.65	389.93	41.70	18.949
3,400.00	3,397.26	95.82	-48.27	12.02	3,337.12	3,296.40	498.22	68.80	10.63	431.77	409.66	42.50	19.533
3,500.00	3,497.12	100.49	-50.63	12.38	3,432.66	3,389.08	519.70	77.54	10.80	452.21	429.71	43.26	20.101
3,600.00	3,596.98	105.16	-52.98	12.74	3,526.16	3,479.57	541.47	86.44	10.98	473.60	450.71	43.95	20.693
3,700.00	3,696.85	109.84	-55.34	13.11	3,628.16	3,578.22	565.40	96.36	11.20	495.31	471.95	44.66	21.198
3,800.00	3,796.71	114.51	-57.69	13.47	3,730.04	3,677.13	587.85	106.09	11.43	515.65	491.80	45.34	21.615
3,900.00	3,896.57	119.19	-60.05	13.83	3,832.64	3,776.85	609.85	115.95	11.67	535.52	511.16	46.00	21.980
4,000.00	3,996.44	123.86	-62.40	14.20	3,950.80	3,892.32	632.31	127.03	11.95	553.07	528.07	46.78	22.130
4,100.00	4,096.30	128.53	-64.76	14.56	4,053.33	3,993.01	649.73	135.39	12.19	568.33	542.81	47.37	22.275
4,200.00	4,196.16	133.21	-67.11	14.92	4,144.60	4,082.56	665.52	143.20	12.41	584.11	558.13	47.88	22.487
4,300.00	4,296.03	137.88	-69.47	15.29	4,233.56	4,169.55	681.98	151.88	12.65	601.50	575.07	48.42	22.759
4,400.00	4,395.89	142.56	-71.82	15.65	4,326.41	4,260.09	700.15	161.57	12.92	620.20	593.28	48.97	23.038
4,500.00	4,495.75	147.23	-74.18	16.01	4,428.16	4,359.26	720.34	172.09	13.22	639.19	611.70	49.52	23.251
4,600.00	4,595.61	151.90	-76.53	16.38	4,532.15	4,460.87	740.32	181.61	13.53	657.15	629.07	49.97	23.399
4,700.00	4,695.48	156.58	-78.89	16.74	4,627.30	4,553.88	758.53	190.00	13.82	674.95	646.32	50.34	23.580
4,800.00	4,795.34	161.25	-81.24	17.10	4,718.72	4,643.08	776.42	198.99	14.12	693.59	664.44	50.74	23.798
4,900.00	4,895.20	165.93	-83.60	17.47	4,814.28	4,736.16	795.50	209.26	14.43	713.01	683.30	51.18	24.003
5,000.00	4,995.07	170.60	-85.95	17.83	4,901.69	4,821.14	813.49	218.92	14.74	733.18	702.97	51.56	24.269
5,100.00	5,094.93	175.27	-88.31	18.19	4,990.26	4,906.95	832.87	229.21	15.06	754.80	724.07	51.93	24.562
5,200.00	5,194.79	179.95	-90.66	18.56	5,085.55	4,999.08	854.49	240.35	15.41	777.21	745.89	52.29	24.817
5,300.00	5,294.66	184.62	-93.02	18.92	5,199.54	5,109.58	879.61	252.67	15.84	798.68	766.61	52.65	24.908
5,400.00	5,394.52	189.29	-95.37	19.28	5,298.63	5,205.88	900.67	262.73	16.21	819.16	786.46	52.92	25.056
5,500.00	5,494.38	193.97	-97.73	19.65	5,408.19	5,312.54	923.30	273.48	16.61	838.98	805.57	53.21	25.114
5,600.00	5,594.02	201.36	-101.45	20.01	5,529.47	5,431.17	946.11	284.20	17.05	854.92	820.72	53.26	24.999

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,700.00	5,692.97	214.18	-107.91	20.39	5,634.00	5,533.83	963.57	293.24	17.41	865.33	830.45	53.77	24.809
5,800.00	5,790.86	232.36	-117.06	20.78	5,723.00	5,621.08	979.04	301.51	17.73	873.26	837.78	54.53	24.615
5,900.00	5,887.32	255.85	-128.90	21.18	5,799.85	5,696.13	993.49	309.58	18.02	879.83	843.82	55.45	24.434
6,000.00	5,982.38	283.58	-142.87	21.60	5,920.80	5,814.45	1,015.29	321.93	18.48	883.54	846.66	57.42	23.957
6,100.00	6,077.29	311.70	-157.03	22.02	6,011.19	5,903.08	1,030.73	330.67	18.81	886.71	849.15	58.94	23.612
6,200.00	6,172.20	339.83	-171.20	22.45	6,094.64	5,984.72	1,045.70	339.31	19.13	891.72	853.53	60.35	23.348
6,300.00	6,267.12	367.95	-185.36	22.88	6,175.69	6,063.72	1,061.44	348.32	19.45	899.08	860.25	61.68	23.157
6,400.00	6,362.03	396.07	-199.53	23.31	6,276.68	6,161.96	1,081.81	359.74	19.86	907.88	868.24	63.30	22.905
6,500.00	6,456.94	424.19	-213.69	23.76	6,391.18	6,273.84	1,103.31	371.26	20.31	915.43	874.86	65.09	22.568
6,600.00	6,551.86	452.32	-227.86	24.20	6,474.94	6,355.65	1,119.42	379.19	20.64	923.70	882.43	66.34	22.383
6,700.00	6,646.77	480.44	-242.02	24.65	6,563.06	6,441.32	1,137.79	388.51	21.00	934.42	892.40	67.62	22.238
6,800.00	6,741.68	508.56	-256.19	25.11	6,677.15	6,552.63	1,159.98	400.20	21.47	944.50	901.51	69.29	21.970
6,900.00	6,836.59	536.68	-270.35	25.57	6,783.12	6,656.27	1,179.55	410.39	21.89	954.09	910.19	70.82	21.731
7,000.00	6,931.51	564.81	-284.52	26.03	6,905.04	6,775.98	1,200.14	420.86	22.36	962.47	917.54	72.58	21.422
7,100.00	7,026.42	592.93	-298.68	26.50	7,015.03	6,884.38	1,216.36	429.89	22.76	969.81	923.94	74.22	21.142
7,200.00	7,121.33	621.05	-312.85	26.97	7,135.33	7,003.35	1,232.40	437.73	23.19	975.58	928.71	75.99	20.817
7,300.00	7,216.25	649.17	-327.01	27.44	7,243.72	7,110.78	1,245.58	443.38	23.56	980.30	932.50	77.57	20.510
7,400.00	7,311.16	677.30	-341.18	27.92	7,315.13	7,181.46	1,255.09	447.12	23.81	986.34	937.79	78.56	20.316
7,500.00	7,406.07	705.42	-355.34	28.40	7,382.40	7,247.70	1,265.99	451.48	24.07	995.62	946.36	79.43	20.211
7,600.00	7,500.99	733.54	-369.51	28.88	7,449.36	7,313.19	1,278.74	457.02	24.34	1,008.36	958.42	80.23	20.189
7,700.00	7,595.90	761.66	-383.68	29.36	7,520.37	7,382.13	1,294.34	463.85	24.65	1,024.22	973.58	81.00	20.224
7,800.00	7,690.81	789.79	-397.84	29.85	7,665.37	7,523.21	1,324.99	476.75	25.27	1,039.45	987.49	82.53	20.005
7,900.00	7,785.72	817.91	-412.01	30.34	7,811.33	7,667.15	1,347.67	484.34	25.82	1,048.27	995.08	84.25	19.710
8,000.00	7,880.64	846.03	-426.17	30.83	7,874.00	7,729.04	1,356.76	488.20	26.05	1,058.69	1,004.79	85.02	19.643
8,100.00	7,975.55	874.15	-440.34	31.33	7,963.00	7,816.48	1,371.69	495.37	26.40	1,072.08	1,017.31	86.04	19.574
8,200.00	8,070.46	902.28	-454.50	31.82	8,024.00	7,876.11	1,383.03	501.38	26.66	1,088.02	1,032.59	86.71	19.629
8,300.00	8,165.38	930.40	-468.67	32.32	8,112.98	7,962.89	1,399.94	511.43	27.04	1,106.02	1,049.72	87.67	19.644
8,400.00	8,260.29	958.52	-482.83	32.82	8,219.04	8,066.32	1,420.37	522.91	27.49	1,124.11	1,066.79	88.75	19.610
8,500.00	8,355.20	986.64	-497.00	33.32	8,343.49	8,188.33	1,441.44	535.49	28.00	1,140.93	1,082.45	90.09	19.510
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,476.36	8,319.25	1,461.51	545.99	28.52	1,155.45	1,095.80	91.53	19.370

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,615.21	8,456.78	1,479.28	552.55	29.02	1,166.45	1,105.64	93.04	19.184
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,702.94	8,543.84	1,489.47	556.24	29.32	1,177.10	1,115.42	94.02	19.084
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,797.92	8,638.11	1,500.12	560.80	29.66	1,188.59	1,126.00	95.08	18.990
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,898.59	8,738.12	1,510.32	566.00	30.00	1,200.52	1,137.00	96.24	18.899
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,010.09	8,849.07	1,520.09	571.27	30.37	1,212.11	1,147.61	97.56	18.792
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,145.77	8,984.40	1,528.46	575.84	30.79	1,222.30	1,156.76	99.26	18.649
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,299.75	9,138.36	1,529.38	576.31	31.17	1,228.62	1,162.10	101.46	18.471
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,407.08	9,245.66	1,528.60	574.00	31.41	1,233.26	1,165.89	103.01	18.307
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,510.85	9,349.38	1,527.18	571.11	31.64	1,237.95	1,169.75	104.52	18.153
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,587.42	9,425.90	1,525.66	568.92	31.82	1,243.36	1,174.35	105.64	18.019
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,649.00	9,487.44	1,527.54	568.32	31.98	1,251.97	1,182.22	106.41	17.948
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,707.22	9,545.27	1,534.00	568.71	32.19	1,263.87	1,193.38	106.94	17.929
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,845.21	9,676.55	1,574.80	567.17	32.80	1,277.41	1,205.78	106.98	17.831
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,954.08	9,769.76	1,630.08	558.94	33.43	1,287.35	1,214.59	106.00	17.691
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,008.00	9,810.92	1,664.40	553.26	33.77	1,296.65	1,223.13	105.28	17.636
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,063.19	9,849.99	1,703.01	548.02	34.15	1,308.37	1,234.20	104.32	17.641
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,098.00	9,873.50	1,728.57	545.78	34.39	1,324.12	1,249.89	103.88	17.838
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,128.72	9,893.61	1,751.75	544.53	34.62	1,343.93	1,269.66	103.63	18.095
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,156.76	9,911.55	1,773.31	544.04	34.84	1,368.05	1,293.98	76.48	18.469
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,188.00	9,931.03	1,797.73	544.22	35.08	1,395.82	1,321.99	73.05	18.908
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,226.13	9,954.04	1,828.12	545.14	35.39	1,423.55	1,349.85	69.38	19.316
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,278.00	9,983.89	1,870.48	547.14	35.82	1,449.43	1,375.59	65.93	19.628
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,311.03	10,001.39	1,898.45	548.64	36.11	1,472.25	1,398.47	63.36	19.953
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,367.00	10,026.45	1,948.40	550.96	36.60	1,491.74	1,417.57	61.06	20.113
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,409.01	10,042.34	1,987.27	552.35	36.98	1,506.11	1,431.64	59.53	20.225
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,457.00	10,058.77	2,032.34	553.37	37.42	1,514.15	1,439.13	58.63	20.182
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,512.02	10,074.77	2,084.95	554.76	37.94	1,516.25	1,440.35	58.44	19.977
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,546.00	10,082.85	2,117.92	556.19	38.26	1,513.37	1,436.70	58.84	19.738
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,584.61	10,089.57	2,155.88	558.16	38.64	1,509.02	1,431.37	59.16	19.432

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,550.15	10,860.00	2,174.32	-737.13	49.76	10,601.65	10,091.47	2,172.78	559.10	38.80	1,508.47	1,430.37	59.24	19.314
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,636.00	10,093.29	2,207.02	561.10	39.13	1,509.30	1,430.55	59.34	19.165
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,668.15	10,093.39	2,239.11	563.04	39.45	1,513.11	1,433.56	59.38	19.021
11,800.00	10,860.00	2,424.17	-736.84	51.90	10,735.87	10,091.42	2,306.67	567.23	40.12	1,519.78	1,439.00	59.39	18.815
11,900.00	10,860.00	2,524.17	-736.72	52.80	10,822.39	10,090.72	2,392.83	574.91	41.00	1,527.75	1,445.41	59.51	18.555
12,000.00	10,860.00	2,624.17	-736.60	53.73	10,953.11	10,091.86	2,522.84	588.31	42.36	1,536.32	1,451.68	59.80	18.151
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,145.91	10,092.73	2,715.51	594.05	44.41	1,537.43	1,449.70	59.93	17.525
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,238.16	10,092.76	2,807.75	595.01	45.41	1,538.21	1,448.73	59.95	17.192
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,341.87	10,093.18	2,911.45	596.52	46.56	1,539.16	1,447.74	59.99	16.836
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,440.91	10,093.36	3,010.49	597.47	47.67	1,539.81	1,446.48	60.01	16.498
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,545.49	10,092.82	3,115.06	598.15	48.86	1,540.53	1,445.20	60.00	16.160
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,644.00	10,092.34	3,213.57	598.63	49.99	1,541.09	1,443.82	59.99	15.843
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,747.70	10,092.42	3,317.27	599.46	51.20	1,541.64	1,442.31	60.01	15.519
12,794.36	10,860.00	3,418.53	-735.65	61.77	11,847.39	10,092.62	3,416.95	599.70	52.38	1,541.64	1,440.31	60.02	15.214
12,800.00	10,860.00	3,424.17	-735.65	61.83	11,852.25	10,092.61	3,421.82	599.70	52.44	1,541.64	1,440.20	60.02	15.198
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,025.67	10,091.05	3,595.13	595.87	54.51	1,540.64	1,436.27	59.89	14.761
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,112.45	10,090.69	3,681.79	591.20	55.55	1,536.12	1,429.91	59.79	14.463
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,180.00	10,090.28	3,749.30	588.94	56.37	1,533.40	1,425.56	59.73	14.219
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,253.48	10,089.51	3,822.77	587.94	57.27	1,532.62	1,423.06	59.69	13.990
13,200.73	10,860.00	3,824.90	-735.17	66.26	12,254.04	10,089.51	3,823.33	587.94	57.27	1,532.62	1,423.05	59.69	13.988
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,357.50	10,088.86	3,926.78	587.74	58.55	1,532.67	1,420.94	59.66	13.718
13,341.35	10,860.00	3,965.52	-735.00	67.87	12,394.67	10,088.93	3,963.95	587.76	59.01	1,532.61	1,420.05	59.66	13.616
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,449.00	10,089.04	4,018.28	588.03	59.69	1,532.74	1,418.97	59.67	13.473
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,538.00	10,088.83	4,107.27	588.92	60.80	1,533.59	1,417.81	59.68	13.246
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,649.85	10,088.61	4,219.12	589.55	62.21	1,534.06	1,415.91	59.68	12.984
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,733.01	10,088.17	4,302.28	590.22	63.27	1,534.90	1,414.80	59.68	12.781
13,800.00	10,860.00	4,424.17	-734.46	73.23	12,833.74	10,087.31	4,403.00	591.46	64.55	1,536.29	1,413.97	59.67	12.559
13,900.00	10,860.00	4,524.17	-734.34	74.43	12,939.09	10,086.48	4,508.33	592.28	65.90	1,537.26	1,412.63	59.66	12.335
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,032.09	10,085.68	4,601.33	593.12	67.09	1,538.37	1,411.61	59.65	12.137
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,141.28	10,084.87	4,710.51	594.48	68.50	1,539.74	1,410.59	59.64	11.921

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,248.72	10,085.49	4,817.94	595.52	69.90	1,540.18	1,408.59	59.68	11.705
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,343.00	10,086.23	4,912.22	596.48	71.13	1,540.56	1,406.75	59.72	11.512
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,434.99	10,086.40	5,004.19	597.60	72.33	1,541.42	1,405.41	59.74	11.333
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,543.19	10,086.45	5,112.39	598.89	73.75	1,542.33	1,403.85	59.77	11.138
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,652.44	10,087.02	5,221.63	599.92	75.19	1,542.79	1,401.81	59.80	10.944
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,770.82	10,086.96	5,340.01	599.30	76.75	1,542.26	1,398.69	59.79	10.743
14,800.00	10,860.00	5,424.17	-733.27	85.52	13,858.58	10,087.56	5,427.76	598.81	77.91	1,541.35	1,395.62	59.80	10.577
14,901.95	10,860.00	5,526.12	-733.15	86.81	13,956.17	10,087.74	5,525.36	598.96	79.21	1,541.28	1,393.22	59.80	10.410
14,900.00	10,860.00	5,524.17	-733.15	86.79	13,954.21	10,087.74	5,523.39	598.96	79.18	1,541.28	1,393.27	59.80	10.413
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,062.20	10,087.91	5,631.38	598.84	80.62	1,541.01	1,390.51	59.80	10.240
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,159.42	10,088.63	5,728.60	598.84	81.91	1,540.53	1,387.69	59.82	10.079
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,257.06	10,089.16	5,826.24	598.96	83.22	1,540.26	1,385.06	59.84	9.925
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,359.51	10,089.74	5,928.69	599.00	84.59	1,539.91	1,382.28	59.86	9.769
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,456.78	10,090.53	6,025.96	599.18	85.90	1,539.56	1,379.55	59.88	9.622
15,454.59	10,860.00	6,078.75	-732.49	93.88	14,508.00	10,090.64	6,077.18	599.24	86.59	1,539.50	1,378.24	59.89	9.546
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,552.57	10,090.54	6,121.74	599.25	87.19	1,539.51	1,377.18	59.88	9.484
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,678.11	10,090.67	6,247.28	598.83	88.89	1,539.15	1,374.04	59.88	9.322
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,772.06	10,092.11	6,341.22	598.10	90.16	1,537.62	1,370.16	59.91	9.182
15,800.00	10,860.00	6,424.17	-732.08	98.37	14,867.00	10,092.70	6,436.15	597.47	91.44	1,536.62	1,366.81	59.91	9.049
15,900.00	10,860.00	6,524.17	-731.96	99.67	14,973.31	10,094.11	6,542.45	596.74	92.88	1,535.25	1,362.89	59.94	8.907
15,958.06	10,860.00	6,582.23	-731.90	100.43	15,011.51	10,094.50	6,580.65	596.73	93.40	1,534.87	1,361.40	59.95	8.848
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,046.00	10,094.40	6,615.14	596.94	93.87	1,535.09	1,360.72	59.95	8.804
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,122.69	10,093.93	6,691.82	598.17	94.92	1,536.60	1,360.19	59.96	8.710
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,222.63	10,093.79	6,791.72	600.60	96.28	1,538.67	1,359.78	60.00	8.601
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,333.07	10,093.68	6,902.15	602.62	97.78	1,540.19	1,358.65	60.03	8.484
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,440.65	10,093.20	7,009.70	604.44	99.25	1,541.82	1,357.68	60.05	8.373
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,554.03	10,095.20	7,123.06	605.40	100.81	1,541.48	1,354.57	60.13	8.247
16,502.70	10,860.00	7,126.86	-731.25	107.61	15,556.24	10,095.24	7,125.28	605.42	100.84	1,541.48	1,354.51	60.13	8.245
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,639.17	10,096.18	7,208.19	606.55	101.97	1,541.96	1,352.78	60.18	8.151

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,783.63	10,095.96	7,352.65	606.66	103.95	1,542.25	1,349.94	60.17	8.019
16,800.00	10,860.00	7,424.17	-730.89	111.57	15,985.88	10,093.57	7,554.10	590.41	106.73	1,534.52	1,339.20	59.78	7.857
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,032.00	10,093.58	7,600.06	586.48	107.36	1,527.39	1,330.19	59.71	7.745
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,121.00	10,093.58	7,688.93	581.89	108.58	1,522.82	1,323.40	59.62	7.636
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,180.92	10,093.43	7,748.83	580.32	109.41	1,520.27	1,318.95	59.58	7.552
17,191.45	10,860.00	7,815.62	-730.43	116.81	16,246.15	10,093.44	7,814.06	579.65	110.31	1,519.39	1,316.23	59.57	7.479
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,251.78	10,093.43	7,819.69	579.65	110.39	1,519.39	1,316.08	59.57	7.473
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,330.12	10,093.00	7,898.02	580.67	111.47	1,520.60	1,315.19	59.57	7.403
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,433.21	10,092.49	8,001.10	582.11	112.89	1,521.95	1,313.99	59.58	7.319
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,541.48	10,091.76	8,109.35	583.54	114.39	1,523.35	1,312.78	59.58	7.234
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,637.57	10,092.01	8,205.44	584.69	115.72	1,524.15	1,311.12	59.61	7.155
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,734.14	10,092.36	8,301.99	586.46	117.06	1,525.45	1,309.94	59.65	7.078
17,800.00	10,860.00	8,424.17	-729.71	125.02	16,850.27	10,093.80	8,418.09	588.42	118.67	1,526.16	1,307.76	59.73	6.988
17,900.00	10,860.00	8,524.17	-729.59	126.38	16,934.23	10,094.62	8,502.03	589.87	119.83	1,527.05	1,306.36	59.79	6.920
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,047.22	10,095.18	8,615.01	591.53	121.40	1,527.96	1,304.48	59.83	6.837
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,141.80	10,096.48	8,709.57	592.80	122.71	1,528.35	1,302.36	59.90	6.763
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,238.56	10,096.62	8,806.32	594.59	124.06	1,529.76	1,301.28	59.93	6.695
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,342.72	10,097.98	8,910.46	596.17	125.51	1,530.30	1,299.13	60.00	6.620
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,435.66	10,099.19	9,003.36	598.16	126.80	1,531.40	1,297.73	60.08	6.554
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,544.25	10,100.82	9,111.92	600.58	128.31	1,532.49	1,296.00	60.17	6.480
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,659.20	10,102.67	9,226.84	601.99	129.91	1,532.64	1,293.26	60.26	6.403
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,759.25	10,104.27	9,326.87	602.61	131.31	1,532.28	1,290.29	60.32	6.332
18,752.85	10,860.00	9,377.01	-728.57	138.01	17,807.81	10,104.88	9,375.43	602.94	131.99	1,532.21	1,288.91	60.34	6.298
18,800.00	10,860.00	9,424.17	-728.52	138.65	17,852.87	10,105.26	9,420.49	603.25	132.61	1,532.25	1,287.77	60.36	6.267
18,900.00	10,860.00	9,524.17	-728.40	140.02	17,969.32	10,106.47	9,536.93	603.98	134.24	1,532.23	1,284.88	60.41	6.195
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,073.28	10,108.08	9,640.88	603.41	135.69	1,530.88	1,280.88	60.45	6.124
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,198.67	10,111.26	9,766.22	602.54	137.45	1,528.93	1,275.93	60.54	6.043
19,200.00	10,860.00	9,824.16	-728.04	144.14	18,298.04	10,114.86	9,865.52	601.23	138.83	1,525.90	1,270.22	60.63	5.968
19,300.00	10,860.00	9,924.16	-727.92	145.52	18,383.08	10,117.28	9,950.51	600.50	140.02	1,523.65	1,265.51	60.69	5.902
19,400.00	10,860.00	10,024.16	-727.81	146.89	18,481.48	10,119.15	10,048.90	599.80	141.40	1,522.00	1,261.26	60.74	5.837

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
19,500.00	10,860.00	10,124.16	-727.69	148.27	18,577.47	10,120.99	10,144.86	598.90	142.75	1,520.14	1,256.85	60.78	5.774
19,600.00	10,860.00	10,224.16	-727.57	149.65	18,665.45	10,121.28	10,232.84	598.26	143.98	1,519.23	1,253.58	60.78	5.719
19,700.00	10,860.00	10,324.16	-727.45	151.03	18,775.25	10,120.65	10,342.63	596.97	145.52	1,518.39	1,250.14	60.73	5.660
19,800.00	10,860.00	10,424.16	-727.33	152.41	18,862.80	10,120.43	10,430.17	595.71	146.75	1,517.20	1,246.66	60.70	5.608
19,824.96	10,860.00	10,449.13	-727.30	152.75	18,881.74	10,120.26	10,449.11	595.57	147.01	1,517.12	1,246.06	60.69	5.597
19,900.00	10,860.00	10,524.16	-727.21	153.79	18,933.72	10,119.49	10,501.09	595.56	147.74	1,517.58	1,245.06	60.66	5.569
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,041.18	10,117.34	10,608.51	597.12	149.25	1,519.80	1,244.68	60.62	5.524
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,159.80	10,117.41	10,727.13	597.03	150.91	1,519.51	1,241.54	60.61	5.466
20,200.00	10,860.00	10,824.16	-726.85	157.94	19,263.74	10,117.34	10,831.06	596.62	152.37	1,519.09	1,238.54	60.60	5.415
20,300.00	10,860.00	10,924.16	-726.74	159.32	19,365.55	10,117.03	10,932.87	595.73	153.80	1,518.37	1,235.31	60.57	5.364
20,400.00	10,860.00	11,024.16	-726.62	160.71	19,459.91	10,116.90	11,027.23	595.39	155.13	1,518.02	1,232.52	60.56	5.317
20,500.00	10,860.00	11,124.16	-726.50	162.10	19,561.19	10,117.80	11,128.50	595.36	156.55	1,517.45	1,229.33	60.59	5.267
20,540.59	10,860.00	11,164.75	-726.45	162.66	19,595.87	10,117.94	11,163.18	595.40	157.04	1,517.37	1,228.30	60.59	5.249
20,600.00	10,860.00	11,224.16	-726.38	163.48	19,651.20	10,117.83	11,218.52	595.52	157.82	1,517.48	1,226.97	60.59	5.224
20,700.00	10,860.00	11,324.16	-726.26	164.87	19,748.52	10,117.26	11,315.84	595.72	159.19	1,517.83	1,224.86	60.57	5.181
20,800.00	10,860.00	11,424.16	-726.14	166.26	19,848.83	10,116.65	11,416.14	596.04	160.60	1,518.32	1,222.82	60.56	5.138
20,900.00	10,860.00	11,524.16	-726.02	167.65	19,965.05	10,116.45	11,532.36	596.09	162.24	1,518.35	1,220.05	60.55	5.090
20,962.86	10,860.00	11,587.02	-725.95	168.52	20,018.14	10,116.71	11,585.45	596.05	162.98	1,518.10	1,218.34	60.55	5.064
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,048.11	10,116.56	11,615.42	596.08	163.41	1,518.19	1,217.61	60.55	5.051
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,157.57	10,115.60	11,724.87	595.98	165.42	1,518.44	1,214.83	60.51	5.001
21,104.71	10,860.00	11,728.87	-725.78	170.50	20,160.00	10,115.58	11,727.30	595.97	165.53	1,518.44	1,214.68	60.51	4.999
21,200.00	10,860.00	11,824.16	-725.67	171.82	20,160.00	10,115.58	11,727.30	595.97	165.53	1,521.42	1,217.38	60.51	5.004
21,300.00	10,860.00	11,924.16	-725.55	173.22	20,160.00	10,115.58	11,727.30	595.97	165.53	1,530.94	1,227.76	60.51	5.050
21,331.33	10,860.00	11,955.49	-725.51	173.65	20,160.00	10,115.58	11,727.30	595.97	165.53	1,535.25	1,232.58	60.51	5.072



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
100.00	100.00	0.00	0.00	0.52	103.82	103.82	199.22	-120.49	0.52	232.83	230.50	-31.16	100.125
163.32	163.32	0.00	0.00	0.61	166.34	166.32	198.45	-121.48	0.61	232.68	230.17	-31.47	92.739
200.00	200.00	0.00	0.00	0.70	202.36	202.33	198.13	-122.10	0.69	232.73	230.06	-31.64	87.002
300.00	300.00	0.00	0.00	0.98	302.56	302.51	197.39	-123.81	0.86	233.01	229.89	-32.10	74.533
400.00	400.00	0.00	0.00	1.31	403.09	403.03	196.57	-125.36	1.03	233.14	229.90	-32.53	71.905
500.00	500.00	0.00	0.00	1.64	508.49	508.41	194.56	-126.41	1.21	232.09	228.32	-33.01	61.575
600.00	600.00	0.00	0.00	1.99	609.38	609.25	191.39	-126.54	1.47	229.53	225.17	-33.47	52.597
700.00	700.00	0.00	0.00	2.34	709.07	708.89	188.20	-126.53	1.75	226.85	221.86	-33.91	45.382
800.00	800.00	0.00	0.00	2.69	808.26	808.03	185.24	-126.65	2.06	224.45	218.80	-34.36	39.674
900.00	900.00	0.00	0.00	3.04	907.70	907.44	182.58	-126.73	2.38	222.29	215.96	-34.77	35.103
1,000.00	1,000.00	0.00	0.00	3.39	1,006.46	1,006.17	180.33	-126.99	2.71	220.58	213.57	-35.15	31.443
1,100.00	1,100.00	0.00	0.00	3.75	1,105.38	1,105.06	178.39	-127.72	3.05	219.41	211.70	-35.60	28.473
1,200.00	1,200.00	0.00	0.00	4.10	1,204.59	1,204.25	176.55	-129.01	3.39	218.67	210.27	-36.16	26.028
1,300.00	1,299.99	0.78	-0.39	4.46	1,301.53	1,301.17	175.30	-130.59	3.72	217.75	208.66	-9.98	23.972
1,400.00	1,399.96	3.12	-1.57	4.81	1,396.29	1,395.90	177.28	-131.07	4.02	217.15	207.41	-9.89	22.293
1,420.39	1,420.34	3.78	-1.91	4.89	1,415.52	1,415.11	178.22	-130.95	4.09	217.13	207.26	-9.75	21.992
1,500.00	1,499.86	7.01	-3.53	5.17	1,491.81	1,491.21	183.31	-129.90	4.33	217.22	206.82	-8.88	20.898
1,600.00	1,599.73	11.69	-5.89	5.53	1,588.30	1,587.21	192.59	-127.05	4.64	218.28	207.23	-7.06	19.747
1,700.00	1,699.59	16.36	-8.24	5.88	1,691.12	1,689.09	204.83	-120.63	4.99	219.85	208.09	-4.06	18.702
1,800.00	1,799.45	21.03	-10.60	6.24	1,794.46	1,791.33	216.24	-110.88	5.34	219.74	207.27	-0.45	17.623
1,803.59	1,803.04	21.20	-10.68	6.25	1,797.71	1,794.54	216.60	-110.54	5.35	219.74	207.25	-0.33	17.590
1,900.00	1,899.31	25.71	-12.95	6.60	1,884.80	1,880.41	228.03	-101.67	5.66	222.00	208.89	3.05	16.934
2,000.00	1,999.18	30.38	-15.31	6.96	1,976.18	1,969.89	243.70	-91.80	6.00	228.91	215.16	6.97	16.653
2,100.00	2,099.04	35.06	-17.66	7.32	2,071.49	2,062.61	262.60	-80.39	6.36	239.30	224.89	11.25	16.606
2,200.00	2,198.90	39.73	-20.02	7.68	2,172.70	2,161.17	282.34	-68.64	6.76	250.76	235.62	15.30	16.562
2,300.00	2,298.77	44.40	-22.37	8.04	2,274.35	2,260.52	300.43	-57.06	7.16	261.64	245.76	18.89	16.479
2,400.00	2,398.63	49.08	-24.73	8.40	2,371.22	2,355.06	317.34	-44.44	7.55	272.99	256.42	22.37	16.475
2,500.00	2,498.49	53.75	-27.08	8.76	2,467.94	2,449.07	335.03	-30.08	7.96	286.13	268.87	25.92	16.577
2,600.00	2,598.36	58.43	-29.44	9.12	2,572.19	2,550.55	353.22	-14.67	8.39	299.50	281.47	29.39	16.611
2,700.00	2,698.22	63.10	-31.79	9.48	2,676.99	2,653.06	368.89	0.47	8.83	311.24	292.44	32.55	16.555



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
2,800.00	2,798.08	67.77	-34.15	9.85	2,766.58	2,740.69	382.65	12.97	9.21	324.06	304.63	34.96	16.679
2,900.00	2,897.94	72.45	-36.50	10.21	2,864.01	2,835.89	398.96	25.77	9.62	338.70	318.57	37.22	16.823
3,000.00	2,997.81	77.12	-38.86	10.57	2,952.12	2,921.86	415.46	35.73	10.00	355.35	334.61	38.78	17.136
3,100.00	3,097.67	81.79	-41.21	10.93	3,049.61	3,016.74	436.01	44.65	10.26	374.01	353.06	39.96	17.853
3,200.00	3,197.53	86.47	-43.56	11.29	3,147.78	3,112.40	456.56	52.64	10.37	392.42	371.10	40.90	18.409
3,300.00	3,297.40	91.14	-45.92	11.66	3,241.32	3,203.39	476.82	60.38	10.49	411.65	389.99	41.70	19.003
3,400.00	3,397.26	95.82	-48.27	12.02	3,337.12	3,296.40	498.22	68.80	10.63	431.77	409.73	42.50	19.589
3,500.00	3,497.12	100.49	-50.63	12.38	3,432.66	3,389.08	519.70	77.54	10.80	452.21	429.78	43.26	20.157
3,600.00	3,596.98	105.16	-52.98	12.74	3,526.16	3,479.57	541.47	86.44	10.98	473.60	450.78	43.95	20.750
3,700.00	3,696.85	109.84	-55.34	13.11	3,628.16	3,578.22	565.40	96.36	11.20	495.31	472.01	44.66	21.255
3,800.00	3,796.71	114.51	-57.69	13.47	3,730.04	3,677.13	587.85	106.09	11.43	515.65	491.86	45.34	21.671
3,900.00	3,896.57	119.19	-60.05	13.83	3,832.64	3,776.85	609.85	115.95	11.67	535.52	511.22	46.00	22.036
4,000.00	3,996.44	123.86	-62.40	14.20	3,950.80	3,892.32	632.31	127.03	11.95	553.07	528.14	46.78	22.185
4,100.00	4,096.30	128.53	-64.76	14.56	4,053.33	3,993.01	649.73	135.39	12.19	568.33	542.88	47.37	22.329
4,200.00	4,196.16	133.21	-67.11	14.92	4,144.60	4,082.56	665.52	143.20	12.41	584.11	558.19	47.88	22.541
4,300.00	4,296.03	137.88	-69.47	15.29	4,233.56	4,169.55	681.98	151.88	12.65	601.50	575.13	48.42	22.813
4,400.00	4,395.89	142.56	-71.82	15.65	4,326.41	4,260.09	700.15	161.57	12.92	620.20	593.34	48.97	23.092
4,500.00	4,495.75	147.23	-74.18	16.01	4,428.16	4,359.26	720.34	172.09	13.22	639.19	611.76	49.52	23.304
4,600.00	4,595.61	151.90	-76.53	16.38	4,532.15	4,460.87	740.32	181.61	13.53	657.15	629.13	49.97	23.451
4,700.00	4,695.48	156.58	-78.89	16.74	4,627.30	4,553.88	758.53	190.00	13.82	674.95	646.39	50.34	23.631
4,800.00	4,795.34	161.25	-81.24	17.10	4,718.72	4,643.08	776.42	198.99	14.12	693.59	664.51	50.74	23.849
4,900.00	4,895.20	165.93	-83.60	17.47	4,814.28	4,736.16	795.50	209.26	14.43	713.01	683.37	51.18	24.053
5,000.00	4,995.07	170.60	-85.95	17.83	4,901.69	4,821.14	813.49	218.92	14.74	733.18	703.03	51.56	24.320
5,100.00	5,094.93	175.27	-88.31	18.19	4,990.26	4,906.95	832.87	229.21	15.06	754.80	724.14	51.93	24.612
5,200.00	5,194.79	179.95	-90.66	18.56	5,085.55	4,999.08	854.49	240.35	15.41	777.21	745.96	52.29	24.867
5,300.00	5,294.66	184.62	-93.02	18.92	5,199.54	5,109.58	879.61	252.67	15.84	798.68	766.68	52.65	24.957
5,400.00	5,394.52	189.29	-95.37	19.28	5,298.63	5,205.88	900.67	262.73	16.21	819.16	786.53	52.92	25.104
5,500.00	5,494.38	193.97	-97.73	19.65	5,408.19	5,312.54	923.30	273.48	16.61	838.98	805.63	53.21	25.161
5,600.00	5,594.02	201.36	-101.45	20.01	5,529.47	5,431.17	946.11	284.20	17.05	854.92	820.78	53.26	25.045



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,700.00	5,692.97	214.18	-107.91	20.39	5,634.00	5,533.83	963.57	293.24	17.41	865.33	830.51	53.77	24.854
5,800.00	5,790.86	232.36	-117.06	20.78	5,723.00	5,621.08	979.04	301.51	17.73	873.26	837.85	54.53	24.658
5,900.00	5,887.32	255.85	-128.90	21.18	5,799.85	5,696.13	993.49	309.58	18.02	879.83	843.88	55.45	24.476
6,000.00	5,982.38	283.58	-142.87	21.60	5,920.80	5,814.45	1,015.29	321.93	18.48	883.54	846.73	57.42	23.998
6,100.00	6,077.29	311.70	-157.03	22.02	6,011.19	5,903.08	1,030.73	330.67	18.81	886.71	849.21	58.94	23.651
6,200.00	6,172.20	339.83	-171.20	22.45	6,094.64	5,984.72	1,045.70	339.31	19.13	891.72	853.59	60.35	23.386
6,300.00	6,267.12	367.95	-185.36	22.88	6,175.69	6,063.72	1,061.44	348.32	19.45	899.08	860.32	61.68	23.194
6,400.00	6,362.03	396.07	-199.53	23.31	6,276.68	6,161.96	1,081.81	359.74	19.86	907.88	868.31	63.30	22.942
6,500.00	6,456.94	424.19	-213.69	23.76	6,391.18	6,273.84	1,103.31	371.26	20.31	915.43	874.93	65.09	22.603
6,600.00	6,551.86	452.32	-227.86	24.20	6,474.94	6,355.65	1,119.42	379.19	20.64	923.70	882.49	66.34	22.417
6,700.00	6,646.77	480.44	-242.02	24.65	6,563.06	6,441.32	1,137.79	388.51	21.00	934.42	892.46	67.62	22.271
6,800.00	6,741.68	508.56	-256.19	25.11	6,677.15	6,552.63	1,159.98	400.20	21.47	944.50	901.57	69.29	22.002
6,900.00	6,836.59	536.68	-270.35	25.57	6,783.12	6,656.27	1,179.55	410.39	21.89	954.09	910.25	70.82	21.762
7,000.00	6,931.51	564.81	-284.52	26.03	6,905.04	6,775.98	1,200.14	420.86	22.36	962.47	917.60	72.58	21.452
7,100.00	7,026.42	592.93	-298.68	26.50	7,015.03	6,884.38	1,216.36	429.89	22.76	969.81	924.00	74.22	21.171
7,200.00	7,121.33	621.05	-312.85	26.97	7,135.33	7,003.35	1,232.40	437.73	23.19	975.58	928.78	75.99	20.844
7,300.00	7,216.25	649.17	-327.01	27.44	7,243.72	7,110.78	1,245.58	443.38	23.56	980.30	932.56	77.57	20.537
7,400.00	7,311.16	677.30	-341.18	27.92	7,315.13	7,181.46	1,255.09	447.12	23.81	986.34	937.85	78.56	20.342
7,500.00	7,406.07	705.42	-355.34	28.40	7,382.40	7,247.70	1,265.99	451.48	24.07	995.62	946.42	79.43	20.237
7,600.00	7,500.99	733.54	-369.51	28.88	7,449.36	7,313.19	1,278.74	457.02	24.34	1,008.36	958.48	80.23	20.214
7,700.00	7,595.90	761.66	-383.68	29.36	7,520.37	7,382.13	1,294.34	463.85	24.65	1,024.22	973.64	81.00	20.249
7,800.00	7,690.81	789.79	-397.84	29.85	7,665.37	7,523.21	1,324.99	476.75	25.27	1,039.45	987.55	82.53	20.029
7,900.00	7,785.72	817.91	-412.01	30.34	7,811.33	7,667.15	1,347.67	484.34	25.82	1,048.27	995.14	84.25	19.733
8,000.00	7,880.64	846.03	-426.17	30.83	7,874.00	7,729.04	1,356.76	488.20	26.05	1,058.69	1,004.85	85.02	19.666
8,100.00	7,975.55	874.15	-440.34	31.33	7,963.00	7,816.48	1,371.69	495.37	26.40	1,072.08	1,017.37	86.04	19.596
8,200.00	8,070.46	902.28	-454.50	31.82	8,024.00	7,876.11	1,383.03	501.38	26.66	1,088.02	1,032.65	86.71	19.651
8,300.00	8,165.38	930.40	-468.67	32.32	8,112.98	7,962.89	1,399.94	511.43	27.04	1,106.02	1,049.78	87.67	19.666
8,400.00	8,260.29	958.52	-482.83	32.82	8,219.04	8,066.32	1,420.37	522.91	27.49	1,124.11	1,066.85	88.75	19.631
8,500.00	8,355.20	986.64	-497.00	33.32	8,343.49	8,188.33	1,441.44	535.49	28.00	1,140.93	1,082.52	90.09	19.531
8,600.00	8,450.12	1,014.77	-511.16	33.82	8,476.36	8,319.25	1,461.51	545.99	28.52	1,155.45	1,095.86	91.53	19.390

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,700.00	8,545.03	1,042.89	-525.33	34.33	8,615.21	8,456.78	1,479.28	552.55	29.02	1,166.45	1,105.70	93.04	19.204
8,800.00	8,639.94	1,071.01	-539.49	34.83	8,702.94	8,543.84	1,489.47	556.24	29.32	1,177.10	1,115.48	94.02	19.103
8,900.00	8,734.85	1,099.13	-553.66	35.34	8,797.92	8,638.11	1,500.12	560.80	29.66	1,188.59	1,126.06	95.08	19.009
9,000.00	8,829.77	1,127.26	-567.82	35.85	8,898.59	8,738.12	1,510.32	566.00	30.00	1,200.52	1,137.06	96.24	18.917
9,100.00	8,924.68	1,155.38	-581.99	36.36	9,010.09	8,849.07	1,520.09	571.27	30.37	1,212.11	1,147.67	97.56	18.811
9,200.00	9,019.59	1,183.50	-596.16	36.87	9,145.77	8,984.40	1,528.46	575.84	30.79	1,222.30	1,156.82	99.26	18.667
9,300.00	9,114.51	1,211.62	-610.32	37.39	9,299.75	9,138.36	1,529.38	576.31	31.17	1,228.62	1,162.16	101.46	18.488
9,400.00	9,209.42	1,239.75	-624.49	37.90	9,407.08	9,245.66	1,528.60	574.00	31.41	1,233.26	1,165.95	103.01	18.324
9,500.00	9,304.33	1,267.87	-638.65	38.42	9,510.85	9,349.38	1,527.18	571.11	31.64	1,237.95	1,169.82	104.52	18.170
9,600.00	9,399.24	1,295.99	-652.82	38.93	9,587.42	9,425.90	1,525.66	568.92	31.82	1,243.36	1,174.42	105.64	18.035
9,700.00	9,494.16	1,324.11	-666.98	39.45	9,649.00	9,487.44	1,527.54	568.32	31.98	1,251.97	1,182.28	106.41	17.964
9,800.00	9,589.07	1,352.24	-681.15	39.97	9,707.22	9,545.27	1,534.00	568.71	32.19	1,263.87	1,193.44	106.94	17.945
9,900.00	9,683.98	1,380.36	-695.31	40.49	9,845.21	9,676.55	1,574.80	567.17	32.80	1,277.41	1,205.84	106.98	17.847
10,000.00	9,779.27	1,407.44	-708.95	41.00	9,954.08	9,769.76	1,630.08	558.94	33.43	1,287.35	1,214.65	106.00	17.707
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,008.00	9,810.92	1,664.40	553.26	33.77	1,296.65	1,223.19	105.28	17.651
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,063.19	9,849.99	1,703.01	548.02	34.15	1,308.37	1,234.26	104.32	17.656
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,098.00	9,873.50	1,728.57	545.78	34.39	1,324.12	1,249.84	103.88	17.828
10,400.00	10,173.21	1,464.04	-737.46	42.65	10,128.72	9,893.61	1,751.75	544.53	34.62	1,343.93	1,269.62	103.63	18.085
10,500.00	10,273.19	1,465.06	-737.98	42.96	10,156.76	9,911.55	1,773.31	544.04	34.84	1,368.05	1,293.93	76.48	18.459
10,600.00	10,372.87	1,471.53	-737.97	43.31	10,188.00	9,931.03	1,797.73	544.22	35.08	1,395.82	1,321.95	73.05	18.897
10,700.00	10,469.94	1,495.04	-737.94	43.75	10,226.13	9,954.04	1,828.12	545.14	35.39	1,423.55	1,349.81	69.38	19.305
10,800.00	10,561.44	1,535.04	-737.89	44.27	10,278.00	9,983.89	1,870.48	547.14	35.82	1,449.43	1,375.55	65.93	19.617
10,900.00	10,644.62	1,590.33	-737.83	44.87	10,311.03	10,001.39	1,898.45	548.64	36.11	1,472.25	1,398.43	63.36	19.942
11,000.00	10,716.92	1,659.23	-737.75	45.53	10,367.00	10,026.45	1,948.40	550.96	36.60	1,491.74	1,417.53	61.06	20.102
11,100.00	10,776.17	1,739.63	-737.65	46.24	10,409.01	10,042.34	1,987.27	552.35	36.98	1,506.11	1,431.60	59.53	20.214
11,200.00	10,820.55	1,829.10	-737.54	46.99	10,457.00	10,058.77	2,032.34	553.37	37.42	1,514.15	1,439.08	58.63	20.171
11,300.00	10,848.72	1,924.92	-737.43	47.77	10,512.02	10,074.77	2,084.95	554.76	37.94	1,516.25	1,440.31	58.44	19.967
11,400.00	10,859.83	2,024.17	-737.31	48.56	10,546.00	10,082.85	2,117.92	556.19	38.26	1,513.37	1,436.66	58.84	19.727
11,500.00	10,860.00	2,124.17	-737.19	49.35	10,584.61	10,089.57	2,155.88	558.16	38.64	1,509.02	1,431.32	59.16	19.422



Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
11,550.15	10,860.00	2,174.32	-737.13	49.76	10,601.65	10,091.47	2,172.78	559.10	38.80	1,508.47	1,430.33	59.24	19.304
11,600.00	10,860.00	2,224.17	-737.07	50.17	10,636.00	10,093.29	2,207.02	561.10	39.13	1,509.30	1,430.50	59.34	19.155
11,700.00	10,860.00	2,324.17	-736.95	51.03	10,668.15	10,093.39	2,239.11	563.04	39.45	1,513.11	1,433.52	59.38	19.011
11,800.00	10,860.00	2,424.17	-736.84	51.90	10,735.87	10,091.42	2,306.67	567.23	40.12	1,519.78	1,438.96	59.39	18.806
11,900.00	10,860.00	2,524.17	-736.72	52.80	10,822.39	10,090.72	2,392.83	574.91	41.00	1,527.75	1,445.37	59.51	18.545
12,000.00	10,860.00	2,624.17	-736.60	53.73	10,953.11	10,091.86	2,522.84	588.31	42.36	1,536.32	1,451.64	59.80	18.142
12,100.00	10,860.00	2,724.17	-736.48	54.67	11,145.91	10,092.73	2,715.51	594.05	44.41	1,537.43	1,449.66	59.93	17.516
12,200.00	10,860.00	2,824.17	-736.36	55.64	11,238.16	10,092.76	2,807.75	595.01	45.41	1,538.21	1,448.69	59.95	17.184
12,300.00	10,860.00	2,924.17	-736.24	56.63	11,341.87	10,093.18	2,911.45	596.52	46.56	1,539.16	1,447.70	59.99	16.828
12,400.00	10,860.00	3,024.17	-736.12	57.64	11,440.91	10,093.36	3,010.49	597.47	47.67	1,539.81	1,446.43	60.01	16.491
12,500.00	10,860.00	3,124.17	-736.00	58.66	11,545.49	10,092.82	3,115.06	598.15	48.86	1,540.53	1,445.16	60.00	16.153
12,600.00	10,860.00	3,224.17	-735.89	59.70	11,644.00	10,092.34	3,213.57	598.63	49.99	1,541.09	1,443.77	59.99	15.836
12,700.00	10,860.00	3,324.17	-735.77	60.76	11,747.70	10,092.42	3,317.27	599.46	51.20	1,541.64	1,442.26	60.01	15.513
12,794.36	10,860.00	3,418.53	-735.65	61.77	11,847.39	10,092.62	3,416.95	599.70	52.38	1,541.64	1,440.27	60.02	15.208
12,800.00	10,860.00	3,424.17	-735.65	61.83	11,852.25	10,092.61	3,421.82	599.70	52.44	1,541.64	1,440.16	60.02	15.192
12,900.00	10,860.00	3,524.17	-735.53	62.92	12,025.67	10,091.05	3,595.13	595.87	54.51	1,540.64	1,436.23	59.89	14.756
13,000.00	10,860.00	3,624.17	-735.41	64.02	12,112.45	10,090.69	3,681.79	591.20	55.55	1,536.12	1,429.87	59.79	14.457
13,100.00	10,860.00	3,724.17	-735.29	65.13	12,180.00	10,090.28	3,749.30	588.94	56.37	1,533.40	1,425.52	59.73	14.214
13,200.00	10,860.00	3,824.17	-735.17	66.26	12,253.48	10,089.51	3,822.77	587.94	57.27	1,532.62	1,423.02	59.69	13.985
13,200.73	10,860.00	3,824.90	-735.17	66.26	12,254.04	10,089.51	3,823.33	587.94	57.27	1,532.62	1,423.01	59.69	13.983
13,300.00	10,860.00	3,924.17	-735.05	67.39	12,357.50	10,088.86	3,926.78	587.74	58.55	1,532.67	1,420.90	59.66	13.713
13,341.35	10,860.00	3,965.52	-735.00	67.87	12,394.67	10,088.93	3,963.95	587.76	59.01	1,532.61	1,420.01	59.66	13.611
13,400.00	10,860.00	4,024.17	-734.93	68.54	12,449.00	10,089.04	4,018.28	588.03	59.69	1,532.74	1,418.93	59.67	13.468
13,500.00	10,860.00	4,124.17	-734.82	69.70	12,538.00	10,088.83	4,107.27	588.92	60.80	1,533.59	1,417.76	59.68	13.241
13,600.00	10,860.00	4,224.17	-734.70	70.87	12,649.85	10,088.61	4,219.12	589.55	62.21	1,534.06	1,415.86	59.68	12.979
13,700.00	10,860.00	4,324.17	-734.58	72.05	12,733.01	10,088.17	4,302.28	590.22	63.27	1,534.90	1,414.76	59.68	12.776
13,800.00	10,860.00	4,424.17	-734.46	73.23	12,833.74	10,087.31	4,403.00	591.46	64.55	1,536.29	1,413.93	59.67	12.555
13,900.00	10,860.00	4,524.17	-734.34	74.43	12,939.09	10,086.48	4,508.33	592.28	65.90	1,537.26	1,412.59	59.66	12.331
14,000.00	10,860.00	4,624.17	-734.22	75.63	13,032.09	10,085.68	4,601.33	593.12	67.09	1,538.37	1,411.57	59.65	12.133
14,100.00	10,860.00	4,724.17	-734.10	76.85	13,141.28	10,084.87	4,710.51	594.48	68.50	1,539.74	1,410.55	59.64	11.918

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
14,200.00	10,860.00	4,824.17	-733.98	78.07	13,248.72	10,085.49	4,817.94	595.52	69.90	1,540.18	1,408.55	59.68	11.701
14,300.00	10,860.00	4,924.17	-733.87	79.29	13,343.00	10,086.23	4,912.22	596.48	71.13	1,540.56	1,406.70	59.72	11.509
14,400.00	10,860.00	5,024.17	-733.75	80.53	13,434.99	10,086.40	5,004.19	597.60	72.33	1,541.42	1,405.37	59.74	11.329
14,500.00	10,860.00	5,124.17	-733.63	81.77	13,543.19	10,086.45	5,112.39	598.89	73.75	1,542.33	1,403.81	59.77	11.135
14,600.00	10,860.00	5,224.17	-733.51	83.01	13,652.44	10,087.02	5,221.63	599.92	75.19	1,542.79	1,401.77	59.80	10.941
14,700.00	10,860.00	5,324.17	-733.39	84.27	13,770.82	10,086.96	5,340.01	599.30	76.75	1,542.26	1,398.65	59.79	10.740
14,800.00	10,860.00	5,424.17	-733.27	85.52	13,858.58	10,087.56	5,427.76	598.81	77.91	1,541.35	1,395.58	59.80	10.574
14,901.95	10,860.00	5,526.12	-733.15	86.81	13,956.17	10,087.74	5,525.36	598.96	79.21	1,541.28	1,393.18	59.80	10.407
14,900.00	10,860.00	5,524.17	-733.15	86.79	13,954.21	10,087.74	5,523.39	598.96	79.18	1,541.28	1,393.23	59.80	10.410
15,000.00	10,860.00	5,624.17	-733.03	88.05	14,062.20	10,087.91	5,631.38	598.84	80.62	1,541.01	1,390.47	59.80	10.237
15,100.00	10,860.00	5,724.17	-732.91	89.33	14,159.42	10,088.63	5,728.60	598.84	81.91	1,540.53	1,387.65	59.82	10.077
15,200.00	10,860.00	5,824.17	-732.80	90.61	14,257.06	10,089.16	5,826.24	598.96	83.22	1,540.26	1,385.02	59.84	9.922
15,300.00	10,860.00	5,924.17	-732.68	91.89	14,359.51	10,089.74	5,928.69	599.00	84.59	1,539.91	1,382.24	59.86	9.767
15,400.00	10,860.00	6,024.17	-732.56	93.18	14,456.78	10,090.53	6,025.96	599.18	85.90	1,539.56	1,379.51	59.88	9.619
15,454.59	10,860.00	6,078.75	-732.49	93.88	14,508.00	10,090.64	6,077.18	599.24	86.59	1,539.50	1,378.19	59.89	9.544
15,500.00	10,860.00	6,124.17	-732.44	94.47	14,552.57	10,090.54	6,121.74	599.25	87.19	1,539.51	1,377.14	59.88	9.481
15,600.00	10,860.00	6,224.17	-732.32	95.76	14,678.11	10,090.67	6,247.28	598.83	88.89	1,539.15	1,374.00	59.88	9.320
15,700.00	10,860.00	6,324.17	-732.20	97.06	14,772.06	10,092.11	6,341.22	598.10	90.16	1,537.62	1,370.12	59.91	9.180
15,800.00	10,860.00	6,424.17	-732.08	98.37	14,867.00	10,092.70	6,436.15	597.47	91.44	1,536.62	1,366.77	59.91	9.047
15,900.00	10,860.00	6,524.17	-731.96	99.67	14,973.31	10,094.11	6,542.45	596.74	92.88	1,535.25	1,362.85	59.94	8.905
15,958.06	10,860.00	6,582.23	-731.90	100.43	15,011.51	10,094.50	6,580.65	596.73	93.40	1,534.87	1,361.35	59.95	8.846
16,000.00	10,860.00	6,624.17	-731.85	100.98	15,046.00	10,094.40	6,615.14	596.94	93.87	1,535.09	1,360.68	59.95	8.801
16,100.00	10,860.00	6,724.17	-731.73	102.30	15,122.69	10,093.93	6,691.82	598.17	94.92	1,536.60	1,360.14	59.96	8.708
16,200.00	10,860.00	6,824.17	-731.61	103.61	15,222.63	10,093.79	6,791.72	600.60	96.28	1,538.67	1,359.74	60.00	8.599
16,300.00	10,860.00	6,924.17	-731.49	104.93	15,333.07	10,093.68	6,902.15	602.62	97.78	1,540.19	1,358.60	60.03	8.482
16,400.00	10,860.00	7,024.17	-731.37	106.25	15,440.65	10,093.20	7,009.70	604.44	99.25	1,541.82	1,357.64	60.05	8.371
16,500.00	10,860.00	7,124.17	-731.25	107.58	15,554.03	10,095.20	7,123.06	605.40	100.81	1,541.48	1,354.53	60.13	8.245
16,502.70	10,860.00	7,126.86	-731.25	107.61	15,556.24	10,095.24	7,125.28	605.42	100.84	1,541.48	1,354.47	60.13	8.243
16,600.00	10,860.00	7,224.17	-731.13	108.91	15,639.17	10,096.18	7,208.19	606.55	101.97	1,541.96	1,352.74	60.18	8.149

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
16,700.00	10,860.00	7,324.17	-731.01	110.24	15,783.63	10,095.96	7,352.65	606.66	103.95	1,542.25	1,349.89	60.17	8.018
16,800.00	10,860.00	7,424.17	-730.89	111.57	15,985.88	10,093.57	7,554.10	590.41	106.73	1,534.52	1,339.16	59.78	7.855
16,900.00	10,860.00	7,524.17	-730.78	112.91	16,032.00	10,093.58	7,600.06	586.48	107.36	1,527.39	1,330.15	59.71	7.744
17,000.00	10,860.00	7,624.17	-730.66	114.24	16,121.00	10,093.58	7,688.93	581.89	108.58	1,522.82	1,323.36	59.62	7.635
17,100.00	10,860.00	7,724.17	-730.54	115.58	16,180.92	10,093.43	7,748.83	580.32	109.41	1,520.27	1,318.91	59.58	7.550
17,191.45	10,860.00	7,815.62	-730.43	116.81	16,246.15	10,093.44	7,814.06	579.65	110.31	1,519.39	1,316.19	59.57	7.478
17,200.00	10,860.00	7,824.17	-730.42	116.93	16,251.78	10,093.43	7,819.69	579.65	110.39	1,519.39	1,316.04	59.57	7.472
17,300.00	10,860.00	7,924.17	-730.30	118.27	16,330.12	10,093.00	7,898.02	580.67	111.47	1,520.60	1,315.14	59.57	7.401
17,400.00	10,860.00	8,024.17	-730.18	119.62	16,433.21	10,092.49	8,001.10	582.11	112.89	1,521.95	1,313.95	59.58	7.317
17,500.00	10,860.00	8,124.17	-730.06	120.97	16,541.48	10,091.76	8,109.35	583.54	114.39	1,523.35	1,312.74	59.58	7.233
17,600.00	10,860.00	8,224.17	-729.94	122.32	16,637.57	10,092.01	8,205.44	584.69	115.72	1,524.15	1,311.08	59.61	7.153
17,700.00	10,860.00	8,324.17	-729.83	123.67	16,734.14	10,092.36	8,301.99	586.46	117.06	1,525.45	1,309.90	59.65	7.077
17,800.00	10,860.00	8,424.17	-729.71	125.02	16,850.27	10,093.80	8,418.09	588.42	118.67	1,526.16	1,307.72	59.73	6.987
17,900.00	10,860.00	8,524.17	-729.59	126.38	16,934.23	10,094.62	8,502.03	589.87	119.83	1,527.05	1,306.32	59.79	6.918
18,000.00	10,860.00	8,624.17	-729.47	127.74	17,047.22	10,095.18	8,615.01	591.53	121.40	1,527.96	1,304.44	59.83	6.836
18,100.00	10,860.00	8,724.17	-729.35	129.10	17,141.80	10,096.48	8,709.57	592.80	122.71	1,528.35	1,302.32	59.90	6.762
18,200.00	10,860.00	8,824.17	-729.23	130.46	17,241.32	10,096.50	8,809.07	594.63	124.10	1,529.82	1,301.26	59.93	6.693
18,300.00	10,860.00	8,924.17	-729.11	131.82	17,372.78	10,098.35	8,940.52	594.79	125.92	1,528.95	1,297.28	59.99	6.600
18,400.00	10,860.00	9,024.17	-728.99	133.18	17,472.76	10,100.10	9,040.49	594.57	127.32	1,527.77	1,293.52	60.04	6.522
18,500.00	10,860.00	9,124.17	-728.87	134.55	17,572.74	10,101.84	9,140.45	594.34	128.71	1,526.60	1,289.76	60.09	6.446
18,600.00	10,860.00	9,224.17	-728.76	135.91	17,672.73	10,103.59	9,240.42	594.11	130.10	1,525.43	1,286.00	60.14	6.371
18,700.00	10,860.00	9,324.17	-728.64	137.28	17,772.71	10,105.33	9,340.39	593.89	131.50	1,524.27	1,282.23	60.19	6.298
18,800.00	10,860.00	9,424.17	-728.52	138.65	17,872.70	10,107.08	9,440.36	593.66	132.89	1,523.10	1,278.46	60.24	6.226
18,900.00	10,860.00	9,524.17	-728.40	140.02	17,972.68	10,108.82	9,540.33	593.43	134.29	1,521.93	1,274.69	60.29	6.156
19,000.00	10,860.00	9,624.17	-728.28	141.39	18,057.30	10,109.86	9,624.94	593.31	135.47	1,521.12	1,271.54	60.32	6.095
19,100.00	10,860.00	9,724.16	-728.16	142.77	18,156.02	10,109.87	9,723.66	593.35	136.85	1,521.05	1,268.97	60.32	6.034
19,200.00	10,860.00	9,824.16	-728.04	144.14	18,256.02	10,109.87	9,823.66	593.39	138.25	1,520.98	1,266.38	60.32	5.974
19,300.00	10,860.00	9,924.16	-727.92	145.52	18,356.02	10,109.88	9,923.66	593.43	139.65	1,520.91	1,263.79	60.32	5.915
19,400.00	10,860.00	10,024.16	-727.81	146.89	18,456.02	10,109.89	10,023.66	593.47	141.05	1,520.84	1,261.19	60.32	5.857
19,500.00	10,860.00	10,124.16	-727.69	148.27	18,556.02	10,109.89	10,123.66	593.52	142.45	1,520.77	1,258.59	60.32	5.801

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5

Survey Program: 117-3_Gyro-NS_OWSG, 387-3_MWD+HRGM+AX, 3036-3_MWD+HRGM+AX, 20160-3_Blind, 17194-3_MWD+HRGM+AX

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
19,600.00	10,860.00	10,224.16	-727.57	149.65	18,656.02	10,109.90	10,223.66	593.56	143.85	1,520.70	1,256.00	60.31	5.745
19,700.00	10,860.00	10,324.16	-727.45	151.03	18,756.02	10,109.91	10,323.66	593.60	145.25	1,520.63	1,253.40	60.31	5.690
19,800.00	10,860.00	10,424.16	-727.33	152.41	18,856.02	10,109.91	10,423.66	593.64	146.65	1,520.56	1,250.79	60.31	5.637
19,900.00	10,860.00	10,524.16	-727.21	153.79	18,956.02	10,109.92	10,523.66	593.68	148.06	1,520.49	1,248.19	60.31	5.584
20,000.00	10,860.00	10,624.16	-727.09	155.17	19,056.02	10,109.93	10,623.66	593.73	149.46	1,520.42	1,245.59	60.31	5.532
20,100.00	10,860.00	10,724.16	-726.97	156.55	19,156.02	10,109.93	10,723.66	593.77	150.86	1,520.35	1,242.98	60.31	5.481
20,200.00	10,860.00	10,824.16	-726.85	157.94	19,256.02	10,109.94	10,823.66	593.81	152.27	1,520.28	1,240.38	60.31	5.431
20,300.00	10,860.00	10,924.16	-726.74	159.32	19,356.02	10,109.95	10,923.66	593.85	153.67	1,520.21	1,237.77	60.31	5.382
20,400.00	10,860.00	11,024.16	-726.62	160.71	19,456.02	10,109.95	11,023.66	593.89	155.08	1,520.14	1,235.16	60.31	5.334
20,500.00	10,860.00	11,124.16	-726.50	162.10	19,556.02	10,109.96	11,123.66	593.94	156.48	1,520.07	1,232.55	60.30	5.287
20,600.00	10,860.00	11,224.16	-726.38	163.48	19,656.02	10,109.97	11,223.66	593.98	157.89	1,520.00	1,229.94	60.30	5.240
20,700.00	10,860.00	11,324.16	-726.26	164.87	19,756.02	10,109.97	11,323.66	594.02	159.29	1,519.93	1,227.33	60.30	5.195
20,800.00	10,860.00	11,424.16	-726.14	166.26	19,856.02	10,109.98	11,423.66	594.06	160.70	1,519.86	1,224.72	60.30	5.150
20,900.00	10,860.00	11,524.16	-726.02	167.65	19,956.02	10,109.99	11,523.66	594.10	162.11	1,519.79	1,222.10	60.30	5.105
21,000.00	10,860.00	11,624.16	-725.90	169.04	20,056.02	10,109.99	11,623.66	594.15	163.52	1,519.72	1,219.49	60.30	5.062
21,100.00	10,860.00	11,724.16	-725.78	170.43	20,156.02	10,110.00	11,723.66	594.19	164.92	1,519.65	1,216.87	60.30	5.019
21,105.42	10,860.00	11,729.58	-725.78	170.51	20,161.44	10,110.00	11,729.08	594.19	165.00	1,519.65	1,216.73	60.30	5.017
21,200.00	10,860.00	11,824.16	-725.67	171.82	20,162.65	10,110.00	11,730.29	594.19	165.02	1,522.45	1,219.16	60.30	5.020
21,300.00	10,860.00	11,924.16	-725.55	173.22	20,162.65	10,110.00	11,730.29	594.19	165.02	1,531.76	1,229.27	60.30	5.064
21,331.33	10,860.00	11,955.49	-725.51	173.65	20,162.65	10,110.00	11,730.29	594.19	165.02	1,536.01	1,234.01	60.30	5.086

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Cypress 28 Federal 003H (AC) - Wellbore #1 - Actual Drilled

Survey Program: 430-3_MWD, 10747-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
5,500.00	5,494.38	193.97	-97.73	19.65	10,747.00	7,788.93	775.10	-798.44	96.96	2,437.89	2,386.68	-27.01	47.605
5,600.00	5,594.02	201.36	-101.45	20.01	10,747.00	7,788.93	775.10	-798.44	96.96	2,342.82	2,290.98	-32.32	45.186
5,700.00	5,692.97	214.18	-107.91	20.39	10,747.00	7,788.93	775.10	-798.44	96.96	2,246.62	2,194.22	-39.56	42.876
5,800.00	5,790.86	232.36	-117.06	20.78	10,747.00	7,788.93	775.10	-798.44	96.96	2,149.50	2,096.66	-49.55	40.683
5,900.00	5,887.32	255.85	-128.90	21.18	10,747.00	7,788.93	775.10	-798.44	96.96	2,051.73	1,998.59	-63.06	38.607
6,000.00	5,982.38	283.58	-142.87	21.60	10,747.00	7,788.93	775.10	-798.44	96.96	1,953.68	1,900.34	-69.24	36.630
6,100.00	6,077.29	311.70	-157.03	22.02	10,747.00	7,788.93	775.10	-798.44	96.96	1,855.80	1,802.28	-69.24	34.675
6,200.00	6,172.20	339.83	-171.20	22.45	10,747.00	7,788.93	775.10	-798.44	96.96	1,758.15	1,704.44	-69.24	32.732
6,300.00	6,267.12	367.95	-185.36	22.88	10,747.00	7,788.93	775.10	-798.44	96.96	1,660.79	1,606.87	-69.24	30.803
6,400.00	6,362.03	396.07	-199.53	23.31	10,747.00	7,788.93	775.10	-798.44	96.96	1,563.75	1,509.62	-69.24	28.888
6,500.00	6,456.94	424.19	-213.69	23.76	10,747.00	7,788.93	775.10	-798.44	96.96	1,467.12	1,412.76	-69.24	26.989
6,600.00	6,551.86	452.32	-227.86	24.20	10,747.00	7,788.93	775.10	-798.44	96.96	1,370.97	1,316.36	-69.24	25.107
6,700.00	6,646.77	480.44	-242.02	24.65	10,747.00	7,788.93	775.10	-798.44	96.96	1,275.41	1,220.54	-69.24	23.245
6,800.00	6,741.68	508.56	-256.19	25.11	10,747.00	7,788.93	775.10	-798.44	96.96	1,180.59	1,125.43	-69.24	21.404
6,900.00	6,836.59	536.68	-270.35	25.57	10,747.00	7,788.93	775.10	-798.44	96.96	1,086.69	1,031.21	-69.24	19.588
7,000.00	6,931.51	564.81	-284.52	26.03	10,747.00	7,788.93	775.10	-798.44	96.96	993.99	938.15	-69.24	17.801
7,100.00	7,026.42	592.93	-298.68	26.50	10,747.00	7,788.93	775.10	-798.44	96.96	902.84	846.60	-69.24	16.051
7,200.00	7,121.33	621.05	-312.85	26.97	10,747.00	7,788.93	775.10	-798.44	96.96	813.78	757.06	-69.24	14.347
7,300.00	7,216.25	649.17	-327.01	27.44	10,747.00	7,788.93	775.10	-798.44	96.96	727.57	670.29	-69.24	12.702
7,400.00	7,311.16	677.30	-341.18	27.92	10,747.00	7,788.93	775.10	-798.44	96.96	645.35	587.40	-69.24	11.136
7,500.00	7,406.07	705.42	-355.34	28.40	10,747.00	7,788.93	775.10	-798.44	96.96	568.85	510.09	-69.24	9.681
7,600.00	7,500.99	733.54	-369.51	28.88	10,747.00	7,788.93	775.10	-798.44	96.96	500.70	440.94	-69.24	8.379
7,700.00	7,595.90	761.66	-383.68	29.36	10,747.00	7,788.93	775.10	-798.44	96.96	444.77	383.73	-69.24	7.287
7,800.00	7,690.81	789.79	-397.84	29.85	10,747.00	7,788.93	775.10	-798.44	96.96	406.12	343.43	-69.24	6.478
7,900.00	7,785.72	817.91	-412.01	30.34	10,747.00	7,788.93	775.10	-798.44	96.96	389.93	325.30	-69.24	6.033
7,914.43	7,799.42	821.97	-414.05	30.41	10,747.00	7,788.93	775.10	-798.44	96.96	389.67	324.76	-69.24	6.004
8,000.00	7,880.64	846.03	-426.17	30.83	10,747.00	7,788.93	775.10	-798.44	96.96	398.95	332.68	-69.24	6.020
8,100.00	7,975.55	874.15	-440.34	31.33	10,747.00	7,788.93	775.10	-798.44	96.96	431.60	364.60	-69.24	6.442
8,200.00	8,070.46	902.28	-454.50	31.82	10,747.00	7,788.93	775.10	-798.44	96.96	483.11	416.27	-69.24	7.229
8,300.00	8,165.38	930.40	-468.67	32.32	10,747.00	7,788.93	775.10	-798.44	96.96	548.19	482.00	-69.24	8.283

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Cypress 28 Federal 003H (AC) - Wellbore #1 - Actual Drilled

Survey Program: 430-3_MWD, 10747-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
8,400.00	8,260.29	958.52	-482.83	32.82	10,747.00	7,788.93	775.10	-798.44	96.96	622.59	557.19	-69.24	9.519
8,500.00	8,355.20	986.64	-497.00	33.32	10,747.00	7,788.93	775.10	-798.44	96.96	703.38	638.69	-69.24	10.874
8,600.00	8,450.12	1,014.77	-511.16	33.82	10,747.00	7,788.93	775.10	-798.44	96.96	788.58	724.49	-69.24	12.304
8,700.00	8,545.03	1,042.89	-525.33	34.33	10,747.00	7,788.93	775.10	-798.44	96.96	876.91	813.28	-69.24	13.781
8,800.00	8,639.94	1,071.01	-539.49	34.83	10,747.00	7,788.93	775.10	-798.44	96.96	967.51	904.22	-69.24	15.286
8,900.00	8,734.85	1,099.13	-553.66	35.34	10,747.00	7,788.93	775.10	-798.44	96.96	1,059.81	996.75	-69.24	16.806
9,000.00	8,829.77	1,127.26	-567.82	35.85	10,747.00	7,788.93	775.10	-798.44	96.96	1,153.39	1,090.48	-69.24	18.333
9,100.00	8,924.68	1,155.38	-581.99	36.36	10,747.00	7,788.93	775.10	-798.44	96.96	1,247.97	1,185.13	-69.24	19.860
9,200.00	9,019.59	1,183.50	-596.16	36.87	10,747.00	7,788.93	775.10	-798.44	96.96	1,343.33	1,280.52	-69.24	21.385
9,300.00	9,114.51	1,211.62	-610.32	37.39	10,747.00	7,788.93	775.10	-798.44	96.96	1,439.33	1,376.48	-69.24	22.903
9,400.00	9,209.42	1,239.75	-624.49	37.90	10,747.00	7,788.93	775.10	-798.44	96.96	1,535.83	1,472.92	-69.24	24.414
9,500.00	9,304.33	1,267.87	-638.65	38.42	10,747.00	7,788.93	775.10	-798.44	96.96	1,632.75	1,569.75	-69.24	25.915
9,600.00	9,399.24	1,295.99	-652.82	38.93	10,747.00	7,788.93	775.10	-798.44	96.96	1,730.03	1,666.90	-69.24	27.406
9,700.00	9,494.16	1,324.11	-666.98	39.45	10,747.00	7,788.93	775.10	-798.44	96.96	1,827.60	1,764.33	-69.24	28.886
9,800.00	9,589.07	1,352.24	-681.15	39.97	10,747.00	7,788.93	775.10	-798.44	96.96	1,925.42	1,861.98	-69.24	30.353
9,900.00	9,683.98	1,380.36	-695.31	40.49	10,747.00	7,788.93	775.10	-798.44	96.96	2,023.45	1,959.83	-69.24	31.807
10,000.00	9,779.27	1,407.44	-708.95	41.00	10,747.00	7,788.93	775.10	-798.44	96.96	2,121.73	2,057.95	-80.86	33.266
10,100.00	9,876.11	1,429.63	-720.13	41.48	10,747.00	7,788.93	775.10	-798.44	96.96	2,220.29	2,156.47	-101.19	34.788
10,200.00	9,974.30	1,446.50	-728.63	41.91	10,747.00	7,788.93	775.10	-798.44	96.96	2,318.79	2,255.04	-119.80	36.372
10,300.00	10,073.45	1,457.98	-734.41	42.30	10,747.00	7,788.93	775.10	-798.44	96.96	2,416.88	2,353.51	-133.89	38.137

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - IMC 21 Federal Com 002H (AC) - Wellbore #1 - Actual Drilled

Survey Program: 200-3_MWD, 10846-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
4,800.00	4,795.34	161.25	-81.24	17.10	10,846.00	6,554.50	1,810.83	271.91	89.26	2,469.25	2,419.04	40.97	49.180
4,900.00	4,895.20	165.93	-83.60	17.47	10,846.00	6,554.50	1,810.83	271.91	89.26	2,394.43	2,343.93	40.97	47.413
5,000.00	4,995.07	170.60	-85.95	17.83	10,846.00	6,554.50	1,810.83	271.91	89.26	2,321.51	2,270.71	40.97	45.700
5,100.00	5,094.93	175.27	-88.31	18.19	10,846.00	6,554.50	1,810.83	271.91	89.26	2,250.67	2,199.57	40.97	44.045
5,200.00	5,194.79	179.95	-90.66	18.56	10,846.00	6,554.50	1,810.83	271.91	89.26	2,182.11	2,130.71	40.97	42.453
5,300.00	5,294.66	184.62	-93.02	18.92	10,846.00	6,554.50	1,810.83	271.91	89.26	2,116.06	2,064.36	40.97	40.928
5,400.00	5,394.52	189.29	-95.37	19.28	10,846.00	6,554.50	1,810.83	271.91	89.26	2,052.76	2,000.76	40.97	39.474
5,500.00	5,494.38	193.97	-97.73	19.65	10,846.00	6,554.50	1,810.83	271.91	89.26	1,992.47	1,940.17	40.97	38.096
5,600.00	5,594.02	201.36	-101.45	20.01	10,846.00	6,554.50	1,810.83	271.91	89.26	1,933.58	1,880.95	42.66	36.740
5,700.00	5,692.97	214.18	-107.91	20.39	10,846.00	6,554.50	1,810.83	271.91	89.26	1,874.44	1,821.42	44.43	35.352
5,800.00	5,790.86	232.36	-117.06	20.78	10,846.00	6,554.50	1,810.83	271.91	89.26	1,815.25	1,761.75	46.26	33.929
5,900.00	5,887.32	255.85	-128.90	21.18	10,846.00	6,554.50	1,810.83	271.91	89.26	1,756.24	1,702.15	48.13	32.468
6,000.00	5,982.38	283.58	-142.87	21.60	10,846.00	6,554.50	1,810.83	271.91	89.26	1,698.27	1,643.46	48.87	30.985
6,100.00	6,077.29	311.70	-157.03	22.02	10,846.00	6,554.50	1,810.83	271.91	89.26	1,644.08	1,588.48	48.87	29.565
6,200.00	6,172.20	339.83	-171.20	22.45	10,846.00	6,554.50	1,810.83	271.91	89.26	1,594.34	1,537.84	48.87	28.221
6,300.00	6,267.12	367.95	-185.36	22.88	10,846.00	6,554.50	1,810.83	271.91	89.26	1,549.45	1,491.99	48.87	26.964
6,400.00	6,362.03	396.07	-199.53	23.31	10,846.00	6,554.50	1,810.83	271.91	89.26	1,509.87	1,451.35	48.87	25.803
6,500.00	6,456.94	424.19	-213.69	23.76	10,846.00	6,554.50	1,810.83	271.91	89.26	1,476.01	1,416.37	48.87	24.751
6,600.00	6,551.86	452.32	-227.86	24.20	10,846.00	6,554.50	1,810.83	271.91	89.26	1,448.27	1,387.47	48.87	23.818
6,700.00	6,646.77	480.44	-242.02	24.65	10,846.00	6,554.50	1,810.83	271.91	89.26	1,427.02	1,365.02	48.87	23.015
6,800.00	6,741.68	508.56	-256.19	25.11	10,846.00	6,554.50	1,810.83	271.91	89.26	1,412.54	1,349.35	48.87	22.351
6,900.00	6,836.59	536.68	-270.35	25.57	10,846.00	6,554.50	1,810.83	271.91	89.26	1,405.05	1,340.70	48.87	21.832
6,955.52	6,889.29	552.30	-278.22	25.83	10,846.00	6,554.50	1,810.83	271.91	89.26	1,403.96	1,338.98	48.87	21.607
7,000.00	6,931.51	564.81	-284.52	26.03	10,846.00	6,554.50	1,810.83	271.91	89.26	1,404.66	1,339.21	48.87	21.461
7,100.00	7,026.42	592.93	-298.68	26.50	10,846.00	6,554.50	1,810.83	271.91	89.26	1,411.37	1,344.92	48.87	21.240
7,200.00	7,121.33	621.05	-312.85	26.97	10,846.00	6,554.50	1,810.83	271.91	89.26	1,425.08	1,357.75	48.87	21.166
7,300.00	7,216.25	649.17	-327.01	27.44	10,846.00	6,554.50	1,810.83	271.91	89.26	1,445.60	1,377.52	48.87	21.235
7,400.00	7,311.16	677.30	-341.18	27.92	10,846.00	6,554.50	1,810.83	271.91	89.26	1,472.63	1,403.95	48.87	21.440
7,500.00	7,406.07	705.42	-355.34	28.40	10,846.00	6,554.50	1,810.83	271.91	89.26	1,505.84	1,436.68	48.87	21.773
7,600.00	7,500.99	733.54	-369.51	28.88	10,846.00	6,554.50	1,810.83	271.91	89.26	1,544.81	1,475.30	48.87	22.225

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - IMC 21 Federal Com 002H (AC) - Wellbore #1 - Actual Drilled

Survey Program: 200-3_MWD, 10846-3_Blind

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
7,700.00	7,595.90	761.66	-383.68	29.36	10,846.00	6,554.50	1,810.83	271.91	89.26	1,589.13	1,519.39	48.87	22.785
7,800.00	7,690.81	789.79	-397.84	29.85	10,846.00	6,554.50	1,810.83	271.91	89.26	1,638.36	1,568.48	48.87	23.445
7,900.00	7,785.72	817.91	-412.01	30.34	10,846.00	6,554.50	1,810.83	271.91	89.26	1,692.08	1,622.14	48.87	24.194
8,000.00	7,880.64	846.03	-426.17	30.83	10,846.00	6,554.50	1,810.83	271.91	89.26	1,749.86	1,679.93	48.87	25.022
8,100.00	7,975.55	874.15	-440.34	31.33	10,846.00	6,554.50	1,810.83	271.91	89.26	1,811.33	1,741.45	48.87	25.922
8,200.00	8,070.46	902.28	-454.50	31.82	10,846.00	6,554.50	1,810.83	271.91	89.26	1,876.12	1,806.33	48.87	26.884
8,300.00	8,165.38	930.40	-468.67	32.32	10,846.00	6,554.50	1,810.83	271.91	89.26	1,943.89	1,874.22	48.87	27.901
8,400.00	8,260.29	958.52	-482.83	32.82	10,846.00	6,554.50	1,810.83	271.91	89.26	2,014.35	1,944.81	48.87	28.966
8,500.00	8,355.20	986.64	-497.00	33.32	10,846.00	6,554.50	1,810.83	271.91	89.26	2,087.22	2,017.82	48.87	30.073
8,600.00	8,450.12	1,014.77	-511.16	33.82	10,846.00	6,554.50	1,810.83	271.91	89.26	2,162.27	2,093.00	48.87	31.215
8,700.00	8,545.03	1,042.89	-525.33	34.33	10,846.00	6,554.50	1,810.83	271.91	89.26	2,239.26	2,170.12	48.87	32.387
8,800.00	8,639.94	1,071.01	-539.49	34.83	10,846.00	6,554.50	1,810.83	271.91	89.26	2,318.01	2,248.99	48.87	33.585
8,900.00	8,734.85	1,099.13	-553.66	35.34	10,846.00	6,554.50	1,810.83	271.91	89.26	2,398.35	2,329.44	48.87	34.805
9,000.00	8,829.77	1,127.26	-567.82	35.85	10,846.00	6,554.50	1,810.83	271.91	89.26	2,480.12	2,411.30	48.87	36.042

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**

Offset Design: Blue Steel Pad (Grid) - Spud 16 State 05 (AC) - Wellbore #1 - Actual Drilled

Survey Program: 100-3_Gyro-GC_Csg+Cent, 12500-3_INC-Only

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
16,100.00	10,860.00	6,724.17	-731.73	102.30	10,841.25	10,840.07	9,022.00	86.38	19.31	2,439.26	2,361.26	91.83	31.271
16,200.00	10,860.00	6,824.17	-731.61	103.61	10,840.96	10,839.77	9,022.00	86.39	19.31	2,345.26	2,266.05	91.81	29.609
16,300.00	10,860.00	6,924.17	-731.49	104.93	10,840.67	10,839.48	9,022.00	86.40	19.31	2,251.77	2,171.25	91.79	27.963
16,400.00	10,860.00	7,024.17	-731.37	106.25	10,840.37	10,839.18	9,022.00	86.40	19.31	2,158.87	2,076.89	91.77	26.335
16,500.00	10,860.00	7,124.17	-731.25	107.58	10,840.06	10,838.88	9,022.00	86.41	19.30	2,066.63	1,983.06	91.75	24.728
16,600.00	10,860.00	7,224.17	-731.13	108.91	10,839.76	10,838.57	9,022.00	86.42	19.30	1,975.15	1,889.81	91.73	23.145
16,700.00	10,860.00	7,324.17	-731.01	110.24	10,839.45	10,838.26	9,022.00	86.42	19.30	1,884.53	1,797.24	91.70	21.590
16,800.00	10,860.00	7,424.17	-730.89	111.57	10,839.13	10,837.95	9,022.00	86.43	19.30	1,794.90	1,705.46	91.68	20.067
16,900.00	10,860.00	7,524.17	-730.78	112.91	10,838.82	10,837.63	9,022.01	86.44	19.30	1,706.44	1,614.60	91.66	18.581
17,000.00	10,860.00	7,624.17	-730.66	114.24	10,838.49	10,837.31	9,022.01	86.45	19.30	1,619.31	1,524.81	91.64	17.136
17,100.00	10,860.00	7,724.17	-730.54	115.58	10,838.17	10,836.98	9,022.01	86.45	19.30	1,533.75	1,436.30	91.61	15.738
17,200.00	10,860.00	7,824.17	-730.42	116.93	10,837.84	10,836.65	9,022.01	86.46	19.30	1,450.05	1,349.31	91.59	14.395
17,300.00	10,860.00	7,924.17	-730.30	118.27	10,837.50	10,836.32	9,022.01	86.47	19.30	1,368.53	1,264.15	91.57	13.112
17,400.00	10,860.00	8,024.17	-730.18	119.62	10,837.16	10,835.98	9,022.01	86.48	19.30	1,289.62	1,181.22	91.54	11.897
17,500.00	10,860.00	8,124.17	-730.06	120.97	10,836.82	10,835.63	9,022.01	86.48	19.30	1,213.81	1,100.99	91.52	10.759
17,600.00	10,860.00	8,224.17	-729.94	122.32	10,836.47	10,835.29	9,022.01	86.49	19.30	1,141.75	1,024.11	91.50	9.706
17,700.00	10,860.00	8,324.17	-729.83	123.67	10,836.12	10,834.93	9,022.02	86.50	19.30	1,074.16	951.35	91.47	8.746
17,800.00	10,860.00	8,424.17	-729.71	125.02	10,835.76	10,834.57	9,022.02	86.51	19.30	1,011.96	883.70	91.45	7.890
17,900.00	10,860.00	8,524.17	-729.59	126.38	10,835.39	10,834.21	9,022.02	86.52	19.30	956.19	822.37	91.42	7.146
18,000.00	10,860.00	8,624.17	-729.47	127.74	10,835.03	10,833.84	9,022.02	86.52	19.30	908.03	768.80	91.39	6.521
18,100.00	10,860.00	8,724.17	-729.35	129.10	10,834.65	10,833.47	9,022.02	86.53	19.30	868.77	724.59	91.37	6.025
18,200.00	10,860.00	8,824.17	-729.23	130.46	10,834.27	10,833.09	9,022.02	86.54	19.29	839.64	691.40	91.34	5.664
18,300.00	10,860.00	8,924.17	-729.11	131.82	10,833.89	10,832.70	9,022.02	86.55	19.29	821.72	670.72	91.31	5.442
18,398.83	10,860.00	9,022.99	-728.99	133.17	10,833.50	10,832.32	9,022.03	86.56	19.29	815.76	663.61	91.29	5.361
18,400.00	10,860.00	9,024.17	-728.99	133.18	10,833.50	10,832.32	9,022.03	86.56	19.29	815.76	663.61	91.29	5.361
18,500.00	10,860.00	9,124.17	-728.87	134.55	10,833.10	10,831.92	9,022.03	86.57	19.29	822.01	670.44	91.26	5.423
18,600.00	10,860.00	9,224.17	-728.76	135.91	10,832.70	10,831.52	9,022.03	86.58	19.29	840.20	690.85	91.23	5.626
18,700.00	10,860.00	9,324.17	-728.64	137.28	10,832.29	10,831.11	9,022.03	86.59	19.29	869.58	723.78	91.20	5.964
18,800.00	10,860.00	9,424.17	-728.52	138.65	10,831.88	10,830.70	9,022.03	86.60	19.29	909.07	767.74	91.17	6.433
18,900.00	10,860.00	9,524.17	-728.40	140.02	10,831.46	10,830.28	9,022.03	86.60	19.29	957.41	821.09	91.14	7.023

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1

Offset Design: Blue Steel Pad (Grid) - Spud 16 State 05 (AC) - Wellbore #1 - Actual Drilled

Survey Program: 100-3_Gyro-GC_Csg+Cent, 12500-3_INC-Only

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.00 to 21,331.33 usft. Measured Depth.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

Uncertainty Data for Reference Well					Uncertainty Data for Offset Well					Separation (Reference > Offset)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Ellipse Separation (usft)	Relative Highside Bearing	Separation Factor
19,000.00	10,860.00	9,624.17	-728.28	141.39	10,831.04	10,829.85	9,022.03	86.61	19.29	1,013.34	882.21	91.11	7.727
19,100.00	10,860.00	9,724.16	-728.16	142.77	10,830.60	10,829.42	9,022.04	86.62	19.29	1,075.68	949.66	91.08	8.536
19,200.00	10,860.00	9,824.16	-728.04	144.14	10,830.17	10,828.98	9,022.04	86.63	19.29	1,143.39	1,022.25	91.05	9.439
19,300.00	10,860.00	9,924.16	-727.92	145.52	10,829.72	10,828.54	9,022.04	86.64	19.29	1,215.55	1,098.97	91.02	10.427
19,400.00	10,860.00	10,024.16	-727.81	146.89	10,829.27	10,828.09	9,022.04	86.65	19.29	1,291.43	1,179.05	90.99	11.491
19,500.00	10,860.00	10,124.16	-727.69	148.27	10,828.81	10,827.63	9,022.04	86.66	19.29	1,370.41	1,261.84	90.96	12.623
19,600.00	10,860.00	10,224.16	-727.57	149.65	10,828.34	10,827.16	9,022.05	86.67	19.28	1,451.98	1,346.87	90.92	13.814
19,700.00	10,860.00	10,324.16	-727.45	151.03	10,827.87	10,826.69	9,022.05	86.68	19.28	1,535.74	1,433.73	90.89	15.056
19,800.00	10,860.00	10,424.16	-727.33	152.41	10,827.39	10,826.21	9,022.05	86.70	19.28	1,621.33	1,522.12	90.86	16.343
19,900.00	10,860.00	10,524.16	-727.21	153.79	10,826.90	10,825.72	9,022.05	86.71	19.28	1,708.49	1,611.79	90.82	17.668
20,000.00	10,860.00	10,624.16	-727.09	155.17	10,826.40	10,825.22	9,022.05	86.72	19.28	1,796.99	1,702.54	90.79	19.026
20,100.00	10,860.00	10,724.16	-726.97	156.55	10,825.90	10,824.71	9,022.06	86.73	19.28	1,886.64	1,794.21	90.75	20.412
20,200.00	10,860.00	10,824.16	-726.85	157.94	10,825.38	10,824.20	9,022.06	86.74	19.28	1,977.28	1,886.66	90.72	21.821
20,300.00	10,860.00	10,924.16	-726.74	159.32	10,824.86	10,823.68	9,022.06	86.75	19.28	2,068.78	1,979.80	90.68	23.249
20,400.00	10,860.00	11,024.16	-726.62	160.71	10,824.33	10,823.15	9,022.06	86.76	19.28	2,161.04	2,073.52	90.64	24.693
20,500.00	10,860.00	11,124.16	-726.50	162.10	10,823.79	10,822.61	9,022.07	86.78	19.28	2,253.95	2,167.76	90.60	26.150
20,600.00	10,860.00	11,224.16	-726.38	163.48	10,823.24	10,822.06	9,022.07	86.79	19.28	2,347.45	2,262.45	90.57	27.618
20,700.00	10,860.00	11,324.16	-726.26	164.87	10,822.68	10,821.50	9,022.07	86.80	19.27	2,441.47	2,357.55	90.53	29.093

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 11H - Plan 1**Reference Well Survey tool program**

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	21,331.33	Plan 1	3_MWD+HRGM+AX

Anticollision Info

Error Model:	ISCWSA	Error Surface:	Pedal Curve
Scan Method:	Closest Approach 3D	Casing Method:	Added to Error Values
Warning Levels Evaluated at:	2.00 sigma	Output errors are at	2.00 sigma

Ellipse error terms are correlated across survey tool tie-on points.

Calculated ellipses incorporate surface errors.

Separation is the actual distance between ellipsoids.

Distance Between centres is the straight line distance between wellbore centres.

Clearance Factor = Distance Between Profiles / (Distance Between Profiles - Ellipse Separation).

All station coordinates were calculated using the Minimum Curvature method.

Direction and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB (PD 582) 27' + GL @ 3022.00usft. Northing and Easting are relative to Blue Steel 21 WD Fed Com 11H.

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001.

Central Meridian is -104.00°, Grid Convergence at Surface is: 0.19°.

Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marathon Oil
LEASE NO.:	NMNM119272
LOCATION:	Section 28, T.23 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Blue Steel 21 WD Fed Com 11H
SURFACE HOLE FOOTAGE:	1420'/N & 938'/E
BOTTOM HOLE FOOTAGE:	100'/N & 1650'/E

COA

H2S	☒ Yes	☐ No	
Potash	☐ None	☐ Secretary	☒ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Wolfcamp** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **420** feet (a minimum of **70 feet (Eddy County)** 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

24 hours in the Potash Area 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.

Intermediate casing must be kept 1/3rd fluid filled to meet BLM minimum collapse requirement.

- 2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.

- 3. The minimum required fill of cement behind the **7-5/8** inch production casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculate to 15%. Additional cement maybe required.**
- 4. The minimum required fill of cement behind the **5-1/2** inch production liner is:
 - Cement should tie-back **100 feet** into the previous casing. 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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- 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.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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)

☒ 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)

689-5981

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. **Operator is approved 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. **Operator is approved 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 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
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 not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to

Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

ZS 05112022

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 214612

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 214612
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
john.harrison	Notify OCD 24 hours prior to casing & cement	5/10/2023
john.harrison	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/10/2023
john.harrison	Will require a administrative order for non-standard location prior to placing the well on production	5/10/2023
john.harrison	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	5/10/2023
john.harrison	Cement is required to circulate on both surface and intermediate1 strings of casing	5/10/2023
john.harrison	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	5/10/2023