

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. 9. API Well No. 30-015-53782
2. Name of Operator		10. Field and Pool, or Exploratory
3a. Address	3b. Phone No. (include area code)	11. Sec., T. R. M. or Blk. and Survey or Area
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		12. County or Parish
14. Distance in miles and direction from nearest town or post office*		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	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	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)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

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 30-015-53782	² Pool Code 98220	³ Pool Name PURPLE SAGE (WOLFCAMP)
⁴ Property Code 334030	⁵ Property Name BLUE STEEL 21 WD FED COM	
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁶ Well Number 24H
		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		1419	NORTH	968	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	2310	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 2310' FEL, SECTION 16 NAD 83, SPCS NM EAST X: 647836.48' / Y: 477479.22' LAT: 32.31219242N / LON: -103.98860272W NAD 27, SPCS NM EAST X: 606653.49' / Y: 477419.55' LAT: 32.31207053N / LON: -103.98811046W		
	FIRST TAKE POINT 100' FSL 2348' FEL, SECTION 21 NAD 83, SPCS NM EAST X: 647805.15' / Y: 467036.75' LAT: 32.28348816N / LON: -103.98881274W NAD 27, SPCS NM EAST X: 606621.87' / Y: 466977.32' LAT: 32.28336603N / LON: -103.98832158W		
	KICK OFF POINT 100' FSL 2348' FEL, SECTION 21 NAD 83, SPCS NM EAST X: 647805.15' / Y: 467036.75' LAT: 32.28348816N / LON: -103.98881274W NAD 27, SPCS NM EAST X: 606621.87' / Y: 466977.32' LAT: 32.28336603N / LON: -103.98832158W		
SURFACE HOLE LOCATION 1419' FNL 968' FEL, SECTION 28 NAD 83, SPCS NM EAST X: 649192.34' / Y: 465525.71' LAT: 32.27932224N / LON: -103.98433986W NAD 27, SPCS NM EAST X: 608009.02' / Y: 465466.32' LAT: 32.27920005N / LON: -103.98384897W			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: LOYD 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
5419 N Lovington Hwy, Hobbs, NM 88240
AMBULANCE
FIRE DEPARTMENT- HOBBS, NM
POLICE - HOBBS, NM

(575)492-5000

911

(575) 397-9308

(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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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

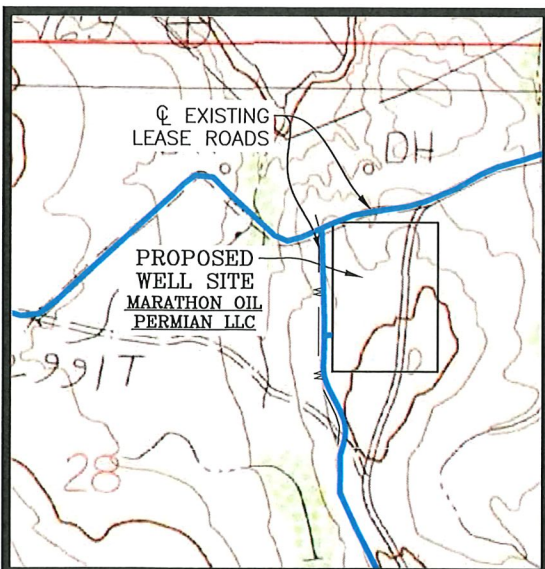
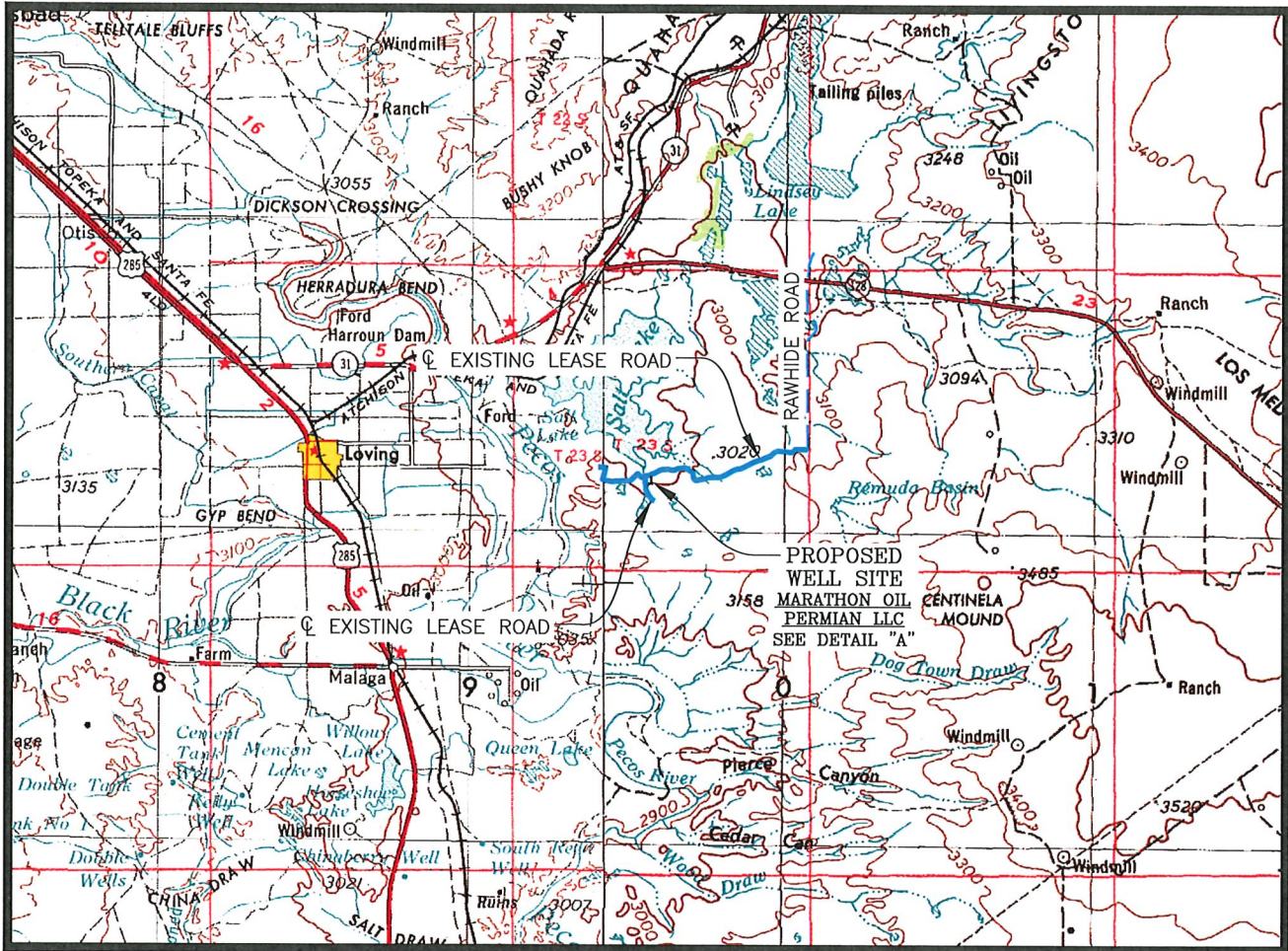
H₂S Office – Onsite office trailer space or vehicle that will be designated as the H₂S office

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.

SHEET 7 OF 7

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-8900 OFFICE
JOB No. R3942_007

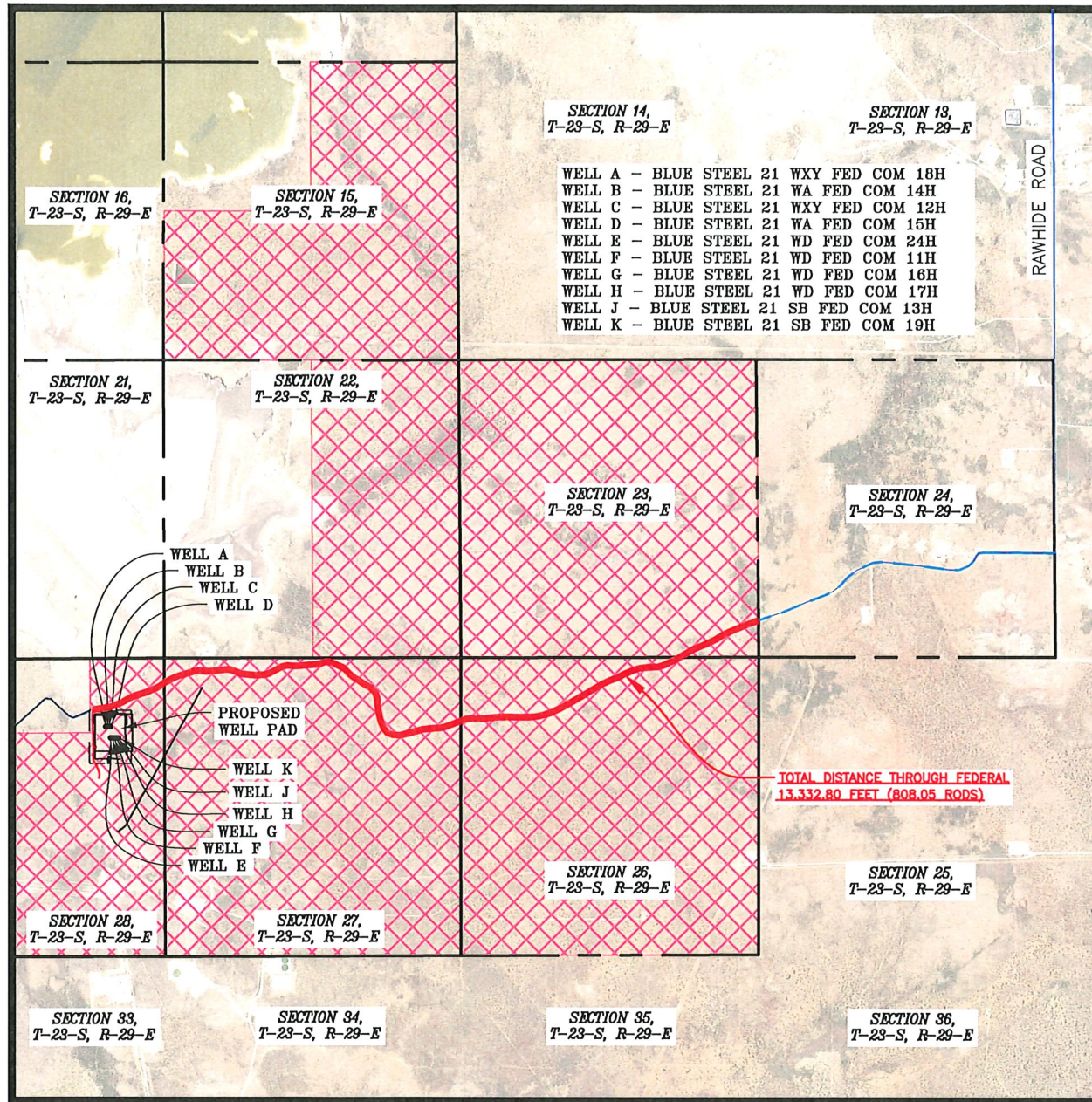
DETAIL A
N.T.S.

7	01/23/2020	JMT
REV.	DATE	BY

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 than 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 off 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

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

MARATHON OIL PERMIAN LLC
DRILLING AND OPERATIONS PLAN

BLUE STEEL 21 WD FED COM 24H

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	3046	36	J55	LTC	1.39	1.42	1.8
Intermediate II	8 3/4	7 5/8	0	10300	0	10032	33.7	P110	Wedge 523	3.12	1.16	2.37
Production	6 3/4	5 1/2	0	21524	0	10980	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	9300	349	3.21	11	1119	70	Class C	Viscosifier, Retarder
Intermediate II	Tail	--	9300	10300	114	1.15	13.8	131	30	Class H	Extender, Fluid Loss, Dispersant
Production	Lead	--	8300	10300	68	3.21	11	217	30	Class H	Extender, Retarder, Defoamer, Viscosifier, Fluid Loss
Production	Tail	--	10300	21524	999	1.22	14.5	1219	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	9.9	10.2
3050	10300	Brine or Oil Based Mud	8.8	9.8
10300	21524	Oil Based Mud	11.0	13.0

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: 7422 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.

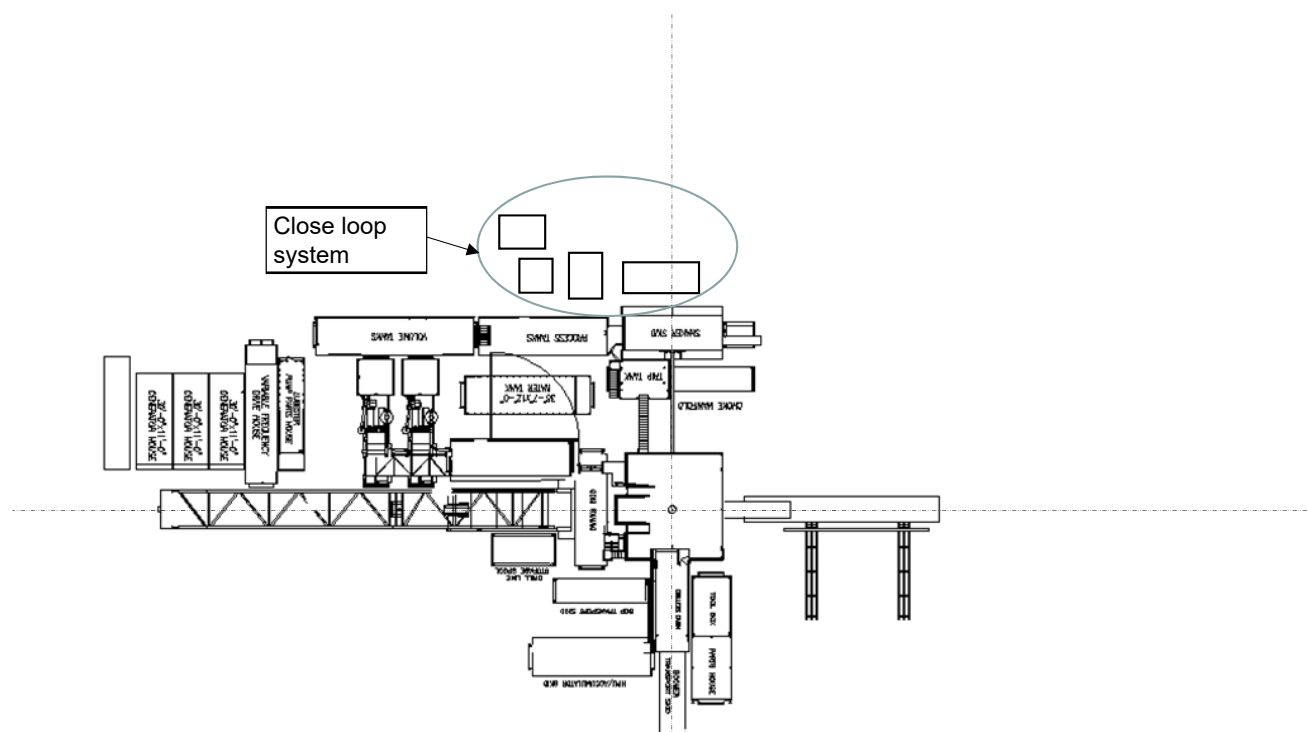
Request for Surface Rig

- 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.

550'

775'

775'



Bunk
House

Rig Mgr. Trailer	
---------------------	--

Company
Rep Trailer

Safety
Trailer

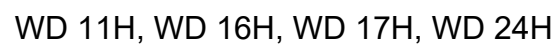
Access Road



BLUE STEEL 21 FED COM

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

775'



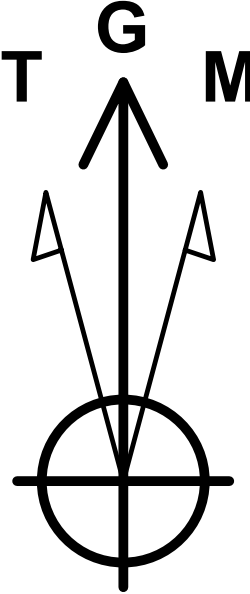


Marathon Oil Permian LLC

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

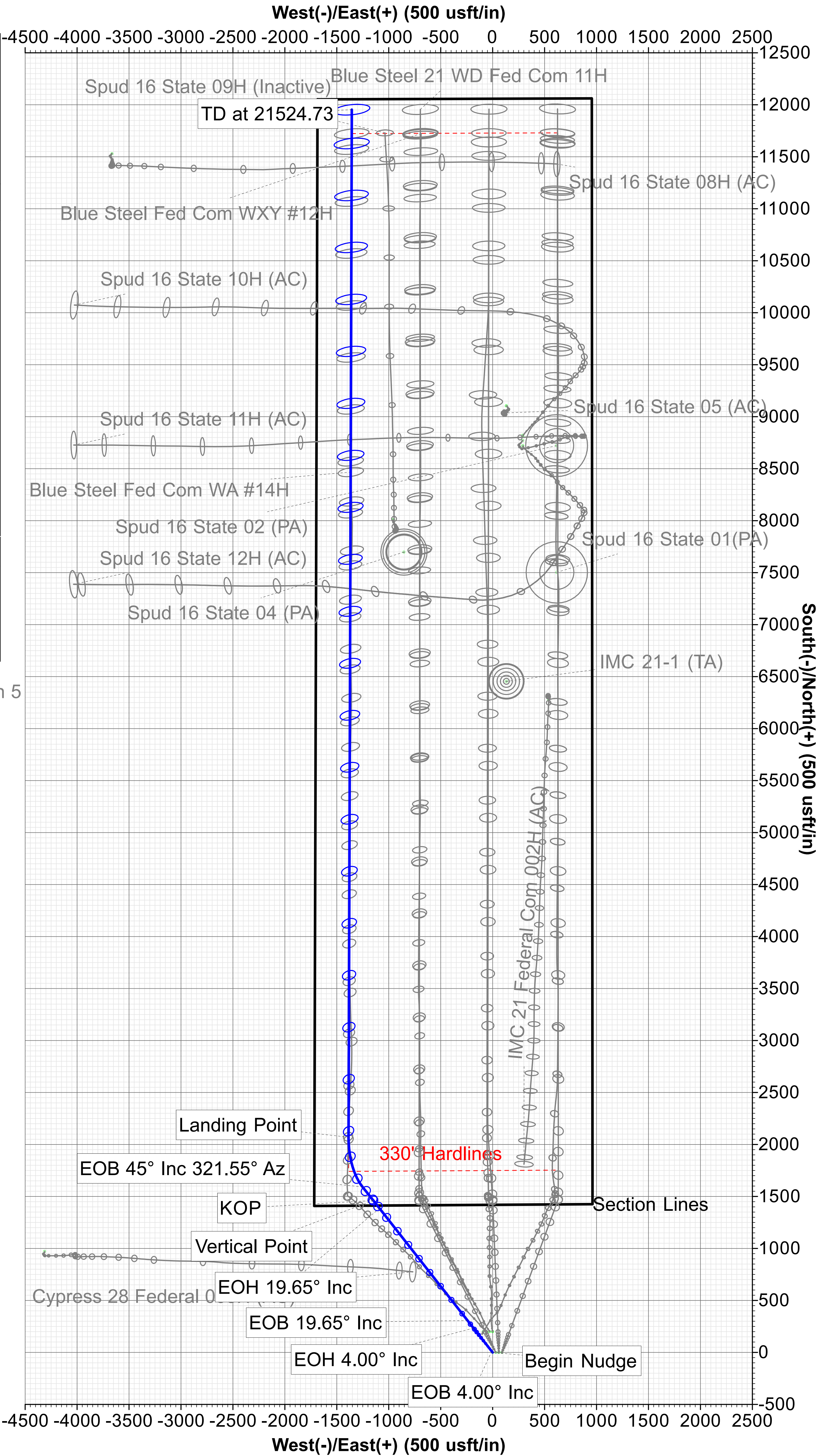
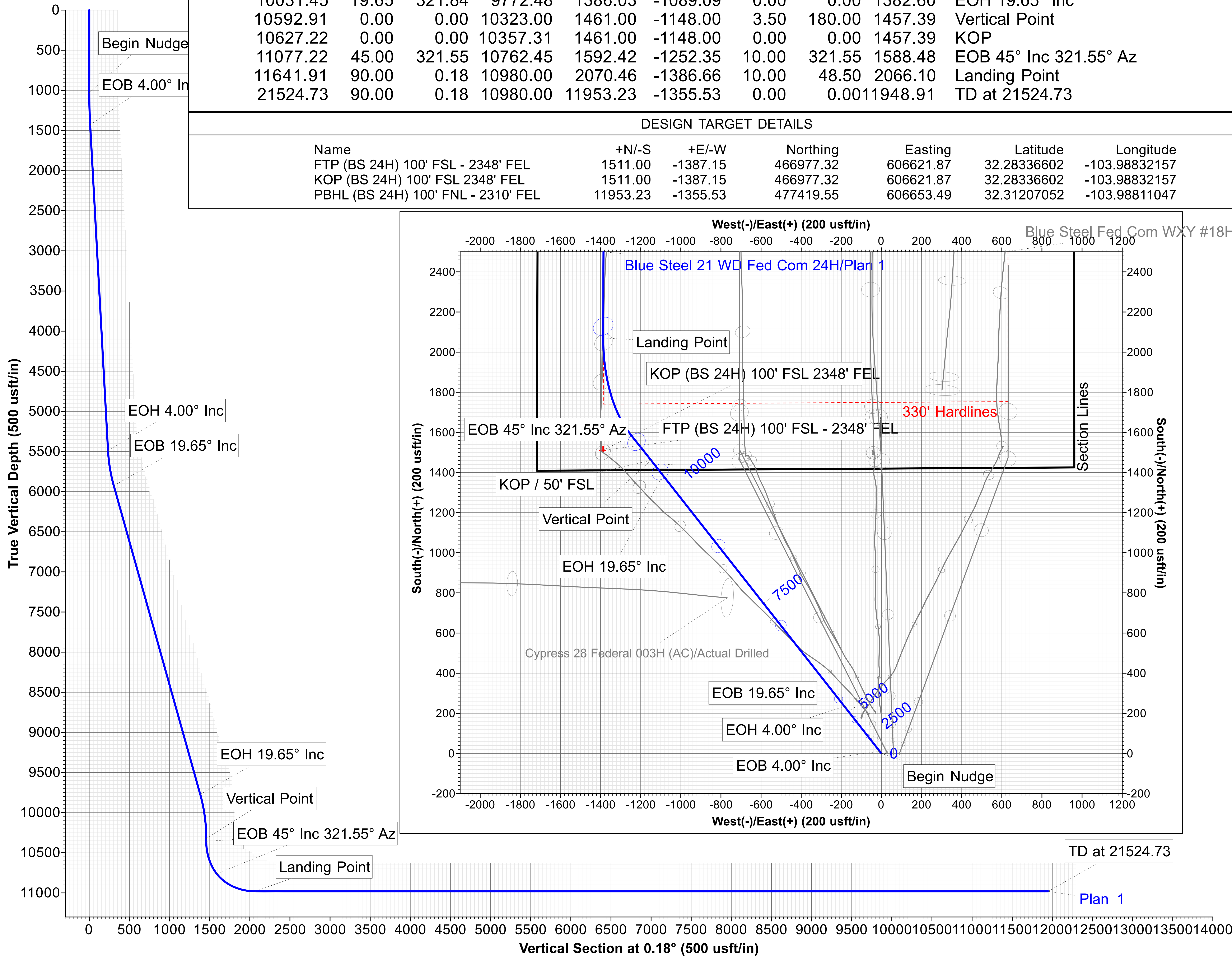
Project: Eddy County, New Mexico (NAD27)
Site: Blue Steel Pad (Grid)
Well: Blue Steel 21 WD Fed Com 24H
Wellbore: Wellbore #1
Design: Plan 1
Rig: PD 582

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: 47774.0nT
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	465466.32	608009.02	32.27920006	-103.98384897				
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	
1030.00	0.00	0.00	1030.00	0.00	0.00	0.00	0.00	0.00	Begin Nudge
1430.00	4.00	321.84	1429.68	10.97	-8.62	1.00	321.84	10.95	EOB 4.00° Inc
5500.00	4.00	321.84	5489.76	234.21	-184.04	0.00	0.00	233.63	EOH 4.00° Inc
5947.17	19.65	321.84	5926.08	306.04	-240.48	3.50	0.00	305.28	EOB 19.65° Inc
10031.45	19.65	321.84	9772.48	1386.03	-1089.09	0.00	0.00	1382.60	EOH 19.65° Inc
10592.91	0.00	0.00	10323.00	1461.00	-1148.00	3.50	180.00	1457.39	Vertical Point
10627.22	0.00	0.00	10357.31	1461.00	-1148.00	0.00	0.00	1457.39	KOP
11077.22	45.00	321.55	10762.45	1592.42	-1252.35	10.00	321.55	1588.48	EOB 45° Inc 321.55° Az
11641.91	90.00	0.18	10980.00	2070.46	-1386.66	10.00	48.50	2066.10	Landing Point
21524.73	90.00	0.18	10980.00	11953.23	-1355.53	0.00	0.00	11948.91	TD at 21524.73
DESIGN TARGET DETAILS									
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
FTP (BS 24H) 100' FSL - 2348' FEL	1511.00	-1387.15	466977.32	606621.87	32.28336602	-103.98832157			
KOP (BS 24H) 100' FSL 2348' FEL	1511.00	-1387.15	466977.32	606621.87	32.28336602	-103.98832157			
PBHL (BS 24H) 100' FNL - 2310' FEL	11953.23	-1355.53	477419.55	606653.49	32.31207052	-103.98811047			



Marathon Oil Permian LLC

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

API#

Blue Steel 21 WD Fed Com 24H

1419' FNL - 968' FEL

Wellbore #1

Plan: Plan 1

Please review plan for Magnetic Toolface Switchover.

Highlighted inclination-tangent sections are between 4 and 6°.

Sperry Drilling Services

Combo Report

07 April, 2020

Well Coordinates: 32.27920006
-103.98384897

NAD 1927 (NADCON CONUS)
New Mexico East 3001
465,466.32 N
608,009.02 E

Ground Level: 2,995.00 usft

Local Coordinate Origin:

Centered on Well Blue Steel 21 WD Fed Com 24H

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**Plan Report for Blue Steel 21 WD Fed Com 24H - 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)				
0.00	0.00	0.00	0.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
309.00	0.00	0.00	309.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	13 3/8"
400.00	0.00	0.00	400.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	
1,030.00	0.00	0.00	1,030.00	0.00 N	0.00 E	465,466.32	608,009.02	0.00	0.00	0.00	Begin Nudge
1,100.00	0.70	321.84	1,100.00	0.34 N	0.26 W	465,466.66	608,008.76	1.00	0.34	321.84	
1,200.00	1.70	321.84	1,199.98	1.98 N	1.56 W	465,468.30	608,007.46	1.00	1.98	0.00	
1,300.00	2.70	321.84	1,299.90	5.00 N	3.93 W	465,471.32	608,005.09	1.00	4.99	0.00	
1,400.00	3.70	321.84	1,399.74	9.39 N	7.38 W	465,475.71	608,001.64	1.00	9.37	0.00	
1,430.00	4.00	321.84	1,429.68	10.97 N	8.62 W	465,477.29	608,000.40	1.00	10.95	0.00	EOB 4.00° Inc
1,500.00	4.00	321.84	1,499.50	14.81 N	11.64 W	465,481.13	607,997.38	0.00	14.78	0.00	
1,600.00	4.00	321.84	1,599.26	20.30 N	15.95 W	465,486.62	607,993.07	0.00	20.25	0.00	
1,700.00	4.00	321.84	1,699.02	25.78 N	20.26 W	465,492.10	607,988.76	0.00	25.72	0.00	
1,800.00	4.00	321.84	1,798.77	31.27 N	24.57 W	465,497.59	607,984.45	0.00	31.19	0.00	
1,900.00	4.00	321.84	1,898.53	36.75 N	28.88 W	465,503.07	607,980.14	0.00	36.66	0.00	
2,000.00	4.00	321.84	1,998.29	42.24 N	33.19 W	465,508.56	607,975.83	0.00	42.13	0.00	
2,100.00	4.00	321.84	2,098.04	47.72 N	37.50 W	465,514.04	607,971.52	0.00	47.60	0.00	
2,200.00	4.00	321.84	2,197.80	53.21 N	41.81 W	465,519.53	607,967.21	0.00	53.08	0.00	
2,300.00	4.00	321.84	2,297.56	58.69 N	46.12 W	465,525.01	607,962.90	0.00	58.55	0.00	
2,400.00	4.00	321.84	2,397.31	64.18 N	50.43 W	465,530.50	607,958.59	0.00	64.02	0.00	
2,500.00	4.00	321.84	2,497.07	69.66 N	54.74 W	465,535.98	607,954.28	0.00	69.49	0.00	
2,600.00	4.00	321.84	2,596.83	75.15 N	59.05 W	465,541.47	607,949.97	0.00	74.96	0.00	
2,700.00	4.00	321.84	2,696.58	80.63 N	63.36 W	465,546.95	607,945.66	0.00	80.43	0.00	
2,800.00	4.00	321.84	2,796.34	86.12 N	67.67 W	465,552.44	607,941.35	0.00	85.90	0.00	
2,900.00	4.00	321.84	2,896.09	91.60 N	71.98 W	465,557.92	607,937.04	0.00	91.38	0.00	
3,000.00	4.00	321.84	2,995.85	97.09 N	76.29 W	465,563.41	607,932.73	0.00	96.85	0.00	
3,030.00	4.00	321.84	3,025.78	98.73 N	77.58 W	465,565.05	607,931.44	0.00	98.49	0.00	9 5/8"
3,100.00	4.00	321.84	3,095.61	102.57 N	80.60 W	465,568.89	607,928.42	0.00	102.32	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 24H - Plan 1

Measured Depth	Inclination	Grid Azimuth	Vertical Depth	Local Coordinates		Map Coordinates		Dogleg Rate	Vertical Section	Toolface Angle	Comments
(usft)	(°)	(°)	(usft)	Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)	(°/100usft)	(usft)	(°)	
3,200.00	4.00	321.84	3,195.36	108.06 N	84.91 W	465,574.38	607,924.11	0.00	107.79	0.00	
3,300.00	4.00	321.84	3,295.12	113.54 N	89.22 W	465,579.86	607,919.80	0.00	113.26	0.00	
3,400.00	4.00	321.84	3,394.88	119.03 N	93.53 W	465,585.35	607,915.49	0.00	118.73	0.00	
3,500.00	4.00	321.84	3,494.63	124.51 N	97.84 W	465,590.83	607,911.18	0.00	124.20	0.00	
3,600.00	4.00	321.84	3,594.39	130.00 N	102.15 W	465,596.32	607,906.87	0.00	129.67	0.00	
3,700.00	4.00	321.84	3,694.15	135.48 N	106.46 W	465,601.80	607,902.56	0.00	135.15	0.00	
3,800.00	4.00	321.84	3,793.90	140.97 N	110.77 W	465,607.29	607,898.25	0.00	140.62	0.00	
3,900.00	4.00	321.84	3,893.66	146.45 N	115.08 W	465,612.77	607,893.94	0.00	146.09	0.00	
4,000.00	4.00	321.84	3,993.41	151.94 N	119.39 W	465,618.26	607,889.63	0.00	151.56	0.00	
4,100.00	4.00	321.84	4,093.17	157.42 N	123.70 W	465,623.74	607,885.32	0.00	157.03	0.00	
4,200.00	4.00	321.84	4,192.93	162.91 N	128.01 W	465,629.23	607,881.01	0.00	162.50	0.00	
4,300.00	4.00	321.84	4,292.68	168.39 N	132.32 W	465,634.71	607,876.70	0.00	167.97	0.00	
4,400.00	4.00	321.84	4,392.44	173.87 N	136.63 W	465,640.19	607,872.39	0.00	173.44	0.00	
4,500.00	4.00	321.84	4,492.20	179.36 N	140.94 W	465,645.68	607,868.08	0.00	178.92	0.00	
4,600.00	4.00	321.84	4,591.95	184.84 N	145.25 W	465,651.16	607,863.77	0.00	184.39	0.00	
4,700.00	4.00	321.84	4,691.71	190.33 N	149.56 W	465,656.65	607,859.46	0.00	189.86	0.00	
4,800.00	4.00	321.84	4,791.47	195.81 N	153.87 W	465,662.13	607,855.15	0.00	195.33	0.00	
4,900.00	4.00	321.84	4,891.22	201.30 N	158.18 W	465,667.62	607,850.84	0.00	200.80	0.00	
5,000.00	4.00	321.84	4,990.98	206.78 N	162.49 W	465,673.10	607,846.53	0.00	206.27	0.00	
5,100.00	4.00	321.84	5,090.74	212.27 N	166.80 W	465,678.59	607,842.22	0.00	211.74	0.00	
5,200.00	4.00	321.84	5,190.49	217.75 N	171.11 W	465,684.07	607,837.91	0.00	217.22	0.00	
5,300.00	4.00	321.84	5,290.25	223.24 N	175.42 W	465,689.56	607,833.60	0.00	222.69	0.00	
5,400.00	4.00	321.84	5,390.00	228.72 N	179.73 W	465,695.04	607,829.29	0.00	228.16	0.00	
5,500.00	4.00	321.84	5,489.76	234.21 N	184.04 W	465,700.53	607,824.98	0.00	233.63	0.00	EOH 4.00° Inc
5,600.00	7.50	321.84	5,589.24	242.08 N	190.23 W	465,708.40	607,818.79	3.50	241.49	0.00	
5,700.00	11.00	321.84	5,687.93	254.72 N	200.16 W	465,721.04	607,808.86	3.50	254.09	0.00	
5,800.00	14.50	321.84	5,785.45	272.07 N	213.79 W	465,738.39	607,795.23	3.50	271.40	0.00	
5,900.00	18.00	321.84	5,881.44	294.07 N	231.08 W	465,760.39	607,777.94	3.50	293.35	0.00	
5,947.17	19.65	321.84	5,926.08	306.04 N	240.48 W	465,772.36	607,768.54	3.50	305.28	0.00	EOB 19.65° Inc
6,000.00	19.65	321.84	5,975.83	320.01 N	251.46 W	465,786.33	607,757.56	0.00	319.22	0.00	
6,100.00	19.65	321.84	6,070.01	346.45 N	272.24 W	465,812.77	607,736.78	0.00	345.60	0.00	
6,200.00	19.65	321.84	6,164.19	372.90 N	293.01 W	465,839.22	607,716.01	0.00	371.97	0.00	
6,300.00	19.65	321.84	6,258.36	399.34 N	313.79 W	465,865.66	607,695.23	0.00	398.35	0.00	
6,400.00	19.65	321.84	6,352.54	425.78 N	334.57 W	465,892.10	607,674.45	0.00	424.73	0.00	
6,500.00	19.65	321.84	6,446.71	452.22 N	355.35 W	465,918.54	607,653.67	0.00	451.10	0.00	
6,600.00	19.65	321.84	6,540.89	478.67 N	376.12 W	465,944.99	607,632.90	0.00	477.48	0.00	
6,700.00	19.65	321.84	6,635.06	505.11 N	396.90 W	465,971.43	607,612.12	0.00	503.86	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 24H - 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)	(°)	
6,800.00	19.65	321.84	6,729.24	531.55 N	417.68 W	465,997.87	607,591.34	0.00	530.24	0.00	
6,900.00	19.65	321.84	6,823.42	557.99 N	438.46 W	466,024.31	607,570.56	0.00	556.61	0.00	
7,000.00	19.65	321.84	6,917.59	584.44 N	459.23 W	466,050.76	607,549.79	0.00	582.99	0.00	
7,100.00	19.65	321.84	7,011.77	610.88 N	480.01 W	466,077.20	607,529.01	0.00	609.37	0.00	
7,200.00	19.65	321.84	7,105.94	637.32 N	500.79 W	466,103.64	607,508.23	0.00	635.75	0.00	
7,300.00	19.65	321.84	7,200.12	663.76 N	521.57 W	466,130.08	607,487.45	0.00	662.12	0.00	
7,400.00	19.65	321.84	7,294.30	690.21 N	542.34 W	466,156.53	607,466.68	0.00	688.50	0.00	
7,500.00	19.65	321.84	7,388.47	716.65 N	563.12 W	466,182.97	607,445.90	0.00	714.88	0.00	
7,600.00	19.65	321.84	7,482.65	743.09 N	583.90 W	466,209.41	607,425.12	0.00	741.25	0.00	
7,700.00	19.65	321.84	7,576.82	769.53 N	604.68 W	466,235.85	607,404.34	0.00	767.63	0.00	
7,800.00	19.65	321.84	7,671.00	795.98 N	625.45 W	466,262.30	607,383.57	0.00	794.01	0.00	
7,900.00	19.65	321.84	7,765.17	822.42 N	646.23 W	466,288.74	607,362.79	0.00	820.39	0.00	
8,000.00	19.65	321.84	7,859.35	848.86 N	667.01 W	466,315.18	607,342.01	0.00	846.76	0.00	
8,100.00	19.65	321.84	7,953.53	875.31 N	687.79 W	466,341.63	607,321.23	0.00	873.14	0.00	
8,200.00	19.65	321.84	8,047.70	901.75 N	708.56 W	466,368.07	607,300.46	0.00	899.52	0.00	
8,300.00	19.65	321.84	8,141.88	928.19 N	729.34 W	466,394.51	607,279.68	0.00	925.89	0.00	
8,400.00	19.65	321.84	8,236.05	954.63 N	750.12 W	466,420.95	607,258.90	0.00	952.27	0.00	
8,500.00	19.65	321.84	8,330.23	981.08 N	770.90 W	466,447.40	607,238.12	0.00	978.65	0.00	
8,600.00	19.65	321.84	8,424.40	1,007.52 N	791.67 W	466,473.84	607,217.35	0.00	1,005.03	0.00	
8,700.00	19.65	321.84	8,518.58	1,033.96 N	812.45 W	466,500.28	607,196.57	0.00	1,031.40	0.00	
8,800.00	19.65	321.84	8,612.76	1,060.40 N	833.23 W	466,526.72	607,175.79	0.00	1,057.78	0.00	
8,900.00	19.65	321.84	8,706.93	1,086.85 N	854.01 W	466,553.17	607,155.01	0.00	1,084.16	0.00	
9,000.00	19.65	321.84	8,801.11	1,113.29 N	874.78 W	466,579.61	607,134.24	0.00	1,110.54	0.00	
9,100.00	19.65	321.84	8,895.28	1,139.73 N	895.56 W	466,606.05	607,113.46	0.00	1,136.91	0.00	
9,200.00	19.65	321.84	8,989.46	1,166.17 N	916.34 W	466,632.49	607,092.68	0.00	1,163.29	0.00	
9,300.00	19.65	321.84	9,083.64	1,192.62 N	937.12 W	466,658.94	607,071.90	0.00	1,189.67	0.00	
9,400.00	19.65	321.84	9,177.81	1,219.06 N	957.89 W	466,685.38	607,051.13	0.00	1,216.04	0.00	
9,500.00	19.65	321.84	9,271.99	1,245.50 N	978.67 W	466,711.82	607,030.35	0.00	1,242.42	0.00	
9,600.00	19.65	321.84	9,366.16	1,271.94 N	999.45 W	466,738.26	607,009.57	0.00	1,268.80	0.00	
9,700.00	19.65	321.84	9,460.34	1,298.39 N	1,020.23 W	466,764.71	606,988.79	0.00	1,295.18	0.00	
9,800.00	19.65	321.84	9,554.51	1,324.83 N	1,041.00 W	466,791.15	606,968.02	0.00	1,321.55	0.00	
9,900.00	19.65	321.84	9,648.69	1,351.27 N	1,061.78 W	466,817.59	606,947.24	0.00	1,347.93	0.00	
10,000.00	19.65	321.84	9,742.87	1,377.72 N	1,082.56 W	466,844.04	606,926.46	0.00	1,374.31	0.00	
10,031.45	19.65	321.84	9,772.48	1,386.03 N	1,089.09 W	466,852.35	606,919.93	0.00	1,382.60	0.00	EOH 19.65° Inc
10,100.00	17.25	321.84	9,837.51	1,403.09 N	1,102.50 W	466,869.41	606,906.52	3.50	1,399.62	180.00	
10,200.00	13.75	321.84	9,933.85	1,424.10 N	1,119.01 W	466,890.42	606,890.01	3.50	1,420.58	180.00	
10,300.00	10.25	321.84	10,031.65	1,440.45 N	1,131.85 W	466,906.77	606,877.17	3.50	1,436.89	180.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 24H - 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)				
10,400.00	6.75	321.84	10,130.54	1,452.07 N	1,140.99 W	466,918.39	606,868.03	3.50	1,448.48	180.00	
10,500.00	3.25	321.84	10,230.14	1,458.93 N	1,146.37 W	466,925.25	606,862.65	3.50	1,455.32	180.00	
10,592.91	0.00	0.00	10,323.00	1,461.00 N	1,148.00 W	466,927.32	606,861.02	3.50	1,457.39	180.00	Vertical Point
10,600.00	0.00	0.00	10,330.09	1,461.00 N	1,148.00 W	466,927.32	606,861.02	0.00	1,457.39	0.00	
10,627.22	0.00	0.00	10,357.31	1,461.00 N	1,148.00 W	466,927.32	606,861.02	0.00	1,457.39	0.00	KOP
10,639.00	1.18	321.55	10,369.09	1,461.09 N	1,148.08 W	466,927.41	606,860.94	10.00	1,457.48	321.55	7"
10,700.00	7.28	321.55	10,429.90	1,464.62 N	1,150.87 W	466,930.94	606,858.15	10.00	1,460.99	0.00	
10,800.00	17.28	321.55	10,527.48	1,481.25 N	1,164.08 W	466,947.57	606,844.94	10.00	1,477.58	0.00	
10,900.00	27.28	321.55	10,619.90	1,510.90 N	1,187.62 W	466,977.22	606,821.40	10.00	1,507.16	0.00	
11,000.00	37.28	321.55	10,704.34	1,552.67 N	1,220.79 W	467,018.99	606,788.23	10.00	1,548.83	0.00	
11,077.22	45.00	321.55	10,762.45	1,592.42 N	1,252.35 W	467,058.74	606,756.67	10.00	1,588.48	0.00	EOB 45° Inc 321.55° Az
11,100.00	46.53	323.90	10,778.34	1,605.41 N	1,262.23 W	467,071.73	606,746.79	10.00	1,601.44	48.50	
11,200.00	53.75	332.94	10,842.47	1,670.81 N	1,302.06 W	467,137.13	606,706.96	10.00	1,666.71	46.86	
11,300.00	61.53	340.39	10,896.00	1,748.32 N	1,335.24 W	467,214.64	606,673.78	10.00	1,744.12	41.05	
11,400.00	69.66	346.80	10,937.32	1,835.59 N	1,360.76 W	467,301.91	606,648.26	10.00	1,831.31	37.04	
11,500.00	78.00	352.55	10,965.17	1,929.97 N	1,377.85 W	467,396.29	606,631.17	10.00	1,925.63	34.39	
11,600.00	86.45	357.96	10,978.70	2,028.59 N	1,385.98 W	467,494.91	606,623.04	10.00	2,024.22	32.78	
11,641.91	90.00	0.18	10,980.00	2,070.46 N	1,386.66 W	467,536.78	606,622.36	10.00	2,066.10	32.05	Landing Point
11,700.00	90.00	0.18	10,980.00	2,128.55 N	1,386.48 W	467,594.87	606,622.54	0.00	2,124.18	0.00	
11,800.00	90.00	0.18	10,980.00	2,228.55 N	1,386.17 W	467,694.87	606,622.85	0.00	2,224.18	0.00	
11,900.00	90.00	0.18	10,980.00	2,328.55 N	1,385.85 W	467,794.87	606,623.17	0.00	2,324.18	0.00	
12,000.00	90.00	0.18	10,980.00	2,428.55 N	1,385.54 W	467,894.87	606,623.48	0.00	2,424.18	0.00	
12,100.00	90.00	0.18	10,980.00	2,528.55 N	1,385.22 W	467,994.87	606,623.80	0.00	2,524.18	0.00	
12,200.00	90.00	0.18	10,980.00	2,628.55 N	1,384.91 W	468,094.87	606,624.11	0.00	2,624.18	0.00	
12,300.00	90.00	0.18	10,980.00	2,728.55 N	1,384.59 W	468,194.87	606,624.43	0.00	2,724.18	0.00	
12,400.00	90.00	0.18	10,980.00	2,828.55 N	1,384.28 W	468,294.87	606,624.74	0.00	2,824.18	0.00	
12,500.00	90.00	0.18	10,980.00	2,928.55 N	1,383.96 W	468,394.87	606,625.06	0.00	2,924.18	0.00	
12,600.00	90.00	0.18	10,980.00	3,028.55 N	1,383.65 W	468,494.87	606,625.37	0.00	3,024.18	0.00	
12,700.00	90.00	0.18	10,980.00	3,128.55 N	1,383.33 W	468,594.87	606,625.69	0.00	3,124.18	0.00	
12,800.00	90.00	0.18	10,980.00	3,228.54 N	1,383.02 W	468,694.86	606,626.00	0.00	3,224.18	0.00	
12,900.00	90.00	0.18	10,980.00	3,328.54 N	1,382.70 W	468,794.86	606,626.32	0.00	3,324.18	0.00	
13,000.00	90.00	0.18	10,980.00	3,428.54 N	1,382.39 W	468,894.86	606,626.63	0.00	3,424.18	0.00	
13,100.00	90.00	0.18	10,980.00	3,528.54 N	1,382.07 W	468,994.86	606,626.95	0.00	3,524.18	0.00	
13,200.00	90.00	0.18	10,980.00	3,628.54 N	1,381.76 W	469,094.86	606,627.26	0.00	3,624.18	0.00	
13,300.00	90.00	0.18	10,980.00	3,728.54 N	1,381.44 W	469,194.86	606,627.58	0.00	3,724.18	0.00	
13,400.00	90.00	0.18	10,980.00	3,828.54 N	1,381.13 W	469,294.86	606,627.89	0.00	3,824.18	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 24H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
13,500.00	90.00	0.18	10,980.00	3,928.54 N	1,380.81 W	469,394.86	606,628.21	0.00	3,924.18	0.00	
13,600.00	90.00	0.18	10,980.00	4,028.54 N	1,380.50 W	469,494.86	606,628.52	0.00	4,024.18	0.00	
13,700.00	90.00	0.18	10,980.00	4,128.54 N	1,380.18 W	469,594.86	606,628.84	0.00	4,124.18	0.00	
13,800.00	90.00	0.18	10,980.00	4,228.54 N	1,379.87 W	469,694.86	606,629.15	0.00	4,224.18	0.00	
13,900.00	90.00	0.18	10,980.00	4,328.54 N	1,379.55 W	469,794.86	606,629.47	0.00	4,324.18	0.00	
14,000.00	90.00	0.18	10,980.00	4,428.54 N	1,379.24 W	469,894.86	606,629.78	0.00	4,424.18	0.00	
14,100.00	90.00	0.18	10,980.00	4,528.54 N	1,378.92 W	469,994.86	606,630.10	0.00	4,524.18	0.00	
14,200.00	90.00	0.18	10,980.00	4,628.54 N	1,378.61 W	470,094.86	606,630.41	0.00	4,624.18	0.00	
14,300.00	90.00	0.18	10,980.00	4,728.54 N	1,378.29 W	470,194.86	606,630.73	0.00	4,724.18	0.00	
14,400.00	90.00	0.18	10,980.00	4,828.54 N	1,377.98 W	470,294.86	606,631.04	0.00	4,824.18	0.00	
14,500.00	90.00	0.18	10,980.00	4,928.54 N	1,377.66 W	470,394.86	606,631.36	0.00	4,924.18	0.00	
14,600.00	90.00	0.18	10,980.00	5,028.54 N	1,377.34 W	470,494.86	606,631.68	0.00	5,024.18	0.00	
14,700.00	90.00	0.18	10,980.00	5,128.54 N	1,377.03 W	470,594.86	606,631.99	0.00	5,124.18	0.00	
14,800.00	90.00	0.18	10,980.00	5,228.53 N	1,376.71 W	470,694.85	606,632.31	0.00	5,224.18	0.00	
14,900.00	90.00	0.18	10,980.00	5,328.53 N	1,376.40 W	470,794.85	606,632.62	0.00	5,324.18	0.00	
15,000.00	90.00	0.18	10,980.00	5,428.53 N	1,376.08 W	470,894.85	606,632.94	0.00	5,424.18	0.00	
15,100.00	90.00	0.18	10,980.00	5,528.53 N	1,375.77 W	470,994.85	606,633.25	0.00	5,524.18	0.00	
15,200.00	90.00	0.18	10,980.00	5,628.53 N	1,375.45 W	471,094.85	606,633.57	0.00	5,624.18	0.00	
15,300.00	90.00	0.18	10,980.00	5,728.53 N	1,375.14 W	471,194.85	606,633.88	0.00	5,724.18	0.00	
15,400.00	90.00	0.18	10,980.00	5,828.53 N	1,374.82 W	471,294.85	606,634.20	0.00	5,824.18	0.00	
15,500.00	90.00	0.18	10,980.00	5,928.53 N	1,374.51 W	471,394.85	606,634.51	0.00	5,924.18	0.00	
15,600.00	90.00	0.18	10,980.00	6,028.53 N	1,374.19 W	471,494.85	606,634.83	0.00	6,024.18	0.00	
15,700.00	90.00	0.18	10,980.00	6,128.53 N	1,373.88 W	471,594.85	606,635.14	0.00	6,124.18	0.00	
15,800.00	90.00	0.18	10,980.00	6,228.53 N	1,373.56 W	471,694.85	606,635.46	0.00	6,224.18	0.00	
15,900.00	90.00	0.18	10,980.00	6,328.53 N	1,373.25 W	471,794.85	606,635.77	0.00	6,324.18	0.00	
16,000.00	90.00	0.18	10,980.00	6,428.53 N	1,372.93 W	471,894.85	606,636.09	0.00	6,424.18	0.00	
16,100.00	90.00	0.18	10,980.00	6,528.53 N	1,372.62 W	471,994.85	606,636.40	0.00	6,524.18	0.00	
16,200.00	90.00	0.18	10,980.00	6,628.53 N	1,372.30 W	472,094.85	606,636.72	0.00	6,624.18	0.00	
16,300.00	90.00	0.18	10,980.00	6,728.53 N	1,371.99 W	472,194.85	606,637.03	0.00	6,724.18	0.00	
16,400.00	90.00	0.18	10,980.00	6,828.53 N	1,371.67 W	472,294.85	606,637.35	0.00	6,824.18	0.00	
16,500.00	90.00	0.18	10,980.00	6,928.53 N	1,371.36 W	472,394.85	606,637.66	0.00	6,924.18	0.00	
16,600.00	90.00	0.18	10,980.00	7,028.53 N	1,371.04 W	472,494.85	606,637.98	0.00	7,024.18	0.00	
16,700.00	90.00	0.18	10,980.00	7,128.53 N	1,370.73 W	472,594.85	606,638.29	0.00	7,124.18	0.00	
16,800.00	90.00	0.18	10,980.00	7,228.53 N	1,370.41 W	472,694.85	606,638.61	0.00	7,224.18	0.00	
16,900.00	90.00	0.18	10,980.00	7,328.52 N	1,370.10 W	472,794.84	606,638.92	0.00	7,324.18	0.00	
17,000.00	90.00	0.18	10,980.00	7,428.52 N	1,369.78 W	472,894.84	606,639.24	0.00	7,424.18	0.00	
17,100.00	90.00	0.18	10,980.00	7,528.52 N	1,369.47 W	472,994.84	606,639.55	0.00	7,524.18	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 24H - 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)	(°)	
17,200.00	90.00	0.18	10,980.00	7,628.52 N	1,369.15 W	473,094.84	606,639.87	0.00	7,624.18	0.00	
17,300.00	90.00	0.18	10,980.00	7,728.52 N	1,368.84 W	473,194.84	606,640.18	0.00	7,724.18	0.00	
17,400.00	90.00	0.18	10,980.00	7,828.52 N	1,368.52 W	473,294.84	606,640.50	0.00	7,824.18	0.00	
17,500.00	90.00	0.18	10,980.00	7,928.52 N	1,368.21 W	473,394.84	606,640.81	0.00	7,924.18	0.00	
17,600.00	90.00	0.18	10,980.00	8,028.52 N	1,367.89 W	473,494.84	606,641.13	0.00	8,024.18	0.00	
17,700.00	90.00	0.18	10,980.00	8,128.52 N	1,367.58 W	473,594.84	606,641.44	0.00	8,124.18	0.00	
17,800.00	90.00	0.18	10,980.00	8,228.52 N	1,367.26 W	473,694.84	606,641.76	0.00	8,224.18	0.00	
17,900.00	90.00	0.18	10,980.00	8,328.52 N	1,366.95 W	473,794.84	606,642.07	0.00	8,324.18	0.00	
18,000.00	90.00	0.18	10,980.00	8,428.52 N	1,366.63 W	473,894.84	606,642.39	0.00	8,424.18	0.00	
18,100.00	90.00	0.18	10,980.00	8,528.52 N	1,366.32 W	473,994.84	606,642.70	0.00	8,524.18	0.00	
18,200.00	90.00	0.18	10,980.00	8,628.52 N	1,366.00 W	474,094.84	606,643.02	0.00	8,624.18	0.00	
18,300.00	90.00	0.18	10,980.00	8,728.52 N	1,365.69 W	474,194.84	606,643.33	0.00	8,724.18	0.00	
18,400.00	90.00	0.18	10,980.00	8,828.52 N	1,365.37 W	474,294.84	606,643.65	0.00	8,824.18	0.00	
18,500.00	90.00	0.18	10,980.00	8,928.52 N	1,365.06 W	474,394.84	606,643.96	0.00	8,924.18	0.00	
18,600.00	90.00	0.18	10,980.00	9,028.52 N	1,364.74 W	474,494.84	606,644.28	0.00	9,024.18	0.00	
18,700.00	90.00	0.18	10,980.00	9,128.52 N	1,364.43 W	474,594.84	606,644.59	0.00	9,124.18	0.00	
18,800.00	90.00	0.18	10,980.00	9,228.52 N	1,364.11 W	474,694.84	606,644.91	0.00	9,224.18	0.00	
18,900.00	90.00	0.18	10,980.00	9,328.51 N	1,363.80 W	474,794.83	606,645.22	0.00	9,324.18	0.00	
19,000.00	90.00	0.18	10,980.00	9,428.51 N	1,363.48 W	474,894.83	606,645.54	0.00	9,424.18	0.00	
19,100.00	90.00	0.18	10,980.00	9,528.51 N	1,363.17 W	474,994.83	606,645.85	0.00	9,524.18	0.00	
19,200.00	90.00	0.18	10,980.00	9,628.51 N	1,362.85 W	475,094.83	606,646.17	0.00	9,624.18	0.00	
19,300.00	90.00	0.18	10,980.00	9,728.51 N	1,362.54 W	475,194.83	606,646.48	0.00	9,724.18	0.00	
19,400.00	90.00	0.18	10,980.00	9,828.51 N	1,362.22 W	475,294.83	606,646.80	0.00	9,824.18	0.00	
19,500.00	90.00	0.18	10,980.00	9,928.51 N	1,361.91 W	475,394.83	606,647.11	0.00	9,924.18	0.00	
19,600.00	90.00	0.18	10,980.00	10,028.51 N	1,361.59 W	475,494.83	606,647.43	0.00	10,024.18	0.00	
19,700.00	90.00	0.18	10,980.00	10,128.51 N	1,361.28 W	475,594.83	606,647.74	0.00	10,124.18	0.00	
19,800.00	90.00	0.18	10,980.00	10,228.51 N	1,360.96 W	475,694.83	606,648.06	0.00	10,224.18	0.00	
19,900.00	90.00	0.18	10,980.00	10,328.51 N	1,360.65 W	475,794.83	606,648.37	0.00	10,324.18	0.00	
20,000.00	90.00	0.18	10,980.00	10,428.51 N	1,360.33 W	475,894.83	606,648.69	0.00	10,424.18	0.00	
20,100.00	90.00	0.18	10,980.00	10,528.51 N	1,360.02 W	475,994.83	606,649.00	0.00	10,524.18	0.00	
20,200.00	90.00	0.18	10,980.00	10,628.51 N	1,359.70 W	476,094.83	606,649.32	0.00	10,624.18	0.00	
20,300.00	90.00	0.18	10,980.00	10,728.51 N	1,359.39 W	476,194.83	606,649.63	0.00	10,724.18	0.00	
20,400.00	90.00	0.18	10,980.00	10,828.51 N	1,359.07 W	476,294.83	606,649.95	0.00	10,824.18	0.00	
20,500.00	90.00	0.18	10,980.00	10,928.51 N	1,358.76 W	476,394.83	606,650.26	0.00	10,924.18	0.00	
20,600.00	90.00	0.18	10,980.00	11,028.51 N	1,358.44 W	476,494.83	606,650.58	0.00	11,024.18	0.00	
20,700.00	90.00	0.18	10,980.00	11,128.51 N	1,358.13 W	476,594.83	606,650.89	0.00	11,124.18	0.00	
20,800.00	90.00	0.18	10,980.00	11,228.51 N	1,357.81 W	476,694.83	606,651.21	0.00	11,224.18	0.00	

HALLIBURTON

Eddy County, New Mexico (NAD27)

Plan Report for Blue Steel 21 WD Fed Com 24H - 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)				
20,900.00	90.00	0.18	10,980.00	11,328.50 N	1,357.50 W	476,794.82	606,651.52	0.00	11,324.18	0.00	
21,000.00	90.00	0.18	10,980.00	11,428.50 N	1,357.18 W	476,894.82	606,651.84	0.00	11,424.18	0.00	
21,100.00	90.00	0.18	10,980.00	11,528.50 N	1,356.87 W	476,994.82	606,652.15	0.00	11,524.18	0.00	
21,200.00	90.00	0.18	10,980.00	11,628.50 N	1,356.55 W	477,094.82	606,652.47	0.00	11,624.18	0.00	
21,300.00	90.00	0.18	10,980.00	11,728.50 N	1,356.24 W	477,194.82	606,652.78	0.00	11,724.18	0.00	
21,400.00	90.00	0.18	10,980.00	11,828.50 N	1,355.92 W	477,294.82	606,653.10	0.00	11,824.18	0.00	
21,500.00	90.00	0.18	10,980.00	11,928.50 N	1,355.61 W	477,394.82	606,653.41	0.00	11,924.18	0.00	
21,524.00	90.00	0.18	10,980.00	11,952.50 N	1,355.53 W	477,418.82	606,653.49	0.00	11,948.18	0.00	4 1/2"
21,524.73	90.00	0.18	10,980.00	11,953.23 N	1,355.53 W	477,419.55	606,653.49	0.00	11,948.91	0.00	TD at 21524.73

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,030.00	1,030.00	0.00	0.00	Begin Nudge
1,430.00	1,429.68	10.97	-8.62	EOB 4.00° Inc
5,500.00	5,489.76	234.21	-184.04	EOH 4.00° Inc
5,947.17	5,926.08	306.04	-240.48	EOB 19.65° Inc
10,031.45	9,772.48	1,386.03	-1,089.09	EOH 19.65° Inc
10,592.91	10,323.00	1,461.00	-1,148.00	Vertical Point
10,627.22	10,357.31	1,461.00	-1,148.00	KOP
11,077.22	10,762.45	1,592.42	-1,252.35	EOB 45° Inc 321.55° Az
11,641.91	10,980.00	2,070.46	-1,386.66	Landing Point
21,524.73	10,980.00	11,953.23	-1,355.53	TD at 21524.73

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	0.18	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	21,524.73	Plan 1	3_MWD+HRGM+AX

HALLIBURTON**Plan Report for Blue Steel 21 WD Fed Com 24H - 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	3,025.78	9 5/8"	9-5/8	12-1/4
10,639.00	10,369.09	7"	7	8-3/4
21,524.00	10,980.00	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
PBHL (BS 24H) 100' FNL - 2310' FEL ()									
	0.00	0.00	0.00	11,953.23	-1,355.53	477,419.55	606,653.49	32.31207052	-103.98811047
- plan misses target center by 10980.00usft at 21524.73usft MD (10980.00 TVD, 11953.23 N, -1355.53 E)									
- Point									
KOP (BS 24H) 100' FSL 2348' FEL ()									
	0.00	0.00	0.00	1,511.00	-1,387.15	466,977.32	606,621.87	32.28336602	-103.98832157
- plan misses target center by 2051.17usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
FTP (BS 24H) 100' FSL - 2348' FEL ()									
	0.00	0.00	0.00	1,511.00	-1,387.15	466,977.32	606,621.87	32.28336602	-103.98832157
- plan misses target center by 2051.17usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.65 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 11,077.22 usft
Net Tortousity applicable to Plans:	0.65 °/100usft	Directional Difficulty Index:	6.760

Audit Info

North Reference Sheet for Blue Steel Pad (Grid) - Blue Steel 21 WD Fed Com 24H - 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 24H

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: 0.99992245

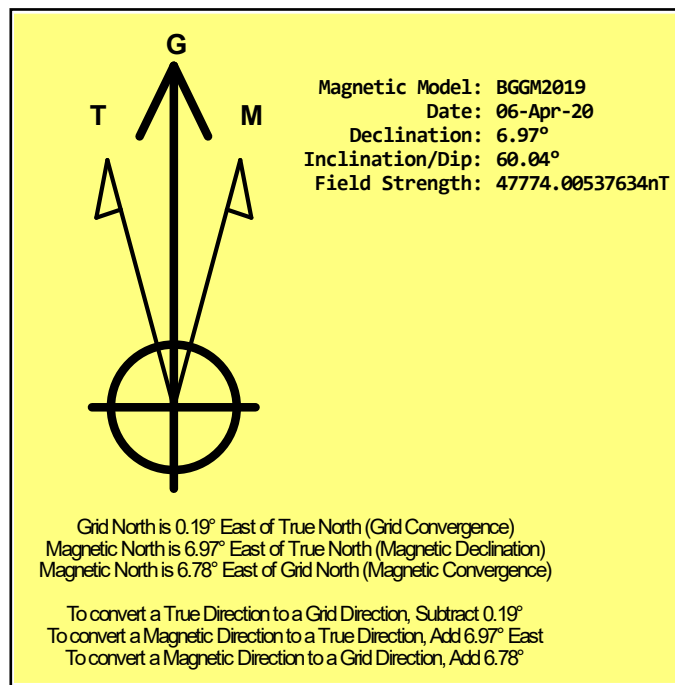
Grid Coordinates of Well: 465,466.32 usft N, 608,009.02 usft E

Geographical Coordinates of Well: 32.27920006, -103.98384897

Grid Convergence at Surface is: 0.19°

Based upon Minimum Curvature type calculations, at a Measured Depth of 21,524.73usft
the Bottom Hole Displacement is 12,029.84usft in the Direction of 353.53° (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 24H

1419' FNL - 968' 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 24H - Wellbore #1 - Plan 1

Well Coordinates:	32.27920006	NAD 1927 (NADCON CONUS)
	-103.98384897	New Mexico East 3001
		465,466.32 N
		608,009.02 E

Site Error: 5.00 usft

Well Error: 0.50 usft

Ground Level: 2,995.00 usft

Scan Range: 0.00 to 21,524.73 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 24H - Plan 1

Anticollision Summary

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

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

Scan Range: 0.00 to 21,524.73 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 11H - Wellbore #1 - Plan 1							
	1,000.00	1,000.00	30.02	22.32	89.73	3.899	Centre Distance
	1,100.00	1,100.00	30.28	21.88	128.53	3.602	Ellipse Separation
	21,524.73	21,328.14	670.86	329.07	79.70	1.963	Separation Factor
Blue Steel 21 WD Fed Com 16H - Wellbore #1 - Plan 1							
	1,000.00	1,000.00	60.08	52.38	89.91	7.803	Centre Distance
	1,100.00	1,100.00	60.34	51.94	128.39	7.177	Ellipse Separation
	21,524.73	21,408.88	1,320.13	972.47	90.65	3.797	Separation Factor
Blue Steel 21 WD Fed Com 17H - Wellbore #1 - Plan 1							
	1,000.00	1,000.00	90.16	82.46	89.99	11.710	Centre Distance
	1,100.00	1,100.00	90.42	82.02	128.36	10.754	Ellipse Separation
	21,524.73	21,323.88	1,982.89	1,635.82	86.96	5.713	Separation Factor
Blue Steel Fed Com WA #14H - Wellbore #1 - Actual Drilled							
	1,123.05	1,119.94	205.19	197.34	20.15	26.117	Centre Distance
	1,200.00	1,191.63	205.57	197.21	20.06	24.595	Ellipse Separation
	10,132.70	10,021.00	334.97	258.68	-24.09	4.391	Separation Factor
Blue Steel Fed Com WA #14H - Wellbore #1 - Plan 4							
	1,123.05	1,119.94	205.19	197.34	20.15	26.117	Centre Distance
	1,200.00	1,191.63	205.57	197.21	20.06	24.595	Ellipse Separation

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

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

Scan Range: 0.00 to 21,524.73 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	21,288.81	20,347.17	730.00	557.28	-0.03	4.226	Separation Factor
Blue Steel Fed Com WA #15H - Wellbore #1 - Actual Drilled	9,200.00	9,141.59	930.98	857.71	107.13	12.706	Separation Factor
Blue Steel Fed Com WA #15H - Wellbore #1 - Plan 4	21,303.68	20,319.23	1,509.88	1,205.59	60.96	4.962	Separation Factor
Blue Steel Fed Com WXY #12H - Wellbore #1 - Actual Drilled	100.00	102.71	202.55	199.91	-8.47	76.648	Centre Distance
	1,262.69	1,258.47	205.99	196.82	30.23	22.470	Ellipse Separation
	21,300.00	20,267.00	1,115.66	876.48	36.74	4.665	Separation Factor
Blue Steel Fed Com WXY #12H - Wellbore #1 - Plan 3	100.00	102.71	202.55	200.18	-8.47	85.588	Centre Distance
	1,262.69	1,258.47	205.99	197.26	30.23	23.582	Ellipse Separation
	21,299.20	20,217.23	1,108.83	871.41	36.53	4.670	Separation Factor
Blue Steel Fed Com WXY #18H - Wellbore #1 - Plan 5	1,529.98	1,520.07	190.55	179.98	11.11	18.014	Centre Distance / Ellipse Separation
	21,400.00	20,162.65	2,166.26	1,852.16	66.21	6.897	Separation Factor
Blue Steel Fed Com WXY #18H - Wellbore #1 - Actual Drilled	1,529.98	1,520.07	190.55	179.98	11.11	18.014	Centre Distance / Ellipse Separation
	21,400.00	20,160.00	2,165.78	1,851.05	66.37	6.882	Separation Factor
Cypress 28 Federal 003H (AC) - Wellbore #1 - Actual Drilled	7,904.21	10,747.00	131.23	50.59	-72.59	1.627	Centre Distance / Ellipse Separation / Separation Factor
IMC 21 Federal Com 002H (AC) - Wellbore #1 - Actual Drilled	6,865.67	10,846.00	1,472.25	1,399.75	67.11	20.308	Centre Distance
	6,900.00	10,846.00	1,472.65	1,399.66	67.11	20.177	Ellipse Separation
	7,200.00	10,846.00	1,509.73	1,433.28	67.11	19.746	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

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

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

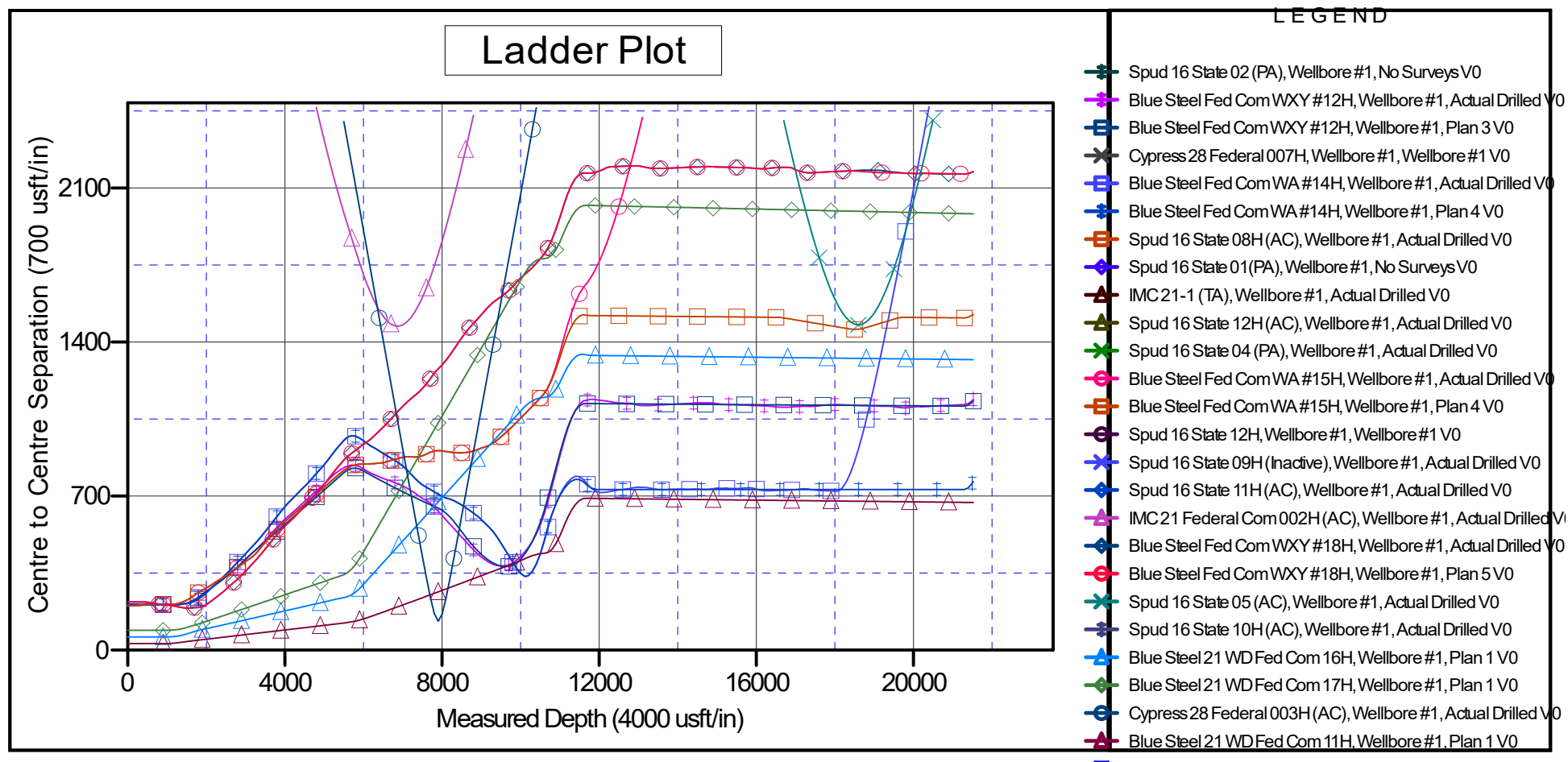
Scan Range: 0.00 to 21,524.73 usft. Measured Depth.

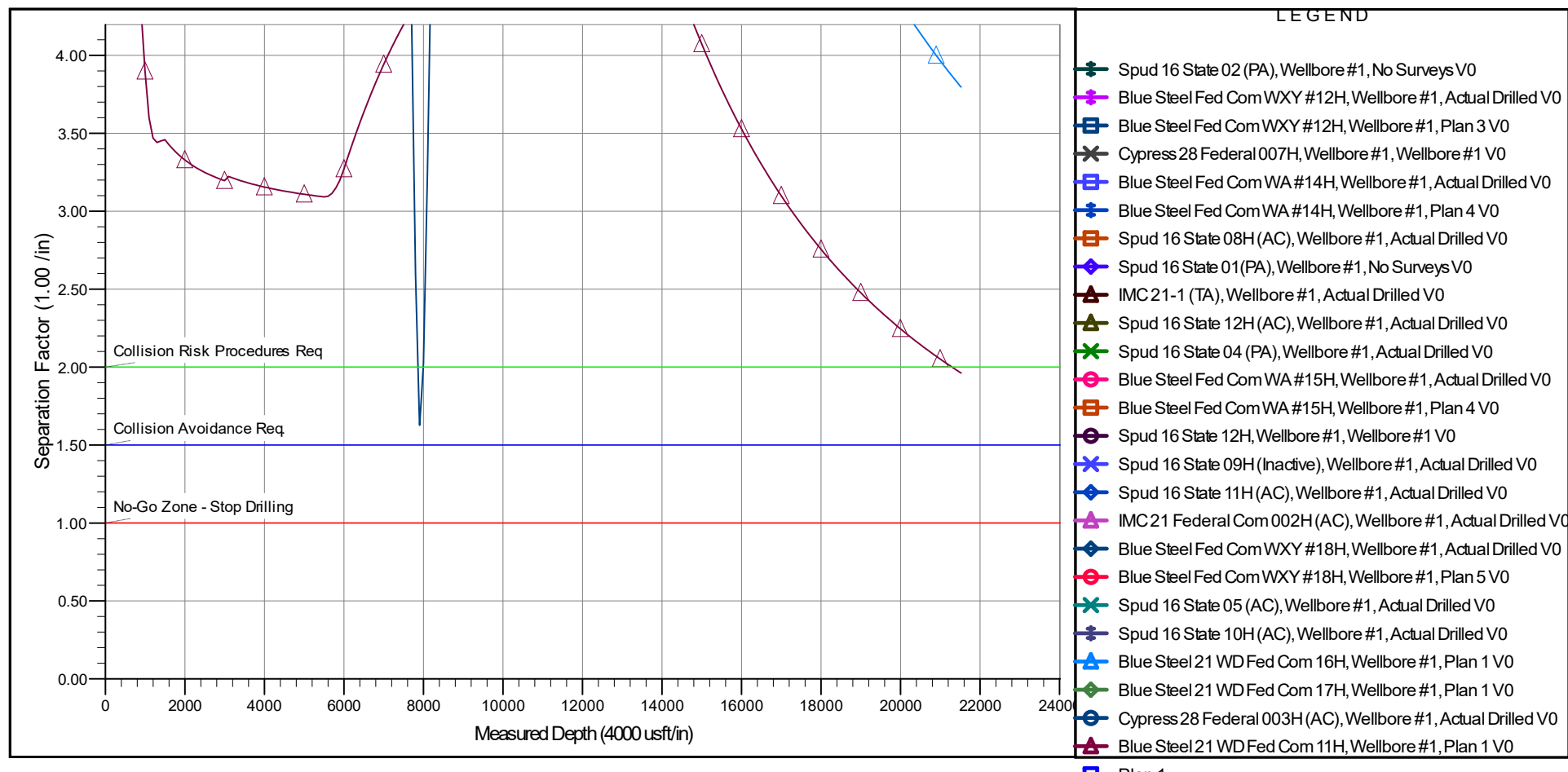
Max Center Distance is 2,484.95 usft. Max. Separation Factor is Unlimited. Max. Ellipse Separation is Unlimited.

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							
	18,598.75	10,985.64	1,478.10	1,325.23	91.95	9.669	Centre Distance
	18,600.00	10,985.66	1,478.10	1,325.22	91.95	9.668	Ellipse Separation / Separation Factor

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

Ladder Plot: Measured Depth vs. Distance Between Centres



HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1****Separation Factor Plot: Measured Depth vs. Separation Factor**

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 11H	2,995.00	465,466.46	608,039.04	32.27920017	-103.98375183	5.00	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 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 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	89.73	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	89.73	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	89.73	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	89.73	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	89.73	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	89.73	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	89.73	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	89.73	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	89.73	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	89.73	3.899
1,100.00	1,100.00	0.34	-0.26	3.75	1,100.00	1,100.00	0.14	30.02	3.75	30.28	21.88	128.53	3.602
1,200.00	1,199.98	1.98	-1.56	4.10	1,199.98	1,199.98	0.14	30.02	4.10	31.63	22.52	131.49	3.470
1,300.00	1,299.90	5.00	-3.93	4.45	1,300.23	1,300.23	0.92	29.63	4.46	33.80	23.98	135.08	3.441
1,400.00	1,399.74	9.39	-7.38	4.81	1,400.54	1,400.50	3.27	28.44	4.82	36.35	25.81	137.84	3.451
1,500.00	1,499.50	14.81	-11.64	5.17	1,500.90	1,500.76	7.19	26.47	5.17	38.88	27.64	139.48	3.459
1,600.00	1,599.26	20.30	-15.95	5.53	1,600.88	1,600.60	11.87	24.11	5.53	40.96	29.01	140.06	3.427
1,700.00	1,699.02	25.78	-20.26	5.89	1,700.85	1,700.44	16.54	21.76	5.89	43.05	30.38	140.58	3.399
1,800.00	1,798.77	31.27	-24.57	6.25	1,800.83	1,800.28	21.21	19.40	6.25	45.13	31.76	141.06	3.374
1,900.00	1,898.53	36.75	-28.88	6.61	1,900.81	1,900.12	25.89	17.05	6.60	47.22	33.13	141.49	3.351
2,000.00	1,998.29	42.24	-33.19	6.97	2,000.79	1,999.96	30.56	14.69	6.96	49.32	34.51	141.88	3.330
2,100.00	2,098.04	47.72	-37.50	7.33	2,100.76	2,099.80	35.23	12.34	7.32	51.41	35.88	142.25	3.311
2,200.00	2,197.80	53.21	-41.81	7.70	2,200.74	2,199.64	39.90	9.99	7.68	53.51	37.26	142.58	3.294
2,300.00	2,297.56	58.69	-46.12	8.06	2,300.72	2,299.48	44.58	7.63	8.04	55.61	38.64	142.89	3.278
2,400.00	2,397.31	64.18	-50.43	8.43	2,400.70	2,399.32	49.25	5.28	8.40	57.71	40.02	143.18	3.263
2,500.00	2,497.07	69.66	-54.74	8.79	2,500.67	2,499.17	53.92	2.92	8.76	59.81	41.41	143.44	3.250
2,600.00	2,596.83	75.15	-59.05	9.16	2,600.65	2,599.01	58.60	0.57	9.13	61.91	42.79	143.69	3.238
2,700.00	2,696.58	80.63	-63.36	9.53	2,700.63	2,698.85	63.27	-1.79	9.49	64.02	44.17	143.92	3.226
2,800.00	2,796.34	86.12	-67.67	9.89	2,800.61	2,798.69	67.94	-4.14	9.85	66.12	45.56	144.14	3.215
2,900.00	2,896.09	91.60	-71.98	10.26	2,900.58	2,898.53	72.61	-6.49	10.21	68.23	46.94	144.35	3.205
3,000.00	2,995.85	97.09	-76.29	10.62	3,000.56	2,998.37	77.29	-8.85	10.57	70.33	48.33	144.54	3.196

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	3,095.61	102.57	-80.60	10.99	3,100.54	3,098.21	81.96	-11.20	10.93	72.44	49.97	144.72	3.223
3,200.00	3,195.36	108.06	-84.91	11.36	3,200.52	3,198.05	86.63	-13.56	11.30	74.55	51.35	144.89	3.214
3,300.00	3,295.12	113.54	-89.22	11.73	3,300.49	3,297.89	91.31	-15.91	11.66	76.66	52.74	145.05	3.205
3,400.00	3,394.88	119.03	-93.53	12.09	3,400.47	3,397.73	95.98	-18.27	12.02	78.77	54.13	145.20	3.197
3,500.00	3,494.63	124.51	-97.84	12.46	3,500.45	3,497.57	100.65	-20.62	12.38	80.88	55.52	145.35	3.189
3,600.00	3,594.39	130.00	-102.15	12.83	3,600.43	3,597.41	105.32	-22.97	12.75	82.99	56.90	145.48	3.182
3,700.00	3,694.15	135.48	-106.46	13.19	3,700.40	3,697.25	110.00	-25.33	13.11	85.10	58.29	145.62	3.175
3,800.00	3,793.90	140.97	-110.77	13.56	3,800.38	3,797.09	114.67	-27.68	13.47	87.21	59.68	145.74	3.168
3,900.00	3,893.66	146.45	-115.08	13.93	3,900.36	3,896.93	119.34	-30.04	13.83	89.32	61.07	145.86	3.162
4,000.00	3,993.41	151.94	-119.39	14.30	4,000.34	3,996.77	124.02	-32.39	14.20	91.43	62.46	145.97	3.156
4,100.00	4,093.17	157.42	-123.70	14.67	4,100.31	4,096.61	128.69	-34.75	14.56	93.54	63.85	146.08	3.150
4,200.00	4,192.93	162.91	-128.01	15.03	4,200.29	4,196.45	133.36	-37.10	14.92	95.65	65.24	146.18	3.145
4,300.00	4,292.68	168.39	-132.32	15.40	4,300.27	4,296.29	138.03	-39.45	15.29	97.77	66.63	146.28	3.139
4,400.00	4,392.44	173.87	-136.63	15.77	4,400.25	4,396.14	142.71	-41.81	15.65	99.88	68.02	146.37	3.135
4,500.00	4,492.20	179.36	-140.94	16.14	4,500.22	4,495.98	147.38	-44.16	16.01	101.99	69.41	146.46	3.130
4,600.00	4,591.95	184.84	-145.25	16.51	4,600.20	4,595.82	152.05	-46.52	16.38	104.11	70.80	146.55	3.125
4,700.00	4,691.71	190.33	-149.56	16.88	4,700.18	4,695.66	156.73	-48.87	16.74	106.22	72.19	146.63	3.121
4,800.00	4,791.47	195.81	-153.87	17.24	4,800.16	4,795.50	161.40	-51.23	17.10	108.33	73.58	146.71	3.117
4,900.00	4,891.22	201.30	-158.18	17.61	4,900.13	4,895.34	166.07	-53.58	17.47	110.45	74.97	146.79	3.113
5,000.00	4,990.98	206.78	-162.49	17.98	5,000.11	4,995.18	170.74	-55.93	17.83	112.56	76.36	146.86	3.109
5,100.00	5,090.74	212.27	-166.80	18.35	5,100.09	5,095.02	175.42	-58.29	18.19	114.68	77.75	146.94	3.106
5,200.00	5,190.49	217.75	-171.11	18.72	5,200.07	5,194.86	180.09	-60.64	18.56	116.79	79.14	147.00	3.102
5,300.00	5,290.25	223.24	-175.42	19.09	5,300.04	5,294.70	184.76	-63.00	18.92	118.91	80.53	147.07	3.099
5,400.00	5,390.00	228.72	-179.73	19.45	5,400.02	5,394.54	189.44	-65.35	19.28	121.02	81.93	147.13	3.095
5,500.00	5,489.76	234.21	-184.04	19.82	5,500.00	5,494.38	194.11	-67.71	19.65	123.14	83.32	147.20	3.092
5,600.00	5,589.24	242.08	-190.23	20.20	5,605.72	5,599.70	202.09	-71.73	20.04	125.51	84.97	146.93	3.096
5,700.00	5,687.93	254.72	-200.16	20.59	5,711.48	5,704.28	216.13	-78.80	20.44	128.39	87.19	146.10	3.116
5,800.00	5,785.45	272.07	-213.79	21.00	5,817.25	5,807.62	236.18	-88.90	20.85	131.83	90.00	144.75	3.151
5,900.00	5,881.44	294.07	-231.08	21.42	5,922.98	5,909.25	262.13	-101.97	21.28	135.88	93.44	142.96	3.202

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	5,975.83	320.01	-251.46	21.86	6,023.63	6,004.80	290.37	-116.19	21.70	141.47	98.23	141.43	3.272
6,100.00	6,070.01	346.45	-272.24	22.31	6,123.39	6,099.49	318.42	-130.32	22.12	147.63	103.55	140.22	3.349
6,200.00	6,164.19	372.90	-293.01	22.76	6,223.16	6,194.18	346.48	-144.46	22.54	153.84	108.92	139.12	3.425
6,300.00	6,258.36	399.34	-313.79	23.22	6,322.92	6,288.87	374.54	-158.59	22.98	160.11	114.33	138.10	3.498
6,400.00	6,352.54	425.78	-334.57	23.69	6,422.69	6,383.56	402.59	-172.72	23.41	166.42	119.78	137.16	3.568
6,500.00	6,446.71	452.22	-355.35	24.16	6,522.45	6,478.25	430.65	-186.85	23.86	172.77	125.26	136.28	3.636
6,600.00	6,540.89	478.67	-376.12	24.64	6,622.22	6,572.94	458.70	-200.98	24.30	179.16	130.77	135.47	3.702
6,700.00	6,635.06	505.11	-396.90	25.12	6,721.98	6,667.63	486.76	-215.12	24.75	185.59	136.30	134.72	3.765
6,800.00	6,729.24	531.55	-417.68	25.60	6,821.75	6,762.32	514.82	-229.25	25.21	192.04	141.86	134.01	3.827
6,900.00	6,823.42	557.99	-438.46	26.09	6,921.51	6,857.01	542.87	-243.38	25.67	198.52	147.43	133.35	3.886
7,000.00	6,917.59	584.44	-459.23	26.58	7,021.27	6,951.70	570.93	-257.51	26.13	205.03	153.03	132.74	3.943
7,100.00	7,011.77	610.88	-480.01	27.08	7,121.04	7,046.39	598.99	-271.64	26.60	211.56	158.63	132.16	3.997
7,200.00	7,105.94	637.32	-500.79	27.58	7,220.80	7,141.08	627.04	-285.78	27.07	218.11	164.26	131.61	4.050
7,300.00	7,200.12	663.76	-521.57	28.08	7,320.57	7,235.77	655.10	-299.91	27.54	224.67	169.89	131.10	4.101
7,400.00	7,294.30	690.21	-542.34	28.59	7,420.33	7,330.46	683.16	-314.04	28.02	231.26	175.53	130.62	4.150
7,500.00	7,388.47	716.65	-563.12	29.10	7,520.10	7,425.15	711.21	-328.17	28.49	237.86	181.19	130.16	4.197
7,600.00	7,482.65	743.09	-583.90	29.61	7,619.86	7,519.84	739.27	-342.30	28.98	244.47	186.85	129.73	4.243
7,700.00	7,576.82	769.53	-604.68	30.12	7,719.63	7,614.53	767.32	-356.44	29.46	251.10	192.52	129.32	4.287
7,800.00	7,671.00	795.98	-625.45	30.64	7,819.39	7,709.22	795.38	-370.57	29.95	257.74	198.20	128.93	4.329
7,900.00	7,765.17	822.42	-646.23	31.16	7,919.16	7,803.91	823.44	-384.70	30.43	264.39	203.89	128.56	4.370
8,000.00	7,859.35	848.86	-667.01	31.68	8,018.92	7,898.59	851.49	-398.83	30.93	271.05	209.58	128.21	4.409
8,100.00	7,953.53	875.31	-687.79	32.20	8,118.68	7,993.28	879.55	-412.96	31.42	277.72	215.27	127.88	4.447
8,200.00	8,047.70	901.75	-708.56	32.73	8,218.45	8,087.97	907.61	-427.10	31.91	284.40	220.97	127.56	4.484
8,300.00	8,141.88	928.19	-729.34	33.26	8,318.21	8,182.66	935.66	-441.23	32.41	291.08	226.68	127.26	4.519
8,400.00	8,236.05	954.63	-750.12	33.78	8,417.98	8,277.35	963.72	-455.36	32.91	297.78	232.38	126.97	4.554
8,500.00	8,330.23	981.08	-770.90	34.32	8,517.74	8,372.04	991.77	-469.49	33.41	304.48	238.10	126.69	4.587
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,617.51	8,466.73	1,019.83	-483.62	33.91	311.19	243.81	126.43	4.619
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,717.27	8,561.42	1,047.89	-497.76	34.42	317.90	249.53	126.17	4.650
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,817.04	8,656.11	1,075.94	-511.89	34.92	324.62	255.25	125.93	4.679
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,916.80	8,750.80	1,104.00	-526.02	35.43	331.35	260.98	125.69	4.708



Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	8,801.11	1,113.29	-874.78	36.99	9,016.57	8,845.49	1,132.06	-540.15	35.94	338.08	266.70	125.47	4.736
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,116.33	8,940.18	1,160.11	-554.28	36.44	344.82	272.43	125.25	4.763
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,216.09	9,034.87	1,188.17	-568.42	36.96	351.56	278.16	125.05	4.789
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,315.86	9,129.56	1,216.22	-582.55	37.47	358.31	283.89	124.85	4.815
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,415.62	9,224.25	1,244.28	-596.68	37.98	365.06	289.63	124.66	4.839
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,515.39	9,318.94	1,272.34	-610.81	38.49	371.81	295.36	124.47	4.863
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,615.15	9,413.63	1,300.39	-624.94	39.01	378.57	301.10	124.29	4.886
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,714.92	9,508.32	1,328.45	-639.07	39.53	385.33	306.83	124.12	4.909
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,814.68	9,603.01	1,356.51	-653.21	40.04	392.10	312.57	123.95	4.931
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,914.45	9,697.70	1,384.56	-667.34	40.56	398.87	318.31	123.79	4.952
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	10,007.38	9,786.36	1,409.40	-679.85	41.04	406.29	324.76	123.85	4.984
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	10,100.00	9,876.11	1,429.77	-690.11	41.48	415.05	332.68	124.56	5.039
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,188.16	9,962.62	1,444.92	-697.74	41.86	422.76	339.65	125.31	5.087
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,278.15	10,051.72	1,456.08	-703.36	42.22	429.25	345.49	126.02	5.125
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,367.88	10,141.13	1,462.83	-706.76	42.54	434.49	350.27	126.68	5.159
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,457.39	10,230.58	1,465.20	-707.95	42.84	438.46	353.79	127.30	5.178
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,556.47	10,329.62	1,466.78	-707.95	43.15	440.08	354.79	89.25	5.160
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,653.59	10,425.40	1,482.16	-707.94	43.53	443.30	357.19	125.90	5.148
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,747.17	10,513.96	1,512.05	-707.90	43.98	457.42	370.23	122.93	5.247
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,836.21	10,592.67	1,553.52	-707.85	44.48	482.43	394.18	119.01	5.467
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,920.30	10,660.25	1,603.42	-707.79	45.00	517.38	428.13	114.28	5.797
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	11,000.00	10,716.92	1,659.37	-707.73	45.53	560.50	470.30	107.38	6.214
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	11,078.54	10,764.65	1,721.67	-707.65	46.09	601.63	510.49	97.26	6.601
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	11,158.75	10,804.14	1,791.41	-707.57	46.68	635.82	543.70	90.03	6.902
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	11,240.20	10,833.89	1,867.16	-707.48	47.31	662.17	569.07	85.04	7.112
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	11,322.55	10,852.74	1,947.24	-707.38	47.95	680.05	585.96	81.86	7.228
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	11,405.25	10,859.93	2,029.56	-707.29	48.60	689.01	593.99	80.20	7.251
11,700.00	10,980.00	2,128.55	-1,386.48	52.78	11,503.43	10,860.00	2,127.74	-707.17	49.38	689.83	593.33	79.98	7.148
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	11,603.43	10,860.00	2,227.74	-707.05	50.20	689.64	591.53	79.98	7.029



Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	10,980.00	2,328.55	-1,385.85	54.33	11,703.43	10,860.00	2,327.74	-706.93	51.06	689.44	589.67	79.98	6.910
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,803.43	10,860.00	2,427.74	-706.81	51.93	689.25	587.76	79.97	6.791
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,903.43	10,860.00	2,527.74	-706.69	52.83	689.06	585.80	79.97	6.673
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	12,003.43	10,860.00	2,627.74	-706.57	53.76	688.87	583.79	79.97	6.556
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	12,103.43	10,860.00	2,727.74	-706.46	54.71	688.67	581.74	79.96	6.440
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	12,203.43	10,860.00	2,827.74	-706.34	55.68	688.48	579.64	79.96	6.326
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	12,303.43	10,860.00	2,927.74	-706.22	56.66	688.29	577.51	79.96	6.213
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	12,403.43	10,860.00	3,027.74	-706.10	57.67	688.09	575.34	79.96	6.102
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	12,503.43	10,860.00	3,127.74	-705.98	58.70	687.90	573.13	79.95	5.994
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	12,603.43	10,860.00	3,227.74	-705.86	59.74	687.71	570.89	79.95	5.887
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	12,703.43	10,860.00	3,327.74	-705.74	60.79	687.51	568.61	79.95	5.782
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	12,803.43	10,860.00	3,427.74	-705.62	61.87	687.32	566.31	79.94	5.680
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,903.43	10,860.00	3,527.74	-705.50	62.95	687.13	563.97	79.94	5.579
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	13,003.43	10,860.00	3,627.74	-705.39	64.05	686.93	561.61	79.94	5.481
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	13,103.43	10,860.00	3,727.74	-705.27	65.17	686.74	559.22	79.94	5.385
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	13,203.43	10,860.00	3,827.74	-705.15	66.29	686.55	556.81	79.93	5.292
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	13,303.43	10,860.00	3,927.74	-705.03	67.43	686.35	554.37	79.93	5.200
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	13,403.43	10,860.00	4,027.74	-704.91	68.58	686.16	551.92	79.93	5.111
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	13,503.43	10,860.00	4,127.74	-704.79	69.74	685.97	549.44	79.92	5.024
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	13,603.43	10,860.00	4,227.74	-704.67	70.91	685.77	546.94	79.92	4.939
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	13,703.43	10,860.00	4,327.74	-704.55	72.09	685.58	544.42	79.92	4.857
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	13,803.43	10,860.00	4,427.74	-704.44	73.27	685.39	541.88	79.92	4.776
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,903.43	10,860.00	4,527.74	-704.32	74.47	685.19	539.32	79.91	4.697
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	14,003.43	10,860.00	4,627.74	-704.20	75.68	685.00	536.75	79.91	4.621
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	14,103.43	10,860.00	4,727.74	-704.08	76.89	684.81	534.17	79.91	4.546
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	14,203.43	10,860.00	4,827.74	-703.96	78.11	684.61	531.56	79.90	4.473
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	14,303.43	10,860.00	4,927.74	-703.84	79.34	684.42	528.95	79.90	4.402
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	14,403.43	10,860.00	5,027.74	-703.72	80.57	684.23	526.32	79.90	4.333
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	14,503.43	10,860.00	5,127.74	-703.60	81.81	684.04	523.67	79.90	4.266
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	14,603.43	10,860.00	5,227.73	-703.48	83.06	683.84	521.02	79.89	4.200

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	10,980.00	5,328.53	-1,376.40	86.23	14,703.43	10,860.00	5,327.73	-703.37	84.31	683.65	518.35	79.89	4.136
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,803.43	10,860.00	5,427.73	-703.25	85.57	683.46	515.67	79.89	4.073
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,903.43	10,860.00	5,527.73	-703.13	86.83	683.26	512.98	79.88	4.013
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	15,003.43	10,860.00	5,627.73	-703.01	88.10	683.07	510.28	79.88	3.953
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	15,103.43	10,860.00	5,727.73	-702.89	89.37	682.88	507.57	79.88	3.895
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	15,203.43	10,860.00	5,827.73	-702.77	90.65	682.68	504.85	79.88	3.839
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	15,303.43	10,860.00	5,927.73	-702.65	91.93	682.49	502.13	79.87	3.784
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	15,403.43	10,860.00	6,027.73	-702.53	93.22	682.30	499.39	79.87	3.730
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	15,503.43	10,860.00	6,127.73	-702.42	94.51	682.10	496.64	79.87	3.678
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	15,603.42	10,860.00	6,227.73	-702.30	95.81	681.91	493.89	79.86	3.627
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	15,703.42	10,860.00	6,327.73	-702.18	97.11	681.72	491.13	79.86	3.577
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	15,803.42	10,860.00	6,427.73	-702.06	98.41	681.52	488.36	79.86	3.528
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,903.42	10,860.00	6,527.73	-701.94	99.72	681.33	485.58	79.86	3.481
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	16,003.42	10,860.00	6,627.73	-701.82	101.03	681.14	482.80	79.85	3.434
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	16,103.42	10,860.00	6,727.73	-701.70	102.34	680.95	480.01	79.85	3.389
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	16,203.42	10,860.00	6,827.73	-701.58	103.66	680.75	477.22	79.85	3.345
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	16,303.42	10,860.00	6,927.73	-701.46	104.98	680.56	474.41	79.84	3.301
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	16,403.42	10,860.00	7,027.73	-701.35	106.30	680.37	471.61	79.84	3.259
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	16,503.42	10,860.00	7,127.73	-701.23	107.62	680.17	468.79	79.84	3.218
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	16,603.42	10,860.00	7,227.73	-701.11	108.95	679.98	465.98	79.84	3.177
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	16,703.42	10,860.00	7,327.73	-700.99	110.28	679.79	463.15	79.83	3.138
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,803.42	10,860.00	7,427.73	-700.87	111.62	679.59	460.32	79.83	3.099
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,903.42	10,860.00	7,527.73	-700.75	112.95	679.40	457.49	79.83	3.062
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	17,003.42	10,860.00	7,627.73	-700.63	114.29	679.21	454.65	79.82	3.025
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	17,103.42	10,860.00	7,727.73	-700.51	115.63	679.01	451.81	79.82	2.989
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	17,203.42	10,860.00	7,827.73	-700.40	116.97	678.82	448.96	79.82	2.953
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	17,303.42	10,860.00	7,927.73	-700.28	118.32	678.63	446.11	79.81	2.919
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	17,403.42	10,860.00	8,027.73	-700.16	119.66	678.43	443.26	79.81	2.885
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	17,503.42	10,860.00	8,127.73	-700.04	121.01	678.24	440.40	79.81	2.852

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	10,980.00	8,228.52	-1,367.26	123.65	17,603.42	10,860.00	8,227.73	-699.92	122.36	678.05	437.54	79.81	2.819
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	17,703.42	10,860.00	8,327.73	-699.80	123.72	677.86	434.67	79.80	2.787
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	17,803.42	10,860.00	8,427.73	-699.68	125.07	677.66	431.80	79.80	2.756
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,903.42	10,860.00	8,527.73	-699.56	126.43	677.47	428.93	79.80	2.726
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	18,003.42	10,860.00	8,627.73	-699.44	127.78	677.28	426.05	79.79	2.696
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	18,103.42	10,860.00	8,727.73	-699.33	129.14	677.08	423.17	79.79	2.667
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	18,203.42	10,860.00	8,827.73	-699.21	130.50	676.89	420.29	79.79	2.638
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	18,303.42	10,860.00	8,927.73	-699.09	131.86	676.70	417.40	79.79	2.610
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	18,403.42	10,860.00	9,027.72	-698.97	133.23	676.50	414.51	79.78	2.582
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	18,503.42	10,860.00	9,127.72	-698.85	134.59	676.31	411.62	79.78	2.555
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	18,603.42	10,860.00	9,227.72	-698.73	135.96	676.12	408.73	79.78	2.529
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	18,703.42	10,860.00	9,327.72	-698.61	137.33	675.92	405.83	79.77	2.503
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	18,803.42	10,860.00	9,427.72	-698.49	138.70	675.73	402.93	79.77	2.477
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,903.42	10,860.00	9,527.72	-698.38	140.07	675.54	400.03	79.77	2.452
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	19,003.42	10,860.00	9,627.72	-698.26	141.44	675.34	397.13	79.76	2.427
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	19,103.42	10,860.00	9,727.72	-698.14	142.81	675.15	394.22	79.76	2.403
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	19,203.42	10,860.00	9,827.72	-698.02	144.19	674.96	391.31	79.76	2.380
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	19,303.42	10,860.00	9,927.72	-697.90	145.56	674.77	388.40	79.76	2.356
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	19,403.42	10,860.00	10,027.72	-697.78	146.94	674.57	385.49	79.75	2.333
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	19,503.42	10,860.00	10,127.72	-697.66	148.32	674.38	382.57	79.75	2.311
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	19,603.42	10,860.00	10,227.72	-697.54	149.69	674.19	379.65	79.75	2.289
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	19,703.42	10,860.00	10,327.72	-697.42	151.07	673.99	376.73	79.74	2.267
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	19,803.42	10,860.00	10,427.72	-697.31	152.45	673.80	373.81	79.74	2.246
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,903.42	10,860.00	10,527.72	-697.19	153.84	673.61	370.89	79.74	2.225
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	20,003.42	10,860.00	10,627.72	-697.07	155.22	673.41	367.97	79.74	2.205
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	20,103.42	10,860.00	10,727.72	-696.95	156.60	673.22	365.04	79.73	2.184
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	20,203.42	10,860.00	10,827.72	-696.83	157.99	673.03	362.11	79.73	2.165
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	20,303.42	10,860.00	10,927.72	-696.71	159.37	672.83	359.18	79.73	2.145
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	20,403.42	10,860.00	11,027.72	-696.59	160.76	672.64	356.25	79.72	2.126
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	20,503.42	10,860.00	11,127.72	-696.47	162.14	672.45	353.32	79.72	2.107

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	20,603.42	10,860.00	11,227.72	-696.35	163.53	672.26	350.38	79.72	2.089
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	20,703.42	10,860.00	11,327.72	-696.24	164.92	672.06	347.44	79.71	2.070
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	20,803.41	10,860.00	11,427.72	-696.12	166.31	671.87	344.51	79.71	2.052
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,903.41	10,860.00	11,527.72	-696.00	167.70	671.68	341.57	79.71	2.035
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	21,003.41	10,860.00	11,627.72	-695.88	169.09	671.48	338.63	79.71	2.017
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	21,103.41	10,860.00	11,727.72	-695.76	170.48	671.29	335.69	79.70	2.000
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	21,203.41	10,860.00	11,827.72	-695.64	171.87	671.10	332.74	79.70	1.983
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	21,303.41	10,860.00	11,927.72	-695.52	173.26	670.90	329.80	79.70	1.967
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	21,328.14	10,860.00	11,952.45	-695.49	173.61	670.86	329.07	79.70	1.963

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	0.09	60.08	0.52	60.08	57.76	89.91	25.895
200.00	200.00	0.00	0.00	0.70	200.00	200.00	0.09	60.08	0.70	60.08	57.39	89.91	22.371
300.00	300.00	0.00	0.00	0.98	300.00	300.00	0.09	60.08	0.98	60.08	56.83	89.91	18.458
400.00	400.00	0.00	0.00	1.31	400.00	400.00	0.09	60.08	1.31	60.08	56.56	89.91	17.054
500.00	500.00	0.00	0.00	1.64	500.00	500.00	0.09	60.08	1.64	60.08	55.88	89.91	14.316
600.00	600.00	0.00	0.00	1.99	600.00	600.00	0.09	60.08	1.99	60.08	55.19	89.91	12.297
700.00	700.00	0.00	0.00	2.34	700.00	700.00	0.09	60.08	2.34	60.08	54.50	89.91	10.761
800.00	800.00	0.00	0.00	2.69	800.00	800.00	0.09	60.08	2.69	60.08	53.79	89.91	9.558
900.00	900.00	0.00	0.00	3.04	900.00	900.00	0.09	60.08	3.04	60.08	53.09	89.91	8.593
1,000.00	1,000.00	0.00	0.00	3.39	1,000.00	1,000.00	0.09	60.08	3.39	60.08	52.38	89.91	7.803
1,100.00	1,100.00	0.34	-0.26	3.75	1,100.00	1,100.00	0.09	60.08	3.75	60.34	51.94	128.39	7.177
1,200.00	1,199.98	1.98	-1.56	4.10	1,199.98	1,199.98	0.09	60.08	4.10	61.67	52.55	129.91	6.765
1,300.00	1,299.90	5.00	-3.93	4.45	1,299.90	1,299.90	0.09	60.08	4.46	64.20	54.37	132.52	6.535
1,400.00	1,399.74	9.39	-7.38	4.81	1,399.74	1,399.74	0.09	60.08	4.82	68.10	57.56	135.95	6.464
1,500.00	1,499.50	14.81	-11.64	5.17	1,499.50	1,499.50	0.09	60.08	5.17	73.22	61.97	139.69	6.511
1,600.00	1,599.26	20.30	-15.95	5.53	1,599.26	1,599.26	0.09	60.08	5.53	78.67	66.71	142.98	6.580
1,700.00	1,699.02	25.78	-20.26	5.89	1,699.51	1,699.51	0.95	60.04	5.89	84.06	71.39	145.29	6.634
1,800.00	1,798.77	31.27	-24.57	6.25	1,799.90	1,799.86	3.57	59.94	6.24	88.94	75.55	146.27	6.645
1,900.00	1,898.53	36.75	-28.88	6.61	1,900.37	1,900.23	7.95	59.76	6.60	93.22	79.12	146.13	6.611
2,000.00	1,998.29	42.24	-33.19	6.97	2,000.28	2,000.01	13.18	59.55	6.96	97.20	82.38	145.53	6.561
2,100.00	2,098.04	47.72	-37.50	7.33	2,100.20	2,099.79	18.40	59.33	7.32	101.19	85.66	144.98	6.515
2,200.00	2,197.80	53.21	-41.81	7.70	2,200.11	2,199.56	23.63	59.12	7.68	105.19	88.94	144.47	6.474
2,300.00	2,297.56	58.69	-46.12	8.06	2,300.03	2,299.34	28.85	58.90	8.03	109.20	92.23	143.99	6.436
2,400.00	2,397.31	64.18	-50.43	8.43	2,399.94	2,399.12	34.08	58.69	8.39	113.21	95.52	143.55	6.401
2,500.00	2,497.07	69.66	-54.74	8.79	2,499.86	2,498.90	39.30	58.48	8.75	117.23	98.83	143.14	6.369
2,600.00	2,596.83	75.15	-59.05	9.16	2,599.78	2,598.68	44.53	58.26	9.11	121.26	102.13	142.76	6.340
2,700.00	2,696.58	80.63	-63.36	9.53	2,699.69	2,698.46	49.75	58.05	9.47	125.29	105.44	142.40	6.313
2,800.00	2,796.34	86.12	-67.67	9.89	2,799.61	2,798.24	54.98	57.84	9.83	129.33	108.76	142.06	6.288
2,900.00	2,896.09	91.60	-71.98	10.26	2,899.52	2,898.02	60.20	57.62	10.19	133.37	112.08	141.75	6.264
3,000.00	2,995.85	97.09	-76.29	10.62	2,999.44	2,997.79	65.43	57.41	10.55	137.41	115.40	141.45	6.242

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	3,095.61	102.57	-80.60	10.99	3,099.35	3,097.57	70.65	57.20	10.91	141.46	118.98	141.17	6.293
3,200.00	3,195.36	108.06	-84.91	11.36	3,199.27	3,197.35	75.88	56.98	11.27	145.51	122.31	140.90	6.271
3,300.00	3,295.12	113.54	-89.22	11.73	3,299.19	3,297.13	81.10	56.77	11.63	149.56	125.64	140.65	6.251
3,400.00	3,394.88	119.03	-93.53	12.09	3,399.10	3,396.91	86.33	56.56	11.99	153.62	128.97	140.42	6.232
3,500.00	3,494.63	124.51	-97.84	12.46	3,499.02	3,496.69	91.55	56.34	12.36	157.68	132.30	140.19	6.214
3,600.00	3,594.39	130.00	-102.15	12.83	3,598.93	3,596.47	96.78	56.13	12.72	161.74	135.64	139.98	6.197
3,700.00	3,694.15	135.48	-106.46	13.19	3,698.85	3,696.25	102.00	55.92	13.08	165.80	138.98	139.77	6.181
3,800.00	3,793.90	140.97	-110.77	13.56	3,798.76	3,796.02	107.23	55.70	13.44	169.87	142.32	139.58	6.166
3,900.00	3,893.66	146.45	-115.08	13.93	3,898.68	3,895.80	112.45	55.49	13.80	173.94	145.66	139.40	6.152
4,000.00	3,993.41	151.94	-119.39	14.30	3,998.60	3,995.58	117.68	55.28	14.16	178.01	149.01	139.22	6.139
4,100.00	4,093.17	157.42	-123.70	14.67	4,098.51	4,095.36	122.90	55.06	14.53	182.08	152.35	139.05	6.126
4,200.00	4,192.93	162.91	-128.01	15.03	4,198.43	4,195.14	128.13	54.85	14.89	186.15	155.70	138.89	6.114
4,300.00	4,292.68	168.39	-132.32	15.40	4,298.34	4,294.92	133.35	54.63	15.25	190.22	159.05	138.74	6.102
4,400.00	4,392.44	173.87	-136.63	15.77	4,398.26	4,394.70	138.58	54.42	15.61	194.30	162.40	138.59	6.091
4,500.00	4,492.20	179.36	-140.94	16.14	4,498.17	4,494.48	143.80	54.21	15.97	198.37	165.75	138.45	6.080
4,600.00	4,591.95	184.84	-145.25	16.51	4,598.09	4,594.26	149.03	53.99	16.34	202.45	169.10	138.31	6.070
4,700.00	4,691.71	190.33	-149.56	16.88	4,698.01	4,694.03	154.25	53.78	16.70	206.53	172.45	138.18	6.061
4,800.00	4,791.47	195.81	-153.87	17.24	4,797.92	4,793.81	159.47	53.57	17.06	210.61	175.81	138.06	6.052
4,900.00	4,891.22	201.30	-158.18	17.61	4,897.84	4,893.59	164.70	53.35	17.42	214.69	179.16	137.94	6.043
5,000.00	4,990.98	206.78	-162.49	17.98	4,997.75	4,993.37	169.92	53.14	17.79	218.77	182.52	137.82	6.034
5,100.00	5,090.74	212.27	-166.80	18.35	5,097.67	5,093.15	175.15	52.93	18.15	222.85	185.87	137.71	6.026
5,200.00	5,190.49	217.75	-171.11	18.72	5,197.58	5,192.93	180.37	52.71	18.51	226.94	189.23	137.60	6.018
5,300.00	5,290.25	223.24	-175.42	19.09	5,297.50	5,292.71	185.60	52.50	18.87	231.02	192.59	137.50	6.011
5,400.00	5,390.00	228.72	-179.73	19.45	5,397.42	5,392.49	190.82	52.29	19.24	235.10	195.94	137.40	6.004
5,500.00	5,489.76	234.21	-184.04	19.82	5,500.14	5,494.84	199.25	51.94	19.61	238.61	198.70	136.58	5.979
5,600.00	5,589.24	242.08	-190.23	20.20	5,602.37	5,595.99	213.98	51.34	20.00	243.29	202.62	134.70	5.982
5,700.00	5,687.93	254.72	-200.16	20.59	5,703.80	5,695.24	234.80	50.49	20.39	251.54	210.10	132.41	6.069
5,800.00	5,785.45	272.07	-213.79	21.00	5,803.65	5,791.64	260.77	49.43	20.78	263.53	221.29	129.97	6.239
5,900.00	5,881.44	294.07	-231.08	21.42	5,902.20	5,886.52	287.40	48.34	21.18	279.54	236.50	128.38	6.495

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	5,975.83	320.01	-251.46	21.86	6,000.31	5,980.97	313.92	47.25	21.57	298.82	254.98	127.92	6.816
6,100.00	6,070.01	346.45	-272.24	22.31	6,098.35	6,075.36	340.42	46.17	21.98	318.51	273.86	127.83	7.133
6,200.00	6,164.19	372.90	-293.01	22.76	6,196.39	6,169.74	366.91	45.09	22.38	338.20	292.73	127.76	7.438
6,300.00	6,258.36	399.34	-313.79	23.22	6,294.43	6,264.13	393.41	44.01	22.79	357.89	311.60	127.69	7.731
6,400.00	6,352.54	425.78	-334.57	23.69	6,392.48	6,358.52	419.91	42.92	23.20	377.58	330.45	127.63	8.012
6,500.00	6,446.71	452.22	-355.35	24.16	6,490.52	6,452.90	446.41	41.84	23.62	397.28	349.31	127.57	8.282
6,600.00	6,540.89	478.67	-376.12	24.64	6,588.56	6,547.29	472.91	40.76	24.03	416.97	368.15	127.52	8.541
6,700.00	6,635.06	505.11	-396.90	25.12	6,686.60	6,641.68	499.40	39.67	24.45	436.66	386.99	127.48	8.791
6,800.00	6,729.24	531.55	-417.68	25.60	6,784.64	6,736.06	525.90	38.59	24.88	456.35	405.82	127.43	9.031
6,900.00	6,823.42	557.99	-438.46	26.09	6,882.68	6,830.45	552.40	37.51	25.31	476.05	424.65	127.40	9.261
7,000.00	6,917.59	584.44	-459.23	26.58	6,980.72	6,924.83	578.90	36.42	25.73	495.74	443.47	127.36	9.484
7,100.00	7,011.77	610.88	-480.01	27.08	7,078.76	7,019.22	605.40	35.34	26.17	515.44	462.28	127.33	9.697
7,200.00	7,105.94	637.32	-500.79	27.58	7,176.81	7,113.61	631.89	34.26	26.60	535.13	481.09	127.30	9.904
7,300.00	7,200.12	663.76	-521.57	28.08	7,274.85	7,207.99	658.39	33.17	27.04	554.82	499.90	127.27	10.102
7,400.00	7,294.30	690.21	-542.34	28.59	7,372.89	7,302.38	684.89	32.09	27.47	574.52	518.70	127.24	10.294
7,500.00	7,388.47	716.65	-563.12	29.10	7,470.93	7,396.77	711.39	31.01	27.91	594.21	537.50	127.22	10.478
7,600.00	7,482.65	743.09	-583.90	29.61	7,568.97	7,491.15	737.89	29.93	28.35	613.90	556.29	127.20	10.656
7,700.00	7,576.82	769.53	-604.68	30.12	7,667.01	7,585.54	764.38	28.84	28.80	633.60	575.08	127.18	10.828
7,800.00	7,671.00	795.98	-625.45	30.64	7,765.05	7,679.92	790.88	27.76	29.24	653.29	593.87	127.16	10.994
7,900.00	7,765.17	822.42	-646.23	31.16	7,863.09	7,774.31	817.38	26.68	29.69	672.99	612.65	127.14	11.154
8,000.00	7,859.35	848.86	-667.01	31.68	7,961.14	7,868.70	843.88	25.59	30.14	692.68	631.43	127.12	11.309
8,100.00	7,953.53	875.31	-687.79	32.20	8,059.18	7,963.08	870.38	24.51	30.59	712.38	650.21	127.10	11.459
8,200.00	8,047.70	901.75	-708.56	32.73	8,157.22	8,057.47	896.87	23.43	31.04	732.07	668.98	127.09	11.604
8,300.00	8,141.88	928.19	-729.34	33.26	8,255.26	8,151.86	923.37	22.34	31.49	751.77	687.75	127.07	11.744
8,400.00	8,236.05	954.63	-750.12	33.78	8,353.30	8,246.24	949.87	21.26	31.95	771.46	706.52	127.06	11.879
8,500.00	8,330.23	981.08	-770.90	34.32	8,451.34	8,340.63	976.37	20.18	32.40	791.16	725.28	127.04	12.010
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,549.38	8,435.01	1,002.87	19.09	32.86	810.85	744.04	127.03	12.137
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,647.42	8,529.40	1,029.36	18.01	33.31	830.55	762.80	127.02	12.260
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,745.47	8,623.79	1,055.86	16.93	33.77	850.24	781.56	127.01	12.380
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,843.51	8,718.17	1,082.36	15.85	34.23	869.94	800.31	127.00	12.495

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,941.55	8,812.56	1,108.86	14.76	34.69	889.63	819.07	126.98	12.608
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,039.59	8,906.95	1,135.36	13.68	35.15	909.33	837.82	126.97	12.716
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,137.63	9,001.33	1,161.85	12.60	35.62	929.02	856.57	126.96	12.822
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,235.67	9,095.72	1,188.35	11.51	36.08	948.72	875.31	126.96	12.925
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,333.71	9,190.10	1,214.85	10.43	36.54	968.41	894.06	126.95	13.024
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,431.75	9,284.49	1,241.35	9.35	37.01	988.11	912.80	126.94	13.121
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,529.80	9,378.88	1,267.85	8.26	37.48	1,007.80	931.54	126.93	13.215
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,627.84	9,473.26	1,294.34	7.18	37.94	1,027.50	950.28	126.92	13.306
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,725.88	9,567.65	1,320.84	6.10	38.41	1,047.19	969.02	126.91	13.395
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,823.92	9,662.04	1,347.34	5.01	38.88	1,066.89	987.75	126.91	13.482
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,921.96	9,756.42	1,373.84	3.93	39.35	1,086.58	1,006.48	126.90	13.566
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	10,020.15	9,850.95	1,400.38	2.85	39.82	1,105.43	1,024.37	127.19	13.638
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,116.89	9,944.45	1,425.18	1.83	40.27	1,120.89	1,038.91	127.40	13.672
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,213.48	10,039.03	1,444.66	1.04	40.69	1,132.92	1,050.08	127.55	13.676
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,310.62	10,135.15	1,458.59	0.47	41.09	1,141.48	1,057.85	127.66	13.649
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,408.11	10,232.28	1,466.82	0.13	41.44	1,146.53	1,062.19	127.72	13.593
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,505.97	10,330.09	1,469.28	0.03	41.77	1,148.06	1,063.08	89.59	13.509
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,606.97	10,431.10	1,469.35	0.02	42.08	1,150.91	1,065.50	128.00	13.476
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,721.87	10,545.02	1,482.61	-0.90	42.53	1,163.31	1,077.02	127.31	13.482
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,835.93	10,653.26	1,517.91	-3.37	43.10	1,184.74	1,097.32	125.51	13.552
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,946.96	10,749.88	1,572.12	-7.16	43.76	1,214.64	1,125.89	122.62	13.686
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	11,053.76	10,831.28	1,640.86	-11.97	44.48	1,251.89	1,161.68	117.00	13.878
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	11,160.25	10,898.32	1,723.19	-17.73	45.27	1,286.62	1,194.82	107.27	14.016
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	11,267.62	10,949.31	1,817.28	-24.30	46.11	1,313.83	1,220.33	100.17	14.052
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	11,374.61	10,981.75	1,918.82	-31.40	46.97	1,332.70	1,237.45	95.18	13.991
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	11,479.66	10,994.67	2,022.67	-38.67	47.83	1,342.71	1,245.73	91.96	13.846
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	11,553.47	10,994.96	2,096.33	-43.28	48.43	1,344.51	1,246.28	90.64	13.687
11,700.00	10,980.00	2,128.55	-1,386.48	52.78	11,621.49	10,994.96	2,164.30	-45.90	49.00	1,341.14	1,241.76	90.64	13.495
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	11,701.25	10,994.96	2,244.05	-46.91	49.67	1,339.42	1,238.69	90.64	13.296

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
11,904.11	10,980.00	2,332.66	-1,385.84	54.37	11,788.28	10,994.96	2,331.08	-46.81	50.43	1,339.11	1,236.87	90.64	13.097
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	11,784.17	10,994.96	2,326.97	-46.82	50.40	1,339.12	1,236.95	90.64	13.106
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,884.17	10,994.96	2,426.97	-46.70	51.29	1,338.92	1,234.98	90.64	12.881
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,984.17	10,994.96	2,526.97	-46.58	52.21	1,338.72	1,232.97	90.64	12.658
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	12,084.17	10,994.96	2,626.97	-46.46	53.15	1,338.53	1,230.90	90.64	12.437
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	12,184.17	10,994.96	2,726.97	-46.35	54.12	1,338.33	1,228.80	90.64	12.219
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	12,284.17	10,994.96	2,826.97	-46.23	55.10	1,338.13	1,226.66	90.64	12.004
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	12,384.17	10,994.96	2,926.97	-46.11	56.10	1,337.93	1,224.47	90.64	11.792
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	12,484.17	10,994.96	3,026.97	-45.99	57.12	1,337.74	1,222.25	90.64	11.584
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	12,584.17	10,994.96	3,126.97	-45.87	58.16	1,337.54	1,220.00	90.64	11.379
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	12,684.17	10,994.96	3,226.97	-45.76	59.22	1,337.34	1,217.71	90.64	11.178
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	12,784.17	10,994.96	3,326.97	-45.64	60.29	1,337.15	1,215.38	90.64	10.982
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	12,884.17	10,994.96	3,426.97	-45.52	61.37	1,336.95	1,213.03	90.64	10.789
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,984.17	10,994.96	3,526.97	-45.40	62.47	1,336.75	1,210.65	90.64	10.601
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	13,084.17	10,994.96	3,626.97	-45.29	63.59	1,336.55	1,208.25	90.64	10.417
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	13,184.17	10,994.96	3,726.97	-45.17	64.71	1,336.36	1,205.82	90.64	10.237
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	13,284.17	10,994.97	3,826.97	-45.05	65.85	1,336.16	1,203.36	90.64	10.061
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	13,384.17	10,994.97	3,926.97	-44.93	67.00	1,335.96	1,200.88	90.64	9.890
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	13,484.17	10,994.97	4,026.97	-44.82	68.16	1,335.76	1,198.38	90.64	9.723
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	13,584.17	10,994.97	4,126.97	-44.70	69.33	1,335.57	1,195.86	90.64	9.559
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	13,684.17	10,994.97	4,226.97	-44.58	70.51	1,335.37	1,193.31	90.64	9.400
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	13,784.17	10,994.97	4,326.97	-44.46	71.69	1,335.17	1,190.75	90.64	9.245
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	13,884.17	10,994.97	4,426.97	-44.34	72.89	1,334.98	1,188.17	90.64	9.094
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,984.17	10,994.97	4,526.97	-44.23	74.10	1,334.78	1,185.58	90.64	8.946
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	14,084.17	10,994.97	4,626.97	-44.11	75.31	1,334.58	1,182.97	90.64	8.802
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	14,184.17	10,994.97	4,726.97	-43.99	76.53	1,334.38	1,180.34	90.64	8.662
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	14,284.17	10,994.97	4,826.97	-43.87	77.76	1,334.19	1,177.70	90.64	8.526
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	14,384.17	10,994.97	4,926.97	-43.76	79.00	1,333.99	1,175.04	90.64	8.393
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	14,484.17	10,994.97	5,026.97	-43.64	80.24	1,333.79	1,172.37	90.64	8.263
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	14,584.17	10,994.97	5,126.97	-43.52	81.49	1,333.59	1,169.69	90.64	8.136

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	14,684.17	10,994.97	5,226.97	-43.40	82.74	1,333.40	1,166.99	90.64	8.013
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	14,784.17	10,994.97	5,326.97	-43.29	84.00	1,333.20	1,164.29	90.64	7.893
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,884.17	10,994.97	5,426.96	-43.17	85.27	1,333.00	1,161.57	90.64	7.776
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,984.17	10,994.97	5,526.96	-43.05	86.54	1,332.81	1,158.84	90.64	7.661
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	15,084.17	10,994.97	5,626.96	-42.93	87.81	1,332.61	1,156.10	90.64	7.550
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	15,184.16	10,994.97	5,726.96	-42.81	89.09	1,332.41	1,153.35	90.64	7.441
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	15,284.16	10,994.97	5,826.96	-42.70	90.38	1,332.21	1,150.59	90.64	7.335
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	15,384.16	10,994.97	5,926.96	-42.58	91.67	1,332.02	1,147.83	90.64	7.232
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	15,484.16	10,994.97	6,026.96	-42.46	92.96	1,331.82	1,145.05	90.64	7.131
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	15,584.16	10,994.97	6,126.96	-42.34	94.26	1,331.62	1,142.27	90.64	7.032
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	15,684.16	10,994.98	6,226.96	-42.23	95.56	1,331.42	1,139.48	90.64	6.936
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	15,784.16	10,994.98	6,326.96	-42.11	96.87	1,331.23	1,136.68	90.64	6.843
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	15,884.16	10,994.98	6,426.96	-41.99	98.17	1,331.03	1,133.87	90.64	6.751
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,984.16	10,994.98	6,526.96	-41.87	99.49	1,330.83	1,131.06	90.64	6.662
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	16,084.16	10,994.98	6,626.96	-41.76	100.80	1,330.63	1,128.23	90.64	6.574
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	16,184.16	10,994.98	6,726.96	-41.64	102.12	1,330.44	1,125.41	90.64	6.489
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	16,284.16	10,994.98	6,826.96	-41.52	103.44	1,330.24	1,122.57	90.65	6.406
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	16,384.16	10,994.98	6,926.96	-41.40	104.77	1,330.04	1,119.74	90.65	6.324
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	16,484.16	10,994.98	7,026.96	-41.28	106.09	1,329.85	1,116.89	90.65	6.245
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	16,584.16	10,994.98	7,126.96	-41.17	107.42	1,329.65	1,114.04	90.65	6.167
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	16,684.16	10,994.98	7,226.96	-41.05	108.76	1,329.45	1,111.18	90.65	6.091
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	16,784.16	10,994.98	7,326.96	-40.93	110.09	1,329.25	1,108.32	90.65	6.017
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,884.16	10,994.98	7,426.96	-40.81	111.43	1,329.06	1,105.46	90.65	5.944
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,984.16	10,994.98	7,526.96	-40.70	112.77	1,328.86	1,102.58	90.65	5.873
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	17,084.16	10,994.98	7,626.96	-40.58	114.11	1,328.66	1,099.71	90.65	5.803
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	17,184.16	10,994.98	7,726.96	-40.46	115.46	1,328.46	1,096.83	90.65	5.735
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	17,284.16	10,994.98	7,826.96	-40.34	116.80	1,328.27	1,093.94	90.65	5.669
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	17,384.16	10,994.98	7,926.96	-40.22	118.15	1,328.07	1,091.06	90.65	5.603
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	17,484.16	10,994.98	8,026.96	-40.11	119.50	1,327.87	1,088.16	90.65	5.540

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	17,584.16	10,994.98	8,126.96	-39.99	120.85	1,327.68	1,085.27	90.65	5.477
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	17,684.16	10,994.98	8,226.96	-39.87	122.21	1,327.48	1,082.37	90.65	5.416
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	17,784.16	10,994.98	8,326.96	-39.75	123.56	1,327.28	1,079.46	90.65	5.356
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	17,884.16	10,994.98	8,426.96	-39.64	124.92	1,327.08	1,076.55	90.65	5.297
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,984.16	10,994.99	8,526.96	-39.52	126.28	1,326.89	1,073.64	90.65	5.240
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	18,084.16	10,994.99	8,626.96	-39.40	127.64	1,326.69	1,070.73	90.65	5.183
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	18,184.16	10,994.99	8,726.96	-39.28	129.01	1,326.49	1,067.81	90.65	5.128
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	18,284.16	10,994.99	8,826.96	-39.17	130.37	1,326.29	1,064.89	90.65	5.074
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	18,384.16	10,994.99	8,926.96	-39.05	131.74	1,326.10	1,061.97	90.65	5.021
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	18,484.16	10,994.99	9,026.96	-38.93	133.10	1,325.90	1,059.04	90.65	4.969
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	18,584.16	10,994.99	9,126.96	-38.81	134.47	1,325.70	1,056.11	90.65	4.917
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	18,684.16	10,994.99	9,226.95	-38.69	135.84	1,325.50	1,053.18	90.65	4.867
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	18,784.16	10,994.99	9,326.95	-38.58	137.21	1,325.31	1,050.24	90.65	4.818
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	18,884.16	10,994.99	9,426.95	-38.46	138.58	1,325.11	1,047.31	90.65	4.770
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,984.16	10,994.99	9,526.95	-38.34	139.96	1,324.91	1,044.37	90.65	4.723
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	19,084.16	10,994.99	9,626.95	-38.22	141.33	1,324.72	1,041.42	90.65	4.676
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	19,184.16	10,994.99	9,726.95	-38.11	142.71	1,324.52	1,038.48	90.65	4.631
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	19,284.16	10,994.99	9,826.95	-37.99	144.08	1,324.32	1,035.53	90.65	4.586
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	19,384.16	10,994.99	9,926.95	-37.87	145.46	1,324.12	1,032.58	90.65	4.542
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	19,484.16	10,994.99	10,026.95	-37.75	146.84	1,323.93	1,029.63	90.65	4.499
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	19,584.16	10,994.99	10,126.95	-37.64	148.22	1,323.73	1,026.68	90.65	4.456
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	19,684.16	10,994.99	10,226.95	-37.52	149.60	1,323.53	1,023.72	90.65	4.415
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	19,784.16	10,994.99	10,326.95	-37.40	150.98	1,323.33	1,020.77	90.65	4.374
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	19,884.16	10,994.99	10,426.95	-37.28	152.37	1,323.14	1,017.81	90.65	4.333
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,984.16	10,994.99	10,526.95	-37.16	153.75	1,322.94	1,014.84	90.65	4.294
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	20,084.16	10,994.99	10,626.95	-37.05	155.14	1,322.74	1,011.88	90.65	4.255
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	20,184.16	10,994.99	10,726.95	-36.93	156.52	1,322.55	1,008.92	90.65	4.217
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	20,284.16	10,995.00	10,826.95	-36.81	157.91	1,322.35	1,005.95	90.65	4.179
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	20,384.15	10,995.00	10,926.95	-36.69	159.30	1,322.15	1,002.98	90.65	4.142
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	20,484.15	10,995.00	11,026.95	-36.58	160.68	1,321.95	1,000.01	90.65	4.106

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	20,584.15	10,995.00	11,126.95	-36.46	162.07	1,321.76	997.04	90.65	4.070
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	20,684.15	10,995.00	11,226.95	-36.34	163.46	1,321.56	994.07	90.65	4.035
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	20,784.15	10,995.00	11,326.95	-36.22	164.85	1,321.36	991.09	90.65	4.001
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	20,884.15	10,995.00	11,426.95	-36.11	166.24	1,321.16	988.11	90.65	3.967
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,984.15	10,995.00	11,526.95	-35.99	167.64	1,320.97	985.14	90.65	3.933
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	21,084.15	10,995.00	11,626.95	-35.87	169.03	1,320.77	982.16	90.65	3.901
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	21,184.15	10,995.00	11,726.95	-35.75	170.42	1,320.57	979.18	90.65	3.868
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	21,284.15	10,995.00	11,826.95	-35.63	171.81	1,320.37	976.20	90.65	3.836
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	21,384.15	10,995.00	11,926.95	-35.52	173.21	1,320.18	973.21	90.65	3.805
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	21,408.88	10,995.00	11,951.68	-35.49	173.55	1,320.13	972.47	90.65	3.797

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	0.02	90.16	0.52	90.16	87.84	89.99	38.860
200.00	200.00	0.00	0.00	0.70	200.00	200.00	0.02	90.16	0.70	90.16	87.47	89.99	33.571
300.00	300.00	0.00	0.00	0.98	300.00	300.00	0.02	90.16	0.98	90.16	86.91	89.99	27.699
400.00	400.00	0.00	0.00	1.31	400.00	400.00	0.02	90.16	1.31	90.16	86.64	89.99	25.592
500.00	500.00	0.00	0.00	1.64	500.00	500.00	0.02	90.16	1.64	90.16	85.96	89.99	21.483
600.00	600.00	0.00	0.00	1.99	600.00	600.00	0.02	90.16	1.99	90.16	85.27	89.99	18.454
700.00	700.00	0.00	0.00	2.34	700.00	700.00	0.02	90.16	2.34	90.16	84.58	89.99	16.149
800.00	800.00	0.00	0.00	2.69	800.00	800.00	0.02	90.16	2.69	90.16	83.87	89.99	14.344
900.00	900.00	0.00	0.00	3.04	900.00	900.00	0.02	90.16	3.04	90.16	83.17	89.99	12.896
1,000.00	1,000.00	0.00	0.00	3.39	1,000.00	1,000.00	0.02	90.16	3.39	90.16	82.46	89.99	11.710
1,100.00	1,100.00	0.34	-0.26	3.75	1,100.00	1,100.00	0.02	90.16	3.75	90.42	82.02	128.36	10.754
1,200.00	1,199.98	1.98	-1.56	4.10	1,199.98	1,199.98	0.02	90.16	4.10	91.74	82.62	129.37	10.064
1,300.00	1,299.90	5.00	-3.93	4.45	1,299.90	1,299.90	0.02	90.16	4.46	94.22	84.40	131.16	9.591
1,400.00	1,399.74	9.39	-7.38	4.81	1,399.74	1,399.74	0.02	90.16	4.82	97.99	87.45	133.59	9.302
1,500.00	1,499.50	14.81	-11.64	5.17	1,499.50	1,499.50	0.02	90.16	5.17	102.87	91.62	136.36	9.148
1,600.00	1,599.26	20.30	-15.95	5.53	1,599.26	1,599.26	0.02	90.16	5.53	108.03	96.07	138.91	9.035
1,700.00	1,699.02	25.78	-20.26	5.89	1,699.02	1,699.02	0.02	90.16	5.88	113.39	100.72	141.23	8.950
1,800.00	1,798.77	31.27	-24.57	6.25	1,798.77	1,798.77	0.02	90.16	6.24	118.91	105.53	143.33	8.886
1,900.00	1,898.53	36.75	-28.88	6.61	1,898.53	1,898.53	0.02	90.16	6.60	124.58	110.48	145.24	8.838
2,000.00	1,998.29	42.24	-33.19	6.97	1,998.23	1,998.22	0.81	90.45	6.95	130.40	115.59	146.62	8.805
2,100.00	2,098.04	47.72	-37.50	7.33	2,097.99	2,097.95	3.23	91.34	7.31	136.30	120.78	147.15	8.781
2,200.00	2,197.80	53.21	-41.81	7.70	2,197.76	2,197.63	7.28	92.83	7.66	142.25	126.02	146.93	8.762
2,300.00	2,297.56	58.69	-46.12	8.06	2,297.57	2,297.30	12.18	94.63	8.02	148.23	131.28	146.38	8.745
2,400.00	2,397.31	64.18	-50.43	8.43	2,397.38	2,396.98	17.09	96.43	8.38	154.22	136.55	145.87	8.729
2,500.00	2,497.07	69.66	-54.74	8.79	2,497.20	2,496.65	21.99	98.23	8.73	160.22	141.84	145.40	8.715
2,600.00	2,596.83	75.15	-59.05	9.16	2,597.01	2,596.33	26.90	100.03	9.09	166.23	147.13	144.96	8.702
2,700.00	2,696.58	80.63	-63.36	9.53	2,696.82	2,696.00	31.80	101.83	9.45	172.26	152.43	144.55	8.691
2,800.00	2,796.34	86.12	-67.67	9.89	2,796.63	2,795.67	36.70	103.63	9.81	178.28	157.74	144.18	8.680
2,900.00	2,896.09	91.60	-71.98	10.26	2,896.44	2,895.35	41.61	105.43	10.17	184.32	163.06	143.82	8.670
3,000.00	2,995.85	97.09	-76.29	10.62	2,996.25	2,995.02	46.51	107.23	10.52	190.36	168.38	143.49	8.661

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	3,095.61	102.57	-80.60	10.99	3,096.06	3,094.70	51.41	109.03	10.88	196.41	173.97	143.18	8.751
3,200.00	3,195.36	108.06	-84.91	11.36	3,195.88	3,194.37	56.32	110.83	11.24	202.46	179.30	142.89	8.740
3,300.00	3,295.12	113.54	-89.22	11.73	3,295.69	3,294.05	61.22	112.63	11.60	208.52	184.64	142.61	8.730
3,400.00	3,394.88	119.03	-93.53	12.09	3,395.50	3,393.72	66.13	114.43	11.96	214.59	189.98	142.35	8.720
3,500.00	3,494.63	124.51	-97.84	12.46	3,495.31	3,493.40	71.03	116.23	12.32	220.65	195.32	142.11	8.711
3,600.00	3,594.39	130.00	-102.15	12.83	3,595.12	3,593.07	75.93	118.03	12.68	226.72	200.67	141.87	8.702
3,700.00	3,694.15	135.48	-106.46	13.19	3,694.93	3,692.75	80.84	119.83	13.04	232.80	206.02	141.65	8.694
3,800.00	3,793.90	140.97	-110.77	13.56	3,794.74	3,792.42	85.74	121.63	13.40	238.88	211.38	141.44	8.687
3,900.00	3,893.66	146.45	-115.08	13.93	3,894.56	3,892.10	90.64	123.43	13.76	244.96	216.74	141.24	8.680
4,000.00	3,993.41	151.94	-119.39	14.30	3,994.37	3,991.77	95.55	125.23	14.12	251.04	222.10	141.06	8.673
4,100.00	4,093.17	157.42	-123.70	14.67	4,094.18	4,091.45	100.45	127.03	14.49	257.13	227.46	140.88	8.667
4,200.00	4,192.93	162.91	-128.01	15.03	4,193.99	4,191.12	105.35	128.83	14.85	263.22	232.82	140.70	8.661
4,300.00	4,292.68	168.39	-132.32	15.40	4,293.80	4,290.79	110.26	130.63	15.21	269.31	238.19	140.54	8.655
4,400.00	4,392.44	173.87	-136.63	15.77	4,393.61	4,390.47	115.16	132.43	15.57	275.40	243.56	140.38	8.649
4,500.00	4,492.20	179.36	-140.94	16.14	4,493.42	4,490.14	120.07	134.23	15.93	281.50	248.93	140.23	8.644
4,600.00	4,591.95	184.84	-145.25	16.51	4,593.24	4,589.82	124.97	136.03	16.29	287.59	254.30	140.09	8.639
4,700.00	4,691.71	190.33	-149.56	16.88	4,693.05	4,689.49	129.87	137.83	16.65	293.69	259.68	139.95	8.635
4,800.00	4,791.47	195.81	-153.87	17.24	4,792.86	4,789.17	134.78	139.63	17.01	299.79	265.05	139.82	8.630
4,900.00	4,891.22	201.30	-158.18	17.61	4,892.67	4,888.84	139.68	141.43	17.38	305.89	270.43	139.69	8.626
5,000.00	4,990.98	206.78	-162.49	17.98	4,992.48	4,988.52	144.58	143.23	17.74	312.00	275.81	139.57	8.622
5,100.00	5,090.74	212.27	-166.80	18.35	5,092.29	5,088.19	149.49	145.04	18.10	318.10	281.19	139.45	8.618
5,200.00	5,190.49	217.75	-171.11	18.72	5,192.10	5,187.87	154.39	146.84	18.46	324.21	286.57	139.34	8.614
5,300.00	5,290.25	223.24	-175.42	19.09	5,291.92	5,287.54	159.30	148.64	18.82	330.31	291.95	139.23	8.610
5,400.00	5,390.00	228.72	-179.73	19.45	5,391.73	5,387.22	164.20	150.44	19.18	336.42	297.34	139.13	8.607
5,500.00	5,489.76	234.21	-184.04	19.82	5,488.48	5,483.67	171.19	153.00	19.54	342.94	303.14	138.63	8.617
5,600.00	5,589.24	242.08	-190.23	20.20	5,584.18	5,578.48	183.34	157.46	19.90	352.78	312.28	137.35	8.709
5,700.00	5,687.93	254.72	-200.16	20.59	5,678.57	5,671.08	200.39	163.73	20.26	368.30	327.09	135.77	8.936
5,800.00	5,785.45	272.07	-213.79	21.00	5,771.24	5,760.84	221.98	171.65	20.62	389.46	347.54	133.97	9.290
5,900.00	5,881.44	294.07	-231.08	21.42	5,864.55	5,849.95	247.94	181.19	20.99	416.03	373.39	132.09	9.756

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	5,975.83	320.01	-251.46	21.86	5,959.75	5,940.66	275.07	191.15	21.37	446.27	402.86	131.06	10.280
6,100.00	6,070.01	346.45	-272.24	22.31	6,054.84	6,031.27	302.17	201.10	21.76	476.98	432.79	130.56	10.794
6,200.00	6,164.19	372.90	-293.01	22.76	6,149.93	6,121.87	329.27	211.05	22.16	507.72	462.74	130.13	11.288
6,300.00	6,258.36	399.34	-313.79	23.22	6,245.02	6,212.48	356.36	221.00	22.56	538.48	492.70	129.74	11.764
6,400.00	6,352.54	425.78	-334.57	23.69	6,340.12	6,303.08	383.46	230.95	22.97	569.26	522.68	129.40	12.221
6,500.00	6,446.71	452.22	-355.35	24.16	6,435.21	6,393.69	410.56	240.90	23.37	600.05	552.66	129.09	12.661
6,600.00	6,540.89	478.67	-376.12	24.64	6,530.30	6,484.29	437.66	250.86	23.79	630.86	582.65	128.81	13.084
6,700.00	6,635.06	505.11	-396.90	25.12	6,625.39	6,574.90	464.76	260.81	24.20	661.69	612.64	128.56	13.492
6,800.00	6,729.24	531.55	-417.68	25.60	6,720.49	6,665.50	491.86	270.76	24.62	692.52	642.64	128.33	13.884
6,900.00	6,823.42	557.99	-438.46	26.09	6,815.58	6,756.11	518.95	280.71	25.05	723.36	672.64	128.12	14.261
7,000.00	6,917.59	584.44	-459.23	26.58	6,910.67	6,846.71	546.05	290.66	25.48	754.21	702.64	127.92	14.624
7,100.00	7,011.77	610.88	-480.01	27.08	7,005.76	6,937.31	573.15	300.61	25.91	785.07	732.64	127.74	14.974
7,200.00	7,105.94	637.32	-500.79	27.58	7,100.86	7,027.92	600.25	310.56	26.34	815.94	762.65	127.58	15.311
7,300.00	7,200.12	663.76	-521.57	28.08	7,195.95	7,118.52	627.35	320.51	26.78	846.81	792.65	127.43	15.636
7,400.00	7,294.30	690.21	-542.34	28.59	7,291.04	7,209.13	654.45	330.47	27.21	877.68	822.65	127.28	15.949
7,500.00	7,388.47	716.65	-563.12	29.10	7,386.13	7,299.73	681.55	340.42	27.66	908.56	852.65	127.15	16.251
7,600.00	7,482.65	743.09	-583.90	29.61	7,481.23	7,390.34	708.64	350.37	28.10	939.45	882.66	127.03	16.542
7,700.00	7,576.82	769.53	-604.68	30.12	7,576.32	7,480.94	735.74	360.32	28.55	970.34	912.66	126.91	16.823
7,800.00	7,671.00	795.98	-625.45	30.64	7,671.41	7,571.55	762.84	370.27	28.99	1,001.23	942.66	126.80	17.095
7,900.00	7,765.17	822.42	-646.23	31.16	7,766.50	7,662.15	789.94	380.22	29.44	1,032.12	972.66	126.70	17.357
8,000.00	7,859.35	848.86	-667.01	31.68	7,861.60	7,752.76	817.04	390.17	29.90	1,063.02	1,002.65	126.60	17.610
8,100.00	7,953.53	875.31	-687.79	32.20	7,956.69	7,843.36	844.14	400.12	30.35	1,093.92	1,032.65	126.51	17.855
8,200.00	8,047.70	901.75	-708.56	32.73	8,051.78	7,933.97	871.24	410.08	30.81	1,124.82	1,062.65	126.43	18.091
8,300.00	8,141.88	928.19	-729.34	33.26	8,146.87	8,024.57	898.33	420.03	31.26	1,155.72	1,092.64	126.35	18.320
8,400.00	8,236.05	954.63	-750.12	33.78	8,241.96	8,115.18	925.43	429.98	31.72	1,186.63	1,122.63	126.27	18.542
8,500.00	8,330.23	981.08	-770.90	34.32	8,337.06	8,205.78	952.53	439.93	32.19	1,217.54	1,152.62	126.20	18.756
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,432.15	8,296.38	979.63	449.88	32.65	1,248.45	1,182.61	126.13	18.964
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,527.24	8,386.99	1,006.73	459.83	33.11	1,279.36	1,212.60	126.06	19.164
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,622.33	8,477.59	1,033.83	469.78	33.58	1,310.27	1,242.59	126.00	19.359
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,717.43	8,568.20	1,060.93	479.73	34.04	1,341.19	1,272.58	125.94	19.548



Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	8,801.11	1,113.29	-874.78	36.99	8,812.52	8,658.80	1,088.02	489.69	34.51	1,372.10	1,302.56	125.88	19.731
9,100.00	8,895.28	1,139.73	-895.56	37.53	8,907.61	8,749.41	1,115.12	499.64	34.98	1,403.02	1,332.54	125.83	19.908
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,002.70	8,840.01	1,142.22	509.59	35.45	1,433.94	1,362.53	125.77	20.080
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,097.80	8,930.62	1,169.32	519.54	35.93	1,464.86	1,392.51	125.72	20.247
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,192.89	9,021.22	1,196.42	529.49	36.40	1,495.77	1,422.49	125.67	20.410
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,287.98	9,111.83	1,223.52	539.44	36.87	1,526.70	1,452.47	125.63	20.567
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,383.07	9,202.43	1,250.61	549.39	37.35	1,557.62	1,482.44	125.58	20.720
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,478.17	9,293.04	1,277.71	559.34	37.82	1,588.54	1,512.42	125.54	20.869
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,573.26	9,383.64	1,304.81	569.29	38.30	1,619.46	1,542.39	125.50	21.013
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,668.35	9,474.25	1,331.91	579.25	38.78	1,650.39	1,572.37	125.46	21.153
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,763.44	9,564.85	1,359.01	589.20	39.26	1,681.31	1,602.34	125.42	21.290
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,858.76	9,655.67	1,386.17	599.17	39.74	1,711.44	1,631.52	125.95	21.414
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	9,981.37	9,772.93	1,419.74	611.50	40.35	1,737.98	1,656.88	126.47	21.430
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,138.80	9,926.61	1,451.56	623.19	41.05	1,758.21	1,675.76	126.86	21.323
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,299.39	10,085.98	1,469.60	629.81	41.68	1,771.44	1,687.82	127.26	21.184
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,443.65	10,230.14	1,473.47	631.23	42.15	1,777.66	1,693.16	127.65	21.037
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,542.84	10,329.32	1,474.12	631.23	42.46	1,779.28	1,694.26	89.58	20.927
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,638.85	10,424.39	1,486.69	631.25	42.83	1,782.27	1,696.63	127.50	20.813
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,731.92	10,513.31	1,513.84	631.30	43.28	1,795.73	1,709.20	126.03	20.754
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,820.98	10,593.21	1,552.97	631.37	43.77	1,819.67	1,732.12	123.60	20.785
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,905.44	10,662.53	1,601.09	631.45	44.30	1,853.34	1,764.68	120.18	20.903
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,985.45	10,721.01	1,655.60	631.55	44.84	1,895.31	1,805.47	114.11	21.095
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	11,065.13	10,771.14	1,717.45	631.66	45.41	1,935.59	1,844.49	104.11	21.246
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	11,146.39	10,812.93	1,787.06	631.78	46.02	1,969.15	1,876.71	96.85	21.302
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	11,229.13	10,844.94	1,863.28	631.91	46.67	1,995.00	1,901.16	91.83	21.260
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	11,313.00	10,865.85	1,944.43	632.05	47.34	2,012.40	1,917.14	88.68	21.124
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	11,400.00	10,874.79	2,030.88	632.20	48.05	2,020.86	1,924.14	87.18	20.894
11,700.00	10,980.00	2,128.55	-1,386.48	52.78	11,499.23	10,875.00	2,130.11	632.17	48.85	2,021.38	1,923.07	87.02	20.560
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	11,599.23	10,875.00	2,230.11	632.10	49.69	2,020.99	1,921.01	87.02	20.214

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	10,980.00	2,328.55	-1,385.85	54.33	11,699.23	10,875.00	2,330.11	632.02	50.56	2,020.60	1,918.90	87.02	19.868
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,799.23	10,875.00	2,430.11	631.94	51.45	2,020.21	1,916.74	87.02	19.525
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,899.23	10,875.00	2,530.11	631.86	52.37	2,019.82	1,914.53	87.02	19.184
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	11,999.23	10,875.00	2,630.11	631.79	53.31	2,019.43	1,912.28	87.02	18.847
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	12,099.23	10,875.00	2,730.11	631.71	54.27	2,019.03	1,909.98	87.02	18.514
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	12,199.23	10,875.00	2,830.11	631.63	55.25	2,018.64	1,907.64	87.02	18.186
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	12,299.23	10,875.00	2,930.11	631.56	56.26	2,018.25	1,905.26	87.02	17.863
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	12,399.22	10,875.00	3,030.10	631.48	57.28	2,017.86	1,902.85	87.02	17.545
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	12,499.22	10,875.00	3,130.10	631.40	58.31	2,017.47	1,900.40	87.02	17.233
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	12,599.22	10,875.00	3,230.10	631.32	59.37	2,017.07	1,897.91	87.02	16.927
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	12,699.22	10,875.00	3,330.10	631.25	60.44	2,016.68	1,895.40	87.02	16.628
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	12,799.22	10,875.00	3,430.10	631.17	61.52	2,016.29	1,892.85	87.01	16.335
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,899.22	10,875.00	3,530.10	631.09	62.62	2,015.90	1,890.28	87.01	16.048
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,999.22	10,875.00	3,630.10	631.01	63.73	2,015.51	1,887.68	87.01	15.767
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	13,099.22	10,875.00	3,730.10	630.94	64.85	2,015.12	1,885.05	87.01	15.493
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	13,199.22	10,875.00	3,830.10	630.86	65.99	2,014.72	1,882.40	87.01	15.226
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	13,299.22	10,875.00	3,930.10	630.78	67.13	2,014.33	1,879.73	87.01	14.965
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	13,399.22	10,875.00	4,030.10	630.70	68.29	2,013.94	1,877.03	87.01	14.710
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	13,499.22	10,875.00	4,130.10	630.63	69.46	2,013.55	1,874.32	87.01	14.462
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	13,599.22	10,875.00	4,230.10	630.55	70.64	2,013.16	1,871.58	87.01	14.220
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	13,699.21	10,875.00	4,330.09	630.47	71.83	2,012.76	1,868.83	87.01	13.983
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	13,799.21	10,875.00	4,430.09	630.40	73.02	2,012.37	1,866.05	87.01	13.753
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,899.21	10,875.00	4,530.09	630.32	74.23	2,011.98	1,863.26	87.01	13.529
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,999.21	10,875.00	4,630.09	630.24	75.44	2,011.59	1,860.46	87.01	13.310
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	14,099.21	10,875.00	4,730.09	630.16	76.66	2,011.20	1,857.63	87.01	13.097
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	14,199.21	10,875.00	4,830.09	630.09	77.89	2,010.80	1,854.80	87.01	12.889
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	14,299.21	10,875.00	4,930.09	630.01	79.12	2,010.41	1,851.95	87.01	12.687
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	14,399.21	10,875.00	5,030.09	629.93	80.36	2,010.02	1,849.08	87.01	12.489
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	14,499.21	10,875.00	5,130.09	629.85	81.61	2,009.63	1,846.21	87.00	12.297
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	14,599.21	10,875.00	5,230.09	629.78	82.86	2,009.24	1,843.32	87.00	12.110



Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	10,980.00	5,328.53	-1,376.40	86.23	14,699.21	10,875.00	5,330.09	629.70	84.12	2,008.85	1,840.42	87.00	11.927
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,799.21	10,875.00	5,430.09	629.62	85.38	2,008.45	1,837.51	87.00	11.749
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,899.21	10,875.00	5,530.08	629.54	86.65	2,008.06	1,834.58	87.00	11.575
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,999.20	10,875.00	5,630.08	629.47	87.93	2,007.67	1,831.65	87.00	11.406
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	15,099.20	10,875.00	5,730.08	629.39	89.21	2,007.28	1,828.71	87.00	11.241
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	15,199.20	10,875.00	5,830.08	629.31	90.49	2,006.89	1,825.76	87.00	11.080
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	15,299.20	10,875.00	5,930.08	629.23	91.78	2,006.49	1,822.80	87.00	10.923
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	15,399.20	10,875.00	6,030.08	629.16	93.07	2,006.10	1,819.83	87.00	10.770
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	15,499.20	10,875.00	6,130.08	629.08	94.37	2,005.71	1,816.85	87.00	10.620
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	15,599.20	10,875.00	6,230.08	629.00	95.67	2,005.32	1,813.86	87.00	10.474
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	15,699.20	10,875.00	6,330.08	628.93	96.97	2,004.93	1,810.87	87.00	10.332
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	15,799.20	10,875.00	6,430.08	628.85	98.28	2,004.54	1,807.87	87.00	10.193
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,899.20	10,875.00	6,530.08	628.77	99.59	2,004.14	1,804.86	87.00	10.057
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,999.20	10,875.00	6,630.08	628.69	100.91	2,003.75	1,801.85	87.00	9.924
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	16,099.20	10,875.00	6,730.08	628.62	102.23	2,003.36	1,798.83	87.00	9.795
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	16,199.20	10,875.00	6,830.07	628.54	103.55	2,002.97	1,795.80	86.99	9.668
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	16,299.19	10,875.00	6,930.07	628.46	104.87	2,002.58	1,792.77	86.99	9.545
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	16,399.19	10,875.00	7,030.07	628.38	106.20	2,002.18	1,789.73	86.99	9.424
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	16,499.19	10,875.00	7,130.07	628.31	107.53	2,001.79	1,786.69	86.99	9.306
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	16,599.19	10,875.00	7,230.07	628.23	108.86	2,001.40	1,783.64	86.99	9.191
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	16,699.19	10,875.00	7,330.07	628.15	110.19	2,001.01	1,780.58	86.99	9.078
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,799.19	10,875.00	7,430.07	628.07	111.53	2,000.62	1,777.52	86.99	8.968
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,899.19	10,875.00	7,530.07	628.00	112.87	2,000.22	1,774.46	86.99	8.860
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,999.19	10,875.00	7,630.07	627.92	114.21	1,999.83	1,771.39	86.99	8.754
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	17,099.19	10,875.00	7,730.07	627.84	115.56	1,999.44	1,768.32	86.99	8.651
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	17,199.19	10,875.00	7,830.07	627.77	116.90	1,999.05	1,765.24	86.99	8.550
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	17,299.19	10,875.00	7,930.07	627.69	118.25	1,998.66	1,762.16	86.99	8.451
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	17,399.19	10,875.00	8,030.06	627.61	119.60	1,998.27	1,759.07	86.99	8.354
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	17,499.19	10,875.00	8,130.06	627.53	120.95	1,997.87	1,755.98	86.99	8.259

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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	10,980.00	8,228.52	-1,367.26	123.65	17,599.18	10,875.00	8,230.06	627.46	122.31	1,997.48	1,752.89	86.99	8.167
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	17,699.18	10,875.00	8,330.06	627.38	123.66	1,997.09	1,749.79	86.99	8.076
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	17,799.18	10,875.00	8,430.06	627.30	125.02	1,996.70	1,746.69	86.99	7.987
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,899.18	10,875.00	8,530.06	627.22	126.38	1,996.31	1,743.59	86.98	7.899
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,999.18	10,875.00	8,630.06	627.15	127.74	1,995.91	1,740.48	86.98	7.814
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	18,099.18	10,875.00	8,730.06	627.07	129.10	1,995.52	1,737.37	86.98	7.730
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	18,199.18	10,875.00	8,830.06	626.99	130.46	1,995.13	1,734.26	86.98	7.648
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	18,299.18	10,875.00	8,930.06	626.91	131.83	1,994.74	1,731.14	86.98	7.567
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	18,399.18	10,875.00	9,030.06	626.84	133.19	1,994.35	1,728.02	86.98	7.488
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	18,499.18	10,875.00	9,130.06	626.76	134.56	1,993.96	1,724.90	86.98	7.411
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	18,599.18	10,875.00	9,230.06	626.68	135.93	1,993.56	1,721.77	86.98	7.335
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	18,699.18	10,875.00	9,330.05	626.60	137.30	1,993.17	1,718.65	86.98	7.260
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	18,799.18	10,875.00	9,430.05	626.53	138.67	1,992.78	1,715.52	86.98	7.187
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,899.17	10,875.00	9,530.05	626.45	140.05	1,992.39	1,712.38	86.98	7.116
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,999.17	10,875.00	9,630.05	626.37	141.42	1,992.00	1,709.25	86.98	7.045
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	19,099.17	10,875.00	9,730.05	626.30	142.80	1,991.60	1,706.11	86.98	6.976
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	19,199.17	10,875.00	9,830.05	626.22	144.17	1,991.21	1,702.97	86.98	6.908
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	19,299.17	10,875.00	9,930.05	626.14	145.55	1,990.82	1,699.83	86.98	6.841
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	19,399.17	10,875.00	10,030.05	626.06	146.93	1,990.43	1,696.68	86.98	6.776
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	19,499.17	10,875.00	10,130.05	625.99	148.31	1,990.04	1,693.54	86.98	6.712
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	19,599.17	10,875.00	10,230.05	625.91	149.69	1,989.65	1,690.39	86.97	6.649
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	19,699.17	10,875.00	10,330.05	625.83	151.07	1,989.25	1,687.24	86.97	6.587
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	19,799.17	10,875.00	10,430.05	625.75	152.45	1,988.86	1,684.09	86.97	6.526
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,899.17	10,875.00	10,530.04	625.68	153.84	1,988.47	1,680.93	86.97	6.466
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,999.17	10,875.00	10,630.04	625.60	155.22	1,988.08	1,677.78	86.97	6.407
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	20,099.17	10,875.00	10,730.04	625.52	156.61	1,987.69	1,674.62	86.97	6.349
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	20,199.16	10,875.00	10,830.04	625.44	157.99	1,987.29	1,671.46	86.97	6.292
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	20,299.16	10,875.00	10,930.04	625.37	159.38	1,986.90	1,668.30	86.97	6.236
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	20,399.16	10,875.00	11,030.04	625.29	160.77	1,986.51	1,665.14	86.97	6.181
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	20,499.16	10,875.00	11,130.04	625.21	162.16	1,986.12	1,661.97	86.97	6.127

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 0-3_MWD+HRGM+AX

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

Scan Range: 0.00 to 21,524.73 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
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	20,599.16	10,875.00	11,230.04	625.13	163.55	1,985.73	1,658.81	86.97	6.074
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	20,699.16	10,875.00	11,330.04	625.06	164.94	1,985.33	1,655.64	86.97	6.022
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	20,799.16	10,875.00	11,430.04	624.98	166.33	1,984.94	1,652.47	86.97	5.970
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,899.16	10,875.00	11,530.04	624.90	167.72	1,984.55	1,649.30	86.97	5.920
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,999.16	10,875.00	11,630.04	624.83	169.11	1,984.16	1,646.13	86.97	5.870
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	21,099.16	10,875.00	11,730.04	624.75	170.51	1,983.77	1,642.95	86.97	5.821
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	21,199.16	10,875.00	11,830.03	624.67	171.90	1,983.38	1,639.78	86.97	5.772
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	21,299.16	10,875.00	11,930.03	624.59	173.29	1,982.98	1,636.60	86.96	5.725
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	21,323.88	10,875.00	11,954.76	624.57	173.64	1,982.89	1,635.82	86.96	5.713

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	100.91	100.91	199.80	-59.68	0.54	208.53	206.18	-16.63	88.998
200.00	200.00	0.00	0.00	0.70	200.86	200.85	199.22	-59.88	0.75	208.03	205.30	-16.73	76.154
300.00	300.00	0.00	0.00	0.98	300.61	300.60	198.62	-60.77	0.92	207.71	204.51	-17.01	65.059
400.00	400.00	0.00	0.00	1.31	400.46	400.45	198.15	-61.40	1.08	207.45	204.15	-17.22	62.889
500.00	500.00	0.00	0.00	1.64	500.68	500.67	197.72	-61.94	1.26	207.20	203.39	-17.40	54.369
600.00	600.00	0.00	0.00	1.99	600.97	600.95	197.20	-62.27	1.50	206.80	202.41	-17.52	47.057
700.00	700.00	0.00	0.00	2.34	700.78	700.76	196.75	-62.33	1.77	206.39	201.37	-17.58	41.100
800.00	800.00	0.00	0.00	2.69	800.87	800.85	196.33	-62.36	2.08	206.00	200.32	-17.62	36.288
900.00	900.00	0.00	0.00	3.04	900.76	900.74	195.85	-62.51	2.40	205.58	199.23	-17.70	32.383
1,000.00	1,000.00	0.00	0.00	3.39	1,000.09	1,000.07	195.55	-62.86	2.72	205.41	198.38	-17.82	29.228
1,100.00	1,100.00	0.34	-0.26	3.75	1,098.02	1,098.00	195.52	-63.59	3.05	205.21	197.51	20.18	26.637
1,123.05	1,123.05	0.59	-0.47	3.83	1,119.94	1,119.92	195.72	-63.88	3.12	205.19	197.34	20.15	26.117
1,200.00	1,199.98	1.98	-1.56	4.10	1,191.63	1,191.57	197.24	-65.30	3.35	205.57	197.21	20.06	24.595
1,300.00	1,299.90	5.00	-3.93	4.45	1,285.30	1,285.06	201.93	-68.77	3.66	207.85	198.85	19.89	23.072
1,400.00	1,399.74	9.39	-7.38	4.81	1,384.20	1,383.62	208.38	-73.57	3.99	210.33	200.64	19.70	21.706
1,500.00	1,499.50	14.81	-11.64	5.17	1,482.85	1,481.94	214.73	-78.63	4.32	211.58	201.20	19.57	20.391
1,600.00	1,599.26	20.30	-15.95	5.53	1,575.26	1,573.84	222.16	-84.73	4.65	214.77	203.74	19.23	19.480
1,700.00	1,699.02	25.78	-20.26	5.89	1,667.06	1,664.62	232.40	-93.73	4.98	221.97	210.31	18.43	19.029
1,800.00	1,798.77	31.27	-24.57	6.25	1,763.47	1,759.49	245.00	-105.39	5.33	231.85	219.51	17.28	18.785
1,900.00	1,898.53	36.75	-28.88	6.61	1,853.48	1,847.70	258.27	-117.35	5.68	243.88	230.92	16.19	18.818
2,000.00	1,998.29	42.24	-33.19	6.97	1,945.73	1,937.37	274.68	-131.47	6.05	259.62	246.02	15.03	19.092
2,100.00	2,098.04	47.72	-37.50	7.33	2,043.69	2,032.26	293.02	-147.47	6.45	276.76	262.45	13.81	19.347
2,200.00	2,197.80	53.21	-41.81	7.70	2,145.77	2,131.31	311.40	-163.94	6.89	293.26	278.20	12.67	19.471
2,300.00	2,297.56	58.69	-46.12	8.06	2,241.71	2,224.37	328.29	-180.04	7.30	309.80	294.04	11.58	19.665
2,400.00	2,397.31	64.18	-50.43	8.43	2,340.34	2,319.95	345.60	-197.11	7.73	326.64	310.16	10.48	19.821
2,500.00	2,497.07	69.66	-54.74	8.79	2,437.34	2,413.88	363.07	-213.89	8.16	344.00	326.81	9.54	20.012
2,600.00	2,596.83	75.15	-59.05	9.16	2,531.91	2,505.48	380.42	-229.77	8.59	361.50	343.63	8.81	20.223
2,700.00	2,696.58	80.63	-63.36	9.53	2,625.43	2,595.43	399.06	-247.31	9.03	381.40	362.85	8.01	20.556
2,800.00	2,796.34	86.12	-67.67	9.89	2,733.18	2,699.40	418.51	-267.79	9.53	399.91	380.52	7.01	20.626
2,900.00	2,896.09	91.60	-71.98	10.26	2,825.99	2,789.10	433.73	-286.13	9.97	417.57	397.50	6.02	20.812

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	2,995.85	97.09	-76.29	10.62	2,921.57	2,880.89	449.92	-307.31	10.43	437.13	416.35	4.86	21.045
3,100.00	3,095.61	102.57	-80.60	10.99	3,020.22	2,975.57	466.10	-329.77	10.90	456.78	435.52	3.67	21.487
3,200.00	3,195.36	108.06	-84.91	11.36	3,122.20	3,073.61	482.00	-352.94	11.40	475.92	453.88	2.49	21.599
3,300.00	3,295.12	113.54	-89.22	11.73	3,215.30	3,163.12	496.61	-373.98	11.86	495.23	472.51	1.51	21.797
3,400.00	3,394.88	119.03	-93.53	12.09	3,302.80	3,246.95	511.97	-393.72	12.30	516.15	492.80	0.77	22.107
3,500.00	3,494.63	124.51	-97.84	12.46	3,397.92	3,337.93	530.91	-414.08	12.78	538.26	514.19	0.27	22.371
3,600.00	3,594.39	130.00	-102.15	12.83	3,490.20	3,425.98	550.17	-433.86	13.25	561.19	536.45	-0.13	22.680
3,700.00	3,694.15	135.48	-106.46	13.19	3,592.79	3,523.95	571.75	-455.27	13.78	583.93	558.38	-0.47	22.860
3,800.00	3,793.90	140.97	-110.77	13.56	3,689.32	3,616.25	592.19	-474.79	14.27	606.36	580.09	-0.72	23.076
3,900.00	3,893.66	146.45	-115.08	13.93	3,784.75	3,707.40	612.32	-494.63	14.77	629.11	602.11	-0.99	23.301
4,000.00	3,993.41	151.94	-119.39	14.30	3,897.24	3,814.99	635.57	-517.78	15.34	651.50	623.61	-1.30	23.355
4,100.00	4,093.17	157.42	-123.70	14.67	4,009.09	3,922.96	656.95	-537.68	15.90	670.73	641.96	-1.47	23.315
4,200.00	4,192.93	162.91	-128.01	15.03	4,110.12	4,020.73	675.35	-555.29	16.39	689.07	659.54	-1.64	23.330
4,300.00	4,292.68	168.39	-132.32	15.40	4,209.50	4,116.96	693.02	-572.71	16.87	707.15	676.86	-1.82	23.347
4,400.00	4,392.44	173.87	-136.63	15.77	4,306.30	4,210.67	710.12	-589.96	17.34	725.33	694.31	-2.02	23.384
4,500.00	4,492.20	179.36	-140.94	16.14	4,408.21	4,309.32	727.88	-608.28	17.84	743.45	711.66	-2.24	23.384
4,600.00	4,591.95	184.84	-145.25	16.51	4,497.68	4,396.03	742.95	-624.38	18.27	761.20	728.74	-2.45	23.449
4,700.00	4,691.71	190.33	-149.56	16.88	4,574.76	4,470.11	758.07	-639.41	18.66	781.91	748.90	-2.58	23.684
4,800.00	4,791.47	195.81	-153.87	17.24	4,686.10	4,577.21	779.53	-660.99	19.23	802.38	768.49	-2.78	23.677
4,900.00	4,891.22	201.30	-158.18	17.61	4,786.62	4,674.09	798.13	-680.28	19.73	822.16	787.50	-2.97	23.722
5,000.00	4,990.98	206.78	-162.49	17.98	4,869.93	4,754.33	813.91	-696.17	20.15	842.27	807.00	-3.10	23.880
5,100.00	5,090.74	212.27	-166.80	18.35	4,949.89	4,830.75	831.88	-711.32	20.57	864.88	829.03	-3.09	24.126
5,200.00	5,190.49	217.75	-171.11	18.72	5,044.73	4,921.13	853.81	-729.89	21.07	888.46	851.89	-3.08	24.292
5,300.00	5,290.25	223.24	-175.42	19.09	5,153.87	5,025.27	878.54	-751.21	21.65	911.68	874.24	-3.09	24.349
5,400.00	5,390.00	228.72	-179.73	19.45	5,268.54	5,135.31	902.48	-772.83	22.24	933.05	894.70	-3.14	24.331
5,500.00	5,489.76	234.21	-184.04	19.82	5,375.95	5,238.76	923.34	-792.80	22.78	953.15	913.97	-3.24	24.328
5,600.00	5,589.24	242.08	-190.23	20.20	5,497.50	5,356.36	945.16	-814.42	23.38	968.59	928.48	-3.36	24.146
5,700.00	5,687.93	254.72	-200.16	20.59	5,635.81	5,491.18	966.83	-836.38	24.03	974.98	933.85	-3.55	23.703
5,800.00	5,785.45	272.07	-213.79	21.00	5,748.81	5,602.07	981.73	-852.15	24.52	971.98	930.02	-3.75	23.164

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,881.44	294.07	-231.08	21.42	5,833.15	5,684.78	993.04	-864.24	24.90	963.39	920.78	-3.95	22.605
6,000.00	5,975.83	320.01	-251.46	21.86	5,918.65	5,768.28	1,005.75	-877.43	25.29	951.40	908.12	-4.16	21.982
6,100.00	6,070.01	346.45	-272.24	22.31	6,024.94	5,872.14	1,021.53	-893.69	25.78	938.66	894.58	-4.41	21.294
6,200.00	6,164.19	372.90	-293.01	22.76	6,109.12	5,954.33	1,034.21	-906.70	26.17	926.28	881.54	-4.61	20.706
6,300.00	6,258.36	399.34	-313.79	23.22	6,191.96	6,034.74	1,048.71	-920.35	26.56	916.30	870.93	-4.76	20.195
6,400.00	6,352.54	425.78	-334.57	23.69	6,308.29	6,147.84	1,068.48	-939.00	27.12	905.70	859.43	-4.98	19.575
6,500.00	6,446.71	452.22	-355.35	24.16	6,407.02	6,244.06	1,084.32	-954.47	27.58	894.19	847.16	-5.20	19.014
6,600.00	6,540.89	478.67	-376.12	24.64	6,500.51	6,335.05	1,099.68	-969.52	28.02	883.26	835.50	-5.42	18.496
6,700.00	6,635.06	505.11	-396.90	25.12	6,600.58	6,432.35	1,116.10	-986.16	28.50	872.72	824.19	-5.68	17.983
6,800.00	6,729.24	531.55	-417.68	25.60	6,702.44	6,531.45	1,132.40	-1,003.13	28.98	861.91	812.59	-5.97	17.475
6,900.00	6,823.42	557.99	-438.46	26.09	6,813.91	6,640.10	1,149.42	-1,021.33	29.50	850.38	800.20	-6.32	16.947
7,000.00	6,917.59	584.44	-459.23	26.58	6,935.54	6,759.18	1,165.77	-1,039.90	30.05	836.79	785.71	-6.76	16.382
7,100.00	7,011.77	610.88	-480.01	27.08	7,054.87	6,876.62	1,179.23	-1,056.20	30.56	820.54	768.61	-7.25	15.800
7,200.00	7,105.94	637.32	-500.79	27.58	7,167.74	6,988.12	1,189.99	-1,070.05	31.02	802.12	749.38	-7.75	15.211
7,300.00	7,200.12	663.76	-521.57	28.08	7,261.51	7,080.85	1,198.93	-1,080.77	31.40	783.16	729.69	-8.15	14.646
7,400.00	7,294.30	690.21	-542.34	28.59	7,332.00	7,150.44	1,206.61	-1,088.89	31.69	765.56	711.44	-8.41	14.146
7,500.00	7,388.47	716.65	-563.12	29.10	7,422.00	7,238.78	1,218.97	-1,100.83	32.09	750.91	696.07	-8.70	13.693
7,600.00	7,482.65	743.09	-583.90	29.61	7,488.11	7,303.11	1,229.92	-1,111.37	32.40	739.91	684.51	-8.90	13.358
7,700.00	7,576.82	769.53	-604.68	30.12	7,592.74	7,404.57	1,247.85	-1,129.63	32.91	730.78	674.55	-9.28	12.996
7,800.00	7,671.00	795.98	-625.45	30.64	7,706.15	7,515.12	1,265.01	-1,148.18	33.44	719.40	662.28	-9.77	12.594
7,900.00	7,765.17	822.42	-646.23	31.16	7,790.93	7,597.66	1,278.62	-1,161.92	33.84	708.61	650.80	-10.10	12.257
8,000.00	7,859.35	848.86	-667.01	31.68	7,885.06	7,689.07	1,295.24	-1,177.02	34.29	698.83	640.26	-10.37	11.933
8,100.00	7,953.53	875.31	-687.79	32.20	7,961.15	7,762.50	1,310.05	-1,190.39	34.67	691.45	632.31	-10.57	11.692
8,200.00	8,047.70	901.75	-708.56	32.73	8,058.50	7,855.94	1,329.96	-1,209.09	35.17	686.05	626.12	-10.85	11.448
8,300.00	8,141.88	928.19	-729.34	33.26	8,182.00	7,974.96	1,353.98	-1,231.63	35.79	679.31	618.32	-11.24	11.140
8,400.00	8,236.05	954.63	-750.12	33.78	8,285.10	8,075.11	1,371.96	-1,248.21	36.29	669.45	607.62	-11.58	10.829
8,500.00	8,330.23	981.08	-770.90	34.32	8,398.02	8,184.73	1,392.67	-1,265.71	36.83	659.86	597.13	-11.86	10.519
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,502.07	8,286.25	1,409.99	-1,280.50	37.31	648.08	584.52	-12.18	10.196
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,607.47	8,389.33	1,425.53	-1,296.06	37.79	635.54	571.13	-12.68	9.867
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,706.29	8,486.11	1,438.87	-1,310.92	38.24	622.47	557.25	-13.28	9.544

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	8,706.93	1,086.85	-854.01	36.46	8,823.09	8,600.55	1,453.99	-1,328.68	38.75	609.45	543.33	-14.08	9.217
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,931.36	8,707.43	1,464.78	-1,342.10	39.21	592.21	525.25	-14.93	8.844
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,024.64	8,799.49	1,474.53	-1,353.69	39.59	575.46	507.69	-15.67	8.491
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,134.50	8,907.96	1,485.56	-1,367.08	40.04	558.40	489.78	-16.62	8.138
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,252.27	9,024.70	1,494.44	-1,379.76	40.49	538.99	469.56	-17.88	7.764
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,383.98	9,156.01	1,500.14	-1,387.97	40.94	514.25	444.24	-19.45	7.345
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,482.51	9,254.47	1,502.50	-1,390.84	41.25	486.04	415.22	-20.76	6.863
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,582.92	9,354.83	1,503.39	-1,393.81	41.54	457.40	385.77	-22.44	6.385
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,679.53	9,451.40	1,503.42	-1,396.34	41.82	428.46	355.91	-24.34	5.906
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,775.96	9,547.81	1,503.65	-1,398.21	42.10	399.52	326.01	-26.45	5.435
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,862.76	9,634.44	1,508.61	-1,397.74	42.37	371.25	296.63	-27.79	4.976
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,931.00	9,701.19	1,522.37	-1,396.67	42.61	348.33	272.57	-27.41	4.598
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,997.09	9,762.82	1,546.03	-1,396.74	42.92	335.54	259.25	-25.27	4.398
10,132.70	9,868.83	1,410.47	-1,108.30	43.15	10,021.00	9,784.04	1,557.01	-1,397.33	43.03	334.97	258.68	-24.09	4.391
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,065.93	9,822.48	1,580.22	-1,398.64	43.27	339.08	263.09	-21.49	4.462
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,138.57	9,880.97	1,623.22	-1,400.31	43.68	358.02	282.87	-16.50	4.764
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,211.89	9,936.53	1,671.02	-1,399.84	44.09	390.62	316.43	-10.96	5.265
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,272.84	9,980.13	1,713.56	-1,398.08	44.44	436.69	363.80	-6.27	5.991
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,320.26	10,012.23	1,748.42	-1,396.33	44.72	495.29	423.99	-40.83	6.947
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,374.00	10,046.16	1,790.05	-1,394.94	45.05	559.22	489.20	1.42	7.986
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,374.00	10,046.16	1,790.05	-1,394.94	45.05	616.71	550.68	1.26	9.339
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,442.08	10,084.62	1,846.18	-1,393.31	45.48	664.27	598.93	4.57	10.167
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,502.00	10,113.62	1,898.55	-1,391.36	45.88	705.46	641.37	7.06	11.007
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,526.60	10,124.36	1,920.66	-1,390.44	46.04	737.23	676.30	6.68	12.099
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,596.00	10,152.34	1,984.09	-1,387.58	46.52	762.71	702.61	5.09	12.690
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,633.14	10,165.79	2,018.69	-1,386.21	46.78	780.33	722.88	3.17	13.582
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,695.81	10,185.92	2,078.01	-1,384.95	47.24	789.91	733.78	2.31	14.072
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,765.00	10,206.37	2,144.11	-1,384.05	47.76	788.46	733.32	1.57	14.299
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,860.00	10,231.77	2,235.63	-1,382.80	48.50	775.10	719.54	0.80	13.950

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	2,128.55	-1,386.48	52.78	10,907.93	10,242.66	2,282.29	-1,381.80	48.88	753.21	699.67	0.33	14.067
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,954.00	10,251.04	2,327.57	-1,380.38	49.25	735.68	684.10	0.43	14.265
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	11,021.59	10,259.54	2,394.54	-1,377.47	49.80	723.53	672.78	0.65	14.255
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,081.92	10,263.34	2,454.66	-1,374.15	50.29	717.23	667.46	0.90	14.410
12,070.55	10,980.00	2,499.10	-1,385.31	55.74	11,126.40	10,264.19	2,499.06	-1,371.58	50.65	715.95	666.66	1.10	14.526
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,144.00	10,264.08	2,516.62	-1,370.55	50.80	716.17	667.08	1.18	14.590
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	11,233.18	10,262.13	2,605.64	-1,365.62	51.55	718.49	669.13	1.54	14.554
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,336.14	10,259.16	2,708.43	-1,360.46	52.45	721.52	671.42	1.92	14.401
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,431.70	10,256.31	2,803.87	-1,356.70	53.32	724.64	673.96	2.19	14.299
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,537.35	10,253.16	2,909.46	-1,355.94	54.32	727.63	675.96	2.21	14.081
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,639.47	10,250.69	3,011.52	-1,358.55	55.32	729.95	677.29	1.98	13.863
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,734.81	10,247.92	3,106.76	-1,361.90	56.27	732.72	679.26	1.68	13.706
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,834.35	10,245.03	3,206.21	-1,365.15	57.29	735.53	681.08	1.40	13.510
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,935.71	10,241.45	3,307.45	-1,368.31	58.34	739.00	683.48	1.12	13.311
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	12,058.75	10,240.04	3,430.44	-1,371.35	59.64	740.04	682.67	0.85	12.899
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,159.89	10,240.62	3,531.56	-1,373.29	60.72	739.44	680.96	0.68	12.645
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,268.43	10,241.45	3,640.08	-1,375.20	61.89	738.67	678.79	0.51	12.335
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,379.09	10,243.99	3,750.69	-1,377.06	63.11	736.36	674.96	0.34	11.993
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,483.39	10,247.60	3,854.92	-1,378.67	64.27	732.88	670.18	0.19	11.688
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,572.86	10,250.24	3,944.34	-1,380.20	65.28	729.93	666.47	0.04	11.502
13,586.46	10,980.00	4,015.00	-1,380.54	70.82	12,643.96	10,251.03	4,015.42	-1,381.15	66.08	728.97	665.06	-0.05	11.407
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,656.00	10,251.02	4,027.46	-1,381.26	66.22	728.98	664.98	-0.06	11.389
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,750.00	10,250.71	4,121.46	-1,381.94	67.29	729.33	664.36	-0.14	11.226
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,845.00	10,249.58	4,216.45	-1,382.03	68.38	730.53	664.56	-0.17	11.075
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,958.40	10,248.85	4,329.84	-1,381.35	69.69	731.16	663.55	-0.14	10.815
13,918.25	10,980.00	4,346.79	-1,379.49	74.57	12,975.37	10,248.87	4,346.81	-1,381.17	69.89	731.14	663.37	-0.13	10.788
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	13,053.18	10,248.57	4,424.61	-1,379.83	70.79	731.44	662.87	-0.05	10.667
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,158.71	10,248.33	4,530.12	-1,378.11	72.03	731.68	661.74	0.06	10.462
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,260.99	10,249.02	4,632.40	-1,377.44	73.24	730.99	659.76	0.09	10.262
14,242.81	10,980.00	4,671.35	-1,378.47	78.34	13,299.94	10,249.12	4,671.35	-1,377.23	73.70	730.88	659.26	0.10	10.205

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	4,728.54	-1,378.29	79.01	13,354.02	10,248.98	4,725.42	-1,376.90	74.35	731.03	658.82	0.11	10.124
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,451.95	10,248.37	4,823.36	-1,376.53	75.53	731.66	658.28	0.11	9.971
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,559.36	10,247.87	4,930.76	-1,377.08	76.83	732.14	657.20	0.04	9.771
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,663.76	10,248.81	5,035.15	-1,377.11	78.10	731.23	654.85	0.02	9.574
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,759.80	10,249.45	5,131.19	-1,377.18	79.28	730.56	653.04	-0.01	9.423
14,733.86	10,980.00	5,162.40	-1,376.92	84.21	13,791.00	10,249.53	5,162.39	-1,377.13	79.67	730.48	652.61	-0.02	9.381
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,845.68	10,249.14	5,217.07	-1,377.00	80.34	730.95	652.64	-0.02	9.334
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,934.69	10,246.82	5,306.05	-1,376.48	81.44	733.53	654.31	0.00	9.260
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,057.64	10,244.12	5,428.94	-1,374.17	82.97	735.88	654.59	0.15	9.053
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,160.15	10,244.69	5,531.43	-1,372.17	84.24	735.32	652.67	0.28	8.896
15,250.03	10,980.00	5,678.57	-1,375.30	90.56	14,308.73	10,244.94	5,679.98	-1,369.34	86.10	735.09	650.55	0.46	8.696
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,257.24	10,244.89	5,628.50	-1,370.25	85.46	735.13	651.29	0.41	8.769
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,360.62	10,245.11	5,731.86	-1,368.70	86.76	734.93	649.67	0.50	8.619
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,460.69	10,245.60	5,831.93	-1,367.53	88.02	734.45	647.86	0.57	8.482
15,478.22	10,980.00	5,906.76	-1,374.58	93.41	14,535.50	10,245.78	5,906.73	-1,366.29	88.97	734.26	646.77	0.65	8.392
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,555.76	10,245.77	5,926.98	-1,365.89	89.22	734.28	646.56	0.67	8.370
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,645.86	10,244.98	6,017.06	-1,364.06	90.37	735.18	646.50	0.79	8.290
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,744.52	10,243.30	6,115.68	-1,362.09	91.63	736.91	646.95	0.92	8.192
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,858.06	10,242.50	6,229.21	-1,360.62	93.08	737.62	645.81	1.01	8.034
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,980.39	10,243.83	6,351.53	-1,360.23	94.66	736.64	642.62	1.01	7.835
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	15,098.11	10,249.45	6,469.10	-1,361.60	96.19	731.77	635.68	0.88	7.616
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,183.01	10,253.48	6,553.89	-1,363.45	97.30	727.02	630.04	0.72	7.497
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,265.69	10,255.33	6,636.53	-1,365.04	98.39	724.75	626.97	0.57	7.412
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,358.21	10,255.58	6,729.04	-1,366.23	99.60	724.45	625.50	0.46	7.321
16,345.27	10,980.00	6,773.80	-1,371.85	104.49	15,402.95	10,255.60	6,773.78	-1,366.88	100.19	724.42	624.83	0.39	7.274
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,453.67	10,255.46	6,824.49	-1,367.45	100.85	724.57	624.34	0.34	7.229
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,551.58	10,254.62	6,922.40	-1,367.81	102.14	725.42	623.83	0.28	7.141
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,653.95	10,253.90	7,024.77	-1,368.13	103.49	726.12	623.01	0.23	7.042
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,754.09	10,253.44	7,124.90	-1,368.44	104.81	726.58	622.03	0.18	6.950

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,855.20	10,252.98	7,226.01	-1,368.65	106.14	727.03	621.00	0.14	6.857
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,950.27	10,252.40	7,321.08	-1,368.63	107.40	727.64	620.36	0.12	6.782
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,044.99	10,251.08	7,415.78	-1,367.24	108.65	729.04	620.54	0.20	6.720
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,138.80	10,249.07	7,509.51	-1,364.08	109.89	731.20	621.58	0.43	6.671
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,247.81	10,246.79	7,618.37	-1,358.82	111.33	733.36	622.10	0.81	6.592
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,378.59	10,248.11	7,749.02	-1,353.66	113.06	732.34	618.61	1.18	6.440
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,477.95	10,251.44	7,848.31	-1,352.19	114.38	729.02	613.89	1.28	6.332
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	16,569.10	10,253.01	7,939.45	-1,351.33	115.60	727.27	611.02	1.33	6.256
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	16,666.64	10,254.61	8,036.96	-1,352.89	116.91	725.59	607.95	1.18	6.167
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,761.00	10,254.97	8,131.29	-1,355.38	118.19	725.14	606.18	0.96	6.096
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,863.51	10,255.64	8,233.74	-1,358.62	119.58	724.43	603.85	0.68	6.008
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,966.08	10,256.39	8,336.28	-1,361.24	120.97	723.67	601.46	0.45	5.922
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	17,067.93	10,257.71	8,438.09	-1,363.71	122.35	722.37	598.55	0.23	5.834
18,039.63	10,980.00	8,468.15	-1,366.51	126.86	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	721.91	597.83	0.16	5.818
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	724.43	601.82	0.16	5.908
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	739.51	620.03	0.16	6.190
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	767.43	651.63	0.16	6.628
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	806.86	694.88	0.16	7.206
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	856.21	747.87	0.16	7.904
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	913.87	808.79	0.16	8.697
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	978.38	876.09	0.16	9.564
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,048.48	948.48	0.16	10.485
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,123.11	1,024.98	0.16	11.444
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,201.44	1,104.79	0.16	12.430
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,282.78	1,187.29	0.16	13.434
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,366.60	1,272.02	0.16	14.449
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,452.47	1,358.59	0.16	15.472
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,540.05	1,446.70	0.16	16.498
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,629.06	1,536.11	0.16	17.527
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,719.27	1,626.62	0.16	18.557

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,810.52	1,718.08	0.16	19.587
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,902.64	1,810.35	0.16	20.616
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	1,995.53	1,903.33	0.16	21.643
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	2,089.07	1,996.91	0.16	22.670
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	2,183.18	2,091.04	0.16	23.695
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	2,277.79	2,185.64	0.16	24.718
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	2,372.85	2,280.66	0.16	25.739
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	17,098.00	10,258.10	8,468.14	-1,364.51	122.76	2,468.30	2,376.05	0.16	26.758

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	100.91	100.91	199.80	-59.68	0.54	208.53	206.18	-16.63	88.998
200.00	200.00	0.00	0.00	0.70	200.86	200.85	199.22	-59.88	0.75	208.03	205.30	-16.73	76.154
300.00	300.00	0.00	0.00	0.98	300.61	300.60	198.62	-60.77	0.92	207.71	204.51	-17.01	65.059
400.00	400.00	0.00	0.00	1.31	400.46	400.45	198.15	-61.40	1.08	207.45	204.15	-17.22	62.889
500.00	500.00	0.00	0.00	1.64	500.68	500.67	197.72	-61.94	1.26	207.20	203.39	-17.40	54.369
600.00	600.00	0.00	0.00	1.99	600.97	600.95	197.20	-62.27	1.50	206.80	202.41	-17.52	47.057
700.00	700.00	0.00	0.00	2.34	700.78	700.76	196.75	-62.33	1.77	206.39	201.37	-17.58	41.100
800.00	800.00	0.00	0.00	2.69	800.87	800.85	196.33	-62.36	2.08	206.00	200.32	-17.62	36.288
900.00	900.00	0.00	0.00	3.04	900.76	900.74	195.85	-62.51	2.40	205.58	199.23	-17.70	32.383
1,000.00	1,000.00	0.00	0.00	3.39	1,000.09	1,000.07	195.55	-62.86	2.72	205.41	198.38	-17.82	29.228
1,100.00	1,100.00	0.34	-0.26	3.75	1,098.02	1,098.00	195.52	-63.59	3.05	205.21	197.51	20.18	26.637
1,123.05	1,123.05	0.59	-0.47	3.83	1,119.94	1,119.92	195.72	-63.88	3.12	205.19	197.34	20.15	26.117
1,200.00	1,199.98	1.98	-1.56	4.10	1,191.63	1,191.57	197.24	-65.30	3.35	205.57	197.21	20.06	24.595
1,300.00	1,299.90	5.00	-3.93	4.45	1,285.30	1,285.06	201.93	-68.77	3.66	207.85	198.85	19.89	23.072
1,400.00	1,399.74	9.39	-7.38	4.81	1,384.20	1,383.62	208.38	-73.57	3.99	210.33	200.64	19.70	21.706
1,500.00	1,499.50	14.81	-11.64	5.17	1,482.85	1,481.94	214.73	-78.63	4.32	211.58	201.20	19.57	20.391
1,600.00	1,599.26	20.30	-15.95	5.53	1,575.26	1,573.84	222.16	-84.73	4.65	214.77	203.74	19.23	19.480
1,700.00	1,699.02	25.78	-20.26	5.89	1,667.06	1,664.62	232.40	-93.73	4.98	221.97	210.31	18.43	19.029
1,800.00	1,798.77	31.27	-24.57	6.25	1,763.47	1,759.49	245.00	-105.39	5.33	231.85	219.51	17.28	18.785
1,900.00	1,898.53	36.75	-28.88	6.61	1,853.48	1,847.70	258.27	-117.35	5.68	243.88	230.92	16.19	18.818
2,000.00	1,998.29	42.24	-33.19	6.97	1,945.73	1,937.37	274.68	-131.47	6.05	259.62	246.02	15.03	19.092
2,100.00	2,098.04	47.72	-37.50	7.33	2,043.69	2,032.26	293.02	-147.47	6.45	276.76	262.45	13.81	19.347
2,200.00	2,197.80	53.21	-41.81	7.70	2,145.77	2,131.31	311.40	-163.94	6.89	293.26	278.20	12.67	19.471
2,300.00	2,297.56	58.69	-46.12	8.06	2,241.71	2,224.37	328.29	-180.04	7.30	309.80	294.04	11.58	19.665
2,400.00	2,397.31	64.18	-50.43	8.43	2,340.34	2,319.95	345.60	-197.11	7.73	326.64	310.16	10.48	19.821
2,500.00	2,497.07	69.66	-54.74	8.79	2,437.34	2,413.88	363.07	-213.89	8.16	344.00	326.81	9.54	20.012
2,600.00	2,596.83	75.15	-59.05	9.16	2,531.91	2,505.48	380.42	-229.77	8.59	361.50	343.63	8.81	20.223
2,700.00	2,696.58	80.63	-63.36	9.53	2,625.43	2,595.43	399.06	-247.31	9.03	381.40	362.85	8.01	20.556
2,800.00	2,796.34	86.12	-67.67	9.89	2,733.18	2,699.40	418.51	-267.79	9.53	399.91	380.52	7.01	20.626
2,900.00	2,896.09	91.60	-71.98	10.26	2,825.99	2,789.10	433.73	-286.13	9.97	417.57	397.50	6.02	20.812

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	2,995.85	97.09	-76.29	10.62	2,921.57	2,880.89	449.92	-307.31	10.43	437.13	416.35	4.86	21.045
3,100.00	3,095.61	102.57	-80.60	10.99	3,020.22	2,975.57	466.10	-329.77	10.90	456.78	435.41	3.67	21.377
3,200.00	3,195.36	108.06	-84.91	11.36	3,122.20	3,073.61	482.00	-352.94	11.40	475.92	453.88	2.49	21.599
3,300.00	3,295.12	113.54	-89.22	11.73	3,215.30	3,163.12	496.61	-373.98	11.86	495.23	472.51	1.51	21.797
3,400.00	3,394.88	119.03	-93.53	12.09	3,302.80	3,246.95	511.97	-393.72	12.30	516.15	492.80	0.77	22.107
3,500.00	3,494.63	124.51	-97.84	12.46	3,397.92	3,337.93	530.91	-414.08	12.78	538.26	514.19	0.27	22.371
3,600.00	3,594.39	130.00	-102.15	12.83	3,490.20	3,425.98	550.17	-433.86	13.25	561.19	536.45	-0.13	22.680
3,700.00	3,694.15	135.48	-106.46	13.19	3,592.79	3,523.95	571.75	-455.27	13.78	583.93	558.38	-0.47	22.860
3,800.00	3,793.90	140.97	-110.77	13.56	3,689.32	3,616.25	592.19	-474.79	14.27	606.36	580.09	-0.72	23.076
3,900.00	3,893.66	146.45	-115.08	13.93	3,784.75	3,707.40	612.32	-494.63	14.77	629.11	602.11	-0.99	23.301
4,000.00	3,993.41	151.94	-119.39	14.30	3,897.24	3,814.99	635.57	-517.78	15.34	651.50	623.61	-1.30	23.355
4,100.00	4,093.17	157.42	-123.70	14.67	4,009.09	3,922.96	656.95	-537.68	15.90	670.73	641.96	-1.47	23.315
4,200.00	4,192.93	162.91	-128.01	15.03	4,110.12	4,020.73	675.35	-555.29	16.39	689.07	659.54	-1.64	23.330
4,300.00	4,292.68	168.39	-132.32	15.40	4,209.50	4,116.96	693.02	-572.71	16.87	707.15	676.86	-1.82	23.347
4,400.00	4,392.44	173.87	-136.63	15.77	4,306.30	4,210.67	710.12	-589.96	17.34	725.33	694.31	-2.02	23.384
4,500.00	4,492.20	179.36	-140.94	16.14	4,408.21	4,309.32	727.88	-608.28	17.84	743.45	711.66	-2.24	23.384
4,600.00	4,591.95	184.84	-145.25	16.51	4,497.68	4,396.03	742.95	-624.38	18.27	761.20	728.74	-2.45	23.449
4,700.00	4,691.71	190.33	-149.56	16.88	4,574.76	4,470.11	758.07	-639.41	18.66	781.91	748.90	-2.58	23.684
4,800.00	4,791.47	195.81	-153.87	17.24	4,686.10	4,577.21	779.53	-660.99	19.23	802.38	768.49	-2.78	23.677
4,900.00	4,891.22	201.30	-158.18	17.61	4,786.62	4,674.09	798.13	-680.28	19.73	822.16	787.50	-2.97	23.722
5,000.00	4,990.98	206.78	-162.49	17.98	4,869.93	4,754.33	813.91	-696.17	20.15	842.27	807.00	-3.10	23.880
5,100.00	5,090.74	212.27	-166.80	18.35	4,949.89	4,830.75	831.88	-711.32	20.57	864.88	829.03	-3.09	24.126
5,200.00	5,190.49	217.75	-171.11	18.72	5,044.73	4,921.13	853.81	-729.89	21.07	888.46	851.89	-3.08	24.292
5,300.00	5,290.25	223.24	-175.42	19.09	5,153.87	5,025.27	878.54	-751.21	21.65	911.68	874.24	-3.09	24.349
5,400.00	5,390.00	228.72	-179.73	19.45	5,268.54	5,135.31	902.48	-772.83	22.24	933.05	894.70	-3.14	24.331
5,500.00	5,489.76	234.21	-184.04	19.82	5,375.95	5,238.76	923.34	-792.80	22.78	953.15	913.97	-3.24	24.328
5,600.00	5,589.24	242.08	-190.23	20.20	5,497.50	5,356.36	945.16	-814.42	23.38	968.59	928.48	-3.36	24.146
5,700.00	5,687.93	254.72	-200.16	20.59	5,635.81	5,491.18	966.83	-836.38	24.03	974.98	933.85	-3.55	23.703
5,800.00	5,785.45	272.07	-213.79	21.00	5,748.81	5,602.07	981.73	-852.15	24.52	971.98	930.02	-3.75	23.164

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,881.44	294.07	-231.08	21.42	5,833.15	5,684.78	993.04	-864.24	24.90	963.39	920.78	-3.95	22.605
6,000.00	5,975.83	320.01	-251.46	21.86	5,918.65	5,768.28	1,005.75	-877.43	25.29	951.40	908.12	-4.16	21.982
6,100.00	6,070.01	346.45	-272.24	22.31	6,024.94	5,872.14	1,021.53	-893.69	25.78	938.66	894.58	-4.41	21.294
6,200.00	6,164.19	372.90	-293.01	22.76	6,109.12	5,954.33	1,034.21	-906.70	26.17	926.28	881.54	-4.61	20.706
6,300.00	6,258.36	399.34	-313.79	23.22	6,191.96	6,034.74	1,048.71	-920.35	26.56	916.30	870.93	-4.76	20.195
6,400.00	6,352.54	425.78	-334.57	23.69	6,308.29	6,147.84	1,068.48	-939.00	27.12	905.70	859.43	-4.98	19.575
6,500.00	6,446.71	452.22	-355.35	24.16	6,407.02	6,244.06	1,084.32	-954.47	27.58	894.19	847.16	-5.20	19.014
6,600.00	6,540.89	478.67	-376.12	24.64	6,500.51	6,335.05	1,099.68	-969.52	28.02	883.26	835.50	-5.42	18.496
6,700.00	6,635.06	505.11	-396.90	25.12	6,600.58	6,432.35	1,116.10	-986.16	28.50	872.72	824.19	-5.68	17.983
6,800.00	6,729.24	531.55	-417.68	25.60	6,702.44	6,531.45	1,132.40	-1,003.13	28.98	861.91	812.59	-5.97	17.475
6,900.00	6,823.42	557.99	-438.46	26.09	6,813.91	6,640.10	1,149.42	-1,021.33	29.50	850.38	800.20	-6.32	16.947
7,000.00	6,917.59	584.44	-459.23	26.58	6,935.54	6,759.18	1,165.77	-1,039.90	30.05	836.79	785.71	-6.76	16.382
7,100.00	7,011.77	610.88	-480.01	27.08	7,054.87	6,876.62	1,179.23	-1,056.20	30.56	820.54	768.61	-7.25	15.800
7,200.00	7,105.94	637.32	-500.79	27.58	7,167.74	6,988.12	1,189.99	-1,070.05	31.02	802.12	749.38	-7.75	15.211
7,300.00	7,200.12	663.76	-521.57	28.08	7,261.51	7,080.85	1,198.93	-1,080.77	31.40	783.16	729.69	-8.15	14.646
7,400.00	7,294.30	690.21	-542.34	28.59	7,332.00	7,150.44	1,206.61	-1,088.89	31.69	765.56	711.44	-8.41	14.146
7,500.00	7,388.47	716.65	-563.12	29.10	7,422.00	7,238.78	1,218.97	-1,100.83	32.09	750.91	696.07	-8.70	13.693
7,600.00	7,482.65	743.09	-583.90	29.61	7,488.11	7,303.11	1,229.92	-1,111.37	32.40	739.91	684.51	-8.90	13.358
7,700.00	7,576.82	769.53	-604.68	30.12	7,592.74	7,404.57	1,247.85	-1,129.63	32.91	730.78	674.55	-9.28	12.996
7,800.00	7,671.00	795.98	-625.45	30.64	7,706.15	7,515.12	1,265.01	-1,148.18	33.44	719.40	662.28	-9.77	12.594
7,900.00	7,765.17	822.42	-646.23	31.16	7,790.93	7,597.66	1,278.62	-1,161.92	33.84	708.61	650.80	-10.10	12.257
8,000.00	7,859.35	848.86	-667.01	31.68	7,885.06	7,689.07	1,295.24	-1,177.02	34.29	698.83	640.26	-10.37	11.933
8,100.00	7,953.53	875.31	-687.79	32.20	7,961.15	7,762.50	1,310.05	-1,190.39	34.67	691.45	632.31	-10.57	11.692
8,200.00	8,047.70	901.75	-708.56	32.73	8,058.50	7,855.94	1,329.96	-1,209.09	35.17	686.05	626.12	-10.85	11.448
8,300.00	8,141.88	928.19	-729.34	33.26	8,182.00	7,974.96	1,353.98	-1,231.63	35.79	679.31	618.32	-11.24	11.140
8,400.00	8,236.05	954.63	-750.12	33.78	8,285.10	8,075.11	1,371.96	-1,248.21	36.29	669.45	607.62	-11.58	10.829
8,500.00	8,330.23	981.08	-770.90	34.32	8,398.02	8,184.73	1,392.67	-1,265.71	36.83	659.86	597.13	-11.86	10.519
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,502.07	8,286.25	1,409.99	-1,280.50	37.31	648.08	584.52	-12.18	10.196
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,607.47	8,389.33	1,425.53	-1,296.06	37.79	635.54	571.13	-12.68	9.867
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,706.29	8,486.11	1,438.87	-1,310.92	38.24	622.47	557.25	-13.28	9.544

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	8,706.93	1,086.85	-854.01	36.46	8,823.09	8,600.55	1,453.99	-1,328.68	38.75	609.45	543.33	-14.08	9.217
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,931.36	8,707.43	1,464.78	-1,342.10	39.21	592.21	525.25	-14.93	8.844
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,024.64	8,799.49	1,474.53	-1,353.69	39.59	575.46	507.69	-15.67	8.491
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,134.50	8,907.96	1,485.56	-1,367.08	40.04	558.40	489.78	-16.62	8.138
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,252.27	9,024.70	1,494.44	-1,379.76	40.49	538.99	469.56	-17.88	7.764
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,383.98	9,156.01	1,500.14	-1,387.97	40.94	514.25	444.24	-19.45	7.345
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,482.51	9,254.47	1,502.50	-1,390.84	41.25	486.04	415.22	-20.76	6.863
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,582.92	9,354.83	1,503.39	-1,393.81	41.54	457.40	385.77	-22.44	6.385
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,679.53	9,451.40	1,503.42	-1,396.34	41.82	428.46	355.91	-24.34	5.906
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,775.96	9,547.81	1,503.65	-1,398.21	42.10	399.52	326.01	-26.45	5.435
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,862.76	9,634.44	1,508.61	-1,397.74	42.37	371.25	296.63	-27.79	4.976
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,931.00	9,701.19	1,522.37	-1,396.67	42.61	348.33	272.57	-27.41	4.598
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,997.09	9,762.82	1,546.03	-1,396.74	42.92	335.54	259.25	-25.27	4.398
10,132.70	9,868.83	1,410.47	-1,108.30	43.15	10,021.00	9,784.04	1,557.01	-1,397.33	43.03	334.97	258.68	-24.09	4.391
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,065.93	9,822.48	1,580.22	-1,398.64	43.27	339.08	263.09	-21.49	4.462
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,138.57	9,880.97	1,623.22	-1,400.31	43.68	358.02	282.87	-16.50	4.764
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,211.89	9,936.53	1,671.02	-1,399.84	44.09	390.62	316.43	-10.96	5.265
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,272.84	9,980.13	1,713.56	-1,398.08	44.44	436.69	363.80	-6.27	5.991
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,320.26	10,012.23	1,748.42	-1,396.33	44.72	495.29	423.99	-40.83	6.947
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,374.00	10,046.16	1,790.05	-1,394.94	45.05	559.22	489.09	1.42	7.974
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,407.81	10,066.29	1,817.21	-1,394.41	45.26	615.32	547.43	3.11	9.064
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,450.00	10,090.36	1,851.86	-1,394.05	45.54	662.78	597.00	4.84	10.076
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,500.00	10,116.93	1,894.21	-1,393.62	45.87	701.12	637.07	6.72	10.946
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,550.00	10,141.25	1,937.88	-1,393.10	46.21	730.45	668.19	7.34	11.732
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,600.00	10,163.25	1,982.77	-1,392.50	46.57	752.89	692.50	4.77	12.468
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,650.00	10,182.87	2,028.75	-1,391.82	46.93	768.38	709.98	3.07	13.157
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,700.00	10,200.06	2,075.69	-1,391.06	47.29	775.97	719.63	1.87	13.773
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,750.00	10,214.77	2,123.47	-1,390.22	47.67	775.05	720.76	0.95	14.277
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,813.51	10,229.81	2,185.14	-1,389.06	48.15	765.09	712.07	0.19	14.431

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	2,128.55	-1,386.48	52.78	10,868.53	10,239.51	2,239.28	-1,387.95	48.58	748.73	697.24	-0.14	14.541
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,924.38	10,246.14	2,294.72	-1,386.75	49.02	736.84	686.66	-0.06	14.684
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,980.83	10,249.55	2,351.04	-1,385.45	49.47	730.80	681.66	0.03	14.871
11,953.61	10,980.00	2,382.16	-1,385.68	54.77	11,011.93	10,250.00	2,382.13	-1,384.70	49.72	730.01	681.27	0.08	14.978
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,058.34	10,250.00	2,428.54	-1,383.97	50.10	730.01	680.98	0.12	14.889
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,158.35	10,250.00	2,528.54	-1,383.64	50.95	730.01	680.29	0.12	14.682
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	11,258.35	10,250.00	2,628.54	-1,383.35	51.82	730.01	679.56	0.12	14.470
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,358.35	10,250.00	2,728.54	-1,383.06	52.72	730.01	678.79	0.12	14.253
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,458.35	10,250.00	2,828.54	-1,382.76	53.64	730.01	677.98	0.12	14.033
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,558.35	10,250.00	2,928.54	-1,382.47	54.58	730.01	677.15	0.12	13.810
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,658.35	10,250.00	3,028.54	-1,382.17	55.55	730.01	676.27	0.12	13.586
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,758.35	10,250.00	3,128.54	-1,381.88	56.53	730.01	675.37	0.11	13.361
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,858.35	10,250.00	3,228.54	-1,381.59	57.54	730.01	674.44	0.11	13.137
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,958.35	10,250.00	3,328.54	-1,381.29	58.56	730.01	673.47	0.11	12.913
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	12,058.35	10,250.00	3,428.54	-1,381.00	59.60	730.01	672.49	0.11	12.691
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,158.35	10,250.00	3,528.54	-1,380.71	60.65	730.01	671.47	0.11	12.471
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,258.35	10,250.00	3,628.54	-1,380.41	61.73	730.01	670.43	0.11	12.254
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,358.35	10,250.00	3,728.54	-1,380.12	62.81	730.01	669.37	0.10	12.039
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,458.35	10,250.00	3,828.54	-1,379.83	63.91	730.01	668.29	0.10	11.828
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,558.35	10,250.00	3,928.54	-1,379.53	65.02	730.00	667.18	0.10	11.620
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,658.35	10,250.00	4,028.54	-1,379.24	66.14	730.00	666.06	0.10	11.416
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,758.35	10,250.00	4,128.54	-1,378.94	67.28	730.00	664.91	0.10	11.215
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,858.35	10,250.00	4,228.54	-1,378.65	68.43	730.00	663.75	0.10	11.019
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,958.35	10,250.00	4,328.54	-1,378.36	69.58	730.00	662.58	0.09	10.826
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	13,058.35	10,250.00	4,428.54	-1,378.06	70.75	730.00	661.38	0.09	10.638
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,158.35	10,250.00	4,528.54	-1,377.77	71.93	730.00	660.17	0.09	10.454
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,258.35	10,250.00	4,628.53	-1,377.48	73.11	730.00	658.95	0.09	10.274
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	13,358.35	10,250.00	4,728.53	-1,377.18	74.31	730.00	657.72	0.09	10.098
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,458.35	10,250.00	4,828.53	-1,376.89	75.51	730.00	656.47	0.09	9.927
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,558.35	10,250.00	4,928.53	-1,376.59	76.72	730.00	655.21	0.08	9.760

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,658.35	10,250.00	5,028.53	-1,376.30	77.94	730.00	653.93	0.08	9.596
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,758.35	10,250.00	5,128.53	-1,376.01	79.17	730.00	652.65	0.08	9.437
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,858.35	10,250.00	5,228.53	-1,375.71	80.40	730.00	651.36	0.08	9.282
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,958.35	10,250.00	5,328.53	-1,375.42	81.64	730.00	650.05	0.08	9.131
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,058.35	10,250.00	5,428.53	-1,375.13	82.88	730.00	648.74	0.08	8.983
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,158.35	10,250.00	5,528.53	-1,374.83	84.13	730.00	647.42	0.07	8.839
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,258.35	10,250.00	5,628.53	-1,374.54	85.39	730.00	646.08	0.07	8.699
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,358.35	10,250.00	5,728.53	-1,374.25	86.65	730.00	644.75	0.07	8.562
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,458.35	10,250.00	5,828.53	-1,373.95	87.92	730.00	643.40	0.07	8.429
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,558.35	10,250.00	5,928.53	-1,373.66	89.19	730.00	642.04	0.07	8.299
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,658.35	10,250.00	6,028.53	-1,373.36	90.47	730.00	640.68	0.07	8.173
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,758.35	10,250.00	6,128.53	-1,373.07	91.75	730.00	639.31	0.06	8.050
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,858.35	10,250.00	6,228.53	-1,372.78	93.03	730.00	637.94	0.06	7.929
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,958.35	10,250.00	6,328.53	-1,372.48	94.32	730.00	636.56	0.06	7.812
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	15,058.35	10,250.00	6,428.53	-1,372.19	95.62	730.00	635.17	0.06	7.698
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,158.35	10,250.00	6,528.53	-1,371.90	96.91	730.00	633.78	0.06	7.586
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,258.35	10,250.00	6,628.53	-1,371.60	98.21	730.00	632.38	0.06	7.478
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,358.35	10,250.00	6,728.53	-1,371.31	99.52	730.00	630.98	0.05	7.372
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,458.35	10,250.00	6,828.53	-1,371.01	100.83	730.00	629.57	0.05	7.269
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,558.35	10,250.00	6,928.52	-1,370.72	102.14	730.00	628.16	0.05	7.168
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,658.35	10,250.00	7,028.52	-1,370.43	103.45	730.00	626.74	0.05	7.069
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,758.35	10,250.00	7,128.52	-1,370.13	104.77	730.00	625.32	0.05	6.973
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,858.35	10,250.00	7,228.52	-1,369.84	106.09	730.00	623.89	0.05	6.880
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,958.35	10,250.00	7,328.52	-1,369.55	107.42	730.00	622.46	0.04	6.788
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,058.35	10,250.00	7,428.52	-1,369.25	108.74	730.00	621.03	0.04	6.699
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,158.35	10,250.00	7,528.52	-1,368.96	110.07	730.00	619.59	0.04	6.612
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,258.35	10,250.00	7,628.52	-1,368.67	111.40	730.00	618.15	0.04	6.526
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,358.35	10,250.00	7,728.52	-1,368.37	112.74	730.00	616.70	0.04	6.443
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,458.35	10,250.00	7,828.52	-1,368.08	114.07	730.00	615.26	0.04	6.362

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	7,928.52	-1,368.21	119.65	16,558.35	10,250.00	7,928.52	-1,367.78	115.41	730.00	613.81	0.03	6.282
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	16,658.35	10,250.00	8,028.52	-1,367.49	116.75	730.00	612.35	0.03	6.205
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,758.35	10,250.00	8,128.52	-1,367.20	118.09	730.00	610.89	0.03	6.129
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,858.35	10,250.00	8,228.52	-1,366.90	119.44	730.00	609.43	0.03	6.055
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,958.35	10,250.00	8,328.52	-1,366.61	120.78	730.00	607.97	0.03	5.982
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	17,058.35	10,250.00	8,428.52	-1,366.32	122.13	730.00	606.51	0.02	5.911
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,158.35	10,250.00	8,528.52	-1,366.02	123.48	730.00	605.04	0.02	5.842
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,258.35	10,250.00	8,628.52	-1,365.73	124.84	730.00	603.57	0.02	5.774
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,358.35	10,250.00	8,728.52	-1,365.44	126.19	730.00	602.09	0.02	5.707
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,458.35	10,250.00	8,828.52	-1,365.14	127.55	730.00	600.62	0.02	5.642
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,558.35	10,250.00	8,928.52	-1,364.85	128.90	730.00	599.14	0.02	5.579
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,658.35	10,250.00	9,028.52	-1,364.55	130.26	730.00	597.66	0.01	5.516
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,758.35	10,250.00	9,128.52	-1,364.26	131.62	730.00	596.18	0.01	5.455
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,858.35	10,250.00	9,228.51	-1,363.97	132.98	730.00	594.70	0.01	5.395
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,958.35	10,250.00	9,328.51	-1,363.67	134.35	730.00	593.21	0.01	5.337
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	18,058.35	10,250.00	9,428.51	-1,363.38	135.71	730.00	591.72	0.01	5.279
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,158.35	10,250.00	9,528.51	-1,363.09	137.08	730.00	590.24	0.01	5.223
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,258.35	10,250.00	9,628.51	-1,362.79	138.45	730.00	588.74	0.00	5.168
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	18,358.35	10,250.00	9,728.51	-1,362.50	139.81	730.00	587.25	0.00	5.114
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	18,458.35	10,250.00	9,828.51	-1,362.20	141.18	730.00	585.76	0.00	5.061
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	18,558.35	10,250.00	9,928.51	-1,361.91	142.55	730.00	584.26	0.00	5.009
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	18,658.35	10,250.00	10,028.51	-1,361.62	143.93	730.00	582.76	0.00	4.958
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	18,758.35	10,250.00	10,128.51	-1,361.32	145.30	730.00	581.27	0.00	4.908
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	18,858.35	10,250.00	10,228.51	-1,361.03	146.67	730.00	579.77	-0.01	4.859
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	18,958.35	10,250.00	10,328.51	-1,360.74	148.05	730.00	578.26	-0.01	4.811
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	19,058.35	10,250.00	10,428.51	-1,360.44	149.43	730.00	576.76	-0.01	4.764
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,158.35	10,250.00	10,528.51	-1,360.15	150.80	730.00	575.26	-0.01	4.717
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,258.35	10,250.00	10,628.51	-1,359.86	152.18	730.00	573.75	-0.01	4.672
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	19,358.35	10,250.00	10,728.51	-1,359.56	153.56	730.00	572.24	-0.01	4.627
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	19,458.35	10,250.00	10,828.51	-1,359.27	154.94	730.00	570.73	-0.02	4.584

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	10,928.51	-1,358.76	160.33	19,558.35	10,250.00	10,928.51	-1,358.97	156.32	730.00	569.23	-0.02	4.540
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	19,658.35	10,250.00	11,028.51	-1,358.68	157.71	730.00	567.71	-0.02	4.498
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	19,758.35	10,250.00	11,128.51	-1,358.39	159.09	730.00	566.20	-0.02	4.457
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	19,858.35	10,250.00	11,228.51	-1,358.09	160.47	730.00	564.69	-0.02	4.416
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	19,958.35	10,250.00	11,328.51	-1,357.80	161.86	730.00	563.18	-0.02	4.376
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	20,058.35	10,250.00	11,428.51	-1,357.51	163.24	730.00	561.66	-0.03	4.336
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,158.35	10,250.00	11,528.50	-1,357.21	164.63	730.00	560.15	-0.03	4.298
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,258.35	10,250.00	11,628.50	-1,356.92	166.02	730.00	558.63	-0.03	4.260
21,288.81	10,980.00	11,717.32	-1,356.27	171.21	20,347.17	10,250.00	11,717.32	-1,356.66	167.25	730.00	557.28	-0.03	4.226
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	20,353.08	10,250.00	11,723.23	-1,356.64	167.33	730.02	557.31	-0.03	4.227
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	20,353.08	10,250.00	11,723.23	-1,356.64	167.33	737.55	567.88	-0.03	4.347
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	20,353.08	10,250.00	11,723.23	-1,356.64	167.33	758.31	593.50	-0.03	4.601
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	20,353.08	10,250.00	11,723.23	-1,356.64	167.33	765.38	601.98	-0.03	4.684

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	100.03	100.02	201.10	-0.39	0.56	201.12	198.75	-0.11	85.053
200.00	200.00	0.00	0.00	0.70	200.15	200.12	202.65	-1.41	0.79	202.68	199.91	-0.40	73.163
300.00	300.00	0.00	0.00	0.98	298.43	298.39	204.50	-2.27	1.02	204.56	201.27	-0.64	62.145
400.00	400.00	0.00	0.00	1.31	396.72	396.63	207.10	-3.41	1.20	207.23	203.82	-0.94	60.731
500.00	500.00	0.00	0.00	1.64	500.99	500.87	209.52	-4.25	1.34	209.57	205.68	-1.16	53.887
600.00	600.00	0.00	0.00	1.99	604.68	604.55	209.63	-3.44	1.53	209.67	205.24	-0.94	47.409
700.00	700.00	0.00	0.00	2.34	704.33	704.19	209.01	-2.27	1.76	209.02	204.02	-0.62	41.760
800.00	800.00	0.00	0.00	2.69	804.27	804.12	208.46	-1.54	2.03	208.47	202.84	-0.42	37.053
900.00	900.00	0.00	0.00	3.04	904.22	904.07	207.93	-1.17	2.32	207.94	201.66	-0.32	33.158
1,000.00	1,000.00	0.00	0.00	3.39	1,004.00	1,003.86	207.46	-1.06	2.63	207.47	200.54	-0.29	29.938
1,100.00	1,100.00	0.34	-0.26	3.75	1,101.39	1,101.24	207.34	-1.33	2.93	207.01	199.43	37.86	27.281
1,107.96	1,107.96	0.42	-0.33	3.78	1,108.88	1,108.74	207.41	-1.37	2.96	207.01	199.37	37.87	27.097
1,200.00	1,199.98	1.98	-1.56	4.10	1,192.59	1,192.41	209.67	-2.10	3.22	207.96	199.73	37.97	25.282
1,300.00	1,299.90	5.00	-3.93	4.45	1,283.06	1,282.58	216.66	-3.45	3.52	212.63	203.78	38.16	24.014
1,400.00	1,399.74	9.39	-7.38	4.81	1,378.64	1,377.58	226.95	-5.40	3.84	219.02	209.50	38.47	23.024
1,500.00	1,499.50	14.81	-11.64	5.17	1,471.87	1,470.05	238.62	-7.71	4.16	226.18	216.02	38.87	22.266
1,600.00	1,599.26	20.30	-15.95	5.53	1,563.83	1,560.76	253.54	-9.66	4.49	236.99	226.19	39.32	21.952
1,700.00	1,699.02	25.78	-20.26	5.89	1,663.27	1,658.57	271.42	-11.18	4.86	249.62	238.12	39.89	21.710
1,800.00	1,798.77	31.27	-24.57	6.25	1,765.09	1,758.92	288.62	-12.61	5.25	261.17	248.95	40.46	21.361
1,900.00	1,898.53	36.75	-28.88	6.61	1,866.09	1,858.59	304.95	-13.81	5.63	272.03	259.08	41.03	21.003
2,000.00	1,998.29	42.24	-33.19	6.97	1,968.19	1,959.48	320.58	-14.83	6.03	282.06	268.37	41.60	20.606
2,100.00	2,098.04	47.72	-37.50	7.33	2,063.95	2,054.09	335.38	-15.34	6.40	292.31	277.93	42.20	20.330
2,200.00	2,197.80	53.21	-41.81	7.70	2,159.62	2,148.37	351.59	-14.74	6.77	304.16	289.09	42.94	20.185
2,300.00	2,297.56	58.69	-46.12	8.06	2,262.53	2,249.86	368.56	-13.24	7.18	315.70	299.88	43.84	19.955
2,400.00	2,397.31	64.18	-50.43	8.43	2,361.89	2,347.95	384.26	-11.63	7.58	326.65	310.11	44.68	19.743
2,500.00	2,497.07	69.66	-54.74	8.79	2,458.60	2,443.36	400.09	-10.49	7.96	338.17	320.92	45.37	19.603
2,600.00	2,596.83	75.15	-59.05	9.16	2,552.76	2,536.05	416.60	-10.63	8.34	350.71	332.77	45.77	19.552
2,700.00	2,696.58	80.63	-63.36	9.53	2,656.55	2,638.06	435.71	-11.87	8.77	364.03	345.32	45.99	19.461
2,800.00	2,796.34	86.12	-67.67	9.89	2,759.21	2,739.31	452.63	-12.25	9.19	375.51	356.05	46.36	19.293
2,900.00	2,896.09	91.60	-71.98	10.26	2,846.50	2,825.24	467.95	-11.97	9.55	388.19	368.10	46.73	19.317

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	2,995.85	97.09	-76.29	10.62	2,951.11	2,928.00	487.53	-11.59	9.98	402.06	381.18	47.11	19.258
3,100.00	3,095.61	102.57	-80.60	10.99	3,054.87	3,030.23	505.25	-11.39	10.41	414.27	392.87	47.49	19.364
3,200.00	3,195.36	108.06	-84.91	11.36	3,139.73	3,113.70	520.54	-11.30	10.77	427.47	405.46	47.75	19.424
3,300.00	3,295.12	113.54	-89.22	11.73	3,213.67	3,185.68	537.37	-10.22	11.09	445.55	423.06	48.01	19.812
3,400.00	3,394.88	119.03	-93.53	12.09	3,305.19	3,274.00	561.36	-9.78	11.51	466.93	443.77	48.13	20.167
3,500.00	3,494.63	124.51	-97.84	12.46	3,397.84	3,362.90	587.36	-11.73	11.95	489.69	465.85	47.92	20.546
3,600.00	3,594.39	130.00	-102.15	12.83	3,510.30	3,471.30	617.13	-15.02	12.48	510.68	485.94	47.62	20.641
3,700.00	3,694.15	135.48	-106.46	13.19	3,611.75	3,569.29	643.16	-18.50	12.95	530.87	505.35	47.33	20.803
3,800.00	3,793.90	140.97	-110.77	13.56	3,716.15	3,670.53	668.34	-22.08	13.43	549.51	523.19	47.08	20.875
3,900.00	3,893.66	146.45	-115.08	13.93	3,820.90	3,772.34	692.80	-25.24	13.91	567.48	540.35	46.91	20.920
4,000.00	3,993.41	151.94	-119.39	14.30	3,928.25	3,877.10	716.12	-27.20	14.39	583.98	556.03	46.90	20.895
4,100.00	4,093.17	157.42	-123.70	14.67	4,029.38	3,976.00	737.14	-29.22	14.83	599.53	570.82	46.89	20.882
4,200.00	4,192.93	162.91	-128.01	15.03	4,127.94	4,072.44	757.41	-31.13	15.27	614.88	585.42	46.89	20.877
4,300.00	4,292.68	168.39	-132.32	15.40	4,223.84	4,166.28	777.14	-31.18	15.69	630.52	600.34	47.05	20.897
4,400.00	4,392.44	173.87	-136.63	15.77	4,320.78	4,261.09	797.35	-30.33	16.12	646.58	615.68	47.28	20.924
4,500.00	4,492.20	179.36	-140.94	16.14	4,420.48	4,358.59	818.19	-29.66	16.56	662.68	631.03	47.49	20.935
4,600.00	4,591.95	184.84	-145.25	16.51	4,521.79	4,457.71	839.14	-29.27	17.01	678.52	646.09	47.67	20.928
4,700.00	4,691.71	190.33	-149.56	16.88	4,622.74	4,556.55	859.66	-29.13	17.46	693.97	660.78	47.83	20.913
4,800.00	4,791.47	195.81	-153.87	17.24	4,721.42	4,653.19	879.61	-29.26	17.89	709.27	675.34	47.95	20.905
4,900.00	4,891.22	201.30	-158.18	17.61	4,821.91	4,751.62	899.87	-29.42	18.33	724.51	689.83	48.08	20.887
5,000.00	4,990.98	206.78	-162.49	17.98	4,916.25	4,843.99	919.03	-29.47	18.75	739.92	704.53	48.19	20.904
5,100.00	5,090.74	212.27	-166.80	18.35	5,011.73	4,937.38	938.91	-29.25	19.18	755.89	719.77	48.32	20.929
5,200.00	5,190.49	217.75	-171.11	18.72	5,114.70	5,038.08	960.36	-29.21	19.63	771.85	734.96	48.43	20.919
5,300.00	5,290.25	223.24	-175.42	19.09	5,219.71	5,140.97	981.36	-29.73	20.10	786.87	749.18	48.52	20.876
5,400.00	5,390.00	228.72	-179.73	19.45	5,319.81	5,239.08	1,001.26	-30.61	20.54	801.71	763.26	48.57	20.852
5,500.00	5,489.76	234.21	-184.04	19.82	5,420.14	5,337.44	1,020.96	-32.03	20.98	816.22	777.01	48.58	20.819
5,600.00	5,589.24	242.08	-190.23	20.20	5,524.26	5,439.59	1,041.12	-33.13	21.43	828.52	788.52	48.47	20.714
5,700.00	5,687.93	254.72	-200.16	20.59	5,619.79	5,533.38	1,059.24	-33.47	21.85	836.57	795.83	48.80	20.532
5,800.00	5,785.45	272.07	-213.79	21.00	5,703.66	5,615.56	1,075.99	-33.17	22.22	841.90	800.48	49.41	20.325

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,881.44	294.07	-231.08	21.42	5,793.27	5,703.09	1,095.14	-32.14	22.62	845.09	802.92	50.43	20.041
6,000.00	5,975.83	320.01	-251.46	21.86	5,898.06	5,805.43	1,117.62	-30.69	23.09	845.57	802.50	52.01	19.631
6,034.76	6,008.57	329.20	-258.68	22.02	5,931.98	5,838.60	1,124.71	-30.27	23.24	845.53	802.16	52.53	19.496
6,100.00	6,070.01	346.45	-272.24	22.31	5,995.08	5,900.30	1,137.91	-29.52	23.52	845.66	801.73	53.51	19.252
6,200.00	6,164.19	372.90	-293.01	22.76	6,087.46	5,990.53	1,157.68	-28.57	23.94	846.77	802.02	54.91	18.921
6,300.00	6,258.36	399.34	-313.79	23.22	6,190.72	6,091.42	1,179.68	-27.81	24.41	848.29	802.60	56.46	18.568
6,400.00	6,352.54	425.78	-334.57	23.69	6,293.06	6,191.50	1,201.03	-27.01	24.86	850.01	803.39	58.01	18.233
6,500.00	6,446.71	452.22	-355.35	24.16	6,382.70	6,279.30	1,219.13	-26.26	25.26	851.76	804.29	59.37	17.946
6,600.00	6,540.89	478.67	-376.12	24.64	6,462.25	6,356.68	1,237.57	-25.99	25.63	856.49	808.27	60.49	17.763
6,700.00	6,635.06	505.11	-396.90	25.12	6,567.40	6,458.87	1,262.31	-26.02	26.12	861.98	812.76	61.92	17.512
6,800.00	6,729.24	531.55	-417.68	25.60	6,671.90	6,560.65	1,286.00	-26.27	26.60	867.08	816.86	63.34	17.264
6,900.00	6,823.42	557.99	-438.46	26.09	6,774.48	6,660.79	1,308.27	-25.96	27.07	872.06	820.84	64.77	17.026
7,000.00	6,917.59	584.44	-459.23	26.58	6,893.64	6,777.33	1,333.01	-26.86	27.60	876.26	823.91	66.38	16.739
7,100.00	7,011.77	610.88	-480.01	27.08	7,011.58	6,893.05	1,355.57	-30.07	28.11	878.54	825.09	67.89	16.438
7,200.00	7,105.94	637.32	-500.79	27.58	7,133.47	7,013.15	1,375.86	-34.45	28.62	878.68	824.14	69.50	16.110
7,300.00	7,200.12	663.76	-521.57	28.08	7,231.39	7,109.96	1,390.24	-37.75	29.02	877.79	822.28	70.86	15.812
7,313.15	7,212.51	667.24	-524.30	28.15	7,241.00	7,119.47	1,391.61	-37.97	29.06	877.75	822.12	71.00	15.779
7,400.00	7,294.30	690.21	-542.34	28.59	7,304.92	7,182.67	1,401.08	-38.44	29.32	878.86	822.50	71.98	15.593
7,500.00	7,388.47	716.65	-563.12	29.10	7,377.26	7,254.03	1,412.91	-37.09	29.62	883.39	826.21	73.14	15.450
7,600.00	7,482.65	743.09	-583.90	29.61	7,459.10	7,334.37	1,428.27	-34.79	29.97	891.00	832.95	74.40	15.351
7,700.00	7,576.82	769.53	-604.68	30.12	7,577.77	7,450.72	1,451.54	-32.97	30.49	899.25	840.04	76.08	15.186
7,800.00	7,671.00	795.98	-625.45	30.64	7,704.69	7,576.01	1,471.81	-32.46	31.01	904.43	844.02	77.97	14.972
7,900.00	7,765.17	822.42	-646.23	31.16	7,848.55	7,718.82	1,488.96	-32.83	31.56	907.18	845.58	80.27	14.728
8,000.00	7,859.35	848.86	-667.01	31.68	7,974.35	7,844.30	1,497.43	-35.62	32.00	905.33	842.70	82.45	14.455
8,100.00	7,953.53	875.31	-687.79	32.20	8,079.56	7,949.38	1,502.01	-38.16	32.34	902.67	839.06	84.37	14.190
8,200.00	8,047.70	901.75	-708.56	32.73	8,183.42	8,053.15	1,505.09	-40.68	32.67	900.05	835.47	86.35	13.937
8,300.00	8,141.88	928.19	-729.34	33.26	8,283.32	8,153.00	1,507.29	-43.40	32.98	897.74	832.21	88.28	13.699
8,400.00	8,236.05	954.63	-750.12	33.78	8,376.71	8,246.34	1,508.82	-45.83	33.27	896.21	829.73	90.12	13.482
8,455.41	8,288.23	969.28	-761.63	34.08	8,427.80	8,297.43	1,509.12	-46.52	33.42	896.01	829.02	91.18	13.375
8,500.00	8,330.23	981.08	-770.90	34.32	8,470.14	8,339.77	1,508.75	-46.63	33.54	896.13	828.73	92.10	13.296

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,560.45	8,430.04	1,506.55	-45.72	33.78	897.49	829.19	94.18	13.141
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,653.97	8,523.52	1,504.09	-44.35	34.04	900.56	831.39	96.34	13.019
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,746.54	8,616.05	1,501.76	-43.15	34.29	904.99	834.97	98.46	12.924
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,833.33	8,702.80	1,499.47	-41.63	34.53	911.19	840.35	100.44	12.862
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,957.66	8,827.08	1,496.29	-40.91	34.87	917.91	846.21	103.20	12.802
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,055.36	8,924.72	1,493.62	-42.72	35.14	923.73	851.23	105.29	12.741
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,141.59	9,010.90	1,490.99	-44.06	35.38	930.98	857.71	107.13	12.706
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,213.00	9,082.28	1,489.21	-44.23	35.58	940.86	866.90	108.63	12.720
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,290.92	9,160.19	1,488.64	-43.21	35.81	953.80	879.16	110.19	12.779
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,387.75	9,256.99	1,489.45	-41.23	36.11	968.83	893.45	112.00	12.852
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,485.60	9,354.83	1,489.02	-39.49	36.40	984.30	908.19	113.85	12.932
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,578.04	9,447.26	1,488.73	-37.94	36.68	1,000.69	923.89	115.54	13.030
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,677.01	9,546.21	1,489.89	-36.88	36.99	1,017.66	940.13	117.20	13.126
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,766.26	9,635.28	1,495.21	-36.41	37.31	1,035.56	957.32	118.42	13.235
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,864.00	9,731.64	1,511.15	-37.07	37.72	1,054.07	974.96	119.16	13.324
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,949.79	9,812.79	1,538.53	-39.40	38.15	1,072.05	992.05	119.36	13.400
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,020.00	9,874.76	1,571.39	-40.36	38.55	1,090.42	1,009.64	118.98	13.498
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,085.26	9,929.29	1,607.23	-40.59	38.96	1,108.95	1,027.48	118.22	13.613
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,160.93	9,990.18	1,652.12	-41.36	39.46	1,126.83	1,044.60	116.91	13.704
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,229.01	10,041.04	1,697.31	-42.56	39.93	1,145.48	1,062.70	115.44	13.839
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,165.70	1,082.93	76.33	14.085
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,193.84	1,112.41	112.69	14.660
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,235.32	1,155.17	108.41	15.412
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,287.90	1,209.04	102.44	16.331
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,348.78	1,271.07	94.85	17.357
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,414.94	1,338.14	85.15	18.424
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,477.75	1,401.73	74.60	19.440
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,533.26	1,457.94	67.08	20.358
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,580.61	1,505.91	61.84	21.159

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,619.16	1,544.96	58.36	21.821
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,648.38	1,574.55	56.34	22.328
11,700.00	10,980.00	2,128.55	-1,386.48	52.78	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,670.52	1,596.94	55.88	22.705
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,696.94	1,623.55	55.88	23.124
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,728.74	1,655.51	55.88	23.606
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,765.65	1,692.52	55.88	24.145
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,807.34	1,734.28	55.88	24.737
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,853.49	1,780.46	55.88	25.379
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,903.78	1,830.75	55.88	26.066
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	10,274.00	10,072.42	1,729.52	-44.01	40.26	1,957.89	1,884.82	55.88	26.794
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,015.52	1,942.39	55.88	27.561
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,076.36	2,003.15	55.88	28.362
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,140.15	2,066.84	55.88	29.195
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,206.62	2,133.21	55.88	30.057
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,275.56	2,202.02	55.88	30.945
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,346.72	2,273.06	55.88	31.858
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	10,274.00	10,072.42	1,729.52	-44.01	40.26	2,419.93	2,346.14	55.88	32.793

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	100.03	100.02	201.10	-0.39	0.56	201.12	198.75	-0.11	85.053
200.00	200.00	0.00	0.00	0.70	200.15	200.12	202.65	-1.41	0.79	202.68	199.91	-0.40	73.163
300.00	300.00	0.00	0.00	0.98	298.43	298.39	204.50	-2.27	1.02	204.56	201.27	-0.64	62.145
400.00	400.00	0.00	0.00	1.31	396.72	396.63	207.10	-3.41	1.20	207.23	203.82	-0.94	60.731
500.00	500.00	0.00	0.00	1.64	500.99	500.87	209.52	-4.25	1.34	209.57	205.68	-1.16	53.887
600.00	600.00	0.00	0.00	1.99	604.68	604.55	209.63	-3.44	1.53	209.67	205.24	-0.94	47.409
700.00	700.00	0.00	0.00	2.34	704.33	704.19	209.01	-2.27	1.76	209.02	204.02	-0.62	41.760
800.00	800.00	0.00	0.00	2.69	804.27	804.12	208.46	-1.54	2.03	208.47	202.84	-0.42	37.053
900.00	900.00	0.00	0.00	3.04	904.22	904.07	207.93	-1.17	2.32	207.94	201.66	-0.32	33.158
1,000.00	1,000.00	0.00	0.00	3.39	1,004.00	1,003.86	207.46	-1.06	2.63	207.47	200.54	-0.29	29.938
1,100.00	1,100.00	0.34	-0.26	3.75	1,101.39	1,101.24	207.34	-1.33	2.93	207.01	199.43	37.86	27.281
1,107.96	1,107.96	0.42	-0.33	3.78	1,108.88	1,108.74	207.41	-1.37	2.96	207.01	199.37	37.87	27.097
1,200.00	1,199.98	1.98	-1.56	4.10	1,192.59	1,192.41	209.67	-2.10	3.22	207.96	199.73	37.97	25.282
1,300.00	1,299.90	5.00	-3.93	4.45	1,283.06	1,282.58	216.66	-3.45	3.52	212.63	203.78	38.16	24.014
1,400.00	1,399.74	9.39	-7.38	4.81	1,378.64	1,377.58	226.95	-5.40	3.84	219.02	209.50	38.47	23.024
1,500.00	1,499.50	14.81	-11.64	5.17	1,471.87	1,470.05	238.62	-7.71	4.16	226.18	216.02	38.87	22.266
1,600.00	1,599.26	20.30	-15.95	5.53	1,563.83	1,560.76	253.54	-9.66	4.49	236.99	226.19	39.32	21.952
1,700.00	1,699.02	25.78	-20.26	5.89	1,663.27	1,658.57	271.42	-11.18	4.86	249.62	238.12	39.89	21.710
1,800.00	1,798.77	31.27	-24.57	6.25	1,765.09	1,758.92	288.62	-12.61	5.25	261.17	248.95	40.46	21.361
1,900.00	1,898.53	36.75	-28.88	6.61	1,866.09	1,858.59	304.95	-13.81	5.63	272.03	259.08	41.03	21.003
2,000.00	1,998.29	42.24	-33.19	6.97	1,968.19	1,959.48	320.58	-14.83	6.03	282.06	268.37	41.60	20.606
2,100.00	2,098.04	47.72	-37.50	7.33	2,063.95	2,054.09	335.38	-15.34	6.40	292.31	277.93	42.20	20.330
2,200.00	2,197.80	53.21	-41.81	7.70	2,159.62	2,148.37	351.59	-14.74	6.77	304.16	289.09	42.94	20.185
2,300.00	2,297.56	58.69	-46.12	8.06	2,262.53	2,249.86	368.56	-13.24	7.18	315.70	299.88	43.84	19.955
2,400.00	2,397.31	64.18	-50.43	8.43	2,361.89	2,347.95	384.26	-11.63	7.58	326.65	310.11	44.68	19.743
2,500.00	2,497.07	69.66	-54.74	8.79	2,458.60	2,443.36	400.09	-10.49	7.96	338.17	320.92	45.37	19.603
2,600.00	2,596.83	75.15	-59.05	9.16	2,552.76	2,536.05	416.60	-10.63	8.34	350.71	332.77	45.77	19.552
2,700.00	2,696.58	80.63	-63.36	9.53	2,656.55	2,638.06	435.71	-11.87	8.77	364.03	345.32	45.99	19.461
2,800.00	2,796.34	86.12	-67.67	9.89	2,759.21	2,739.31	452.63	-12.25	9.19	375.51	356.05	46.36	19.293
2,900.00	2,896.09	91.60	-71.98	10.26	2,846.50	2,825.24	467.95	-11.97	9.55	388.19	368.10	46.73	19.317

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	2,995.85	97.09	-76.29	10.62	2,951.11	2,928.00	487.53	-11.59	9.98	402.06	381.18	47.11	19.258
3,100.00	3,095.61	102.57	-80.60	10.99	3,054.87	3,030.23	505.25	-11.39	10.41	414.27	392.87	47.49	19.364
3,200.00	3,195.36	108.06	-84.91	11.36	3,139.73	3,113.70	520.54	-11.30	10.77	427.47	405.46	47.75	19.424
3,300.00	3,295.12	113.54	-89.22	11.73	3,213.67	3,185.68	537.37	-10.22	11.09	445.55	423.06	48.01	19.812
3,400.00	3,394.88	119.03	-93.53	12.09	3,305.19	3,274.00	561.36	-9.78	11.51	466.93	443.77	48.13	20.167
3,500.00	3,494.63	124.51	-97.84	12.46	3,397.84	3,362.90	587.36	-11.73	11.95	489.69	465.85	47.92	20.546
3,600.00	3,594.39	130.00	-102.15	12.83	3,510.30	3,471.30	617.13	-15.02	12.48	510.68	485.94	47.62	20.641
3,700.00	3,694.15	135.48	-106.46	13.19	3,611.75	3,569.29	643.16	-18.50	12.95	530.87	505.35	47.33	20.803
3,800.00	3,793.90	140.97	-110.77	13.56	3,716.15	3,670.53	668.34	-22.08	13.43	549.51	523.19	47.08	20.875
3,900.00	3,893.66	146.45	-115.08	13.93	3,820.90	3,772.34	692.80	-25.24	13.91	567.48	540.35	46.91	20.920
4,000.00	3,993.41	151.94	-119.39	14.30	3,928.25	3,877.10	716.12	-27.20	14.39	583.98	556.03	46.90	20.895
4,100.00	4,093.17	157.42	-123.70	14.67	4,029.38	3,976.00	737.14	-29.22	14.83	599.53	570.82	46.89	20.882
4,200.00	4,192.93	162.91	-128.01	15.03	4,127.94	4,072.44	757.41	-31.13	15.27	614.88	585.42	46.89	20.877
4,300.00	4,292.68	168.39	-132.32	15.40	4,223.84	4,166.28	777.14	-31.18	15.69	630.52	600.34	47.05	20.897
4,400.00	4,392.44	173.87	-136.63	15.77	4,320.78	4,261.09	797.35	-30.33	16.12	646.58	615.68	47.28	20.924
4,500.00	4,492.20	179.36	-140.94	16.14	4,420.48	4,358.59	818.19	-29.66	16.56	662.68	631.03	47.49	20.935
4,600.00	4,591.95	184.84	-145.25	16.51	4,521.79	4,457.71	839.14	-29.27	17.01	678.52	646.09	47.67	20.928
4,700.00	4,691.71	190.33	-149.56	16.88	4,622.74	4,556.55	859.66	-29.13	17.46	693.97	660.78	47.83	20.913
4,800.00	4,791.47	195.81	-153.87	17.24	4,721.42	4,653.19	879.61	-29.26	17.89	709.27	675.34	47.95	20.905
4,900.00	4,891.22	201.30	-158.18	17.61	4,821.91	4,751.62	899.87	-29.42	18.33	724.51	689.83	48.08	20.887
5,000.00	4,990.98	206.78	-162.49	17.98	4,916.25	4,843.99	919.03	-29.47	18.75	739.92	704.53	48.19	20.904
5,100.00	5,090.74	212.27	-166.80	18.35	5,011.73	4,937.38	938.91	-29.25	19.18	755.89	719.77	48.32	20.929
5,200.00	5,190.49	217.75	-171.11	18.72	5,114.70	5,038.08	960.36	-29.21	19.63	771.85	734.96	48.43	20.919
5,300.00	5,290.25	223.24	-175.42	19.09	5,219.71	5,140.97	981.36	-29.73	20.10	786.87	749.18	48.52	20.876
5,400.00	5,390.00	228.72	-179.73	19.45	5,319.81	5,239.08	1,001.26	-30.61	20.54	801.71	763.26	48.57	20.852
5,500.00	5,489.76	234.21	-184.04	19.82	5,420.14	5,337.44	1,020.96	-32.03	20.98	816.22	777.01	48.58	20.819
5,600.00	5,589.24	242.08	-190.23	20.20	5,524.26	5,439.59	1,041.12	-33.13	21.43	828.52	788.52	48.47	20.714
5,700.00	5,687.93	254.72	-200.16	20.59	5,619.79	5,533.38	1,059.24	-33.47	21.85	836.57	795.83	48.80	20.532
5,800.00	5,785.45	272.07	-213.79	21.00	5,703.66	5,615.56	1,075.99	-33.17	22.22	841.90	800.48	49.41	20.325

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,881.44	294.07	-231.08	21.42	5,793.27	5,703.09	1,095.14	-32.14	22.62	845.09	802.92	50.43	20.041
6,000.00	5,975.83	320.01	-251.46	21.86	5,898.06	5,805.43	1,117.62	-30.69	23.09	845.57	802.50	52.01	19.631
6,034.76	6,008.57	329.20	-258.68	22.02	5,931.98	5,838.60	1,124.71	-30.27	23.24	845.53	802.16	52.53	19.496
6,100.00	6,070.01	346.45	-272.24	22.31	5,995.08	5,900.30	1,137.91	-29.52	23.52	845.66	801.73	53.51	19.252
6,200.00	6,164.19	372.90	-293.01	22.76	6,087.46	5,990.53	1,157.68	-28.57	23.94	846.77	802.02	54.91	18.921
6,300.00	6,258.36	399.34	-313.79	23.22	6,190.72	6,091.42	1,179.68	-27.81	24.41	848.29	802.60	56.46	18.568
6,400.00	6,352.54	425.78	-334.57	23.69	6,293.06	6,191.50	1,201.03	-27.01	24.86	850.01	803.39	58.01	18.233
6,500.00	6,446.71	452.22	-355.35	24.16	6,382.70	6,279.30	1,219.13	-26.26	25.26	851.76	804.29	59.37	17.946
6,600.00	6,540.89	478.67	-376.12	24.64	6,462.25	6,356.68	1,237.57	-25.99	25.63	856.49	808.27	60.49	17.763
6,700.00	6,635.06	505.11	-396.90	25.12	6,567.40	6,458.87	1,262.31	-26.02	26.12	861.98	812.76	61.92	17.512
6,800.00	6,729.24	531.55	-417.68	25.60	6,671.90	6,560.65	1,286.00	-26.27	26.60	867.08	816.86	63.34	17.264
6,900.00	6,823.42	557.99	-438.46	26.09	6,774.48	6,660.79	1,308.27	-25.96	27.07	872.06	820.84	64.77	17.026
7,000.00	6,917.59	584.44	-459.23	26.58	6,893.64	6,777.33	1,333.01	-26.86	27.60	876.26	823.91	66.38	16.739
7,100.00	7,011.77	610.88	-480.01	27.08	7,011.58	6,893.05	1,355.57	-30.07	28.11	878.54	825.09	67.89	16.438
7,200.00	7,105.94	637.32	-500.79	27.58	7,133.47	7,013.15	1,375.86	-34.45	28.62	878.68	824.14	69.50	16.110
7,300.00	7,200.12	663.76	-521.57	28.08	7,231.39	7,109.96	1,390.24	-37.75	29.02	877.79	822.28	70.86	15.812
7,313.15	7,212.51	667.24	-524.30	28.15	7,241.00	7,119.47	1,391.61	-37.97	29.06	877.75	822.12	71.00	15.779
7,400.00	7,294.30	690.21	-542.34	28.59	7,304.92	7,182.67	1,401.08	-38.44	29.32	878.86	822.50	71.98	15.593
7,500.00	7,388.47	716.65	-563.12	29.10	7,377.26	7,254.03	1,412.91	-37.09	29.62	883.39	826.21	73.14	15.450
7,600.00	7,482.65	743.09	-583.90	29.61	7,459.10	7,334.37	1,428.27	-34.79	29.97	891.00	832.95	74.40	15.351
7,700.00	7,576.82	769.53	-604.68	30.12	7,577.77	7,450.72	1,451.54	-32.97	30.49	899.25	840.04	76.08	15.186
7,800.00	7,671.00	795.98	-625.45	30.64	7,704.69	7,576.01	1,471.81	-32.46	31.01	904.43	844.02	77.97	14.972
7,900.00	7,765.17	822.42	-646.23	31.16	7,848.55	7,718.82	1,488.96	-32.83	31.56	907.18	845.58	80.27	14.728
8,000.00	7,859.35	848.86	-667.01	31.68	7,974.35	7,844.30	1,497.43	-35.62	32.00	905.33	842.70	82.45	14.455
8,100.00	7,953.53	875.31	-687.79	32.20	8,079.56	7,949.38	1,502.01	-38.16	32.34	902.67	839.06	84.37	14.190
8,200.00	8,047.70	901.75	-708.56	32.73	8,183.42	8,053.15	1,505.09	-40.68	32.67	900.05	835.47	86.35	13.937
8,300.00	8,141.88	928.19	-729.34	33.26	8,283.32	8,153.00	1,507.29	-43.40	32.98	897.74	832.21	88.28	13.699
8,400.00	8,236.05	954.63	-750.12	33.78	8,376.71	8,246.34	1,508.82	-45.83	33.27	896.21	829.73	90.12	13.482
8,455.41	8,288.23	969.28	-761.63	34.08	8,427.80	8,297.43	1,509.12	-46.52	33.42	896.01	829.02	91.18	13.375
8,500.00	8,330.23	981.08	-770.90	34.32	8,470.14	8,339.77	1,508.75	-46.63	33.54	896.13	828.73	92.10	13.296

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,560.45	8,430.04	1,506.55	-45.72	33.78	897.49	829.19	94.18	13.141
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,653.97	8,523.52	1,504.09	-44.35	34.04	900.56	831.39	96.34	13.019
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,746.54	8,616.05	1,501.76	-43.15	34.29	904.99	834.97	98.46	12.924
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,833.33	8,702.80	1,499.47	-41.63	34.53	911.19	840.35	100.44	12.862
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,957.66	8,827.08	1,496.29	-40.91	34.87	917.91	846.21	103.20	12.802
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,055.36	8,924.72	1,493.62	-42.72	35.14	923.73	851.23	105.29	12.741
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,141.59	9,010.90	1,490.99	-44.06	35.38	930.98	857.71	107.13	12.706
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,213.00	9,082.28	1,489.21	-44.23	35.58	940.86	866.90	108.63	12.720
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,290.92	9,160.19	1,488.64	-43.21	35.81	953.80	879.16	110.19	12.779
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,387.75	9,256.99	1,489.45	-41.23	36.11	968.83	893.45	112.00	12.852
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,485.60	9,354.83	1,489.02	-39.49	36.40	984.30	908.19	113.85	12.932
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,578.04	9,447.26	1,488.73	-37.94	36.68	1,000.69	923.89	115.54	13.030
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,677.01	9,546.21	1,489.89	-36.88	36.99	1,017.66	940.13	117.20	13.126
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,766.26	9,635.28	1,495.21	-36.41	37.31	1,035.56	957.32	118.42	13.235
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,864.00	9,731.64	1,511.15	-37.07	37.72	1,054.07	974.96	119.16	13.324
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,949.79	9,812.79	1,538.53	-39.40	38.15	1,072.05	992.05	119.36	13.400
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,020.00	9,874.76	1,571.39	-40.36	38.55	1,090.42	1,009.64	118.98	13.498
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,085.26	9,929.29	1,607.23	-40.59	38.96	1,108.95	1,027.48	118.22	13.613
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,160.93	9,990.18	1,652.12	-41.36	39.46	1,126.83	1,044.60	116.91	13.704
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,229.01	10,041.04	1,697.31	-42.56	39.93	1,145.48	1,062.70	115.44	13.839
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,287.43	10,081.38	1,739.50	-44.53	40.36	1,165.57	1,082.56	75.84	14.040
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,330.05	10,108.16	1,772.60	-46.27	40.68	1,191.83	1,109.12	110.78	14.410
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,366.15	10,128.99	1,802.04	-47.72	40.96	1,228.96	1,146.74	105.79	14.947
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,400.00	10,147.16	1,830.58	-48.96	41.22	1,274.78	1,192.96	99.82	15.579
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,450.00	10,171.47	1,874.22	-50.58	41.63	1,326.63	1,244.72	92.77	16.196
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,486.17	10,187.13	1,906.81	-51.58	41.92	1,381.89	1,299.99	84.66	16.873
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,527.31	10,202.90	1,944.79	-52.55	42.26	1,431.51	1,349.43	75.22	17.440
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,570.15	10,216.99	1,985.23	-53.36	42.62	1,471.22	1,388.87	68.74	17.866
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,614.27	10,228.93	2,027.69	-53.97	43.00	1,500.22	1,417.54	64.48	18.144

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,650.00	10,236.67	2,062.57	-54.31	43.30	1,518.03	1,435.12	61.99	18.310
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,700.00	10,244.56	2,111.93	-54.54	43.73	1,524.16	1,440.67	61.04	18.255
11,700.00	10,980.00	2,128.55	-1,386.48	52.78	10,750.00	10,248.98	2,161.72	-54.48	44.16	1,521.22	1,437.09	61.14	18.081
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,815.22	10,250.00	2,226.92	-54.14	44.73	1,520.39	1,435.40	61.18	17.889
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,915.22	10,250.00	2,326.92	-54.02	45.61	1,520.22	1,433.75	61.17	17.580
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,015.22	10,250.00	2,426.92	-53.89	46.52	1,520.05	1,432.04	61.17	17.270
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,115.22	10,250.00	2,526.92	-53.77	47.45	1,519.89	1,430.28	61.17	16.962
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	11,215.22	10,250.00	2,626.92	-53.65	48.41	1,519.72	1,428.47	61.16	16.655
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,315.22	10,250.00	2,726.92	-53.53	49.39	1,519.55	1,426.62	61.16	16.352
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,415.22	10,250.00	2,826.92	-53.41	50.40	1,519.38	1,424.72	61.16	16.052
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,515.22	10,250.00	2,926.92	-53.28	51.42	1,519.21	1,422.79	61.15	15.756
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,615.22	10,250.00	3,026.92	-53.16	52.46	1,519.04	1,420.82	61.15	15.465
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,715.22	10,250.00	3,126.92	-53.04	53.53	1,518.87	1,418.81	61.14	15.179
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,815.22	10,250.00	3,226.92	-52.92	54.60	1,518.70	1,416.77	61.14	14.898
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,915.22	10,250.00	3,326.92	-52.79	55.70	1,518.53	1,414.69	61.14	14.623
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	12,015.21	10,250.00	3,426.92	-52.67	56.81	1,518.36	1,412.58	61.13	14.354
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,115.21	10,250.00	3,526.92	-52.55	57.93	1,518.20	1,410.45	61.13	14.091
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,215.21	10,250.00	3,626.92	-52.43	59.06	1,518.03	1,408.29	61.13	13.833
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,315.21	10,250.00	3,726.92	-52.31	60.21	1,517.86	1,406.10	61.12	13.582
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,415.21	10,250.00	3,826.92	-52.18	61.37	1,517.69	1,403.89	61.12	13.337
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,515.21	10,250.00	3,926.92	-52.06	62.55	1,517.52	1,401.66	61.12	13.097
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,615.21	10,250.00	4,026.92	-51.94	63.73	1,517.35	1,399.40	61.11	12.864
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,715.21	10,250.00	4,126.92	-51.82	64.92	1,517.18	1,397.12	61.11	12.637
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,815.21	10,250.00	4,226.92	-51.69	66.12	1,517.01	1,394.83	61.11	12.415
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,915.21	10,250.00	4,326.92	-51.57	67.33	1,516.84	1,392.51	61.10	12.200
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	13,015.21	10,250.00	4,426.92	-51.45	68.55	1,516.68	1,390.18	61.10	11.990
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,115.21	10,250.00	4,526.92	-51.33	69.78	1,516.51	1,387.83	61.10	11.785
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,215.21	10,250.00	4,626.92	-51.21	71.02	1,516.34	1,385.46	61.09	11.586
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	13,315.21	10,250.00	4,726.92	-51.08	72.26	1,516.17	1,383.08	61.09	11.392
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,415.21	10,250.00	4,826.92	-50.96	73.51	1,516.00	1,380.69	61.09	11.204

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,515.21	10,250.00	4,926.92	-50.84	74.76	1,515.83	1,378.28	61.08	11.020
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,615.21	10,250.00	5,026.92	-50.72	76.03	1,515.66	1,375.86	61.08	10.841
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,715.21	10,250.00	5,126.91	-50.60	77.29	1,515.49	1,373.42	61.07	10.667
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,815.21	10,250.00	5,226.91	-50.47	78.57	1,515.33	1,370.98	61.07	10.498
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,915.21	10,250.00	5,326.91	-50.35	79.85	1,515.16	1,368.52	61.07	10.333
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,015.21	10,250.00	5,426.91	-50.23	81.13	1,514.99	1,366.05	61.06	10.172
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,115.21	10,250.00	5,526.91	-50.11	82.42	1,514.82	1,363.58	61.06	10.016
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,215.21	10,250.00	5,626.91	-49.98	83.71	1,514.65	1,361.09	61.06	9.863
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,315.21	10,250.00	5,726.91	-49.86	85.01	1,514.48	1,358.59	61.05	9.715
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,415.21	10,250.00	5,826.91	-49.74	86.31	1,514.31	1,356.09	61.05	9.570
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,515.21	10,250.00	5,926.91	-49.62	87.62	1,514.14	1,353.57	61.05	9.430
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,615.21	10,250.00	6,026.91	-49.50	88.93	1,513.98	1,351.05	61.04	9.292
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,715.21	10,250.00	6,126.91	-49.37	90.24	1,513.81	1,348.52	61.04	9.159
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,815.21	10,250.00	6,226.91	-49.25	91.56	1,513.64	1,345.98	61.04	9.028
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,915.21	10,250.00	6,326.91	-49.13	92.88	1,513.47	1,343.44	61.03	8.901
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	15,015.21	10,250.00	6,426.91	-49.01	94.21	1,513.30	1,340.89	61.03	8.777
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,115.21	10,250.00	6,526.91	-48.88	95.53	1,513.13	1,338.33	61.03	8.656
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,215.21	10,250.00	6,626.91	-48.76	96.86	1,512.96	1,335.76	61.02	8.538
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,315.21	10,250.00	6,726.91	-48.64	98.19	1,512.79	1,333.19	61.02	8.423
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,415.21	10,250.00	6,826.91	-48.52	99.53	1,512.63	1,330.62	61.01	8.311
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,515.21	10,250.00	6,926.91	-48.40	100.87	1,512.46	1,328.04	61.01	8.201
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,620.72	10,250.00	7,032.43	-48.29	102.28	1,512.28	1,325.29	61.01	8.088
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,758.13	10,250.00	7,169.79	-51.44	104.13	1,509.81	1,319.55	60.94	7.935
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,858.07	10,250.00	7,269.68	-54.56	105.48	1,506.80	1,314.19	60.88	7.823
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,958.01	10,250.00	7,369.57	-57.69	106.83	1,503.79	1,308.84	60.81	7.714
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,057.95	10,250.00	7,469.47	-60.81	108.19	1,500.79	1,303.49	60.75	7.606
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,157.89	10,250.00	7,569.36	-63.94	109.54	1,497.79	1,298.13	60.69	7.502
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,257.83	10,250.00	7,669.25	-67.06	110.90	1,494.79	1,292.78	60.62	7.400
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,357.78	10,250.00	7,769.14	-70.19	112.26	1,491.79	1,287.42	60.56	7.300

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,457.72	10,250.00	7,869.03	-73.31	113.62	1,488.79	1,282.07	60.49	7.202
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	16,557.66	10,250.00	7,968.93	-76.44	114.98	1,485.80	1,276.72	60.43	7.106
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	16,657.60	10,250.00	8,068.82	-79.56	116.35	1,482.81	1,271.37	60.36	7.013
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,757.54	10,250.00	8,168.71	-82.68	117.72	1,479.82	1,266.02	60.29	6.921
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,857.48	10,250.00	8,268.60	-85.81	119.08	1,476.83	1,260.67	60.23	6.832
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,957.42	10,250.00	8,368.49	-88.93	120.45	1,473.84	1,255.32	60.16	6.745
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	17,057.36	10,250.00	8,468.39	-92.06	121.83	1,470.86	1,249.97	60.09	6.659
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,157.30	10,250.00	8,568.28	-95.18	123.20	1,467.88	1,244.63	60.03	6.575
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,257.24	10,250.00	8,668.17	-98.31	124.57	1,464.90	1,239.29	59.96	6.493
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,357.18	10,250.00	8,768.06	-101.43	125.95	1,461.92	1,233.95	59.89	6.413
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,448.08	10,250.00	8,858.91	-104.20	127.20	1,459.03	1,228.91	59.83	6.340
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,517.51	10,250.00	8,928.34	-105.03	128.15	1,457.73	1,225.98	59.81	6.290
18,512.41	10,980.00	8,940.92	-1,365.02	133.22	17,526.12	10,250.00	8,936.95	-105.02	128.27	1,457.71	1,225.76	59.81	6.285
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,600.00	10,250.00	9,010.82	-103.83	129.29	1,458.60	1,224.85	59.83	6.240
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,656.32	10,250.00	9,067.10	-101.65	130.06	1,461.40	1,226.49	59.87	6.221
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,735.94	10,250.00	9,146.57	-96.88	131.15	1,466.25	1,229.42	59.96	6.191
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,835.75	10,250.00	9,246.17	-90.43	132.51	1,471.57	1,232.05	60.08	6.144
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	17,935.56	10,250.00	9,345.77	-83.99	133.88	1,476.90	1,234.69	60.20	6.098
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,035.37	10,250.00	9,445.38	-77.55	135.25	1,482.23	1,237.32	60.32	6.052
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,135.18	10,250.00	9,544.98	-71.11	136.62	1,487.57	1,239.96	60.43	6.008
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	18,234.99	10,250.00	9,644.58	-64.67	137.98	1,492.92	1,242.61	60.55	5.964
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	18,334.80	10,250.00	9,744.19	-58.23	139.35	1,498.27	1,245.25	60.66	5.922
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	18,434.62	10,250.00	9,843.79	-51.79	140.73	1,503.62	1,247.90	60.78	5.880
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	18,534.43	10,250.00	9,943.39	-45.35	142.10	1,508.99	1,250.55	60.89	5.839
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	18,704.79	10,250.00	10,113.59	-38.42	144.45	1,512.44	1,249.00	61.01	5.741
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	18,818.02	10,250.00	10,226.82	-38.13	146.02	1,512.34	1,246.02	61.01	5.679
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	18,918.02	10,250.00	10,326.82	-38.00	147.41	1,512.18	1,243.33	61.01	5.625
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	19,018.02	10,250.00	10,426.82	-37.87	148.80	1,512.02	1,240.65	61.00	5.572
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,118.02	10,250.00	10,526.82	-37.75	150.19	1,511.85	1,237.96	61.00	5.520
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,218.02	10,250.00	10,626.82	-37.62	151.58	1,511.69	1,235.27	60.99	5.469

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	19,318.02	10,250.00	10,726.82	-37.49	152.97	1,511.52	1,232.59	60.99	5.419
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	19,418.02	10,250.00	10,826.82	-37.36	154.36	1,511.36	1,229.89	60.99	5.370
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	19,518.02	10,250.00	10,926.82	-37.23	155.76	1,511.20	1,227.20	60.98	5.321
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	19,618.02	10,250.00	11,026.82	-37.11	157.15	1,511.03	1,224.51	60.98	5.274
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	19,718.02	10,250.00	11,126.82	-36.98	158.55	1,510.87	1,221.81	60.98	5.227
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	19,818.02	10,250.00	11,226.82	-36.85	159.94	1,510.71	1,219.12	60.97	5.181
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	19,918.02	10,250.00	11,326.82	-36.72	161.34	1,510.54	1,216.42	60.97	5.136
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	20,018.02	10,250.00	11,426.82	-36.60	162.73	1,510.38	1,213.72	60.97	5.091
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,118.02	10,250.00	11,526.82	-36.47	164.13	1,510.22	1,211.02	60.96	5.048
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,218.02	10,250.00	11,626.82	-36.34	165.53	1,510.05	1,208.32	60.96	5.005
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	20,318.02	10,250.00	11,726.81	-36.21	166.93	1,509.89	1,205.62	60.96	4.962
21,303.68	10,980.00	11,732.19	-1,356.23	171.42	20,319.23	10,250.00	11,728.03	-36.21	166.94	1,509.88	1,205.59	60.96	4.962
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	20,319.23	10,250.00	11,728.03	-36.21	166.94	1,512.95	1,209.43	60.96	4.985
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	20,319.23	10,250.00	11,728.03	-36.21	166.94	1,522.59	1,221.04	60.96	5.049
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	20,319.23	10,250.00	11,728.03	-36.21	166.94	1,525.98	1,225.08	60.96	5.071

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	102.71	102.71	200.34	-29.82	0.56	202.55	199.91	-8.47	76.648
200.00	200.00	0.00	0.00	0.70	202.33	202.33	200.68	-29.57	0.79	202.85	199.80	-8.38	66.535
300.00	300.00	0.00	0.00	0.98	301.37	301.37	201.36	-29.34	0.97	203.49	199.97	-8.29	57.808
400.00	400.00	0.00	0.00	1.31	400.76	400.75	202.32	-29.28	1.15	204.44	200.64	-8.23	53.758
500.00	500.00	0.00	0.00	1.64	500.89	500.87	203.44	-29.18	1.31	205.54	201.24	-8.16	47.857
600.00	600.00	0.00	0.00	1.99	600.82	600.80	204.55	-28.78	1.52	206.58	201.73	-8.01	42.608
700.00	700.00	0.00	0.00	2.34	701.10	701.07	205.62	-28.47	1.78	207.59	202.13	-7.88	38.041
800.00	800.00	0.00	0.00	2.69	802.28	802.25	206.28	-28.31	2.07	208.22	202.12	-7.82	34.128
900.00	900.00	0.00	0.00	3.04	902.84	902.81	206.49	-28.19	2.38	208.41	201.64	-7.77	30.828
1,000.00	1,000.00	0.00	0.00	3.39	1,002.75	1,002.71	206.59	-28.53	2.69	208.55	201.13	-7.86	28.095
1,100.00	1,100.00	0.34	-0.26	3.75	1,103.34	1,103.30	206.56	-28.98	3.00	208.21	200.12	30.23	25.731
1,200.00	1,199.98	1.98	-1.56	4.10	1,200.51	1,200.47	206.51	-29.92	3.31	206.50	197.74	30.27	23.583
1,262.69	1,262.63	3.71	-2.92	4.32	1,258.47	1,258.40	207.62	-31.24	3.50	205.99	196.82	30.23	22.470
1,300.00	1,299.90	5.00	-3.93	4.45	1,291.89	1,291.77	208.96	-32.42	3.62	206.24	196.83	30.16	21.920
1,400.00	1,399.74	9.39	-7.38	4.81	1,384.96	1,384.49	215.28	-37.29	3.94	208.85	198.78	29.78	20.747
1,500.00	1,499.50	14.81	-11.64	5.17	1,481.58	1,480.55	223.76	-43.36	4.27	212.48	201.73	29.38	19.772
1,600.00	1,599.26	20.30	-15.95	5.53	1,574.91	1,573.13	233.69	-49.74	4.61	218.01	206.60	28.96	19.115
1,700.00	1,699.02	25.78	-20.26	5.89	1,666.78	1,663.79	246.55	-57.19	4.95	227.07	215.02	28.40	18.845
1,800.00	1,798.77	31.27	-24.57	6.25	1,759.06	1,754.32	262.26	-65.69	5.30	239.38	226.68	27.75	18.859
1,900.00	1,898.53	36.75	-28.88	6.61	1,857.90	1,850.94	280.79	-75.13	5.69	253.48	240.07	27.11	18.909
2,000.00	1,998.29	42.24	-33.19	6.97	1,958.84	1,949.77	299.18	-84.20	6.09	266.97	252.83	26.64	18.879
2,100.00	2,098.04	47.72	-37.50	7.33	2,061.78	2,050.83	316.78	-92.93	6.50	279.26	264.36	26.25	18.745
2,200.00	2,197.80	53.21	-41.81	7.70	2,157.94	2,145.20	333.34	-101.06	6.89	291.68	276.08	25.93	18.705
2,300.00	2,297.56	58.69	-46.12	8.06	2,256.30	2,241.64	350.88	-109.18	7.30	304.67	288.36	25.69	18.678
2,400.00	2,397.31	64.18	-50.43	8.43	2,352.47	2,335.86	368.46	-117.09	7.70	318.09	301.08	25.50	18.698
2,500.00	2,497.07	69.66	-54.74	8.79	2,450.07	2,431.20	387.40	-125.81	8.12	332.80	315.07	25.24	18.773
2,600.00	2,596.83	75.15	-59.05	9.16	2,551.71	2,530.66	406.33	-134.77	8.55	346.70	328.21	24.99	18.757
2,700.00	2,696.58	80.63	-63.36	9.53	2,644.96	2,621.81	423.76	-143.92	8.95	360.94	341.77	24.63	18.837
2,800.00	2,796.34	86.12	-67.67	9.89	2,736.18	2,710.38	442.11	-155.67	9.36	377.34	357.53	23.93	19.041
2,900.00	2,896.09	91.60	-71.98	10.26	2,834.69	2,805.69	462.74	-169.63	9.81	394.97	374.42	23.09	19.219

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	2,995.85	97.09	-76.29	10.62	2,933.33	2,901.30	483.34	-182.38	10.26	412.26	390.97	22.48	19.365
3,100.00	3,095.61	102.57	-80.60	10.99	3,034.98	3,000.00	504.86	-193.76	10.62	429.38	407.59	22.14	19.704
3,200.00	3,195.36	108.06	-84.91	11.36	3,135.99	3,098.28	525.23	-205.12	10.87	445.54	423.21	21.79	19.958
3,300.00	3,295.12	113.54	-89.22	11.73	3,229.37	3,188.99	544.40	-216.25	11.00	462.26	439.59	21.43	20.390
3,400.00	3,394.88	119.03	-93.53	12.09	3,324.62	3,281.28	564.60	-228.36	11.16	479.91	456.86	21.01	20.825
3,500.00	3,494.63	124.51	-97.84	12.46	3,418.53	3,372.15	584.98	-240.51	11.33	498.13	474.71	20.62	21.266
3,600.00	3,594.39	130.00	-102.15	12.83	3,510.35	3,460.63	605.88	-253.30	11.53	517.70	493.90	20.21	21.752
3,700.00	3,694.15	135.48	-106.46	13.19	3,607.34	3,553.92	628.42	-267.36	11.75	537.95	513.72	19.75	22.202
3,800.00	3,793.90	140.97	-110.77	13.56	3,709.35	3,652.16	652.20	-281.01	12.00	557.94	533.22	19.43	22.573
3,900.00	3,893.66	146.45	-115.08	13.93	3,813.75	3,753.09	676.46	-292.11	12.26	576.94	551.71	19.39	22.867
4,000.00	3,993.41	151.94	-119.39	14.30	3,924.32	3,860.44	701.20	-301.61	12.54	594.46	568.67	19.54	23.045
4,100.00	4,093.17	157.42	-123.70	14.67	4,029.21	3,962.67	722.93	-310.50	12.81	610.34	584.01	19.62	23.177
4,200.00	4,192.93	162.91	-128.01	15.03	4,128.15	4,059.22	742.70	-319.22	13.07	625.63	598.79	19.65	23.306
4,300.00	4,292.68	168.39	-132.32	15.40	4,221.50	4,150.20	761.63	-328.11	13.34	641.43	614.10	19.63	23.470
4,400.00	4,392.44	173.87	-136.63	15.77	4,316.49	4,242.58	781.50	-337.82	13.62	658.06	630.23	19.56	23.638
4,500.00	4,492.20	179.36	-140.94	16.14	4,415.66	4,338.98	802.17	-348.49	13.92	674.81	646.43	19.46	23.773
4,600.00	4,591.95	184.84	-145.25	16.51	4,515.80	4,436.34	822.74	-359.77	14.24	691.44	662.49	19.30	23.887
4,700.00	4,691.71	190.33	-149.56	16.88	4,621.03	4,538.73	843.63	-372.08	14.58	707.56	678.01	19.10	23.943
4,800.00	4,791.47	195.81	-153.87	17.24	4,722.45	4,637.57	862.80	-384.27	14.91	722.89	692.75	18.86	23.985
4,900.00	4,891.22	201.30	-158.18	17.61	4,817.00	4,729.71	881.03	-395.13	15.22	738.41	707.72	18.69	24.060
5,000.00	4,990.98	206.78	-162.49	17.98	4,907.00	4,817.27	899.80	-404.14	15.53	754.91	723.69	18.67	24.181
5,100.00	5,090.74	212.27	-166.80	18.35	4,998.92	4,906.49	920.02	-413.01	15.86	772.39	740.62	18.70	24.313
5,200.00	5,190.49	217.75	-171.11	18.72	5,101.88	5,006.37	942.71	-423.54	16.24	790.12	757.72	18.69	24.382
5,300.00	5,290.25	223.24	-175.42	19.09	5,233.08	5,134.45	968.71	-435.01	16.69	805.19	771.97	18.74	24.232
5,400.00	5,390.00	228.72	-179.73	19.45	5,339.51	5,238.93	987.35	-442.94	17.05	817.64	783.76	18.82	24.130
5,500.00	5,489.76	234.21	-184.04	19.82	5,451.21	5,348.75	1,005.90	-451.36	17.42	829.28	794.71	18.87	23.988
5,600.00	5,589.24	242.08	-190.23	20.20	5,548.53	5,444.58	1,021.02	-459.17	17.74	837.18	802.00	18.83	23.792
5,700.00	5,687.93	254.72	-200.16	20.59	5,630.97	5,525.49	1,034.67	-467.01	18.03	840.77	805.04	18.88	23.529
5,800.00	5,785.45	272.07	-213.79	21.00	5,727.38	5,619.97	1,051.47	-476.44	18.37	839.54	803.16	19.14	23.080

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,881.44	294.07	-231.08	21.42	5,807.31	5,698.02	1,067.01	-483.76	18.67	834.29	797.37	19.58	22.597
6,000.00	5,975.83	320.01	-251.46	21.86	5,924.80	5,812.88	1,089.42	-494.12	19.11	823.66	785.92	20.36	21.827
6,100.00	6,070.01	346.45	-272.24	22.31	6,012.83	5,899.00	1,105.88	-501.99	19.45	812.28	773.91	20.93	21.174
6,200.00	6,164.19	372.90	-293.01	22.76	6,094.02	5,978.05	1,122.84	-509.44	19.77	803.14	764.19	21.48	20.622
6,300.00	6,258.36	399.34	-313.79	23.22	6,188.36	6,069.59	1,144.11	-517.59	20.15	795.61	755.97	22.21	20.073
6,400.00	6,352.54	425.78	-334.57	23.69	6,293.18	6,171.42	1,167.51	-526.02	20.58	787.85	747.43	23.07	19.491
6,500.00	6,446.71	452.22	-355.35	24.16	6,386.14	6,261.75	1,188.08	-533.69	20.96	780.15	739.02	23.83	18.970
6,600.00	6,540.89	478.67	-376.12	24.64	6,476.57	6,349.32	1,209.24	-541.53	21.35	773.92	732.11	24.57	18.508
6,700.00	6,635.06	505.11	-396.90	25.12	6,587.04	6,456.26	1,235.12	-551.32	21.82	767.99	725.30	25.48	17.990
6,800.00	6,729.24	531.55	-417.68	25.60	6,692.05	6,558.37	1,258.03	-560.17	22.26	760.47	716.94	26.37	17.473
6,900.00	6,823.42	557.99	-438.46	26.09	6,780.87	6,644.64	1,277.87	-567.26	22.63	753.56	709.32	27.17	17.034
7,000.00	6,917.59	584.44	-459.23	26.58	6,900.22	6,760.73	1,303.70	-577.37	23.13	746.22	701.01	28.22	16.505
7,100.00	7,011.77	610.88	-480.01	27.08	7,012.76	6,870.70	1,325.55	-587.00	23.58	736.86	690.74	29.19	15.977
7,200.00	7,105.94	637.32	-500.79	27.58	7,118.47	6,974.32	1,344.32	-596.25	24.00	726.00	679.01	30.09	15.451
7,300.00	7,200.12	663.76	-521.57	28.08	7,224.68	7,078.58	1,362.50	-605.19	24.41	714.66	666.79	31.05	14.931
7,400.00	7,294.30	690.21	-542.34	28.59	7,334.91	7,187.19	1,379.84	-612.35	24.83	701.87	653.09	32.23	14.390
7,500.00	7,388.47	716.65	-563.12	29.10	7,415.00	7,266.07	1,392.94	-617.00	25.12	689.92	640.37	33.18	13.925
7,600.00	7,482.65	743.09	-583.90	29.61	7,507.17	7,356.53	1,409.64	-622.79	25.49	680.06	629.66	34.26	13.494
7,700.00	7,576.82	769.53	-604.68	30.12	7,647.43	7,494.77	1,431.41	-631.80	26.01	667.87	616.37	35.95	12.968
7,800.00	7,671.00	795.98	-625.45	30.64	7,769.40	7,615.83	1,444.08	-639.47	26.42	650.86	598.41	37.49	12.408
7,900.00	7,765.17	822.42	-646.23	31.16	7,874.07	7,720.01	1,452.66	-644.77	26.74	632.08	578.70	39.01	11.841
8,000.00	7,859.35	848.86	-667.01	31.68	7,980.11	7,825.71	1,460.02	-649.07	27.06	612.51	558.18	40.76	11.274
8,100.00	7,953.53	875.31	-687.79	32.20	8,081.15	7,926.56	1,465.38	-652.15	27.34	591.91	536.60	42.64	10.702
8,200.00	8,047.70	901.75	-708.56	32.73	8,174.54	8,019.76	1,470.61	-655.13	27.61	572.20	515.87	44.49	10.158
8,300.00	8,141.88	928.19	-729.34	33.26	8,277.39	8,122.43	1,476.05	-657.45	27.90	553.01	495.64	46.76	9.638
8,400.00	8,236.05	954.63	-750.12	33.78	8,378.26	8,223.20	1,479.80	-659.78	28.18	533.12	474.66	49.18	9.119
8,500.00	8,330.23	981.08	-770.90	34.32	8,477.25	8,322.08	1,483.10	-663.36	28.45	513.54	453.97	51.59	8.621
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,576.58	8,421.33	1,485.47	-666.04	28.71	494.23	433.51	54.33	8.140
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,683.36	8,528.09	1,485.80	-668.12	28.97	474.38	412.52	57.68	7.668
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,776.12	8,620.84	1,484.98	-669.41	29.19	455.11	391.99	60.94	7.210

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	8,706.93	1,086.85	-854.01	36.46	8,868.01	8,712.73	1,484.46	-670.03	29.40	438.13	373.70	64.47	6.800
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,963.77	8,808.48	1,484.00	-670.95	29.62	423.08	357.36	68.36	6.438
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,059.77	8,904.47	1,483.48	-672.27	29.85	409.95	342.96	72.47	6.119
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,156.09	9,000.77	1,482.61	-674.28	30.09	398.49	330.25	76.77	5.840
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,247.84	9,092.49	1,482.02	-676.32	30.31	389.62	320.18	81.03	5.611
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,338.85	9,183.49	1,482.13	-677.76	30.55	384.30	313.76	85.38	5.448
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,431.86	9,276.50	1,482.33	-678.56	30.78	382.31	310.79	89.96	5.346
9,514.15	9,285.31	1,249.24	-981.61	39.78	9,445.09	9,289.73	1,482.30	-678.60	30.81	382.28	310.64	90.63	5.336
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,527.47	9,372.10	1,481.64	-678.59	31.01	383.31	310.97	94.85	5.299
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,618.62	9,463.24	1,480.27	-678.51	31.23	387.10	314.11	99.55	5.303
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,701.90	9,546.49	1,481.18	-677.81	31.45	395.57	322.10	103.51	5.384
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,787.43	9,631.47	1,490.52	-677.70	31.73	409.04	335.08	106.31	5.530
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,874.76	9,716.84	1,508.62	-678.71	32.10	425.53	350.94	107.85	5.705
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,956.54	9,793.51	1,536.78	-680.91	32.50	444.76	369.52	107.98	5.911
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,029.13	9,857.51	1,570.88	-682.91	32.92	466.93	391.26	106.78	6.171
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,104.00	9,917.96	1,614.92	-683.93	33.40	494.67	418.65	104.22	6.508
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,148.15	9,950.40	1,644.84	-684.36	33.72	528.40	453.53	102.74	7.058
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,194.00	9,981.31	1,678.67	-685.37	34.05	569.41	496.02	101.08	7.758
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,230.56	10,003.63	1,707.61	-686.29	34.34	618.49	547.16	61.89	8.670
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,258.99	10,019.37	1,731.27	-686.86	34.56	676.33	607.48	92.89	9.824
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,284.00	10,031.98	1,752.86	-687.26	34.76	741.38	674.74	82.85	11.126
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,317.22	10,046.86	1,782.56	-687.77	35.04	809.61	744.40	72.49	12.415
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,373.00	10,066.75	1,834.61	-688.85	35.51	879.09	814.03	63.08	13.512
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,373.00	10,066.75	1,834.61	-688.85	35.51	944.43	881.12	55.34	14.919
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,404.76	10,074.99	1,865.26	-689.71	35.79	1,003.21	940.43	48.59	15.981
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,462.00	10,083.51	1,921.76	-692.10	36.29	1,052.96	990.11	43.82	16.753
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,462.00	10,083.51	1,921.76	-692.10	36.29	1,090.25	1,028.95	40.71	17.784
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,507.26	10,085.95	1,966.93	-693.58	36.69	1,117.10	1,056.15	38.73	18.330
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,552.00	10,086.32	2,011.66	-693.38	37.09	1,132.12	1,071.53	37.81	18.684

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	2,128.55	-1,386.48	52.78	10,618.80	10,084.53	2,078.42	-691.91	37.69	1,136.75	1,075.97	37.71	18.704
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,769.42	10,079.24	2,228.92	-691.73	39.11	1,139.75	1,076.88	37.54	18.128
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,887.18	10,077.31	2,346.60	-695.64	40.27	1,138.86	1,074.61	37.31	17.725
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	11,000.18	10,078.38	2,459.52	-699.40	41.42	1,135.82	1,070.17	37.18	17.301
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,091.60	10,080.42	2,550.92	-699.84	42.37	1,133.53	1,066.88	37.21	17.007
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	11,188.36	10,082.69	2,647.65	-700.08	43.39	1,131.34	1,063.49	37.26	16.674
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,319.83	10,086.02	2,779.07	-701.07	44.81	1,128.86	1,058.76	37.30	16.104
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,390.46	10,088.43	2,849.66	-701.49	45.59	1,125.56	1,054.93	37.35	15.936
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,487.12	10,090.24	2,946.30	-701.50	46.67	1,123.88	1,051.93	37.39	15.621
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,576.94	10,091.17	3,036.11	-702.03	47.68	1,122.51	1,049.46	37.39	15.367
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,673.94	10,091.63	3,133.11	-702.23	48.79	1,121.81	1,047.43	37.38	15.081
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,774.23	10,091.72	3,233.40	-702.44	49.95	1,121.42	1,045.57	37.36	14.784
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,933.79	10,093.15	3,392.73	-710.19	51.84	1,117.24	1,038.29	37.07	14.151
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	11,999.89	10,095.22	3,458.76	-712.46	52.64	1,112.60	1,033.22	37.03	14.016
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,071.39	10,095.83	3,530.25	-712.90	53.50	1,111.24	1,031.23	37.03	13.889
13,125.56	10,980.00	3,554.10	-1,381.99	65.84	12,093.12	10,095.76	3,551.99	-712.99	53.76	1,111.20	1,030.92	37.02	13.842
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,167.11	10,095.13	3,625.97	-713.28	54.65	1,111.38	1,029.99	36.98	13.654
13,270.13	10,980.00	3,698.68	-1,381.53	67.37	12,237.70	10,095.38	3,696.56	-712.95	55.51	1,111.25	1,028.70	36.99	13.462
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,262.94	10,095.39	3,721.79	-712.78	55.82	1,111.31	1,028.44	36.99	13.409
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,352.66	10,094.54	3,811.50	-712.12	56.92	1,112.30	1,028.16	36.98	13.220
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,448.67	10,093.05	3,907.51	-711.32	58.10	1,113.86	1,028.24	36.96	13.009
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,568.55	10,091.86	4,027.37	-710.36	59.59	1,115.00	1,027.05	36.94	12.678
13,628.26	10,980.00	4,056.80	-1,380.41	71.29	12,595.92	10,091.92	4,054.74	-710.22	59.93	1,114.98	1,026.58	36.95	12.614
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,661.00	10,091.83	4,119.82	-709.96	60.75	1,115.11	1,025.73	36.95	12.476
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,750.00	10,090.97	4,208.81	-709.44	61.87	1,116.05	1,025.37	36.93	12.308
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,850.15	10,089.59	4,308.95	-708.32	63.13	1,117.64	1,025.25	36.92	12.097
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	12,959.18	10,088.66	4,417.96	-707.12	64.52	1,118.80	1,024.34	36.93	11.845
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,060.28	10,088.71	4,519.06	-705.86	65.81	1,119.32	1,023.02	36.97	11.624
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,155.62	10,088.31	4,614.39	-704.59	67.03	1,120.26	1,022.32	36.99	11.439
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	13,255.37	10,087.68	4,714.13	-703.29	68.32	1,121.36	1,021.62	37.02	11.243

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,353.94	10,087.07	4,812.69	-701.93	69.60	1,122.49	1,020.98	37.04	11.058
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,460.17	10,086.50	4,918.91	-700.54	70.98	1,123.52	1,019.94	37.06	10.847
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,563.24	10,086.63	5,021.97	-699.15	72.32	1,124.05	1,018.47	37.11	10.647
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,671.29	10,087.94	5,129.99	-697.51	73.74	1,123.78	1,015.95	37.20	10.422
14,727.03	10,980.00	5,155.57	-1,376.94	84.12	13,694.73	10,088.23	5,153.43	-697.11	74.04	1,123.74	1,015.51	37.23	10.383
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,767.17	10,088.83	5,225.86	-695.77	75.00	1,123.94	1,014.28	37.29	10.250
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,896.51	10,089.53	5,355.18	-696.75	76.71	1,122.91	1,010.41	37.26	9.982
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	14,002.03	10,092.03	5,460.66	-698.31	78.11	1,119.93	1,005.37	37.26	9.776
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,091.00	10,093.82	5,549.61	-699.05	79.30	1,117.61	1,001.52	37.27	9.627
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,181.00	10,094.38	5,639.60	-699.83	80.50	1,116.35	998.76	37.24	9.494
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,277.52	10,094.85	5,736.12	-700.42	81.79	1,115.40	996.07	37.22	9.347
15,368.83	10,980.00	5,797.37	-1,374.92	92.04	14,336.64	10,095.19	5,795.24	-700.22	82.58	1,115.10	994.79	37.23	9.268
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,364.64	10,095.29	5,823.24	-699.91	82.96	1,115.16	994.35	37.25	9.231
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,476.56	10,095.82	5,935.16	-699.59	84.46	1,114.75	991.57	37.26	9.050
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,576.10	10,096.37	6,034.69	-699.79	85.80	1,113.99	988.92	37.26	8.907
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,674.89	10,097.07	6,133.48	-699.74	87.13	1,113.27	986.29	37.27	8.767
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,780.13	10,097.94	6,238.72	-699.51	88.55	1,112.56	983.42	37.29	8.615
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,872.47	10,098.86	6,331.05	-699.53	89.80	1,111.58	980.75	37.31	8.496
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	14,971.46	10,098.92	6,430.04	-699.48	91.14	1,111.38	978.65	37.30	8.373
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,076.34	10,098.92	6,534.92	-700.08	92.56	1,110.84	976.04	37.26	8.241
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,175.12	10,099.19	6,633.69	-700.55	93.91	1,110.14	973.47	37.24	8.123
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,280.34	10,099.82	6,738.92	-700.87	95.34	1,109.29	970.48	37.23	7.992
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,392.81	10,101.69	6,851.37	-701.04	96.88	1,107.69	966.40	37.27	7.840
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,488.60	10,103.69	6,947.14	-701.97	98.19	1,105.26	962.13	37.28	7.722
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,576.42	10,104.17	7,034.94	-702.84	99.39	1,104.03	959.41	37.25	7.634
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,670.46	10,103.85	7,128.98	-703.67	100.68	1,103.58	957.30	37.19	7.544
16,744.95	10,980.00	7,173.48	-1,370.59	109.69	15,712.51	10,103.90	7,171.03	-703.56	101.26	1,103.52	956.45	37.19	7.504
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,758.69	10,103.71	7,217.21	-703.33	101.89	1,103.76	955.94	37.19	7.467
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,852.24	10,102.19	7,310.75	-703.00	103.17	1,105.07	955.59	37.14	7.393

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	15,960.90	10,100.47	7,419.39	-702.89	104.67	1,106.21	954.53	37.08	7.293
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,052.99	10,099.33	7,511.48	-702.77	105.94	1,107.09	953.81	37.04	7.222
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,150.75	10,097.74	7,609.22	-702.15	107.28	1,108.59	953.46	37.00	7.146
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,280.80	10,098.16	7,739.26	-702.39	109.08	1,107.80	949.58	36.98	7.002
17,372.95	10,980.00	7,801.47	-1,368.61	117.97	16,340.92	10,098.67	7,799.37	-702.08	109.91	1,107.38	948.13	37.01	6.954
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,363.83	10,098.77	7,822.29	-701.82	110.22	1,107.43	947.77	37.02	6.936
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	16,452.70	10,098.57	7,911.15	-700.29	111.45	1,108.44	947.10	37.06	6.870
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	16,546.01	10,097.62	8,004.43	-698.85	112.73	1,110.00	946.88	37.08	6.805
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,640.11	10,096.08	8,098.50	-696.76	114.03	1,112.45	947.49	37.11	6.744
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,751.37	10,094.47	8,209.73	-694.64	115.57	1,114.57	947.11	37.13	6.656
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,859.65	10,093.49	8,317.99	-693.73	117.07	1,115.60	945.82	37.12	6.571
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	16,966.01	10,093.28	8,424.35	-692.83	118.54	1,116.08	944.00	37.14	6.486
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,075.51	10,093.49	8,533.85	-692.63	120.06	1,115.85	941.39	37.14	6.396
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,181.07	10,094.27	8,639.40	-693.08	121.53	1,114.81	938.14	37.13	6.310
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,276.95	10,094.90	8,735.28	-693.62	122.86	1,113.76	935.23	37.12	6.239
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,376.61	10,095.18	8,834.94	-694.01	124.25	1,113.10	932.60	37.10	6.167
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,473.38	10,095.22	8,931.71	-694.82	125.60	1,112.38	930.06	37.05	6.101
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,573.72	10,095.45	9,032.05	-694.91	126.99	1,111.96	927.61	37.04	6.032
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,674.45	10,095.81	9,132.78	-695.03	128.40	1,111.41	925.01	37.03	5.963
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,776.02	10,096.18	9,234.35	-695.30	129.81	1,110.76	922.30	37.02	5.894
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,875.38	10,096.55	9,333.70	-695.74	131.20	1,110.01	919.57	37.00	5.829
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	17,973.14	10,096.42	9,431.46	-696.27	132.57	1,109.60	917.29	36.96	5.770
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,074.81	10,096.55	9,533.13	-696.98	133.99	1,108.89	914.56	36.93	5.706
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,172.58	10,096.98	9,630.90	-696.73	135.35	1,108.50	912.18	36.94	5.646
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	18,269.26	10,097.10	9,727.58	-696.85	136.71	1,108.14	909.93	36.92	5.591
19,316.62	10,980.00	9,745.13	-1,362.49	144.12	18,284.72	10,097.04	9,743.03	-696.90	136.92	1,108.13	909.64	36.92	5.583
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	18,366.50	10,096.60	9,824.82	-697.06	138.07	1,108.22	908.16	36.89	5.539
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	18,506.49	10,098.79	9,964.77	-698.06	140.03	1,106.27	902.74	36.89	5.435
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	18,592.60	10,101.04	10,050.85	-698.81	141.24	1,103.47	898.27	36.92	5.378
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	18,682.47	10,102.00	10,140.70	-699.85	142.50	1,101.72	894.89	36.90	5.327

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	18,768.74	10,101.65	10,226.96	-701.27	143.71	1,100.90	892.72	36.81	5.288
19,802.01	10,980.00	10,230.52	-1,360.96	150.75	18,770.23	10,101.63	10,228.45	-701.29	143.73	1,100.90	892.70	36.81	5.288
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	18,845.10	10,099.62	10,303.28	-702.30	144.78	1,102.01	893.00	36.70	5.272
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	18,944.81	10,096.36	10,402.94	-703.10	146.18	1,103.97	893.30	36.55	5.240
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,052.58	10,093.17	10,510.65	-702.20	147.70	1,106.73	893.88	36.48	5.200
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,171.97	10,093.47	10,630.04	-702.61	149.37	1,105.91	890.33	36.45	5.130
20,217.75	10,980.00	10,646.25	-1,359.65	156.45	19,186.49	10,093.42	10,644.56	-702.68	149.58	1,105.88	890.07	36.45	5.124
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	19,263.00	10,092.99	10,721.07	-702.65	150.65	1,106.11	888.89	36.42	5.092
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	19,348.17	10,092.45	10,806.23	-701.63	151.85	1,107.17	888.44	36.44	5.062
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	19,460.99	10,091.17	10,919.03	-699.84	153.43	1,108.88	887.54	36.46	5.010
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	19,555.00	10,090.82	11,013.03	-698.70	154.75	1,109.72	886.50	36.48	4.971
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	19,653.64	10,090.19	11,111.65	-697.18	156.13	1,110.96	885.64	36.51	4.931
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	19,757.95	10,089.60	11,215.95	-695.37	157.60	1,112.28	884.61	36.56	4.886
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	19,868.49	10,089.90	11,326.48	-694.34	159.15	1,112.39	882.16	36.60	4.832
20,901.07	10,980.00	11,329.57	-1,357.49	165.85	19,869.49	10,089.90	11,327.48	-694.33	159.16	1,112.39	882.14	36.60	4.831
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	19,957.78	10,090.04	11,415.77	-693.32	160.40	1,112.77	880.79	36.63	4.797
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,053.46	10,089.30	11,511.43	-691.75	161.75	1,114.17	880.21	36.66	4.762
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,158.28	10,088.83	11,616.24	-690.14	163.22	1,115.25	878.93	36.70	4.719
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	20,267.00	10,088.96	11,724.95	-688.87	165.30	1,115.66	876.48	36.74	4.665
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	20,267.00	10,088.96	11,724.95	-688.87	165.30	1,120.26	883.71	36.74	4.736
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	20,267.00	10,088.96	11,724.95	-688.87	165.30	1,133.70	901.30	36.74	4.878
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	20,267.00	10,088.96	11,724.95	-688.87	165.30	1,138.36	907.20	36.74	4.925

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	102.71	102.71	200.34	-29.82	0.56	202.55	200.18	-8.47	85.588
200.00	200.00	0.00	0.00	0.70	202.33	202.33	200.68	-29.57	0.79	202.85	200.08	-8.38	73.159
300.00	300.00	0.00	0.00	0.98	301.37	301.37	201.36	-29.34	0.97	203.49	200.24	-8.29	62.727
400.00	400.00	0.00	0.00	1.31	400.76	400.75	202.32	-29.28	1.15	204.44	201.07	-8.23	60.653
500.00	500.00	0.00	0.00	1.64	500.89	500.87	203.44	-29.18	1.31	205.54	201.67	-8.16	53.213
600.00	600.00	0.00	0.00	1.99	600.82	600.80	204.55	-28.78	1.52	206.58	202.16	-8.01	46.778
700.00	700.00	0.00	0.00	2.34	701.10	701.07	205.62	-28.47	1.78	207.59	202.56	-7.88	41.314
800.00	800.00	0.00	0.00	2.69	802.28	802.25	206.28	-28.31	2.07	208.22	202.55	-7.82	36.730
900.00	900.00	0.00	0.00	3.04	902.84	902.81	206.49	-28.19	2.38	208.41	202.08	-7.77	32.934
1,000.00	1,000.00	0.00	0.00	3.39	1,002.75	1,002.71	206.59	-28.53	2.69	208.55	201.56	-7.86	29.832
1,100.00	1,100.00	0.34	-0.26	3.75	1,103.34	1,103.30	206.56	-28.98	3.00	208.21	200.55	30.23	27.184
1,200.00	1,199.98	1.98	-1.56	4.10	1,200.51	1,200.47	206.51	-29.92	3.31	206.50	198.18	30.27	24.808
1,262.69	1,262.63	3.71	-2.92	4.32	1,258.47	1,258.40	207.62	-31.24	3.50	205.99	197.26	30.23	23.582
1,300.00	1,299.90	5.00	-3.93	4.45	1,291.89	1,291.77	208.96	-32.42	3.62	206.24	197.26	30.16	22.976
1,400.00	1,399.74	9.39	-7.38	4.81	1,384.96	1,384.49	215.28	-37.29	3.94	208.85	199.22	29.78	21.678
1,500.00	1,499.50	14.81	-11.64	5.17	1,481.58	1,480.55	223.76	-43.36	4.27	212.48	202.16	29.38	20.600
1,600.00	1,599.26	20.30	-15.95	5.53	1,574.91	1,573.13	233.69	-49.74	4.61	218.01	207.04	28.96	19.868
1,700.00	1,699.02	25.78	-20.26	5.89	1,666.78	1,663.79	246.55	-57.19	4.95	227.07	215.46	28.40	19.546
1,800.00	1,798.77	31.27	-24.57	6.25	1,759.06	1,754.32	262.26	-65.69	5.30	239.38	227.12	27.75	19.524
1,900.00	1,898.53	36.75	-28.88	6.61	1,857.90	1,850.94	280.79	-75.13	5.69	253.48	240.51	27.11	19.539
2,000.00	1,998.29	42.24	-33.19	6.97	1,958.84	1,949.77	299.18	-84.20	6.09	266.97	253.26	26.64	19.474
2,100.00	2,098.04	47.72	-37.50	7.33	2,061.78	2,050.83	316.78	-92.93	6.50	279.26	264.79	26.25	19.305
2,200.00	2,197.80	53.21	-41.81	7.70	2,157.94	2,145.20	333.34	-101.06	6.89	291.68	276.52	25.93	19.238
2,300.00	2,297.56	58.69	-46.12	8.06	2,256.30	2,241.64	350.88	-109.18	7.30	304.67	288.79	25.69	19.186
2,400.00	2,397.31	64.18	-50.43	8.43	2,352.47	2,335.86	368.46	-117.09	7.70	318.09	301.51	25.50	19.186
2,500.00	2,497.07	69.66	-54.74	8.79	2,450.07	2,431.20	387.40	-125.81	8.12	332.80	315.50	25.24	19.242
2,600.00	2,596.83	75.15	-59.05	9.16	2,551.71	2,530.66	406.33	-134.77	8.55	346.70	328.65	24.99	19.207
2,700.00	2,696.58	80.63	-63.36	9.53	2,644.96	2,621.81	423.76	-143.92	8.95	360.94	342.21	24.63	19.272
2,800.00	2,796.34	86.12	-67.67	9.89	2,736.18	2,710.38	442.11	-155.67	9.36	377.34	357.96	23.93	19.466
2,900.00	2,896.09	91.60	-71.98	10.26	2,834.69	2,805.69	462.74	-169.63	9.81	394.97	374.86	23.09	19.632

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	2,995.85	97.09	-76.29	10.62	2,933.33	2,901.30	483.34	-182.38	10.26	412.26	391.41	22.48	19.767
3,100.00	3,095.61	102.57	-80.60	10.99	3,032.38	2,997.43	504.54	-193.43	10.56	429.58	408.48	22.16	20.356
3,200.00	3,195.36	108.06	-84.91	11.36	3,138.15	3,100.43	525.97	-204.34	10.69	445.54	424.01	21.92	20.696
3,300.00	3,295.12	113.54	-89.22	11.73	3,236.91	3,196.68	545.66	-214.36	10.83	461.17	439.25	21.72	21.039
3,400.00	3,394.88	119.03	-93.53	12.09	3,335.67	3,292.93	565.35	-224.39	10.99	476.81	454.48	21.54	21.355
3,500.00	3,494.63	124.51	-97.84	12.46	3,434.42	3,389.19	585.05	-234.42	11.17	492.45	469.70	21.36	21.646
3,600.00	3,594.39	130.00	-102.15	12.83	3,533.18	3,485.44	604.74	-244.44	11.36	508.09	484.91	21.20	21.913
3,700.00	3,694.15	135.48	-106.46	13.19	3,631.94	3,581.70	624.43	-254.47	11.56	523.74	500.10	21.04	22.156
3,800.00	3,793.90	140.97	-110.77	13.56	3,730.70	3,677.95	644.12	-264.49	11.78	539.39	515.29	20.90	22.378
3,900.00	3,893.66	146.45	-115.08	13.93	3,829.46	3,774.21	663.82	-274.52	12.02	555.05	530.47	20.76	22.579
4,000.00	3,993.41	151.94	-119.39	14.30	3,928.22	3,870.46	683.51	-284.54	12.27	570.71	545.63	20.63	22.760
4,100.00	4,093.17	157.42	-123.70	14.67	4,026.97	3,966.72	703.20	-294.57	12.52	586.37	560.79	20.50	22.924
4,200.00	4,192.93	162.91	-128.01	15.03	4,125.73	4,062.97	722.89	-304.59	12.79	602.03	575.94	20.39	23.070
4,300.00	4,292.68	168.39	-132.32	15.40	4,224.49	4,159.23	742.58	-314.62	13.08	617.70	591.08	20.28	23.201
4,400.00	4,392.44	173.87	-136.63	15.77	4,323.25	4,255.48	762.28	-324.64	13.37	633.37	606.20	20.17	23.317
4,500.00	4,492.20	179.36	-140.94	16.14	4,422.01	4,351.73	781.97	-334.67	13.67	649.04	621.32	20.07	23.420
4,600.00	4,591.95	184.84	-145.25	16.51	4,520.77	4,447.99	801.66	-344.69	13.98	664.71	636.44	19.98	23.511
4,700.00	4,691.71	190.33	-149.56	16.88	4,619.52	4,544.24	821.35	-354.72	14.29	680.38	651.54	19.89	23.591
4,800.00	4,791.47	195.81	-153.87	17.24	4,718.28	4,640.50	841.05	-364.75	14.62	696.06	666.64	19.80	23.660
4,900.00	4,891.22	201.30	-158.18	17.61	4,817.04	4,736.75	860.74	-374.77	14.95	711.74	681.73	19.72	23.720
5,000.00	4,990.98	206.78	-162.49	17.98	4,915.80	4,833.01	880.43	-384.80	15.29	727.41	696.81	19.64	23.771
5,100.00	5,090.74	212.27	-166.80	18.35	5,014.56	4,929.26	900.12	-394.82	15.63	743.09	711.89	19.56	23.815
5,200.00	5,190.49	217.75	-171.11	18.72	5,113.32	5,025.52	919.81	-404.85	15.98	758.77	726.96	19.49	23.852
5,300.00	5,290.25	223.24	-175.42	19.09	5,212.07	5,121.77	939.51	-414.87	16.34	774.46	742.03	19.42	23.883
5,400.00	5,390.00	228.72	-179.73	19.45	5,310.83	5,218.03	959.20	-424.90	16.70	790.14	757.09	19.35	23.908
5,500.00	5,489.76	234.21	-184.04	19.82	5,409.59	5,314.28	978.89	-434.92	17.07	805.82	772.14	19.28	23.927
5,600.00	5,589.24	242.08	-190.23	20.20	5,508.75	5,410.92	998.66	-444.99	17.44	818.65	784.33	19.14	23.855
5,700.00	5,687.93	254.72	-200.16	20.59	5,608.46	5,508.11	1,018.54	-455.11	17.82	825.74	790.77	19.21	23.610
5,800.00	5,785.45	272.07	-213.79	21.00	5,708.35	5,605.46	1,038.46	-465.25	18.20	827.08	791.44	19.48	23.202

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,881.44	294.07	-231.08	21.42	5,808.05	5,702.63	1,058.34	-475.37	18.59	822.70	786.37	19.96	22.643
6,000.00	5,975.83	320.01	-251.46	21.86	5,907.29	5,799.36	1,078.13	-485.45	18.97	813.45	776.42	20.57	21.966
6,100.00	6,070.01	346.45	-272.24	22.31	6,006.46	5,896.02	1,097.91	-495.51	19.36	803.65	765.91	21.16	21.294
6,200.00	6,164.19	372.90	-293.01	22.76	6,105.63	5,992.67	1,117.68	-505.58	19.76	793.94	755.48	21.77	20.643
6,300.00	6,258.36	399.34	-313.79	23.22	6,204.80	6,089.33	1,137.45	-515.65	20.15	784.32	745.13	22.39	20.014
6,400.00	6,352.54	425.78	-334.57	23.69	6,303.97	6,185.99	1,157.23	-525.72	20.55	774.79	734.86	23.02	19.405
6,500.00	6,446.71	452.22	-355.35	24.16	6,403.14	6,282.64	1,177.00	-535.78	20.96	765.36	724.68	23.67	18.815
6,600.00	6,540.89	478.67	-376.12	24.64	6,502.31	6,379.30	1,196.78	-545.85	21.36	756.03	714.59	24.34	18.245
6,700.00	6,635.06	505.11	-396.90	25.12	6,601.48	6,475.95	1,216.55	-555.92	21.77	746.80	704.60	25.02	17.693
6,800.00	6,729.24	531.55	-417.68	25.60	6,700.65	6,572.61	1,236.33	-565.98	22.17	737.69	694.70	25.72	17.160
6,900.00	6,823.42	557.99	-438.46	26.09	6,799.82	6,669.26	1,256.10	-576.05	22.59	728.68	684.90	26.44	16.643
7,000.00	6,917.59	584.44	-459.23	26.58	6,898.99	6,765.92	1,275.87	-586.12	23.00	719.80	675.21	27.17	16.144
7,100.00	7,011.77	610.88	-480.01	27.08	6,998.16	6,862.57	1,295.65	-596.19	23.41	711.03	665.63	27.93	15.662
7,200.00	7,105.94	637.32	-500.79	27.58	7,097.33	6,959.23	1,315.42	-606.25	23.83	702.39	656.17	28.70	15.195
7,300.00	7,200.12	663.76	-521.57	28.08	7,196.50	7,055.89	1,335.20	-616.32	24.25	693.89	646.82	29.49	14.744
7,400.00	7,294.30	690.21	-542.34	28.59	7,295.67	7,152.54	1,354.97	-626.39	24.67	685.51	637.60	30.30	14.308
7,500.00	7,388.47	716.65	-563.12	29.10	7,394.84	7,249.20	1,374.74	-636.45	25.09	677.28	628.51	31.13	13.886
7,600.00	7,482.65	743.09	-583.90	29.61	7,494.01	7,345.85	1,394.52	-646.52	25.51	669.19	619.55	31.98	13.479
7,700.00	7,576.82	769.53	-604.68	30.12	7,593.18	7,442.51	1,414.29	-656.59	25.94	661.26	610.73	32.85	13.086
7,800.00	7,671.00	795.98	-625.45	30.64	7,692.35	7,539.16	1,434.07	-666.66	26.36	653.48	602.05	33.74	12.705
7,900.00	7,765.17	822.42	-646.23	31.16	7,795.92	7,640.12	1,454.65	-677.13	26.80	645.81	593.43	34.69	12.329
8,000.00	7,859.35	848.86	-667.01	31.68	7,920.06	7,761.86	1,476.25	-688.13	27.31	635.74	582.28	36.00	11.892
8,100.00	7,953.53	875.31	-687.79	32.20	8,042.47	7,882.82	1,492.93	-696.62	27.75	622.07	567.58	37.55	11.415
8,200.00	8,047.70	901.75	-708.56	32.73	8,162.74	8,002.34	1,504.83	-702.68	28.15	605.04	549.55	39.39	10.903
8,300.00	8,141.88	928.19	-729.34	33.26	8,280.52	8,119.83	1,512.13	-706.40	28.50	584.92	528.45	41.55	10.358
8,400.00	8,236.05	954.63	-750.12	33.78	8,395.51	8,234.76	1,515.10	-707.91	28.80	562.07	504.62	44.08	9.784
8,500.00	8,330.23	981.08	-770.90	34.32	8,493.98	8,333.23	1,515.20	-707.96	29.03	537.82	479.29	46.60	9.189
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,588.15	8,427.40	1,515.20	-707.96	29.25	514.54	454.85	49.23	8.621
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,682.33	8,521.58	1,515.20	-707.96	29.47	492.45	431.56	52.09	8.087
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,776.50	8,615.76	1,515.20	-707.96	29.70	471.73	409.58	55.19	7.590

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	8,706.93	1,086.85	-854.01	36.46	8,870.68	8,709.93	1,515.20	-707.96	29.93	452.57	389.11	58.54	7.132
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,964.86	8,804.11	1,515.20	-707.96	30.16	435.16	370.36	62.14	6.716
9,100.00	8,895.28	1,139.73	-895.56	37.53	9,059.03	8,898.28	1,515.20	-707.96	30.39	419.73	353.58	66.01	6.345
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,153.21	8,992.46	1,515.20	-707.96	30.63	406.50	339.00	70.12	6.022
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,247.38	9,086.64	1,515.20	-707.96	30.86	395.69	326.87	74.46	5.750
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,341.56	9,180.81	1,515.20	-707.96	31.10	387.51	317.44	78.99	5.530
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,435.73	9,274.99	1,515.20	-707.96	31.34	382.13	310.91	83.66	5.365
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,529.91	9,369.16	1,515.20	-707.96	31.59	379.66	307.41	88.41	5.255
9,633.24	9,397.46	1,280.73	-1,006.35	40.43	9,561.21	9,400.46	1,515.20	-707.96	31.67	379.49	306.94	90.00	5.231
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,624.09	9,463.34	1,515.20	-707.96	31.83	380.15	307.03	93.19	5.199
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,708.62	9,547.86	1,515.93	-707.96	32.06	384.10	310.30	97.35	5.205
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,781.77	9,620.48	1,524.26	-707.95	32.31	395.09	320.85	99.91	5.322
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,856.75	9,693.20	1,542.32	-707.93	32.63	412.57	337.96	101.19	5.530
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	9,931.01	9,762.29	1,569.42	-707.90	33.00	435.31	360.37	101.59	5.809
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,000.00	9,822.84	1,602.40	-707.86	33.40	462.42	387.43	100.90	6.167
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,064.78	9,875.70	1,639.77	-707.82	33.81	494.78	420.10	99.36	6.626
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,119.65	9,916.94	1,675.94	-707.78	34.19	533.57	459.88	97.79	7.241
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,165.69	9,948.74	1,709.21	-707.74	34.52	579.59	507.49	96.62	8.039
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,200.00	9,970.65	1,735.61	-707.71	34.78	632.95	563.04	58.05	9.054
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,236.48	9,992.17	1,765.06	-707.67	35.06	693.49	625.62	88.30	10.217
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,269.88	10,010.19	1,793.18	-707.64	35.33	759.17	693.04	78.04	11.479
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,300.00	10,025.01	1,819.39	-707.61	35.57	826.47	761.81	68.52	12.782
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,350.00	10,046.51	1,864.52	-707.56	35.99	892.95	828.54	60.24	13.865
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,370.22	10,054.07	1,883.27	-707.54	36.17	955.94	892.55	53.22	15.081
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,400.00	10,063.99	1,911.34	-707.50	36.42	1,010.97	948.16	46.94	16.096
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,450.00	10,077.33	1,959.52	-707.45	36.86	1,055.40	992.58	42.74	16.801
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,478.69	10,083.07	1,987.63	-707.42	37.11	1,088.51	1,026.46	39.86	17.542
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,517.15	10,088.54	2,025.68	-707.37	37.46	1,110.16	1,048.61	38.15	18.037
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,550.00	10,091.19	2,058.42	-707.34	37.75	1,120.03	1,059.16	37.38	18.400

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	2,128.55	-1,386.48	52.78	10,619.36	10,091.96	2,127.77	-707.26	38.38	1,120.41	1,059.30	37.32	18.337
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,719.36	10,091.96	2,227.77	-707.14	39.31	1,120.28	1,058.17	37.31	18.037
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,819.36	10,091.96	2,327.77	-707.03	40.27	1,120.16	1,056.99	37.30	17.730
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	10,919.36	10,091.96	2,427.77	-706.91	41.25	1,120.04	1,055.74	37.29	17.420
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	11,019.36	10,091.96	2,527.77	-706.80	42.26	1,119.92	1,054.45	37.28	17.107
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	11,119.36	10,091.96	2,627.77	-706.68	43.30	1,119.80	1,053.11	37.28	16.792
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,219.36	10,091.96	2,727.77	-706.57	44.36	1,119.68	1,051.73	37.27	16.479
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,319.36	10,091.96	2,827.77	-706.45	45.44	1,119.55	1,050.30	37.26	16.166
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,419.36	10,091.96	2,927.77	-706.34	46.54	1,119.43	1,048.83	37.25	15.856
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,519.36	10,091.96	3,027.77	-706.22	47.65	1,119.31	1,047.33	37.24	15.550
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,619.36	10,091.96	3,127.77	-706.11	48.78	1,119.19	1,045.79	37.24	15.248
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,719.36	10,091.96	3,227.77	-705.99	49.93	1,119.07	1,044.22	37.23	14.950
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,819.36	10,091.96	3,327.77	-705.88	51.09	1,118.95	1,042.61	37.22	14.658
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	11,919.36	10,091.96	3,427.77	-705.76	52.27	1,118.83	1,040.97	37.21	14.371
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,019.36	10,091.96	3,527.77	-705.65	53.46	1,118.70	1,039.31	37.20	14.091
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,119.36	10,091.96	3,627.77	-705.53	54.66	1,118.58	1,037.62	37.20	13.816
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,219.36	10,091.96	3,727.77	-705.42	55.87	1,118.46	1,035.91	37.19	13.548
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,319.36	10,091.97	3,827.77	-705.30	57.09	1,118.34	1,034.17	37.18	13.287
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,419.36	10,091.97	3,927.77	-705.19	58.32	1,118.22	1,032.41	37.17	13.032
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,519.36	10,091.97	4,027.77	-705.07	59.56	1,118.10	1,030.63	37.16	12.783
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,619.36	10,091.97	4,127.77	-704.96	60.81	1,117.98	1,028.83	37.15	12.541
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,719.36	10,091.97	4,227.77	-704.84	62.06	1,117.86	1,027.01	37.15	12.305
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,819.36	10,091.97	4,327.77	-704.73	63.32	1,117.73	1,025.18	37.14	12.076
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	12,919.36	10,091.97	4,427.77	-704.61	64.59	1,117.61	1,023.33	37.13	11.853
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	13,019.36	10,091.97	4,527.77	-704.50	65.87	1,117.49	1,021.46	37.12	11.636
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,119.36	10,091.97	4,627.77	-704.38	67.15	1,117.37	1,019.58	37.11	11.426
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	13,219.36	10,091.97	4,727.77	-704.27	68.44	1,117.25	1,017.68	37.11	11.221
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,319.36	10,091.97	4,827.77	-704.15	69.74	1,117.13	1,015.77	37.10	11.022
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,419.36	10,091.97	4,927.77	-704.04	71.04	1,117.01	1,013.85	37.09	10.828
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,519.36	10,091.97	5,027.77	-703.92	72.34	1,116.89	1,011.92	37.08	10.640

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,619.36	10,091.97	5,127.77	-703.81	73.65	1,116.77	1,009.98	37.07	10.457
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,719.36	10,091.97	5,227.76	-703.69	74.97	1,116.65	1,008.02	37.06	10.280
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,819.36	10,091.97	5,327.76	-703.58	76.28	1,116.52	1,006.06	37.06	10.107
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	13,919.36	10,091.97	5,427.76	-703.46	77.61	1,116.40	1,004.08	37.05	9.939
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	14,019.36	10,091.97	5,527.76	-703.35	78.93	1,116.28	1,002.10	37.04	9.776
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,119.36	10,091.97	5,627.76	-703.23	80.26	1,116.16	1,000.11	37.03	9.618
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,219.36	10,091.97	5,727.76	-703.12	81.60	1,116.04	998.11	37.02	9.464
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,319.36	10,091.97	5,827.76	-703.00	82.93	1,115.92	996.10	37.02	9.314
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,419.36	10,091.97	5,927.76	-702.89	84.27	1,115.80	994.09	37.01	9.168
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,519.36	10,091.98	6,027.76	-702.77	85.61	1,115.68	992.07	37.00	9.026
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,619.35	10,091.98	6,127.76	-702.66	86.96	1,115.56	990.04	36.99	8.888
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,719.35	10,091.98	6,227.76	-702.54	88.31	1,115.44	988.01	36.98	8.753
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,819.35	10,091.98	6,327.76	-702.43	89.66	1,115.32	985.97	36.97	8.622
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	14,919.35	10,091.98	6,427.76	-702.31	91.01	1,115.20	983.92	36.97	8.495
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	15,019.35	10,091.98	6,527.76	-702.20	92.37	1,115.08	981.87	36.96	8.371
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,119.35	10,091.98	6,627.76	-702.08	93.72	1,114.95	979.81	36.95	8.250
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,219.35	10,091.98	6,727.76	-701.97	95.08	1,114.83	977.75	36.94	8.133
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,319.35	10,091.98	6,827.76	-701.85	96.45	1,114.71	975.69	36.93	8.018
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,419.35	10,091.98	6,927.76	-701.74	97.81	1,114.59	973.61	36.93	7.906
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,519.35	10,091.98	7,027.76	-701.62	99.17	1,114.47	971.54	36.92	7.797
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,619.35	10,091.98	7,127.76	-701.51	100.54	1,114.35	969.46	36.91	7.691
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,719.35	10,091.98	7,227.76	-701.39	101.91	1,114.23	967.38	36.90	7.587
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,819.35	10,091.98	7,327.76	-701.28	103.28	1,114.11	965.29	36.89	7.486
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	15,919.35	10,091.98	7,427.76	-701.16	104.66	1,113.99	963.20	36.88	7.388
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,019.35	10,091.98	7,527.76	-701.05	106.03	1,113.87	961.11	36.88	7.291
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,119.35	10,091.98	7,627.76	-700.93	107.41	1,113.75	959.01	36.87	7.198
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,219.35	10,091.98	7,727.76	-700.82	108.78	1,113.63	956.91	36.86	7.106
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,319.35	10,091.98	7,827.76	-700.70	110.16	1,113.51	954.81	36.85	7.016
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	16,419.35	10,091.98	7,927.76	-700.59	111.54	1,113.39	952.70	36.84	6.929

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	8,028.52	-1,367.89	120.98	16,519.35	10,091.98	8,027.76	-700.47	112.92	1,113.27	950.59	36.84	6.843
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,619.35	10,091.98	8,127.76	-700.36	114.30	1,113.15	948.48	36.83	6.760
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,719.35	10,091.98	8,227.76	-700.24	115.69	1,113.03	946.36	36.82	6.678
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,819.35	10,091.99	8,327.76	-700.13	117.07	1,112.91	944.25	36.81	6.599
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	16,919.35	10,091.99	8,427.76	-700.01	118.46	1,112.79	942.13	36.80	6.521
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	17,019.35	10,091.99	8,527.76	-699.90	119.85	1,112.67	940.01	36.79	6.444
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,119.35	10,091.99	8,627.76	-699.78	121.23	1,112.55	937.88	36.79	6.370
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,219.35	10,091.99	8,727.76	-699.67	122.62	1,112.43	935.76	36.78	6.297
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,319.35	10,091.99	8,827.76	-699.55	124.01	1,112.31	933.63	36.77	6.225
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,419.35	10,091.99	8,927.76	-699.44	125.40	1,112.19	931.50	36.76	6.155
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,519.35	10,091.99	9,027.75	-699.32	126.79	1,112.07	929.37	36.75	6.087
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,619.35	10,091.99	9,127.75	-699.21	128.19	1,111.95	927.24	36.74	6.020
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,719.35	10,091.99	9,227.75	-699.09	129.58	1,111.83	925.10	36.74	5.954
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,819.35	10,091.99	9,327.75	-698.98	130.97	1,111.71	922.96	36.73	5.890
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	17,919.35	10,091.99	9,427.75	-698.86	132.37	1,111.59	920.83	36.72	5.827
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	18,019.35	10,091.99	9,527.75	-698.75	133.77	1,111.47	918.69	36.71	5.766
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,119.35	10,091.99	9,627.75	-698.63	135.16	1,111.35	916.55	36.70	5.705
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	18,219.35	10,091.99	9,727.75	-698.52	136.56	1,111.23	914.40	36.70	5.646
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	18,319.35	10,091.99	9,827.75	-698.40	137.96	1,111.11	912.26	36.69	5.588
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	18,419.35	10,091.99	9,927.75	-698.29	139.36	1,110.99	910.12	36.68	5.531
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	18,519.35	10,091.99	10,027.75	-698.17	140.76	1,110.87	907.97	36.67	5.475
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	18,619.35	10,091.99	10,127.75	-698.06	142.16	1,110.75	905.82	36.66	5.420
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	18,719.35	10,091.99	10,227.75	-697.94	143.56	1,110.63	903.67	36.65	5.367
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	18,819.35	10,091.99	10,327.75	-697.83	144.96	1,110.51	901.52	36.65	5.314
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	18,919.35	10,091.99	10,427.75	-697.71	146.36	1,110.39	899.37	36.64	5.262
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	19,019.35	10,091.99	10,527.75	-697.60	147.76	1,110.27	897.22	36.63	5.211
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,119.35	10,092.00	10,627.75	-697.48	149.16	1,110.15	895.07	36.62	5.162
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	19,219.35	10,092.00	10,727.75	-697.37	150.57	1,110.03	892.92	36.61	5.113
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	19,319.35	10,092.00	10,827.75	-697.25	151.97	1,109.91	890.76	36.60	5.065
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	19,419.35	10,092.00	10,927.75	-697.14	153.38	1,109.79	888.61	36.60	5.018

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	19,519.35	10,092.00	11,027.75	-697.02	154.78	1,109.67	886.45	36.59	4.971
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	19,619.34	10,092.00	11,127.75	-696.91	156.19	1,109.55	884.29	36.58	4.926
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	19,719.34	10,092.00	11,227.75	-696.79	157.59	1,109.43	882.14	36.57	4.881
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	19,819.34	10,092.00	11,327.75	-696.68	159.00	1,109.31	879.98	36.56	4.837
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	19,919.34	10,092.00	11,427.75	-696.56	160.41	1,109.19	877.82	36.55	4.794
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	20,019.34	10,092.00	11,527.75	-696.45	161.81	1,109.07	875.66	36.55	4.752
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,119.34	10,092.00	11,627.75	-696.33	163.22	1,108.95	873.50	36.54	4.710
21,299.20	10,980.00	11,727.71	-1,356.24	171.35	20,217.23	10,092.00	11,725.63	-696.22	164.60	1,108.83	871.41	36.53	4.670
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	20,217.23	10,092.00	11,725.63	-696.22	164.60	1,108.83	871.42	36.53	4.670
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	20,217.23	10,092.00	11,725.63	-696.22	164.60	1,113.41	878.52	36.53	4.740
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	20,217.23	10,092.00	11,725.63	-696.22	164.60	1,126.87	896.08	36.53	4.883
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	20,217.23	10,092.00	11,725.63	-696.22	164.60	1,131.54	901.98	36.53	4.929

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	104.24	104.24	199.36	-90.47	0.52	218.93	216.60	-24.41	94.145
191.77	191.77	0.00	0.00	0.68	194.79	194.77	198.33	-91.95	0.67	218.60	215.97	-24.87	82.926
200.00	200.00	0.00	0.00	0.70	202.88	202.86	198.26	-92.09	0.69	218.61	215.93	-24.91	81.691
300.00	300.00	0.00	0.00	0.98	303.05	303.00	197.53	-93.80	0.86	218.67	215.54	-25.40	69.930
400.00	400.00	0.00	0.00	1.31	403.56	403.50	196.70	-95.35	1.03	218.59	215.35	-25.86	67.406
500.00	500.00	0.00	0.00	1.64	508.58	508.49	194.70	-96.39	1.21	217.32	213.55	-26.34	57.657
600.00	600.00	0.00	0.00	1.99	609.40	609.26	191.53	-96.52	1.47	214.57	210.21	-26.75	49.172
700.00	700.00	0.00	0.00	2.34	709.07	708.88	188.34	-96.51	1.75	211.71	206.71	-27.13	42.358
800.00	800.00	0.00	0.00	2.69	808.32	808.09	185.38	-96.63	2.06	209.11	203.46	-27.53	36.967
900.00	900.00	0.00	0.00	3.04	907.73	907.47	182.72	-96.71	2.38	206.78	200.45	-27.89	32.659
1,000.00	1,000.00	0.00	0.00	3.39	1,006.60	1,006.31	180.47	-96.97	2.71	204.90	197.89	-28.25	29.211
1,100.00	1,100.00	0.34	-0.26	3.75	1,105.67	1,105.36	178.52	-97.70	3.05	203.10	195.40	9.49	26.364
1,200.00	1,199.98	1.98	-1.56	4.10	1,205.04	1,204.70	176.68	-99.00	3.39	200.05	191.65	9.01	23.824
1,300.00	1,299.90	5.00	-3.93	4.45	1,301.84	1,301.48	175.44	-100.57	3.72	195.94	186.86	8.61	21.587
1,400.00	1,399.74	9.39	-7.38	4.81	1,396.18	1,395.79	177.42	-101.06	4.02	192.50	182.77	9.02	19.781
1,500.00	1,499.50	14.81	-11.64	5.17	1,491.38	1,490.78	183.41	-99.88	4.33	190.66	180.28	10.51	18.364
1,529.98	1,529.41	16.46	-12.93	5.27	1,520.07	1,519.37	185.81	-99.30	4.42	190.55	179.98	11.11	18.014
1,600.00	1,599.26	20.30	-15.95	5.53	1,587.13	1,586.05	192.59	-97.08	4.64	191.13	180.09	12.90	17.319
1,700.00	1,699.02	25.78	-20.26	5.89	1,688.09	1,686.09	204.60	-90.86	4.98	192.91	181.18	16.56	16.449
1,800.00	1,798.77	31.27	-24.57	6.25	1,790.71	1,787.62	215.98	-81.24	5.33	193.72	181.29	21.04	15.574
1,900.00	1,898.53	36.75	-28.88	6.61	1,881.25	1,876.92	227.64	-72.02	5.65	197.24	184.17	25.26	15.093
2,000.00	1,998.29	42.24	-33.19	6.97	1,972.25	1,966.05	243.10	-62.23	5.98	205.99	192.30	29.65	15.051
2,100.00	2,098.04	47.72	-37.50	7.33	2,066.88	2,058.12	261.81	-50.93	6.34	218.76	204.42	34.19	15.261
2,200.00	2,197.80	53.21	-41.81	7.70	2,168.04	2,156.62	281.60	-39.15	6.74	232.64	217.58	38.42	15.440
2,300.00	2,297.56	58.69	-46.12	8.06	2,269.13	2,255.42	299.67	-27.67	7.14	245.86	230.06	42.11	15.559
2,400.00	2,397.31	64.18	-50.43	8.43	2,365.00	2,349.01	316.37	-15.29	7.53	259.74	243.26	45.59	15.760
2,500.00	2,497.07	69.66	-54.74	8.79	2,460.78	2,442.11	333.86	-1.13	7.93	275.74	258.58	49.05	16.067
2,600.00	2,596.83	75.15	-59.05	9.16	2,563.93	2,542.49	352.02	14.14	8.36	292.06	274.14	52.40	16.290
2,700.00	2,696.58	80.63	-63.36	9.53	2,668.57	2,644.81	367.85	29.29	8.80	306.73	288.02	55.51	16.395
2,800.00	2,796.34	86.12	-67.67	9.89	2,759.64	2,733.91	381.64	42.03	9.18	321.94	302.59	57.88	16.638

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
2,900.00	2,896.09	91.60	-71.98	10.26	2,855.00	2,827.08	397.57	54.66	9.58	338.88	318.85	59.95	16.913
3,000.00	2,995.85	97.09	-76.29	10.62	2,947.97	2,917.82	414.76	65.33	9.98	357.12	336.42	61.43	17.253
3,100.00	3,095.61	102.57	-80.60	10.99	3,046.08	3,013.30	435.40	74.38	10.26	376.93	355.99	62.36	18.001
3,200.00	3,195.36	108.06	-84.91	11.36	3,144.60	3,109.30	456.03	82.40	10.36	396.25	374.93	63.07	18.590
3,300.00	3,295.12	113.54	-89.22	11.73	3,237.90	3,200.07	476.21	90.11	10.48	416.29	394.63	63.66	19.215
3,400.00	3,394.88	119.03	-93.53	12.09	3,333.23	3,292.62	497.49	98.47	10.63	437.24	415.19	64.22	19.832
3,500.00	3,494.63	124.51	-97.84	12.46	3,428.71	3,385.25	518.94	107.19	10.79	458.52	436.07	64.76	20.427
3,600.00	3,594.39	130.00	-102.15	12.83	3,521.94	3,475.49	540.61	116.05	10.97	480.70	457.86	65.25	21.044
3,700.00	3,694.15	135.48	-106.46	13.19	3,622.94	3,573.17	564.35	125.87	11.19	503.27	479.95	65.73	21.580
3,800.00	3,793.90	140.97	-110.77	13.56	3,725.17	3,672.39	586.92	135.65	11.42	524.50	500.68	66.24	22.016
3,900.00	3,893.66	146.45	-115.08	13.93	3,826.74	3,771.11	608.76	145.39	11.65	545.28	520.95	66.74	22.411
4,000.00	3,993.41	151.94	-119.39	14.30	3,944.62	3,886.26	631.37	156.51	11.93	564.02	539.05	67.39	22.591
4,100.00	4,093.17	157.42	-123.70	14.67	4,048.24	3,988.01	649.01	165.00	12.17	580.26	554.75	67.93	22.751
4,200.00	4,192.93	162.91	-128.01	15.03	4,139.09	4,077.16	664.68	172.72	12.40	596.92	570.95	68.39	22.982
4,300.00	4,292.68	168.39	-132.32	15.40	4,227.16	4,163.31	680.90	181.25	12.63	615.24	588.80	68.84	23.277
4,400.00	4,392.44	173.87	-136.63	15.77	4,319.34	4,253.21	698.88	190.85	12.90	634.91	607.98	69.30	23.578
4,500.00	4,492.20	179.36	-140.94	16.14	4,420.69	4,351.97	719.02	201.38	13.20	654.92	627.42	69.75	23.811
4,600.00	4,591.95	184.84	-145.25	16.51	4,525.98	4,454.84	739.28	211.09	13.51	673.81	645.69	70.13	23.962
4,700.00	4,691.71	190.33	-149.56	16.88	4,621.23	4,547.95	757.49	219.47	13.80	692.38	663.71	70.44	24.149
4,800.00	4,791.47	195.81	-153.87	17.24	4,711.65	4,636.19	775.16	228.27	14.09	711.84	682.65	70.75	24.382
4,900.00	4,891.22	201.30	-158.18	17.61	4,806.28	4,728.37	794.03	238.42	14.41	732.21	702.45	71.11	24.604
5,000.00	4,990.98	206.78	-162.49	17.98	4,894.29	4,813.96	812.06	248.09	14.71	753.22	722.94	71.42	24.875
5,100.00	5,090.74	212.27	-166.80	18.35	4,982.46	4,899.40	831.27	258.31	15.03	775.66	744.85	71.70	25.176
5,200.00	5,190.49	217.75	-171.11	18.72	5,077.19	4,991.00	852.72	269.40	15.38	798.90	767.49	71.95	25.441
5,300.00	5,290.25	223.24	-175.42	19.09	5,193.47	5,103.69	878.46	282.08	15.82	821.31	789.13	72.22	25.523
5,400.00	5,390.00	228.72	-179.73	19.45	5,290.37	5,197.85	899.07	291.91	16.18	842.55	809.75	72.42	25.687
5,500.00	5,489.76	234.21	-184.04	19.82	5,399.34	5,303.91	921.66	302.67	16.58	863.22	829.70	72.64	25.752
5,600.00	5,589.24	242.08	-190.23	20.20	5,519.53	5,421.42	944.51	313.35	17.01	881.01	846.69	72.52	25.667
5,700.00	5,687.93	254.72	-200.16	20.59	5,627.69	5,527.63	962.67	322.72	17.39	895.14	860.07	72.94	25.530

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
5,800.00	5,785.45	272.07	-213.79	21.00	5,705.97	5,604.42	976.07	329.84	17.67	908.30	872.67	73.42	25.490
5,900.00	5,881.44	294.07	-231.08	21.42	5,788.49	5,685.04	991.46	338.36	17.98	922.16	885.89	74.21	25.429
6,000.00	5,975.83	320.01	-251.46	21.86	5,910.76	5,804.60	1,013.73	351.00	18.44	935.17	897.96	76.19	25.127
6,100.00	6,070.01	346.45	-272.24	22.31	5,992.00	5,884.28	1,027.55	358.79	18.74	947.48	909.58	77.66	24.998
6,200.00	6,164.19	372.90	-293.01	22.76	6,082.00	5,972.37	1,043.51	367.98	19.08	961.56	922.89	79.24	24.870
6,300.00	6,258.36	399.34	-313.79	23.22	6,158.04	6,046.54	1,058.04	376.33	19.38	977.91	938.57	80.53	24.862
6,400.00	6,352.54	425.78	-334.57	23.69	6,250.70	6,136.69	1,076.72	386.85	19.75	996.03	955.88	82.02	24.811
6,500.00	6,446.71	452.22	-355.35	24.16	6,371.12	6,254.21	1,099.74	399.37	20.23	1,013.46	972.28	83.90	24.610
6,600.00	6,540.89	478.67	-376.12	24.64	6,457.43	6,338.58	1,116.09	407.50	20.57	1,030.79	988.82	85.18	24.562
6,700.00	6,635.06	505.11	-396.90	25.12	6,530.00	6,409.20	1,130.99	414.96	20.87	1,050.34	1,007.69	86.20	24.627
6,800.00	6,729.24	531.55	-417.68	25.60	6,647.81	6,523.97	1,154.57	427.29	21.35	1,070.28	1,026.58	87.83	24.490
6,900.00	6,823.42	557.99	-438.46	26.09	6,752.51	6,626.31	1,174.11	437.54	21.77	1,089.50	1,044.85	89.26	24.401
7,000.00	6,917.59	584.44	-459.23	26.58	6,872.73	6,744.18	1,195.16	448.27	22.24	1,108.00	1,062.30	90.86	24.242
7,100.00	7,011.77	610.88	-480.01	27.08	6,976.43	6,846.31	1,211.00	456.79	22.63	1,125.23	1,078.59	92.28	24.125
7,200.00	7,105.94	637.32	-500.79	27.58	7,103.71	6,972.05	1,228.50	465.88	23.08	1,141.35	1,093.64	94.00	23.922
7,300.00	7,200.12	663.76	-521.57	28.08	7,215.67	7,082.97	1,242.36	472.04	23.46	1,156.06	1,107.38	95.48	23.748
7,400.00	7,294.30	690.21	-542.34	28.59	7,295.06	7,161.63	1,252.34	476.01	23.74	1,171.09	1,121.61	96.49	23.668
7,500.00	7,388.47	716.65	-563.12	29.10	7,361.00	7,226.67	1,262.46	479.98	23.98	1,188.75	1,138.56	97.25	23.683
7,600.00	7,482.65	743.09	-583.90	29.61	7,426.00	7,290.40	1,274.22	484.98	24.24	1,209.43	1,158.55	97.94	23.770
7,700.00	7,576.82	769.53	-604.68	30.12	7,489.33	7,352.06	1,287.40	490.78	24.51	1,232.91	1,181.37	98.54	23.920
7,800.00	7,671.00	795.98	-625.45	30.64	7,581.39	7,441.23	1,308.36	499.99	24.92	1,258.31	1,205.87	99.32	23.998
7,900.00	7,765.17	822.42	-646.23	31.16	7,792.79	7,648.81	1,345.24	513.44	25.75	1,277.66	1,223.52	101.33	23.600
8,000.00	7,859.35	848.86	-667.01	31.68	7,853.79	7,709.10	1,353.89	516.84	25.97	1,296.16	1,241.33	101.96	23.637
8,100.00	7,953.53	875.31	-687.79	32.20	7,919.24	7,773.57	1,364.11	521.66	26.23	1,317.25	1,261.71	102.61	23.717
8,200.00	8,047.70	901.75	-708.56	32.73	7,985.84	7,838.82	1,376.06	527.51	26.50	1,340.80	1,284.57	103.20	23.844
8,300.00	8,141.88	928.19	-729.34	33.26	8,054.85	7,906.21	1,388.96	534.86	26.79	1,366.55	1,309.62	103.80	24.004
8,400.00	8,236.05	954.63	-750.12	33.78	8,154.83	8,003.67	1,408.27	546.05	27.22	1,393.28	1,335.40	104.63	24.070
8,500.00	8,330.23	981.08	-770.90	34.32	8,269.24	8,115.42	1,429.56	558.17	27.70	1,419.50	1,360.55	105.55	24.080
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,403.27	8,247.17	1,450.79	570.71	28.24	1,443.97	1,383.84	106.71	24.011
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,570.08	8,411.99	1,474.18	580.93	28.86	1,465.37	1,403.91	108.13	23.841

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
8,800.00	8,612.76	1,060.40	-833.23	35.92	8,663.63	8,504.83	1,485.03	584.51	29.19	1,484.12	1,421.78	108.96	23.809
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,753.36	8,593.88	1,495.35	588.63	29.50	1,503.84	1,440.66	109.75	23.803
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,846.74	8,686.60	1,505.36	593.32	29.82	1,524.09	1,460.05	110.58	23.800
9,100.00	8,895.28	1,139.73	-895.56	37.53	8,954.18	8,793.42	1,515.54	598.77	30.19	1,544.42	1,479.46	111.56	23.775
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,080.39	8,919.13	1,525.30	604.01	30.59	1,563.91	1,497.96	112.74	23.711
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,257.85	9,096.46	1,529.71	606.79	31.07	1,580.31	1,513.26	114.63	23.570
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,382.00	9,220.59	1,528.95	604.65	31.35	1,593.47	1,525.59	116.01	23.474
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,487.14	9,325.69	1,527.75	601.83	31.59	1,606.31	1,537.64	117.18	23.393
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,572.82	9,411.30	1,525.86	599.26	31.79	1,619.30	1,549.89	118.14	23.329
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,627.09	9,465.55	1,526.62	598.41	31.92	1,634.65	1,564.57	118.69	23.326
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,682.05	9,520.36	1,530.60	598.47	32.10	1,652.75	1,582.02	119.12	23.365
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,739.00	9,576.45	1,540.25	599.26	32.31	1,673.45	1,602.06	119.39	23.441
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,944.48	9,762.03	1,624.59	589.87	33.37	1,690.63	1,617.50	118.47	23.117
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	10,008.00	9,810.92	1,664.54	583.28	33.77	1,706.19	1,632.15	117.97	23.045
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,058.25	9,846.58	1,699.60	578.42	34.11	1,722.01	1,647.22	117.60	23.024
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,098.00	9,873.50	1,728.71	575.80	34.39	1,739.29	1,663.95	117.35	23.087
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,098.00	9,873.50	1,728.71	575.80	34.39	1,758.26	1,682.93	117.94	23.340
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,145.77	9,904.57	1,764.95	574.18	34.75	1,778.18	1,702.47	117.49	23.486
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,188.00	9,931.03	1,797.87	574.24	35.08	1,800.35	1,724.44	78.93	23.717
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,188.00	9,931.03	1,797.87	574.24	35.08	1,827.28	1,751.89	115.45	24.239
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,230.51	9,956.63	1,831.79	575.29	35.43	1,864.83	1,789.24	110.80	24.667
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,278.00	9,983.89	1,870.62	577.16	35.82	1,911.07	1,835.08	105.06	25.150
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,278.00	9,983.89	1,870.62	577.16	35.82	1,963.94	1,888.14	98.96	25.907
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,332.52	10,011.71	1,917.41	579.59	36.30	2,020.39	1,943.80	90.50	26.380
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,367.00	10,026.45	1,948.54	580.98	36.60	2,072.14	1,995.00	80.55	26.862
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,436.45	10,051.95	2,013.09	583.03	37.23	2,113.61	2,035.33	73.64	27.001
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,457.00	10,058.77	2,032.48	583.39	37.42	2,143.74	2,064.99	69.13	27.221
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,515.82	10,075.74	2,088.77	584.91	37.98	2,161.96	2,082.10	66.56	27.073
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,546.00	10,082.85	2,118.06	586.21	38.26	2,169.21	2,088.63	65.53	26.918

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	2,128.55	-1,386.48	52.78	10,579.53	10,088.88	2,151.00	587.91	38.59	2,167.53	2,086.12	65.64	26.626
11,740.90	10,980.00	2,169.45	-1,386.35	53.09	10,591.88	10,090.46	2,163.23	588.58	38.71	2,167.26	2,085.54	65.68	26.520
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,636.00	10,093.29	2,207.16	591.12	39.13	2,168.34	2,085.81	65.77	26.273
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,636.00	10,093.29	2,207.16	591.12	39.13	2,171.34	2,088.51	65.77	26.213
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	10,705.96	10,092.63	2,276.99	595.37	39.82	2,177.09	2,092.99	65.80	25.885
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	10,775.13	10,090.47	2,345.94	600.27	40.52	2,184.53	2,099.15	65.80	25.587
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	10,843.23	10,091.02	2,413.67	607.26	41.21	2,193.29	2,106.59	65.89	25.298
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,145.51	10,092.73	2,715.25	624.07	44.41	2,197.15	2,105.52	66.10	23.979
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,233.80	10,092.75	2,803.53	624.97	45.37	2,197.78	2,104.43	66.10	23.542
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,337.89	10,093.17	2,907.62	626.49	46.51	2,198.67	2,103.31	66.13	23.056
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,439.02	10,093.37	3,008.73	627.48	47.65	2,199.19	2,101.84	66.14	22.589
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,546.99	10,092.81	3,116.70	628.18	48.88	2,199.72	2,100.24	66.13	22.113
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,644.00	10,092.34	3,213.71	628.65	49.99	2,200.07	2,098.61	66.12	21.684
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,747.44	10,092.42	3,317.15	629.48	51.20	2,200.48	2,096.90	66.13	21.243
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	11,855.23	10,092.61	3,424.94	629.72	52.47	2,200.32	2,094.51	66.13	20.796
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,065.50	10,090.79	3,635.04	623.63	54.98	2,197.78	2,088.22	66.01	20.061
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,131.77	10,090.61	3,701.23	620.41	55.78	2,193.24	2,082.06	65.97	19.727
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,180.00	10,090.28	3,749.44	618.96	56.37	2,190.67	2,078.14	65.95	19.467
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,270.00	10,089.32	3,839.42	617.90	57.47	2,189.72	2,075.18	65.91	19.118
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,363.31	10,088.87	3,932.73	617.75	58.62	2,189.46	2,072.83	65.90	18.773
13,559.21	10,980.00	3,987.75	-1,380.62	70.52	12,412.04	10,088.96	3,981.46	617.83	59.23	2,189.33	2,071.56	65.90	18.589
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,449.00	10,089.04	4,018.42	618.05	59.69	2,189.40	2,070.77	65.90	18.457
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,530.12	10,088.88	4,099.54	618.84	60.70	2,190.06	2,069.51	65.90	18.167
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,651.25	10,088.61	4,220.66	619.58	62.23	2,190.38	2,067.21	65.90	17.783
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,728.64	10,088.21	4,298.05	620.19	63.21	2,191.01	2,065.95	65.89	17.520
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	12,828.61	10,087.35	4,398.01	621.42	64.48	2,192.20	2,064.85	65.88	17.214
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	12,937.54	10,086.49	4,506.93	622.29	65.88	2,192.96	2,063.15	65.87	16.895
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,028.07	10,085.72	4,597.45	623.09	67.04	2,193.83	2,061.88	65.86	16.626
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	13,137.25	10,084.87	4,706.62	624.46	68.45	2,195.02	2,060.58	65.85	16.327
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,247.59	10,085.49	4,816.96	625.53	69.88	2,195.39	2,058.39	65.87	16.025

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,343.00	10,086.23	4,912.36	626.50	71.13	2,195.71	2,056.41	65.89	15.762
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,433.00	10,086.41	5,002.35	627.59	72.30	2,196.44	2,054.93	65.91	15.522
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,540.26	10,086.44	5,109.60	628.88	73.71	2,197.24	2,053.20	65.92	15.255
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,655.84	10,087.02	5,225.17	629.95	75.23	2,197.61	2,050.88	65.94	14.977
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,784.04	10,087.05	5,353.37	629.20	76.92	2,196.77	2,047.15	65.93	14.683
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	13,862.19	10,087.58	5,431.52	628.84	77.96	2,195.79	2,044.13	65.93	14.478
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	13,958.32	10,087.74	5,527.64	628.99	79.23	2,195.57	2,041.55	65.94	14.255
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,067.86	10,087.94	5,637.19	628.85	80.69	2,195.10	2,038.47	65.94	14.015
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,163.41	10,088.66	5,732.73	628.87	81.97	2,194.52	2,035.51	65.95	13.801
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,261.46	10,089.18	5,830.78	628.98	83.28	2,194.12	2,032.68	65.96	13.591
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,363.93	10,089.77	5,933.25	629.03	84.65	2,193.64	2,029.69	65.97	13.380
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,460.26	10,090.55	6,029.57	629.21	85.95	2,193.19	2,026.82	65.99	13.182
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,556.53	10,090.53	6,125.84	629.27	87.24	2,192.97	2,024.20	65.99	12.993
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,698.17	10,091.04	6,267.48	628.67	89.16	2,192.27	2,020.28	65.99	12.747
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,780.81	10,092.20	6,350.10	628.07	90.27	2,190.72	2,016.53	66.01	12.576
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	14,877.08	10,092.72	6,446.37	627.41	91.58	2,189.59	2,012.96	66.01	12.396
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	14,978.56	10,094.19	6,547.84	626.74	92.95	2,188.10	2,008.92	66.03	12.212
16,162.97	10,980.00	6,591.49	-1,372.42	102.13	15,015.92	10,094.51	6,585.20	626.76	93.46	2,187.74	2,007.43	66.04	12.133
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,046.00	10,094.40	6,615.28	626.96	93.87	2,187.89	2,006.78	66.04	12.081
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,113.86	10,093.96	6,683.12	627.99	94.80	2,189.15	2,006.15	66.04	11.962
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,210.23	10,093.80	6,779.47	630.32	96.11	2,191.14	2,005.67	66.05	11.814
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,327.99	10,093.70	6,897.20	632.57	97.71	2,192.62	2,004.28	66.07	11.642
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,428.75	10,093.17	6,997.95	634.29	99.09	2,194.11	2,003.22	66.07	11.494
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,553.06	10,095.18	7,122.23	635.41	100.79	2,193.82	1,999.89	66.13	11.312
16,700.12	10,980.00	7,128.65	-1,370.73	109.11	15,553.15	10,095.18	7,122.33	635.41	100.79	2,193.82	1,999.89	66.13	11.312
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,635.79	10,096.17	7,204.94	636.53	101.93	2,194.27	1,998.09	66.16	11.185
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,972.47	10,093.64	7,540.91	621.83	106.54	2,191.77	1,989.77	65.93	10.851
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,032.00	10,093.58	7,600.20	616.50	107.36	2,183.09	1,979.08	65.87	10.701
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,069.40	10,093.68	7,637.52	614.17	107.87	2,176.60	1,970.91	65.85	10.582

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,121.00	10,093.58	7,689.07	611.91	108.58	2,172.41	1,964.94	65.82	10.471
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,192.95	10,093.43	7,761.00	610.13	109.57	2,169.96	1,960.44	65.79	10.357
17,397.73	10,980.00	7,826.26	-1,368.53	118.29	16,251.97	10,093.42	7,820.02	609.67	110.39	2,169.03	1,957.72	65.79	10.265
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,253.26	10,093.42	7,821.31	609.68	110.41	2,169.03	1,957.68	65.79	10.263
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	16,321.22	10,093.05	7,889.26	610.54	111.34	2,170.02	1,956.74	65.79	10.174
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	16,428.08	10,092.53	7,996.11	612.06	112.82	2,171.22	1,955.25	65.79	10.053
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,537.31	10,091.76	8,105.33	613.52	114.33	2,172.46	1,953.75	65.78	9.933
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,632.50	10,092.00	8,200.51	614.63	115.65	2,173.14	1,951.94	65.79	9.824
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,725.99	10,092.32	8,293.98	616.32	116.94	2,174.37	1,950.70	65.82	9.721
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	16,847.54	10,093.75	8,415.51	618.40	118.63	2,175.15	1,948.42	65.87	9.594
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	16,926.00	10,094.59	8,493.95	619.74	119.72	2,175.98	1,947.06	65.90	9.505
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,043.87	10,095.15	8,611.80	621.51	121.35	2,176.87	1,944.98	65.93	9.387
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,137.87	10,096.44	8,705.79	622.75	122.66	2,177.25	1,942.84	65.97	9.288
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,226.62	10,096.48	8,794.52	624.43	123.89	2,178.62	1,941.83	65.99	9.201
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,380.59	10,098.49	8,948.47	624.79	126.03	2,177.68	1,937.22	66.03	9.056
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,480.57	10,100.23	9,048.44	624.57	127.43	2,176.47	1,933.37	66.07	8.953
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,580.56	10,101.98	9,148.41	624.34	128.82	2,175.27	1,929.52	66.11	8.852
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,680.54	10,103.72	9,248.37	624.11	130.21	2,174.07	1,925.67	66.14	8.753
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,780.52	10,105.47	9,348.34	623.89	131.61	2,172.87	1,921.82	66.18	8.655
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	17,880.51	10,107.21	9,448.31	623.66	133.00	2,171.67	1,917.97	66.21	8.560
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	17,980.49	10,108.96	9,548.28	623.43	134.40	2,170.47	1,914.11	66.25	8.467
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,059.96	10,109.86	9,627.74	623.33	135.51	2,169.63	1,911.02	66.27	8.389
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	18,159.96	10,109.87	9,727.74	623.37	136.91	2,169.38	1,908.16	66.27	8.305
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	18,259.96	10,109.87	9,827.74	623.41	138.31	2,169.12	1,905.30	66.26	8.222
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	18,359.96	10,109.88	9,927.74	623.45	139.70	2,168.87	1,902.44	66.26	8.141
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	18,459.96	10,109.89	10,027.74	623.50	141.10	2,168.62	1,899.58	66.26	8.061
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	18,559.96	10,109.89	10,127.74	623.54	142.50	2,168.37	1,896.72	66.26	7.982
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	18,659.96	10,109.90	10,227.74	623.58	143.90	2,168.11	1,893.86	66.25	7.905
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	18,759.96	10,109.91	10,327.74	623.62	145.31	2,167.86	1,890.99	66.25	7.830
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	18,859.96	10,109.91	10,427.74	623.66	146.71	2,167.61	1,888.13	66.25	7.756

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	18,959.96	10,109.92	10,527.74	623.71	148.11	2,167.36	1,885.26	66.24	7.683
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,059.95	10,109.93	10,627.73	623.75	149.51	2,167.10	1,882.39	66.24	7.611
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	19,159.95	10,109.93	10,727.73	623.79	150.92	2,166.85	1,879.52	66.24	7.541
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	19,259.95	10,109.94	10,827.73	623.83	152.32	2,166.60	1,876.64	66.24	7.472
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	19,359.95	10,109.95	10,927.73	623.87	153.73	2,166.35	1,873.77	66.23	7.404
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	19,459.95	10,109.95	11,027.73	623.92	155.13	2,166.09	1,870.90	66.23	7.338
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	19,559.95	10,109.96	11,127.73	623.96	156.54	2,165.84	1,868.02	66.23	7.272
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	19,659.95	10,109.97	11,227.73	624.00	157.94	2,165.59	1,865.14	66.23	7.208
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	19,759.95	10,109.97	11,327.73	624.04	159.35	2,165.33	1,862.27	66.22	7.145
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	19,859.95	10,109.98	11,427.73	624.08	160.76	2,165.08	1,859.39	66.22	7.082
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	19,959.95	10,109.99	11,527.73	624.13	162.16	2,164.83	1,856.51	66.22	7.021
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,059.95	10,109.99	11,627.73	624.17	163.57	2,164.58	1,853.63	66.21	6.961
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	20,159.95	10,110.00	11,727.73	624.21	164.98	2,164.32	1,850.74	66.21	6.902
21,308.16	10,980.00	11,736.66	-1,356.21	171.48	20,162.65	10,110.00	11,730.43	624.21	165.02	2,164.31	1,850.62	66.21	6.899
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	20,162.65	10,110.00	11,730.43	624.21	165.02	2,166.26	1,852.16	66.21	6.897
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	20,162.65	10,110.00	11,730.43	624.21	165.02	2,172.80	1,858.85	66.21	6.921
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	20,162.65	10,110.00	11,730.43	624.21	165.02	2,175.12	1,861.31	66.21	6.931

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

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

Survey Program: 117-3_Gyro-NS_OWGS, 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 21,524.73 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	104.24	104.24	199.36	-90.47	0.52	218.93	216.60	-24.41	94.145
191.77	191.77	0.00	0.00	0.68	194.79	194.77	198.33	-91.95	0.67	218.60	215.97	-24.87	82.926
200.00	200.00	0.00	0.00	0.70	202.88	202.86	198.26	-92.09	0.69	218.61	215.93	-24.91	81.691
300.00	300.00	0.00	0.00	0.98	303.05	303.00	197.53	-93.80	0.86	218.67	215.54	-25.40	69.930
400.00	400.00	0.00	0.00	1.31	403.56	403.50	196.70	-95.35	1.03	218.59	215.35	-25.86	67.406
500.00	500.00	0.00	0.00	1.64	508.58	508.49	194.70	-96.39	1.21	217.32	213.55	-26.34	57.657
600.00	600.00	0.00	0.00	1.99	609.40	609.26	191.53	-96.52	1.47	214.57	210.21	-26.75	49.172
700.00	700.00	0.00	0.00	2.34	709.07	708.88	188.34	-96.51	1.75	211.71	206.71	-27.13	42.358
800.00	800.00	0.00	0.00	2.69	808.32	808.09	185.38	-96.63	2.06	209.11	203.46	-27.53	36.967
900.00	900.00	0.00	0.00	3.04	907.73	907.47	182.72	-96.71	2.38	206.78	200.45	-27.89	32.659
1,000.00	1,000.00	0.00	0.00	3.39	1,006.60	1,006.31	180.47	-96.97	2.71	204.90	197.89	-28.25	29.211
1,100.00	1,100.00	0.34	-0.26	3.75	1,105.67	1,105.36	178.52	-97.70	3.05	203.10	195.40	9.49	26.364
1,200.00	1,199.98	1.98	-1.56	4.10	1,205.04	1,204.70	176.68	-99.00	3.39	200.05	191.65	9.01	23.824
1,300.00	1,299.90	5.00	-3.93	4.45	1,301.84	1,301.48	175.44	-100.57	3.72	195.94	186.86	8.61	21.587
1,400.00	1,399.74	9.39	-7.38	4.81	1,396.18	1,395.79	177.42	-101.06	4.02	192.50	182.77	9.02	19.781
1,500.00	1,499.50	14.81	-11.64	5.17	1,491.38	1,490.78	183.41	-99.88	4.33	190.66	180.28	10.51	18.364
1,529.98	1,529.41	16.46	-12.93	5.27	1,520.07	1,519.37	185.81	-99.30	4.42	190.55	179.98	11.11	18.014
1,600.00	1,599.26	20.30	-15.95	5.53	1,587.13	1,586.05	192.59	-97.08	4.64	191.13	180.09	12.90	17.319
1,700.00	1,699.02	25.78	-20.26	5.89	1,688.09	1,686.09	204.60	-90.86	4.98	192.91	181.18	16.56	16.449
1,800.00	1,798.77	31.27	-24.57	6.25	1,790.71	1,787.62	215.98	-81.24	5.33	193.72	181.29	21.04	15.574
1,900.00	1,898.53	36.75	-28.88	6.61	1,881.25	1,876.92	227.64	-72.02	5.65	197.24	184.17	25.26	15.093
2,000.00	1,998.29	42.24	-33.19	6.97	1,972.25	1,966.05	243.10	-62.23	5.98	205.99	192.30	29.65	15.051
2,100.00	2,098.04	47.72	-37.50	7.33	2,066.88	2,058.12	261.81	-50.93	6.34	218.76	204.42	34.19	15.261
2,200.00	2,197.80	53.21	-41.81	7.70	2,168.04	2,156.62	281.60	-39.15	6.74	232.64	217.58	38.42	15.440
2,300.00	2,297.56	58.69	-46.12	8.06	2,269.13	2,255.42	299.67	-27.67	7.14	245.86	230.06	42.11	15.559
2,400.00	2,397.31	64.18	-50.43	8.43	2,365.00	2,349.01	316.37	-15.29	7.53	259.74	243.26	45.59	15.760
2,500.00	2,497.07	69.66	-54.74	8.79	2,460.78	2,442.11	333.86	-1.13	7.93	275.74	258.58	49.05	16.067
2,600.00	2,596.83	75.15	-59.05	9.16	2,563.93	2,542.49	352.02	14.14	8.36	292.06	274.14	52.40	16.290
2,700.00	2,696.58	80.63	-63.36	9.53	2,668.57	2,644.81	367.85	29.29	8.80	306.73	288.02	55.51	16.395
2,800.00	2,796.34	86.12	-67.67	9.89	2,759.64	2,733.91	381.64	42.03	9.18	321.94	302.59	57.88	16.638

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1**

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

Survey Program: 117-3_Gyro-NS_OWGS, 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 21,524.73 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
2,900.00	2,896.09	91.60	-71.98	10.26	2,855.00	2,827.08	397.57	54.66	9.58	338.88	318.85	59.95	16.913
3,000.00	2,995.85	97.09	-76.29	10.62	2,947.97	2,917.82	414.76	65.33	9.98	357.12	336.42	61.43	17.253
3,100.00	3,095.61	102.57	-80.60	10.99	3,046.08	3,013.30	435.40	74.38	10.26	376.93	355.92	62.36	17.948
3,200.00	3,195.36	108.06	-84.91	11.36	3,144.60	3,109.30	456.03	82.40	10.36	396.25	374.87	63.07	18.535
3,300.00	3,295.12	113.54	-89.22	11.73	3,237.90	3,200.07	476.21	90.11	10.48	416.29	394.57	63.66	19.160
3,400.00	3,394.88	119.03	-93.53	12.09	3,333.23	3,292.62	497.49	98.47	10.63	437.24	415.13	64.22	19.776
3,500.00	3,494.63	124.51	-97.84	12.46	3,428.71	3,385.25	518.94	107.19	10.79	458.52	436.01	64.76	20.370
3,600.00	3,594.39	130.00	-102.15	12.83	3,521.94	3,475.49	540.61	116.05	10.97	480.70	457.80	65.25	20.987
3,700.00	3,694.15	135.48	-106.46	13.19	3,622.94	3,573.17	564.35	125.87	11.19	503.27	479.88	65.73	21.522
3,800.00	3,793.90	140.97	-110.77	13.56	3,725.17	3,672.39	586.92	135.65	11.42	524.50	500.62	66.24	21.959
3,900.00	3,893.66	146.45	-115.08	13.93	3,826.74	3,771.11	608.76	145.39	11.65	545.28	520.89	66.74	22.353
4,000.00	3,993.41	151.94	-119.39	14.30	3,944.62	3,886.26	631.37	156.51	11.93	564.02	538.99	67.39	22.535
4,100.00	4,093.17	157.42	-123.70	14.67	4,048.24	3,988.01	649.01	165.00	12.17	580.26	554.69	67.93	22.695
4,200.00	4,192.93	162.91	-128.01	15.03	4,139.09	4,077.16	664.68	172.72	12.40	596.92	570.89	68.39	22.927
4,300.00	4,292.68	168.39	-132.32	15.40	4,227.16	4,163.31	680.90	181.25	12.63	615.24	588.74	68.84	23.222
4,400.00	4,392.44	173.87	-136.63	15.77	4,319.34	4,253.21	698.88	190.85	12.90	634.91	607.92	69.30	23.523
4,500.00	4,492.20	179.36	-140.94	16.14	4,420.69	4,351.97	719.02	201.38	13.20	654.92	627.36	69.75	23.757
4,600.00	4,591.95	184.84	-145.25	16.51	4,525.98	4,454.84	739.28	211.09	13.51	673.81	645.62	70.13	23.908
4,700.00	4,691.71	190.33	-149.56	16.88	4,621.23	4,547.95	757.49	219.47	13.80	692.38	663.65	70.44	24.097
4,800.00	4,791.47	195.81	-153.87	17.24	4,711.65	4,636.19	775.16	228.27	14.09	711.84	682.59	70.75	24.330
4,900.00	4,891.22	201.30	-158.18	17.61	4,806.28	4,728.37	794.03	238.42	14.41	732.21	702.39	71.11	24.552
5,000.00	4,990.98	206.78	-162.49	17.98	4,894.29	4,813.96	812.06	248.09	14.71	753.22	722.88	71.42	24.823
5,100.00	5,090.74	212.27	-166.80	18.35	4,982.46	4,899.40	831.27	258.31	15.03	775.66	744.79	71.70	25.125
5,200.00	5,190.49	217.75	-171.11	18.72	5,077.19	4,991.00	852.72	269.40	15.38	798.90	767.43	71.95	25.390
5,300.00	5,290.25	223.24	-175.42	19.09	5,193.47	5,103.69	878.46	282.08	15.82	821.31	789.07	72.22	25.474
5,400.00	5,390.00	228.72	-179.73	19.45	5,290.37	5,197.85	899.07	291.91	16.18	842.55	809.69	72.42	25.638
5,500.00	5,489.76	234.21	-184.04	19.82	5,399.34	5,303.91	921.66	302.67	16.58	863.22	829.64	72.64	25.704
5,600.00	5,589.24	242.08	-190.23	20.20	5,519.53	5,421.42	944.51	313.35	17.01	881.01	846.62	72.52	25.621
5,700.00	5,687.93	254.72	-200.16	20.59	5,627.69	5,527.63	962.67	322.72	17.39	895.14	860.01	72.94	25.485

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
5,800.00	5,785.45	272.07	-213.79	21.00	5,705.97	5,604.42	976.07	329.84	17.67	908.30	872.61	73.42	25.446
5,900.00	5,881.44	294.07	-231.08	21.42	5,788.49	5,685.04	991.46	338.36	17.98	922.16	885.83	74.21	25.385
6,000.00	5,975.83	320.01	-251.46	21.86	5,910.76	5,804.60	1,013.73	351.00	18.44	935.17	897.89	76.19	25.084
6,100.00	6,070.01	346.45	-272.24	22.31	5,992.00	5,884.28	1,027.55	358.79	18.74	947.48	909.52	77.66	24.957
6,200.00	6,164.19	372.90	-293.01	22.76	6,082.00	5,972.37	1,043.51	367.98	19.08	961.56	922.83	79.24	24.830
6,300.00	6,258.36	399.34	-313.79	23.22	6,158.04	6,046.54	1,058.04	376.33	19.38	977.91	938.51	80.53	24.823
6,400.00	6,352.54	425.78	-334.57	23.69	6,250.70	6,136.69	1,076.72	386.85	19.75	996.03	955.82	82.02	24.773
6,500.00	6,446.71	452.22	-355.35	24.16	6,371.12	6,254.21	1,099.74	399.37	20.23	1,013.46	972.21	83.90	24.573
6,600.00	6,540.89	478.67	-376.12	24.64	6,457.43	6,338.58	1,116.09	407.50	20.57	1,030.79	988.76	85.18	24.526
6,700.00	6,635.06	505.11	-396.90	25.12	6,530.00	6,409.20	1,130.99	414.96	20.87	1,050.34	1,007.63	86.20	24.591
6,800.00	6,729.24	531.55	-417.68	25.60	6,647.81	6,523.97	1,154.57	427.29	21.35	1,070.28	1,026.52	87.83	24.455
6,900.00	6,823.42	557.99	-438.46	26.09	6,752.51	6,626.31	1,174.11	437.54	21.77	1,089.50	1,044.79	89.26	24.367
7,000.00	6,917.59	584.44	-459.23	26.58	6,872.73	6,744.18	1,195.16	448.27	22.24	1,108.00	1,062.23	90.86	24.209
7,100.00	7,011.77	610.88	-480.01	27.08	6,976.43	6,846.31	1,211.00	456.79	22.63	1,125.23	1,078.52	92.28	24.093
7,200.00	7,105.94	637.32	-500.79	27.58	7,103.71	6,972.05	1,228.50	465.88	23.08	1,141.35	1,093.58	94.00	23.891
7,300.00	7,200.12	663.76	-521.57	28.08	7,215.67	7,082.97	1,242.36	472.04	23.46	1,156.06	1,107.31	95.48	23.718
7,400.00	7,294.30	690.21	-542.34	28.59	7,295.06	7,161.63	1,252.34	476.01	23.74	1,171.09	1,121.54	96.49	23.638
7,500.00	7,388.47	716.65	-563.12	29.10	7,361.00	7,226.67	1,262.46	479.98	23.98	1,188.75	1,138.50	97.25	23.654
7,600.00	7,482.65	743.09	-583.90	29.61	7,426.00	7,290.40	1,274.22	484.98	24.24	1,209.43	1,158.49	97.94	23.740
7,700.00	7,576.82	769.53	-604.68	30.12	7,489.33	7,352.06	1,287.40	490.78	24.51	1,232.91	1,181.31	98.54	23.891
7,800.00	7,671.00	795.98	-625.45	30.64	7,581.39	7,441.23	1,308.36	499.99	24.92	1,258.31	1,205.81	99.32	23.969
7,900.00	7,765.17	822.42	-646.23	31.16	7,792.79	7,648.81	1,345.24	513.44	25.75	1,277.66	1,223.46	101.33	23.573
8,000.00	7,859.35	848.86	-667.01	31.68	7,853.79	7,709.10	1,353.89	516.84	25.97	1,296.16	1,241.26	101.96	23.610
8,100.00	7,953.53	875.31	-687.79	32.20	7,919.24	7,773.57	1,364.11	521.66	26.23	1,317.25	1,261.65	102.61	23.691
8,200.00	8,047.70	901.75	-708.56	32.73	7,985.84	7,838.82	1,376.06	527.51	26.50	1,340.80	1,284.51	103.20	23.818
8,300.00	8,141.88	928.19	-729.34	33.26	8,054.85	7,906.21	1,388.96	534.86	26.79	1,366.55	1,309.56	103.80	23.978
8,400.00	8,236.05	954.63	-750.12	33.78	8,154.83	8,003.67	1,408.27	546.05	27.22	1,393.28	1,335.34	104.63	24.044
8,500.00	8,330.23	981.08	-770.90	34.32	8,269.24	8,115.42	1,429.56	558.17	27.70	1,419.50	1,360.49	105.55	24.054
8,600.00	8,424.40	1,007.52	-791.67	34.85	8,403.27	8,247.17	1,450.79	570.71	28.24	1,443.97	1,383.77	106.71	23.986
8,700.00	8,518.58	1,033.96	-812.45	35.38	8,570.08	8,411.99	1,474.18	580.93	28.86	1,465.37	1,403.84	108.13	23.817



Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	8,612.76	1,060.40	-833.23	35.92	8,663.63	8,504.83	1,485.03	584.51	29.19	1,484.12	1,421.72	108.96	23.786
8,900.00	8,706.93	1,086.85	-854.01	36.46	8,753.36	8,593.88	1,495.35	588.63	29.50	1,503.84	1,440.60	109.75	23.779
9,000.00	8,801.11	1,113.29	-874.78	36.99	8,846.74	8,686.60	1,505.36	593.32	29.82	1,524.09	1,459.99	110.58	23.777
9,100.00	8,895.28	1,139.73	-895.56	37.53	8,954.18	8,793.42	1,515.54	598.77	30.19	1,544.42	1,479.40	111.56	23.752
9,200.00	8,989.46	1,166.17	-916.34	38.08	9,080.39	8,919.13	1,525.30	604.01	30.59	1,563.91	1,497.89	112.74	23.689
9,300.00	9,083.64	1,192.62	-937.12	38.62	9,257.85	9,096.46	1,529.71	606.79	31.07	1,580.31	1,513.20	114.63	23.548
9,400.00	9,177.81	1,219.06	-957.89	39.16	9,382.00	9,220.59	1,528.95	604.65	31.35	1,593.47	1,525.52	116.01	23.452
9,500.00	9,271.99	1,245.50	-978.67	39.71	9,487.14	9,325.69	1,527.75	601.83	31.59	1,606.31	1,537.58	117.18	23.372
9,600.00	9,366.16	1,271.94	-999.45	40.25	9,572.82	9,411.30	1,525.86	599.26	31.79	1,619.30	1,549.82	118.14	23.308
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	9,627.09	9,465.55	1,526.62	598.41	31.92	1,634.65	1,564.51	118.69	23.306
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	9,682.05	9,520.36	1,530.60	598.47	32.10	1,652.75	1,581.96	119.12	23.344
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	9,739.00	9,576.45	1,540.25	599.26	32.31	1,673.45	1,602.00	119.39	23.420
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	9,944.48	9,762.03	1,624.59	589.87	33.37	1,690.63	1,617.43	118.47	23.098
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	10,008.00	9,810.92	1,664.54	583.28	33.77	1,706.19	1,632.09	117.97	23.026
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,058.25	9,846.58	1,699.60	578.42	34.11	1,722.01	1,647.15	117.60	23.005
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,098.00	9,873.50	1,728.71	575.80	34.39	1,739.29	1,663.89	117.35	23.067
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,098.00	9,873.50	1,728.71	575.80	34.39	1,758.26	1,682.87	117.94	23.321
10,500.00	10,230.14	1,458.93	-1,146.37	44.70	10,145.77	9,904.57	1,764.95	574.18	34.75	1,778.18	1,702.40	117.49	23.467
10,600.00	10,330.09	1,461.00	-1,148.00	45.01	10,188.00	9,931.03	1,797.87	574.24	35.08	1,800.35	1,724.37	78.93	23.697
10,700.00	10,429.90	1,464.62	-1,150.87	45.34	10,188.00	9,931.03	1,797.87	574.24	35.08	1,827.28	1,751.93	115.45	24.252
10,800.00	10,527.48	1,481.25	-1,164.08	45.79	10,230.51	9,956.63	1,831.79	575.29	35.43	1,864.83	1,789.28	110.80	24.681
10,900.00	10,619.90	1,510.90	-1,187.62	46.38	10,278.00	9,983.89	1,870.62	577.16	35.82	1,911.07	1,835.12	105.06	25.164
11,000.00	10,704.34	1,552.67	-1,220.79	47.07	10,278.00	9,983.89	1,870.62	577.16	35.82	1,963.94	1,888.18	98.96	25.921
11,100.00	10,778.34	1,605.41	-1,262.23	47.88	10,332.52	10,011.71	1,917.41	579.59	36.30	2,020.39	1,943.84	90.50	26.395
11,200.00	10,842.47	1,670.81	-1,302.06	48.73	10,367.00	10,026.45	1,948.54	580.98	36.60	2,072.14	1,995.04	80.55	26.877
11,300.00	10,896.00	1,748.32	-1,335.24	49.59	10,436.45	10,051.95	2,013.09	583.03	37.23	2,113.61	2,035.37	73.64	27.015
11,400.00	10,937.32	1,835.59	-1,360.76	50.44	10,457.00	10,058.77	2,032.48	583.39	37.42	2,143.74	2,065.03	69.13	27.236
11,500.00	10,965.17	1,929.97	-1,377.85	51.26	10,515.82	10,075.74	2,088.77	584.91	37.98	2,161.96	2,082.15	66.56	27.087
11,600.00	10,978.70	2,028.59	-1,385.98	52.04	10,546.00	10,082.85	2,118.06	586.21	38.26	2,169.21	2,088.67	65.53	26.932

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	2,128.55	-1,386.48	52.78	10,579.53	10,088.88	2,151.00	587.91	38.59	2,167.53	2,086.16	65.64	26.639
11,740.90	10,980.00	2,169.45	-1,386.35	53.09	10,591.88	10,090.46	2,163.23	588.58	38.71	2,167.26	2,085.58	65.68	26.533
11,800.00	10,980.00	2,228.55	-1,386.17	53.54	10,636.00	10,093.29	2,207.16	591.12	39.13	2,168.34	2,085.85	65.77	26.286
11,900.00	10,980.00	2,328.55	-1,385.85	54.33	10,636.00	10,093.29	2,207.16	591.12	39.13	2,171.34	2,088.55	65.77	26.226
12,000.00	10,980.00	2,428.55	-1,385.54	55.15	10,705.96	10,092.63	2,276.99	595.37	39.82	2,177.09	2,093.03	65.80	25.898
12,100.00	10,980.00	2,528.55	-1,385.22	55.99	10,775.13	10,090.47	2,345.94	600.27	40.52	2,184.53	2,099.19	65.80	25.599
12,200.00	10,980.00	2,628.55	-1,384.91	56.86	10,843.23	10,091.02	2,413.67	607.26	41.21	2,193.29	2,106.64	65.89	25.310
12,300.00	10,980.00	2,728.55	-1,384.59	57.75	11,145.51	10,092.73	2,715.25	624.07	44.41	2,197.15	2,105.56	66.10	23.990
12,400.00	10,980.00	2,828.55	-1,384.28	58.66	11,233.80	10,092.75	2,803.53	624.97	45.37	2,197.78	2,104.47	66.10	23.553
12,500.00	10,980.00	2,928.55	-1,383.96	59.59	11,337.89	10,093.17	2,907.62	626.49	46.51	2,198.67	2,103.35	66.13	23.066
12,600.00	10,980.00	3,028.55	-1,383.65	60.54	11,439.02	10,093.37	3,008.73	627.48	47.65	2,199.19	2,101.88	66.14	22.599
12,700.00	10,980.00	3,128.55	-1,383.33	61.52	11,546.99	10,092.81	3,116.70	628.18	48.88	2,199.72	2,100.28	66.13	22.122
12,800.00	10,980.00	3,228.54	-1,383.02	62.51	11,644.00	10,092.34	3,213.71	628.65	49.99	2,200.07	2,098.65	66.12	21.693
12,900.00	10,980.00	3,328.54	-1,382.70	63.51	11,747.44	10,092.42	3,317.15	629.48	51.20	2,200.48	2,096.94	66.13	21.252
13,000.00	10,980.00	3,428.54	-1,382.39	64.53	11,855.23	10,092.61	3,424.94	629.72	52.47	2,200.32	2,094.55	66.13	20.804
13,100.00	10,980.00	3,528.54	-1,382.07	65.57	12,065.50	10,090.79	3,635.04	623.63	54.98	2,197.78	2,088.27	66.01	20.069
13,200.00	10,980.00	3,628.54	-1,381.76	66.63	12,131.77	10,090.61	3,701.23	620.41	55.78	2,193.24	2,082.10	65.97	19.734
13,300.00	10,980.00	3,728.54	-1,381.44	67.69	12,180.00	10,090.28	3,749.44	618.96	56.37	2,190.67	2,078.18	65.95	19.475
13,400.00	10,980.00	3,828.54	-1,381.13	68.77	12,270.00	10,089.32	3,839.42	617.90	57.47	2,189.72	2,075.23	65.91	19.125
13,500.00	10,980.00	3,928.54	-1,380.81	69.87	12,363.31	10,088.87	3,932.73	617.75	58.62	2,189.46	2,072.87	65.90	18.780
13,559.21	10,980.00	3,987.75	-1,380.62	70.52	12,412.04	10,088.96	3,981.46	617.83	59.23	2,189.33	2,071.60	65.90	18.596
13,600.00	10,980.00	4,028.54	-1,380.50	70.97	12,449.00	10,089.04	4,018.42	618.05	59.69	2,189.40	2,070.81	65.90	18.463
13,700.00	10,980.00	4,128.54	-1,380.18	72.09	12,530.12	10,088.88	4,099.54	618.84	60.70	2,190.06	2,069.56	65.90	18.174
13,800.00	10,980.00	4,228.54	-1,379.87	73.22	12,651.25	10,088.61	4,220.66	619.58	62.23	2,190.38	2,067.25	65.90	17.789
13,900.00	10,980.00	4,328.54	-1,379.55	74.36	12,728.64	10,088.21	4,298.05	620.19	63.21	2,191.01	2,065.99	65.89	17.526
14,000.00	10,980.00	4,428.54	-1,379.24	75.51	12,828.61	10,087.35	4,398.01	621.42	64.48	2,192.20	2,064.90	65.88	17.220
14,100.00	10,980.00	4,528.54	-1,378.92	76.66	12,937.54	10,086.49	4,506.93	622.29	65.88	2,192.96	2,063.19	65.87	16.900
14,200.00	10,980.00	4,628.54	-1,378.61	77.83	13,028.07	10,085.72	4,597.45	623.09	67.04	2,193.83	2,061.92	65.86	16.631
14,300.00	10,980.00	4,728.54	-1,378.29	79.01	13,137.25	10,084.87	4,706.62	624.46	68.45	2,195.02	2,060.62	65.85	16.332
14,400.00	10,980.00	4,828.54	-1,377.98	80.19	13,247.59	10,085.49	4,816.96	625.53	69.88	2,195.39	2,058.43	65.87	16.030

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
14,500.00	10,980.00	4,928.54	-1,377.66	81.39	13,343.00	10,086.23	4,912.36	626.50	71.13	2,195.71	2,056.45	65.89	15.767
14,600.00	10,980.00	5,028.54	-1,377.34	82.59	13,433.00	10,086.41	5,002.35	627.59	72.30	2,196.44	2,054.97	65.91	15.526
14,700.00	10,980.00	5,128.54	-1,377.03	83.80	13,540.26	10,086.44	5,109.60	628.88	73.71	2,197.24	2,053.24	65.92	15.259
14,800.00	10,980.00	5,228.53	-1,376.71	85.01	13,655.84	10,087.02	5,225.17	629.95	75.23	2,197.61	2,050.92	65.94	14.982
14,900.00	10,980.00	5,328.53	-1,376.40	86.23	13,784.04	10,087.05	5,353.37	629.20	76.92	2,196.77	2,047.20	65.93	14.687
15,000.00	10,980.00	5,428.53	-1,376.08	87.46	13,862.19	10,087.58	5,431.52	628.84	77.96	2,195.79	2,044.17	65.93	14.482
15,100.00	10,980.00	5,528.53	-1,375.77	88.69	13,958.32	10,087.74	5,527.64	628.99	79.23	2,195.57	2,041.59	65.94	14.259
15,200.00	10,980.00	5,628.53	-1,375.45	89.93	14,067.86	10,087.94	5,637.19	628.85	80.69	2,195.10	2,038.51	65.94	14.018
15,300.00	10,980.00	5,728.53	-1,375.14	91.18	14,163.41	10,088.66	5,732.73	628.87	81.97	2,194.52	2,035.55	65.95	13.805
15,400.00	10,980.00	5,828.53	-1,374.82	92.43	14,261.46	10,089.18	5,830.78	628.98	83.28	2,194.12	2,032.72	65.96	13.595
15,500.00	10,980.00	5,928.53	-1,374.51	93.69	14,363.93	10,089.77	5,933.25	629.03	84.65	2,193.64	2,029.73	65.97	13.383
15,600.00	10,980.00	6,028.53	-1,374.19	94.95	14,460.26	10,090.55	6,029.57	629.21	85.95	2,193.19	2,026.86	65.99	13.186
15,700.00	10,980.00	6,128.53	-1,373.88	96.21	14,556.53	10,090.53	6,125.84	629.27	87.24	2,192.97	2,024.24	65.99	12.997
15,800.00	10,980.00	6,228.53	-1,373.56	97.49	14,698.17	10,091.04	6,267.48	628.67	89.16	2,192.27	2,020.32	65.99	12.750
15,900.00	10,980.00	6,328.53	-1,373.25	98.76	14,780.81	10,092.20	6,350.10	628.07	90.27	2,190.72	2,016.57	66.01	12.579
16,000.00	10,980.00	6,428.53	-1,372.93	100.04	14,877.08	10,092.72	6,446.37	627.41	91.58	2,189.59	2,013.00	66.01	12.399
16,100.00	10,980.00	6,528.53	-1,372.62	101.32	14,978.56	10,094.19	6,547.84	626.74	92.95	2,188.10	2,008.96	66.03	12.214
16,162.97	10,980.00	6,591.49	-1,372.42	102.13	15,015.92	10,094.51	6,585.20	626.76	93.46	2,187.74	2,007.47	66.04	12.136
16,200.00	10,980.00	6,628.53	-1,372.30	102.61	15,046.00	10,094.40	6,615.28	626.96	93.87	2,187.89	2,006.82	66.04	12.083
16,300.00	10,980.00	6,728.53	-1,371.99	103.90	15,113.86	10,093.96	6,683.12	627.99	94.80	2,189.15	2,006.19	66.04	11.965
16,400.00	10,980.00	6,828.53	-1,371.67	105.20	15,210.23	10,093.80	6,779.47	630.32	96.11	2,191.14	2,005.72	66.05	11.817
16,500.00	10,980.00	6,928.53	-1,371.36	106.50	15,327.99	10,093.70	6,897.20	632.57	97.71	2,192.62	2,004.32	66.07	11.644
16,600.00	10,980.00	7,028.53	-1,371.04	107.80	15,428.75	10,093.17	6,997.95	634.29	99.09	2,194.11	2,003.26	66.07	11.497
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	15,553.06	10,095.18	7,122.23	635.41	100.79	2,193.82	1,999.93	66.13	11.315
16,700.12	10,980.00	7,128.65	-1,370.73	109.11	15,553.15	10,095.18	7,122.33	635.41	100.79	2,193.82	1,999.93	66.13	11.315
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	15,635.79	10,096.17	7,204.94	636.53	101.93	2,194.27	1,998.13	66.16	11.187
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	15,972.47	10,093.64	7,540.91	621.83	106.54	2,191.77	1,989.82	65.93	10.853
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	16,032.00	10,093.58	7,600.20	616.50	107.36	2,183.09	1,979.12	65.87	10.703
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	16,069.40	10,093.68	7,637.52	614.17	107.87	2,176.60	1,970.95	65.85	10.584

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	16,121.00	10,093.58	7,689.07	611.91	108.58	2,172.41	1,964.98	65.82	10.473
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	16,192.95	10,093.43	7,761.00	610.13	109.57	2,169.96	1,960.48	65.79	10.359
17,397.73	10,980.00	7,826.26	-1,368.53	118.29	16,251.97	10,093.42	7,820.02	609.67	110.39	2,169.03	1,957.76	65.79	10.267
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	16,253.26	10,093.42	7,821.31	609.68	110.41	2,169.03	1,957.72	65.79	10.265
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	16,321.22	10,093.05	7,889.26	610.54	111.34	2,170.02	1,956.78	65.79	10.176
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	16,428.08	10,092.53	7,996.11	612.06	112.82	2,171.22	1,955.29	65.79	10.055
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	16,537.31	10,091.76	8,105.33	613.52	114.33	2,172.46	1,953.79	65.78	9.935
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	16,632.50	10,092.00	8,200.51	614.63	115.65	2,173.14	1,951.98	65.79	9.826
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	16,725.99	10,092.32	8,293.98	616.32	116.94	2,174.37	1,950.74	65.82	9.723
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	16,847.54	10,093.75	8,415.51	618.40	118.63	2,175.15	1,948.47	65.87	9.595
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	16,926.00	10,094.59	8,493.95	619.74	119.72	2,175.98	1,947.10	65.90	9.507
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	17,043.87	10,095.15	8,611.80	621.51	121.35	2,176.87	1,945.02	65.93	9.389
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	17,137.87	10,096.44	8,705.79	622.75	122.66	2,177.25	1,942.88	65.97	9.290
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	17,228.49	10,096.58	8,796.39	624.44	123.92	2,178.57	1,941.77	65.99	9.200
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	17,337.49	10,097.91	8,905.37	626.10	125.43	2,179.13	1,939.52	66.03	9.094
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	17,426.70	10,099.08	8,994.55	627.98	126.67	2,180.23	1,938.18	66.08	9.007
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	17,535.61	10,100.65	9,103.42	630.42	128.19	2,181.42	1,936.51	66.14	8.907
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	17,661.57	10,102.70	9,229.35	632.02	129.95	2,181.63	1,933.54	66.20	8.794
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	17,760.67	10,104.29	9,328.44	632.64	131.33	2,181.26	1,930.53	66.24	8.700
18,968.65	10,980.00	9,397.17	-1,363.58	139.39	17,823.11	10,105.01	9,390.87	633.06	132.20	2,181.16	1,928.74	66.26	8.641
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	17,853.00	10,105.26	9,420.76	633.27	132.62	2,181.17	1,927.95	66.27	8.614
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	17,982.27	10,106.65	9,550.02	633.95	134.42	2,181.04	1,924.63	66.31	8.506
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	18,080.72	10,108.20	9,648.45	633.41	135.80	2,179.62	1,920.59	66.34	8.415
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	18,217.05	10,111.90	9,784.73	632.33	137.70	2,177.49	1,915.14	66.41	8.300
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	18,310.59	10,115.28	9,878.20	631.10	139.01	2,174.57	1,909.61	66.47	8.207
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	18,393.63	10,117.52	9,961.20	630.45	140.17	2,172.47	1,905.10	66.52	8.126
19,600.00	10,980.00	10,028.51	-1,361.59	147.99	18,495.28	10,119.41	10,062.84	629.71	141.60	2,170.77	1,900.71	66.55	8.038
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	18,586.21	10,121.10	10,153.74	628.85	142.87	2,168.90	1,896.33	66.58	7.957
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	18,675.12	10,121.24	10,242.65	628.20	144.11	2,167.85	1,892.87	66.58	7.884
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	18,793.39	10,120.62	10,360.90	626.70	145.77	2,166.63	1,888.76	66.54	7.797

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	18,869.18	10,120.38	10,436.69	625.68	146.84	2,165.28	1,885.24	66.52	7.732
20,042.26	10,980.00	10,470.77	-1,360.20	154.04	18,897.00	10,120.07	10,464.51	625.52	147.23	2,165.12	1,884.26	66.51	7.709
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	18,932.20	10,119.52	10,499.70	625.57	147.72	2,165.41	1,883.49	66.50	7.681
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	19,031.24	10,117.43	10,598.71	627.05	149.11	2,167.33	1,882.87	66.46	7.619
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	19,166.24	10,117.39	10,733.71	627.02	151.00	2,166.83	1,879.08	66.45	7.530
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	19,271.95	10,117.34	10,839.41	626.60	152.49	2,166.19	1,875.72	66.44	7.458
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	19,373.65	10,116.99	10,941.11	625.68	153.92	2,165.21	1,872.11	66.42	7.387
20,600.00	10,980.00	11,028.51	-1,358.44	161.70	19,465.54	10,116.92	11,033.00	625.41	155.21	2,164.67	1,869.11	66.42	7.324
20,700.00	10,980.00	11,128.51	-1,358.13	163.08	19,565.01	10,117.83	11,132.46	625.38	156.61	2,163.99	1,865.78	66.43	7.257
20,759.19	10,980.00	11,187.70	-1,357.94	163.90	19,614.00	10,117.93	11,181.45	625.46	157.30	2,163.85	1,864.27	66.44	7.223
20,800.00	10,980.00	11,228.51	-1,357.81	164.46	19,653.50	10,117.82	11,220.96	625.55	157.85	2,163.87	1,863.24	66.43	7.198
20,900.00	10,980.00	11,328.50	-1,357.50	165.84	19,750.06	10,117.25	11,317.51	625.74	159.21	2,164.00	1,860.83	66.42	7.138
21,000.00	10,980.00	11,428.50	-1,357.18	167.22	19,850.82	10,116.63	11,418.27	626.07	160.63	2,164.25	1,858.46	66.40	7.078
21,100.00	10,980.00	11,528.50	-1,356.87	168.60	19,973.08	10,116.53	11,540.53	626.10	162.35	2,164.04	1,855.21	66.40	7.007
21,177.49	10,980.00	11,606.00	-1,356.62	169.67	20,032.30	10,116.66	11,599.75	626.08	163.18	2,163.72	1,853.19	66.40	6.968
21,200.00	10,980.00	11,628.50	-1,356.55	169.98	20,049.63	10,116.55	11,617.08	626.11	163.43	2,163.75	1,852.73	66.39	6.957
21,300.00	10,980.00	11,728.50	-1,356.24	171.36	20,160.00	10,115.58	11,727.44	625.99	165.53	2,163.71	1,849.41	66.37	6.884
21,305.18	10,980.00	11,733.69	-1,356.22	171.44	20,160.00	10,115.58	11,727.44	625.99	165.53	2,163.70	1,849.37	66.37	6.883
21,400.00	10,980.00	11,828.50	-1,355.92	172.75	20,160.00	10,115.58	11,727.44	625.99	165.53	2,165.78	1,851.05	66.37	6.882
21,500.00	10,980.00	11,928.50	-1,355.61	174.13	20,160.00	10,115.58	11,727.44	625.99	165.53	2,172.45	1,857.92	66.37	6.907
21,524.73	10,980.00	11,953.23	-1,355.53	174.47	20,160.00	10,115.58	11,727.44	625.99	165.53	2,174.81	1,860.41	66.37	6.917

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	5,489.76	234.21	-184.04	19.82	10,747.00	7,788.93	775.24	-768.42	96.96	2,402.03	2,352.02	-11.30	48.033
5,600.00	5,589.24	242.08	-190.23	20.20	10,747.00	7,788.93	775.24	-768.42	96.96	2,305.02	2,254.44	-14.42	45.578
5,700.00	5,687.93	254.72	-200.16	20.59	10,747.00	7,788.93	775.24	-768.42	96.96	2,206.92	2,155.87	-19.59	43.225
5,800.00	5,785.45	272.07	-213.79	21.00	10,747.00	7,788.93	775.24	-768.42	96.96	2,107.99	2,056.55	-29.49	40.982
5,900.00	5,881.44	294.07	-231.08	21.42	10,747.00	7,788.93	775.24	-768.42	96.96	2,008.48	1,956.79	-52.43	38.854
6,000.00	5,975.83	320.01	-251.46	21.86	10,747.00	7,788.93	775.24	-768.42	96.96	1,908.73	1,856.90	-72.59	36.826
6,100.00	6,070.01	346.45	-272.24	22.31	10,747.00	7,788.93	775.24	-768.42	96.96	1,808.98	1,757.03	-72.59	34.822
6,200.00	6,164.19	372.90	-293.01	22.76	10,747.00	7,788.93	775.24	-768.42	96.96	1,709.25	1,657.19	-72.59	32.828
6,300.00	6,258.36	399.34	-313.79	23.22	10,747.00	7,788.93	775.24	-768.42	96.96	1,609.57	1,557.38	-72.59	30.844
6,400.00	6,352.54	425.78	-334.57	23.69	10,747.00	7,788.93	775.24	-768.42	96.96	1,509.92	1,457.62	-72.59	28.870
6,500.00	6,446.71	452.22	-355.35	24.16	10,747.00	7,788.93	775.24	-768.42	96.96	1,410.33	1,357.92	-72.59	26.908
6,600.00	6,540.89	478.67	-376.12	24.64	10,747.00	7,788.93	775.24	-768.42	96.96	1,310.80	1,258.27	-72.59	24.957
6,700.00	6,635.06	505.11	-396.90	25.12	10,747.00	7,788.93	775.24	-768.42	96.96	1,211.34	1,158.71	-72.59	23.017
6,800.00	6,729.24	531.55	-417.68	25.60	10,747.00	7,788.93	775.24	-768.42	96.96	1,111.98	1,059.25	-72.59	21.088
6,900.00	6,823.42	557.99	-438.46	26.09	10,747.00	7,788.93	775.24	-768.42	96.96	1,012.75	959.92	-72.59	19.171
7,000.00	6,917.59	584.44	-459.23	26.58	10,747.00	7,788.93	775.24	-768.42	96.96	913.68	860.76	-72.59	17.266
7,100.00	7,011.77	610.88	-480.01	27.08	10,747.00	7,788.93	775.24	-768.42	96.96	814.85	761.84	-72.59	15.373
7,200.00	7,105.94	637.32	-500.79	27.58	10,747.00	7,788.93	775.24	-768.42	96.96	716.33	663.24	-72.59	13.491
7,300.00	7,200.12	663.76	-521.57	28.08	10,747.00	7,788.93	775.24	-768.42	96.96	618.30	565.09	-72.59	11.621
7,400.00	7,294.30	690.21	-542.34	28.59	10,747.00	7,788.93	775.24	-768.42	96.96	521.01	467.64	-72.59	9.763
7,500.00	7,388.47	716.65	-563.12	29.10	10,747.00	7,788.93	775.24	-768.42	96.96	424.98	371.29	-72.59	7.916
7,600.00	7,482.65	743.09	-583.90	29.61	10,747.00	7,788.93	775.24	-768.42	96.96	331.31	276.83	-72.59	6.082
7,700.00	7,576.82	769.53	-604.68	30.12	10,747.00	7,788.93	775.24	-768.42	96.96	242.74	185.94	-72.59	4.274
7,800.00	7,671.00	795.98	-625.45	30.64	10,747.00	7,788.93	775.24	-768.42	96.96	167.58	103.10	-72.59	2.599
7,900.00	7,765.17	822.42	-646.23	31.16	10,747.00	7,788.93	775.24	-768.42	96.96	131.30	51.14	-72.59	1.638
7,904.21	7,769.14	823.53	-647.11	31.18	10,747.00	7,788.93	775.24	-768.42	96.96	131.23	50.59	-72.59	1.627
8,000.00	7,859.35	848.86	-667.01	31.68	10,747.00	7,788.93	775.24	-768.42	96.96	162.48	82.16	-72.59	2.023
8,100.00	7,953.53	875.31	-687.79	32.20	10,747.00	7,788.93	775.24	-768.42	96.96	235.70	163.19	-72.59	3.251
8,200.00	8,047.70	901.75	-708.56	32.73	10,747.00	7,788.93	775.24	-768.42	96.96	323.60	256.00	-72.59	4.787
8,300.00	8,141.88	928.19	-729.34	33.26	10,747.00	7,788.93	775.24	-768.42	96.96	416.98	352.08	-72.59	6.425

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	8,236.05	954.63	-750.12	33.78	10,747.00	7,788.93	775.24	-768.42	96.96	512.87	449.50	-72.59	8.094
8,500.00	8,330.23	981.08	-770.90	34.32	10,727.88	7,788.87	776.98	-787.46	92.40	609.77	549.86	-69.63	10.177
8,600.00	8,424.40	1,007.52	-791.67	34.85	10,705.12	7,788.79	779.04	-810.12	86.96	706.82	650.42	-66.90	12.533
8,700.00	8,518.58	1,033.96	-812.45	35.38	10,682.99	7,788.70	781.05	-832.16	83.63	803.95	749.66	-64.82	14.808
8,800.00	8,612.76	1,060.40	-833.23	35.92	10,662.01	7,788.56	783.04	-853.05	83.14	901.17	847.26	-63.21	16.718
8,900.00	8,706.93	1,086.85	-854.01	36.46	10,641.42	7,788.36	785.08	-873.54	82.67	998.47	944.86	-61.87	18.624
9,000.00	8,801.11	1,113.29	-874.78	36.99	10,621.21	7,788.09	787.16	-893.64	82.20	1,095.84	1,042.45	-60.73	20.525
9,100.00	8,895.28	1,139.73	-895.56	37.53	10,600.31	7,787.76	789.38	-914.42	81.72	1,193.27	1,140.05	-59.71	22.422
9,200.00	8,989.46	1,166.17	-916.34	38.08	10,579.19	7,787.41	791.63	-935.41	81.24	1,290.73	1,237.65	-58.82	24.313
9,300.00	9,083.64	1,192.62	-937.12	38.62	10,558.19	7,787.04	793.88	-956.28	80.75	1,388.23	1,335.23	-58.05	26.195
9,400.00	9,177.81	1,219.06	-957.89	39.16	10,537.32	7,786.66	796.13	-977.03	80.27	1,485.75	1,432.82	-57.38	28.069
9,500.00	9,271.99	1,245.50	-978.67	39.71	10,522.00	7,786.37	797.78	-992.26	79.92	1,583.30	1,530.36	-56.93	29.909
9,600.00	9,366.16	1,271.94	-999.45	40.25	10,498.60	7,785.91	800.26	-1,015.52	79.39	1,680.88	1,627.98	-56.33	31.776
9,700.00	9,460.34	1,298.39	-1,020.23	40.80	10,480.40	7,785.52	802.13	-1,033.63	78.97	1,778.51	1,725.59	-55.91	33.607
9,800.00	9,554.51	1,324.83	-1,041.00	41.35	10,462.48	7,785.13	803.91	-1,051.45	78.56	1,876.18	1,823.22	-55.55	35.426
9,900.00	9,648.69	1,351.27	-1,061.78	41.90	10,444.84	7,784.72	805.61	-1,069.00	78.15	1,973.90	1,920.88	-55.22	37.231
10,000.00	9,742.87	1,377.72	-1,082.56	42.45	10,429.00	7,784.34	807.09	-1,084.77	77.79	2,071.66	2,018.56	-54.96	39.013
10,100.00	9,837.51	1,403.09	-1,102.50	42.99	10,412.84	7,783.94	808.54	-1,100.86	77.42	2,169.62	2,116.45	-64.91	40.805
10,200.00	9,933.85	1,424.10	-1,119.01	43.49	10,401.18	7,783.64	809.51	-1,112.47	77.16	2,268.08	2,214.88	-83.05	42.639
10,300.00	10,031.65	1,440.45	-1,131.85	43.94	10,392.71	7,783.42	810.19	-1,120.92	76.96	2,366.72	2,313.55	-103.06	44.515
10,400.00	10,130.54	1,452.07	-1,140.99	44.34	10,387.34	7,783.28	810.61	-1,126.27	76.84	2,465.23	2,412.12	-120.88	46.424

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	4,791.47	195.81	-153.87	17.24	10,846.00	6,554.50	1,810.97	301.93	89.26	2,466.14	2,414.88	57.63	48.108
4,900.00	4,891.22	201.30	-158.18	17.61	10,846.00	6,554.50	1,810.97	301.93	89.26	2,391.13	2,339.47	57.63	46.281
5,000.00	4,990.98	206.78	-162.49	17.98	10,846.00	6,554.50	1,810.97	301.93	89.26	2,318.02	2,265.93	57.63	44.505
5,100.00	5,090.74	212.27	-166.80	18.35	10,846.00	6,554.50	1,810.97	301.93	89.26	2,246.97	2,194.46	57.63	42.785
5,200.00	5,190.49	217.75	-171.11	18.72	10,846.00	6,554.50	1,810.97	301.93	89.26	2,178.20	2,125.24	57.63	41.125
5,300.00	5,290.25	223.24	-175.42	19.09	10,846.00	6,554.50	1,810.97	301.93	89.26	2,111.93	2,058.50	57.63	39.528
5,400.00	5,390.00	228.72	-179.73	19.45	10,846.00	6,554.50	1,810.97	301.93	89.26	2,048.40	1,994.50	57.63	38.000
5,500.00	5,489.76	234.21	-184.04	19.82	10,846.00	6,554.50	1,810.97	301.93	89.26	1,987.87	1,933.48	57.63	36.545
5,600.00	5,589.24	242.08	-190.23	20.20	10,846.00	6,554.50	1,810.97	301.93	89.26	1,929.30	1,874.35	59.79	35.110
5,700.00	5,687.93	254.72	-200.16	20.59	10,846.00	6,554.50	1,810.97	301.93	89.26	1,871.66	1,816.03	61.94	33.640
5,800.00	5,785.45	272.07	-213.79	21.00	10,846.00	6,554.50	1,810.97	301.93	89.26	1,815.27	1,758.79	64.07	32.137
5,900.00	5,881.44	294.07	-231.08	21.42	10,846.00	6,554.50	1,810.97	301.93	89.26	1,760.47	1,702.94	66.15	30.601
6,000.00	5,975.83	320.01	-251.46	21.86	10,846.00	6,554.50	1,810.97	301.93	89.26	1,707.89	1,649.11	67.11	29.053
6,100.00	6,070.01	346.45	-272.24	22.31	10,846.00	6,554.50	1,810.97	301.93	89.26	1,659.45	1,599.28	67.11	27.581
6,200.00	6,164.19	372.90	-293.01	22.76	10,846.00	6,554.50	1,810.97	301.93	89.26	1,615.75	1,554.09	67.11	26.206
6,300.00	6,258.36	399.34	-313.79	23.22	10,846.00	6,554.50	1,810.97	301.93	89.26	1,577.18	1,513.94	67.11	24.941
6,400.00	6,352.54	425.78	-334.57	23.69	10,846.00	6,554.50	1,810.97	301.93	89.26	1,544.14	1,479.25	67.11	23.798
6,500.00	6,446.71	452.22	-355.35	24.16	10,846.00	6,554.50	1,810.97	301.93	89.26	1,516.98	1,450.41	67.11	22.786
6,600.00	6,540.89	478.67	-376.12	24.64	10,846.00	6,554.50	1,810.97	301.93	89.26	1,496.03	1,427.76	67.11	21.913
6,700.00	6,635.06	505.11	-396.90	25.12	10,846.00	6,554.50	1,810.97	301.93	89.26	1,481.54	1,411.61	67.11	21.186
6,800.00	6,729.24	531.55	-417.68	25.60	10,846.00	6,554.50	1,810.97	301.93	89.26	1,473.71	1,402.20	67.11	20.607
6,865.67	6,791.08	548.92	-431.32	25.92	10,846.00	6,554.50	1,810.97	301.93	89.26	1,472.25	1,399.75	67.11	20.308
6,900.00	6,823.42	557.99	-438.46	26.09	10,846.00	6,554.50	1,810.97	301.93	89.26	1,472.65	1,399.66	67.11	20.177
7,000.00	6,917.59	584.44	-459.23	26.58	10,846.00	6,554.50	1,810.97	301.93	89.26	1,478.37	1,404.05	67.11	19.893
7,100.00	7,011.77	610.88	-480.01	27.08	10,846.00	6,554.50	1,810.97	301.93	89.26	1,490.78	1,415.31	67.11	19.751
7,200.00	7,105.94	637.32	-500.79	27.58	10,846.00	6,554.50	1,810.97	301.93	89.26	1,509.73	1,433.28	67.11	19.746
7,300.00	7,200.12	663.76	-521.57	28.08	10,846.00	6,554.50	1,810.97	301.93	89.26	1,534.98	1,457.73	67.11	19.870
7,400.00	7,294.30	690.21	-542.34	28.59	10,846.00	6,554.50	1,810.97	301.93	89.26	1,566.22	1,488.35	67.11	20.114
7,500.00	7,388.47	716.65	-563.12	29.10	10,846.00	6,554.50	1,810.97	301.93	89.26	1,603.09	1,524.78	67.11	20.471
7,600.00	7,482.65	743.09	-583.90	29.61	10,846.00	6,554.50	1,810.97	301.93	89.26	1,645.22	1,566.62	67.11	20.932

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	7,576.82	769.53	-604.68	30.12	10,846.00	6,554.50	1,810.97	301.93	89.26	1,692.23	1,613.47	67.11	21.486
7,800.00	7,671.00	795.98	-625.45	30.64	10,846.00	6,554.50	1,810.97	301.93	89.26	1,743.70	1,664.90	67.11	22.127
7,900.00	7,765.17	822.42	-646.23	31.16	10,846.00	6,554.50	1,810.97	301.93	89.26	1,799.27	1,720.51	67.11	22.846
8,000.00	7,859.35	848.86	-667.01	31.68	10,846.00	6,554.50	1,810.97	301.93	89.26	1,858.56	1,779.92	67.11	23.634
8,100.00	7,953.53	875.31	-687.79	32.20	10,846.00	6,554.50	1,810.97	301.93	89.26	1,921.22	1,842.76	67.11	24.485
8,200.00	8,047.70	901.75	-708.56	32.73	10,846.00	6,554.50	1,810.97	301.93	89.26	1,986.95	1,908.70	67.11	25.392
8,300.00	8,141.88	928.19	-729.34	33.26	10,846.00	6,554.50	1,810.97	301.93	89.26	2,055.44	1,977.43	67.11	26.348
8,400.00	8,236.05	954.63	-750.12	33.78	10,846.00	6,554.50	1,810.97	301.93	89.26	2,126.43	2,048.68	67.11	27.349
8,500.00	8,330.23	981.08	-770.90	34.32	10,846.00	6,554.50	1,810.97	301.93	89.26	2,199.67	2,122.19	67.11	28.388
8,600.00	8,424.40	1,007.52	-791.67	34.85	10,846.00	6,554.50	1,810.97	301.93	89.26	2,274.96	2,197.74	67.11	29.460
8,700.00	8,518.58	1,033.96	-812.45	35.38	10,846.00	6,554.50	1,810.97	301.93	89.26	2,352.08	2,275.12	67.11	30.563
8,800.00	8,612.76	1,060.40	-833.23	35.92	10,846.00	6,554.50	1,810.97	301.93	89.26	2,430.88	2,354.17	67.11	31.690

HALLIBURTON**Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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
16,700.00	10,980.00	7,128.53	-1,370.73	109.10	10,964.85	10,963.63	9,022.40	113.17	19.52	2,406.16	2,299.91	91.15	22.648
16,800.00	10,980.00	7,228.53	-1,370.41	110.41	10,965.71	10,964.48	9,022.40	113.15	19.52	2,328.06	2,219.52	91.18	21.449
16,900.00	10,980.00	7,328.52	-1,370.10	111.72	10,966.59	10,965.36	9,022.41	113.12	19.52	2,251.70	2,140.74	91.22	20.292
17,000.00	10,980.00	7,428.52	-1,369.78	113.04	10,967.49	10,966.26	9,022.42	113.09	19.52	2,177.26	2,063.75	91.25	19.181
17,100.00	10,980.00	7,528.52	-1,369.47	114.36	10,968.41	10,967.18	9,022.43	113.06	19.52	2,104.93	1,988.76	91.29	18.118
17,200.00	10,980.00	7,628.52	-1,369.15	115.68	10,969.35	10,968.12	9,022.44	113.03	19.53	2,034.95	1,915.99	91.32	17.106
17,300.00	10,980.00	7,728.52	-1,368.84	117.00	10,970.32	10,969.09	9,022.45	113.00	19.53	1,967.57	1,845.71	91.36	16.147
17,400.00	10,980.00	7,828.52	-1,368.52	118.32	10,971.32	10,970.09	9,022.46	112.97	19.53	1,903.05	1,778.21	91.40	15.244
17,500.00	10,980.00	7,928.52	-1,368.21	119.65	10,972.34	10,971.11	9,022.47	112.93	19.53	1,841.71	1,713.81	91.44	14.400
17,600.00	10,980.00	8,028.52	-1,367.89	120.98	10,973.39	10,972.15	9,022.48	112.90	19.53	1,783.86	1,652.86	91.48	13.617
17,700.00	10,980.00	8,128.52	-1,367.58	122.31	10,974.47	10,973.23	9,022.49	112.86	19.53	1,729.86	1,595.76	91.52	12.899
17,800.00	10,980.00	8,228.52	-1,367.26	123.65	10,975.57	10,974.34	9,022.50	112.83	19.54	1,680.09	1,542.91	91.56	12.247
17,900.00	10,980.00	8,328.52	-1,366.95	124.99	10,976.71	10,975.47	9,022.52	112.79	19.54	1,634.92	1,494.76	91.61	11.665
18,000.00	10,980.00	8,428.52	-1,366.63	126.33	10,977.88	10,976.64	9,022.53	112.75	19.54	1,594.76	1,451.77	91.65	11.153
18,100.00	10,980.00	8,528.52	-1,366.32	127.67	10,979.08	10,977.85	9,022.54	112.71	19.54	1,559.97	1,414.38	91.70	10.715
18,200.00	10,980.00	8,628.52	-1,366.00	129.01	10,980.32	10,979.08	9,022.55	112.67	19.54	1,530.94	1,383.04	91.75	10.352
18,300.00	10,980.00	8,728.52	-1,365.69	130.35	10,981.60	10,980.36	9,022.57	112.63	19.55	1,507.99	1,358.15	91.80	10.064
18,400.00	10,980.00	8,828.52	-1,365.37	131.70	10,982.91	10,981.67	9,022.58	112.58	19.55	1,491.40	1,340.06	91.85	9.854
18,500.00	10,980.00	8,928.52	-1,365.06	133.05	10,984.26	10,983.02	9,022.60	112.54	19.55	1,481.40	1,329.03	91.90	9.722
18,598.75	10,980.00	9,027.27	-1,364.75	134.38	10,985.64	10,984.40	9,022.62	112.49	19.55	1,478.10	1,325.23	91.95	9.669
18,600.00	10,980.00	9,028.52	-1,364.74	134.40	10,985.66	10,984.42	9,022.62	112.49	19.55	1,478.10	1,325.22	91.95	9.668
18,700.00	10,980.00	9,128.52	-1,364.43	135.75	10,987.10	10,985.85	9,022.63	112.44	19.56	1,481.57	1,328.71	92.01	9.692
18,800.00	10,980.00	9,228.52	-1,364.11	137.11	10,988.58	10,987.34	9,022.65	112.39	19.56	1,491.74	1,339.42	92.07	9.794
18,900.00	10,980.00	9,328.51	-1,363.80	138.46	10,990.11	10,988.87	9,022.67	112.34	19.56	1,508.48	1,357.21	92.13	9.972
19,000.00	10,980.00	9,428.51	-1,363.48	139.82	10,991.70	10,990.45	9,022.69	112.28	19.56	1,531.59	1,381.79	92.19	10.224
19,100.00	10,980.00	9,528.51	-1,363.17	141.18	10,993.33	10,992.09	9,022.71	112.22	19.57	1,560.77	1,412.84	92.25	10.551
19,200.00	10,980.00	9,628.51	-1,362.85	142.54	10,995.03	10,993.78	9,022.74	112.17	19.57	1,595.69	1,449.94	92.32	10.948
19,300.00	10,980.00	9,728.51	-1,362.54	143.90	10,996.78	10,995.53	9,022.76	112.10	19.57	1,635.98	1,492.66	92.39	11.414
19,400.00	10,980.00	9,828.51	-1,362.22	145.26	10,998.59	10,997.34	9,022.78	112.04	19.58	1,681.27	1,540.54	92.46	11.947
19,500.00	10,980.00	9,928.51	-1,361.91	146.62	11,000.47	10,999.22	9,022.81	111.97	19.58	1,731.15	1,593.14	92.53	12.544

HALLIBURTON

Eddy County, New Mexico (NAD27)

Anticollision Report for Blue Steel 21 WD Fed Com 24H - 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 21,524.73 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	10,980.00	10,028.51	-1,361.59	147.99	11,002.42	11,001.16	9,022.84	111.90	19.58	1,785.24	1,650.01	92.60	13.201
19,700.00	10,980.00	10,128.51	-1,361.28	149.35	11,004.44	11,003.18	9,022.87	111.83	19.59	1,843.17	1,710.73	92.68	13.916
19,800.00	10,980.00	10,228.51	-1,360.96	150.72	11,006.53	11,005.28	9,022.90	111.75	19.59	1,904.60	1,774.91	92.76	14.686
19,900.00	10,980.00	10,328.51	-1,360.65	152.09	11,008.71	11,007.45	9,022.93	111.68	19.59	1,969.18	1,842.21	92.85	15.508
20,000.00	10,980.00	10,428.51	-1,360.33	153.46	11,010.97	11,009.71	9,022.96	111.59	19.60	2,036.63	1,912.28	92.94	16.379
20,100.00	10,980.00	10,528.51	-1,360.02	154.83	11,013.33	11,012.07	9,023.00	111.51	19.60	2,106.66	1,984.86	93.03	17.295
20,200.00	10,980.00	10,628.51	-1,359.70	156.20	11,015.78	11,014.51	9,023.04	111.41	19.60	2,179.04	2,059.67	93.12	18.254
20,300.00	10,980.00	10,728.51	-1,359.39	157.58	11,018.33	11,017.07	9,023.08	111.32	19.61	2,253.52	2,136.48	93.22	19.253
20,400.00	10,980.00	10,828.51	-1,359.07	158.95	11,011.67	11,010.41	9,022.97	111.58	19.60	2,329.94	2,215.16	92.96	20.298
20,500.00	10,980.00	10,928.51	-1,358.76	160.33	11,013.02	11,011.75	9,022.99	111.54	19.60	2,408.07	2,295.39	93.01	21.370



Anticollision Report for Blue Steel 21 WD Fed Com 24H - Plan 1

Reference Well Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	21,524.73	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 24H.
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 24H
SURFACE HOLE FOOTAGE:	1419'/N & 968'/E
BOTTOM HOLE FOOTAGE:	100'/N & 2310'/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 **Cisco** 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.
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 05162022

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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 214625

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 214625
	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