Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NMOCD Artesia

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM06808

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000558X

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
JAMES RANCH UNIT DI1 BS2A-7W 212H

2. Name of Operator
XTO PERMIAN OPERATING LLC
Contact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.
30-015-45396-00-X1

3a. Address
6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)
Ph: 432-620-4374

10. Field and Pool or Exploratory Area
WILDCAT

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 21 T22S R30E SWNE 1542FNL 1732FEL
32.380711 N Lat, 103.883202 W Lon

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

XTO Permian Operating, LLC., respectfully requests permission to make the following changes to the original APD:

Change from a 3-string casing design to a 4-string casing design.

Attachments:
Drilling Program
Multibowl Diagram/BOP/CK/FH

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 21 2019

RECEIVED

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #470467 verified by the BLM Well Information System
For XTO PERMIAN OPERATING LLC, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 06/25/2019 (19PP2567SE)

Name *(Printed/Typed)* KELLY KARDOS — Title REGULATORY COORDINATOR

Signature (Electronic Submission) — Date 06/25/2019

APPROVED
AUG 17 2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title BUREAU OF LAND MANAGEMENT Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office ROSWELL FIELD OFFICE

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RWP 10-29-19

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

XTO Energy Inc.
James Ranch DI1 212H
Projected TD: 23362' MD / 9288' TVD
SHL: 1542' FNL & 1732' FEL , Section 21, T22S, R30E
BHL: 660' FSL & 50' FWL , Section 19, T22S, R30E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	151'	Water
Top of Salt	675'	Water
Base of Salt	3273'	Water
Delaware	3527'	Water
Bone Spring	7373'	Water
1st Bone Spring Ss	8384'	Water/Oil/Gas
2nd Bone Spring Carb	8741'	Water/Oil/Gas
2nd Bone Spring Ss	9276'	Water/Oil/Gas
Target/Land Curve	9288'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 18-5/8" inch casing @ 650' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8" inch casing at 3477' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 9-5/8" inch casing at 7523' and a DV tool at 3527'. A 8-3/4" inch curve and lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to 2nd intermediate per Potash regulations.

3. Casing Design

525 See COA

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 650'	18-5/8"	87.5	STC	H-40	New	1.54	2.12	9.83
17-1/2"	0' – 3477'	13-3/8"	68	STC	J-55	New	1.67	1.81	2.85
12-1/4"	0' – 7523'	9-5/8"	40	LTC	HCL-80	New	2.18	2.49	2.42
8-3/4"	0' – 23362'	5-1/2"	17	BTC	P-110	New	1.12	1.60	2.15

- XTO requests to not utilize centralizers in the curve and lateral
- 13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
- 9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 18-5/8", 87.5 New H-40, STC casing to be set at +/- 650'

Lead: 460 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 550 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

1st Intermediate Casing: 13-3/8", 68 New J-55, STC casing to be set at +/- 3477'

Lead: 2360 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 300 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing: 9-5/8", 40 New HCL-80, LTC casing to be set at +/- 7523'
ECP/DV Tool to be set at 3527'
1st Stage

Lead: 1160 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Stage

Lead: 1000 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Production Casing: 5-1/2", 17 New P-110, BTC casing to be set at +/- 23362'

Lead: 170 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water) Top of Lead: 7323

Tail: 2970 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft3/sx, 8.38 gal/sx water)
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

5. Pressure Control Equipment

The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 1061 psi.

Once the permanent WH is installed on the 13-3/8" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2642 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13-3/8", 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nippling up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 650'	24"	FW/Native	8.4-8.8	35-40	NC
650' - 3477'	17-1/2"	Brine	9.8-10.2	30-32	NC
3477' to 7523'	12-1/4"	FW / Cut Brine	8.7-9.4	30-32	NC
7523' to 23362'	8-3/4"	Cut Brine / Polymer	9.4 - 9.7	29-32	NC - 20

The necessary mud products for weight addition and fluid loss control will be on location at all times. Spud with fresh water/native mud. Drill out from under 18-5/8" surface casing with brine solution. A ppg-10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 13-3/8" casing.

8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

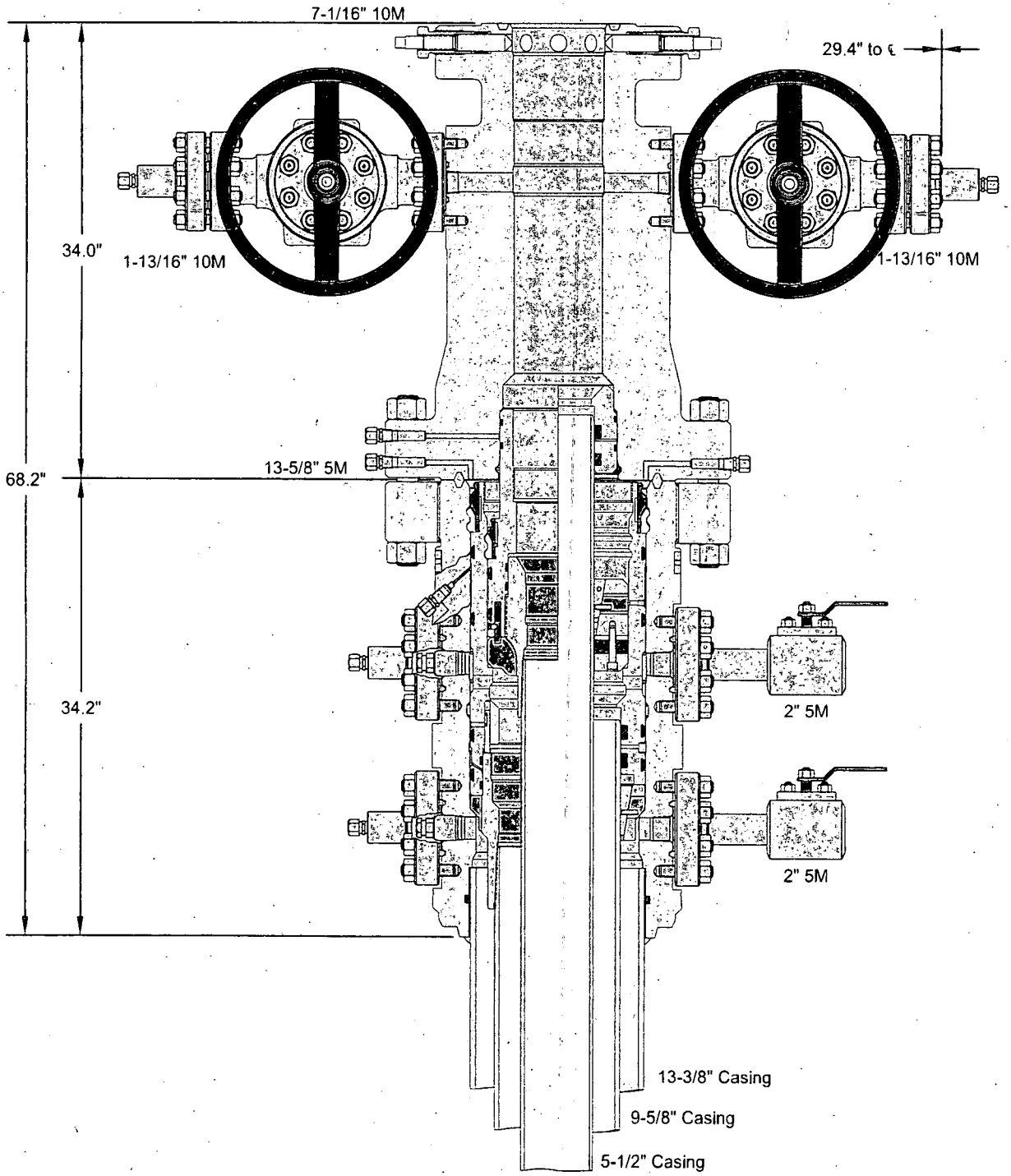
9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 160 to 180 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 4685 psi.

10. Anticipated Starting Date and Duration of Operations

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

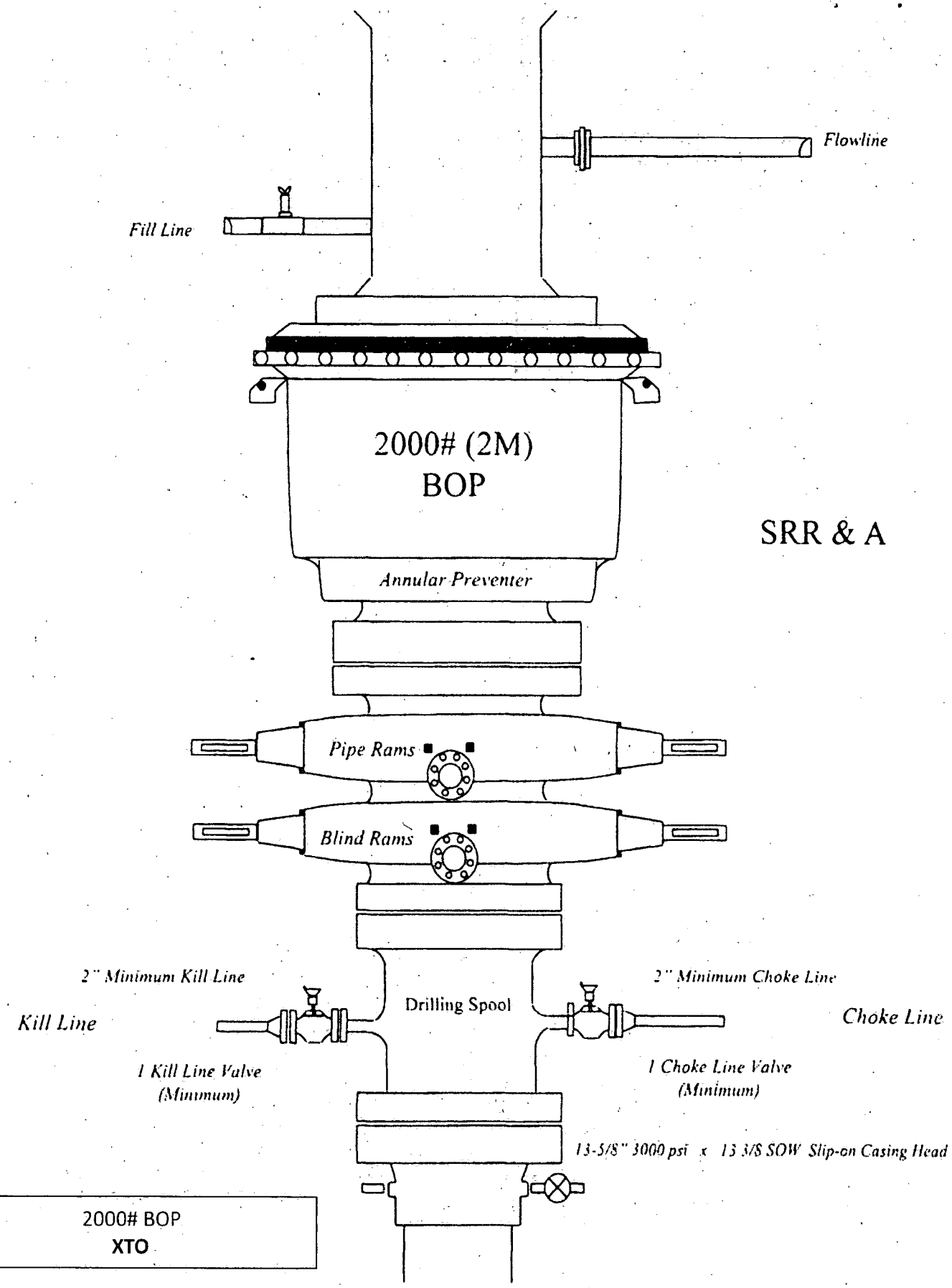
XTO ENERGY, INC.

13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead Assembly, With T-EBS-F Tubing Head

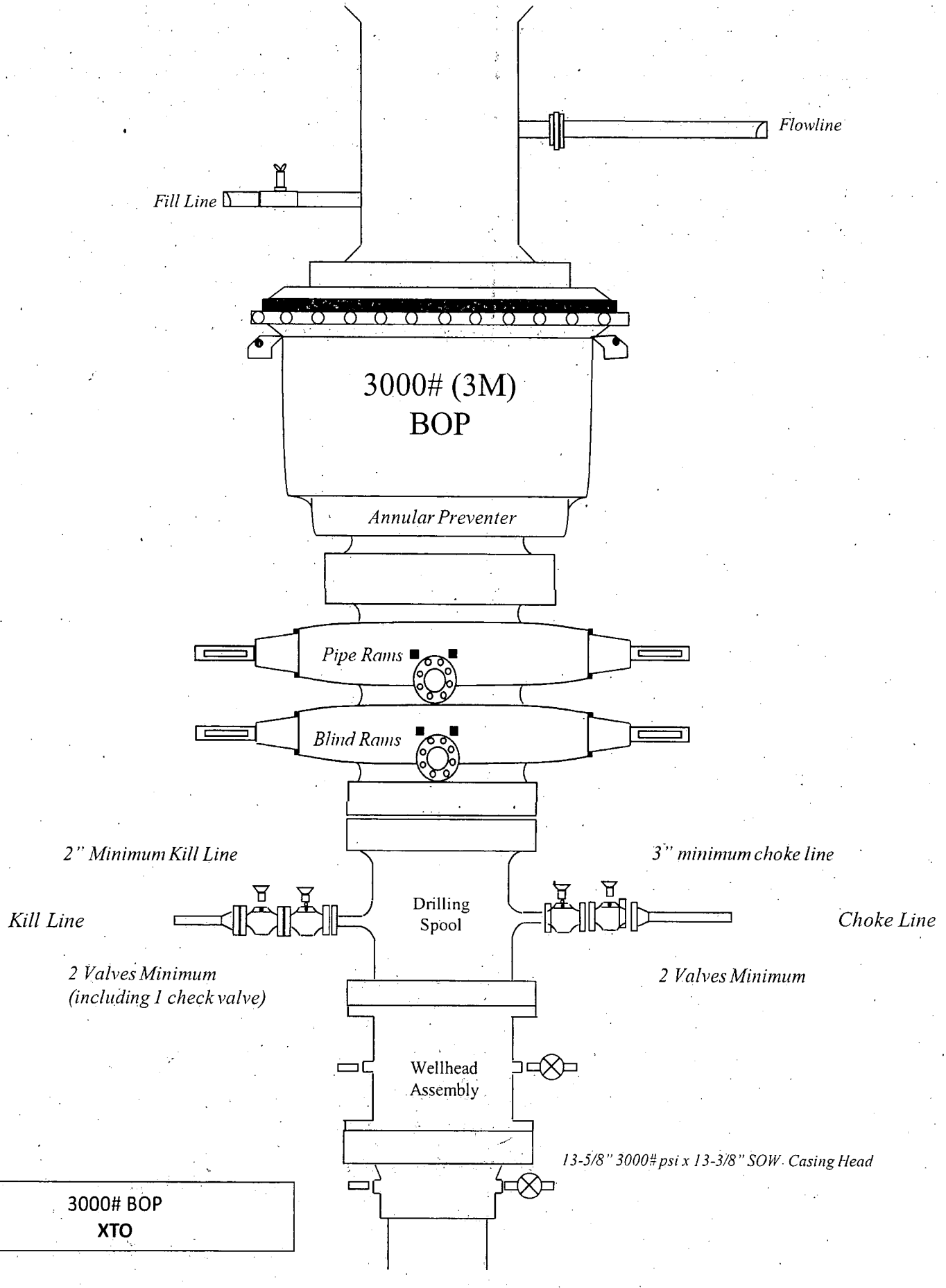
DRAWN	VJK	16FEB17
APPRV	KN	16FEB17

FOR REFERENCE ONLY

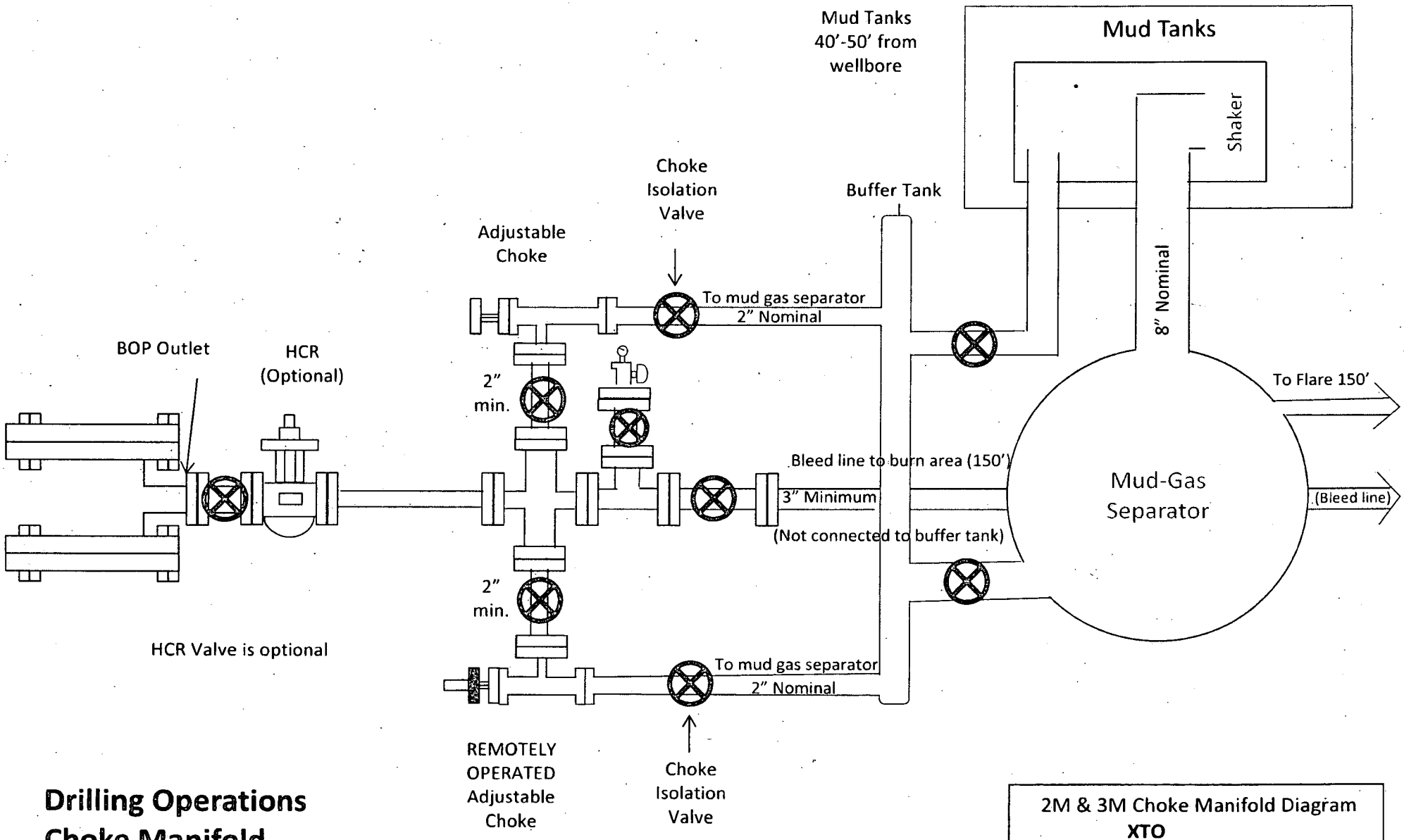
DRAWING NO. 10012842


Flowline
Fill Line
2000# (2M)
BOP
SRR & A
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
2" Minimum Choke Line
Drilling Spool
Kill Line
Choke Line
1 Kill Line Valve
(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
XTO


Flowline
Fill Line
3000# (3M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" minimum choke line
Kill Line
Drilling
Spool
Choke Line
2 Valves Minimum
(including 1 check valve)
2 Valves Minimum
Wellhead
Assembly
13-5/8" 3000# psi x 13-3/8" SOW. Casing Head

3000# BOP
XTO



Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
XTO

GATES E & S NORTH AMERICA, INC
DU-TEX
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe&s@gates.com
WEB: www.gates.com

GRADE D PRESSURE TEST CERTIFICATE

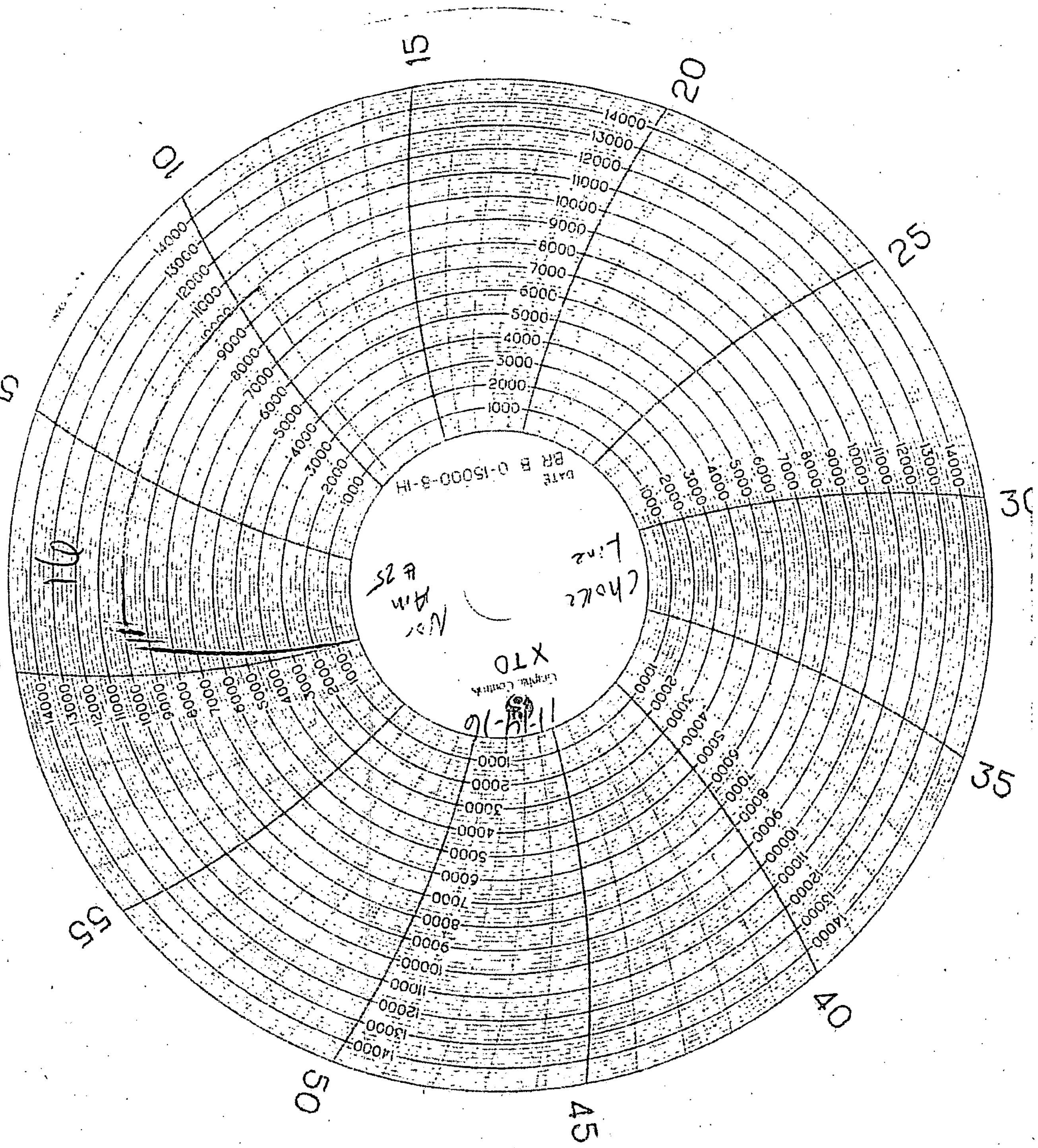
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA

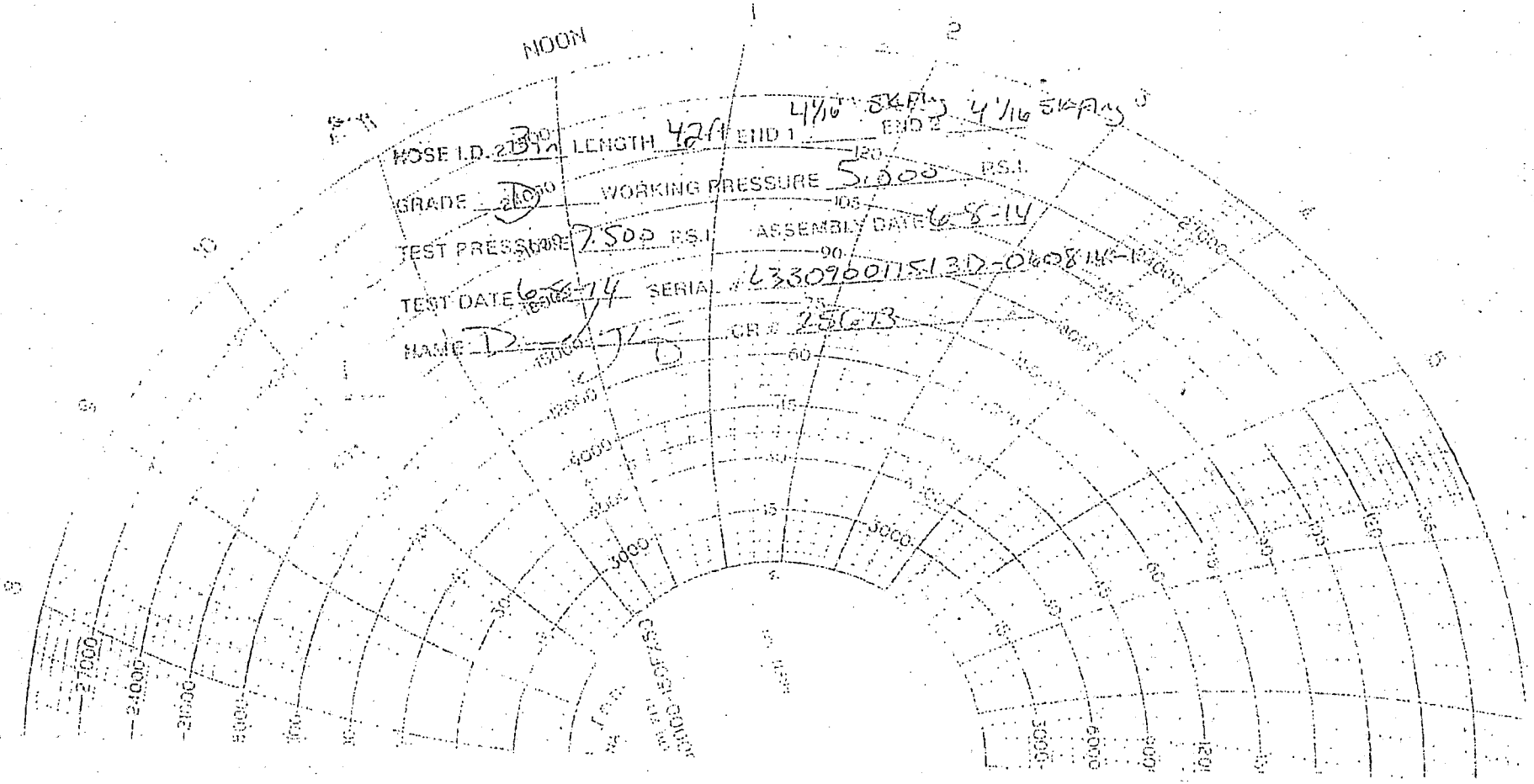
Product Description:	FD3.0-42.0R41/16.5KFLGE/E LE

End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	


BR B 0-15000-8-1H
DATE
XTO


NOON
HOSE I.D. 2 3/4"
LENGTH 42"
END 1
4 1/16" SKPLS
END 2
4 1/16 SKPLS
GRADE D
WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I.
ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14
SERIAL # 633096011513D-0608 14-1
MADE BY JZ
CR # 25073

XTO ENERGY

5D Plan Report

XTO Energy

Field Name: *XTO NAD 27 NME*
Site Name: *James Ranch Unit DI 1 #210H_211H_212H_213H*
Well Name: *James Ranch Unit DI 1 BS2A-7W #212H Opt RSS*
Plan: *P1:V1*

13 June 2019

Weatherford®

5D Plan Report

Weatherford®

XTO ENERGY

James Ranch Unit DI 1 BS2A-7W #212H Opt RSS

Field Name: XTO NAD 27 NME

Map Units: US ft **Company Name:** XTO Energy

Vertical Reference Datum (VRD): Mean Sea Level

Projected Coordinate System: NAD27 / New Mexico East

Comment:

Site: James Ranch Unit DI 1 #210H 211H 212H 213H

Units: US ft **North Reference:** Grid **Convergence Angle:** 0.24

Position: **Northing:** 502465.80 US ft **Latitude:** 32° 22' 50.12"

Easting: 639082.80 US ft **Longitude:** -103° 52' 58.09"

Elevation above MSL: 3166.00 US ft

Comment: Eddy Co, NM

Slot: James Ranch Unit DI 1 BS2A-7W #212H

Position (Relative to Site Centre)

+N/-S: 0.00 US ft **Northing:** 502465.80 US ft **Latitude:** 32° 22' 50.12"

+E/-W: 28.50 US ft **Easting:** 639111.30 US ft **Longitude:** -103° 52' 57.76"

Elevation above MSL: 3166.00 US ft

Comment:

Well: James Ranch Unit DI 1 BS2A-7W #212H Opt RSS

Type: Main well **UWI:** **Plan:** P1:V1

File Number: **Comment:**

Closure Distance: 14619.2US ft **Closure Azimuth:** 257.77°

Vertical Section: Position of Origin (Relative to Slot centre)

+N/-S: 0.00 US ft **+E/-W:** 0.00 US ft **Az:** 269.91°

Magnetic Parameters:

Model: Need IFR **Field Strength:** 47845.0nT **Declination:** 6.96° **Dip:** 60.07° **Date:** 13/Jun/2019

Drill floor: Plan: P1:V1

Rig Height (Drill Floor): 25.00US ft **Elevation above MSL:** 3191.00US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Target set: James Ranch Unit DI 1 BS2A-7W #212H Comment:

Target Name:	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USFt)	Easting (USFt)	C.Pt.Distance (US ft)	Comment
FTP	9321.00	6130.00	-3075.30	92.00	499390.50	639203.30	840.73	
LTP	8992.15	5801.15	-3096.80	-14237.40	499369.00	624873.90	0.05	
PBHL 212H	8991.00	5800.00	-3096.90	-14287.40	499368.90	624823.90	0.00	

Wellpath created using minimum curvature.

5D Plan Report

Tie Point:

MD:	Inclination:	Azimuth:	TVD:	North Offset:	East Offset:
0.00USFt	0.00°	0.00°	0.00USFt	0.00USFt	0.00USFt

Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	T.Face (°)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-3191.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	-1691.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	Nudge
3115.66	24.23	191.31	3067.92	-123.08	66.54	-330.09	-66.03	1.50	0.00	191.31	1.50	Hold
9279.64	24.23	191.31	8688.66	5497.66	566.70	-2811.13	-562.29	0.00	0.00	0.00	0.00	KOP
10361.60	91.31	269.94	9288.20	6097.20	1295.65	-3083.29	-1290.80	6.20	7.27	79.08	8.00	LP
23361.60	91.31	269.94	8991.00	5800.00	14292.25	-3096.90	-14287.40	0.00	0.00	0.00	0.00	PBHL 212H

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-3191.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
100.00	0.00	0.00	100.00	-3091.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
200.00	0.00	0.00	200.00	-2991.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
300.00	0.00	0.00	300.00	-2891.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
400.00	0.00	0.00	400.00	-2791.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
500.00	0.00	0.00	500.00	-2691.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
600.00	0.00	0.00	600.00	-2591.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
700.00	0.00	0.00	700.00	-2491.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
800.00	0.00	0.00	800.00	-2391.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
900.00	0.00	0.00	900.00	-2291.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
1000.00	0.00	0.00	1000.00	-2191.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
1100.00	0.00	0.00	1100.00	-2091.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
1200.00	0.00	0.00	1200.00	-1991.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
1300.00	0.00	0.00	1300.00	-1891.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
1400.00	0.00	0.00	1400.00	-1791.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	
1500.00	0.00	0.00	1500.00	-1691.00	-0.00	0.00	0.00	502465.80	639111.30	0.00	Nudge
1600.00	1.50	191.31	1599.99	-1591.01	0.26	-1.28	-0.26	502464.52	639111.04	1.50	
1700.00	3.00	191.31	1699.91	-1491.09	1.03	-5.13	-1.03	502460.67	639110.27	1.50	
1800.00	4.50	191.31	1799.69	-1391.31	2.33	-11.55	-2.31	502454.25	639108.99	1.50	
1900.00	6.00	191.31	1899.27	-1291.73	4.14	-20.52	-4.10	502445.28	639107.20	1.50	
2000.00	7.50	191.31	1998.57	-1192.43	6.46	-32.04	-6.41	502433.76	639104.89	1.50	
2100.00	9.00	191.31	2097.54	-1093.46	9.30	-46.11	-9.22	502419.69	639102.08	1.50	
2200.00	10.50	191.31	2196.09	-994.91	12.64	-62.72	-12.55	502403.08	639098.75	1.50	
2300.00	12.00	191.31	2294.16	-896.84	16.50	-81.85	-16.37	502383.95	639094.93	1.50	
2400.00	13.50	191.31	2391.70	-799.30	20.86	-103.49	-20.70	502362.31	639090.60	1.50	
2500.00	15.00	191.31	2488.62	-702.38	25.73	-127.63	-25.53	502338.17	639085.77	1.50	
2600.00	16.50	191.31	2584.86	-606.14	31.09	-154.24	-30.85	502311.56	639080.45	1.50	
2700.00	18.00	191.31	2680.36	-510.64	36.96	-183.32	-36.67	502282.48	639074.63	1.50	
2800.00	19.50	191.31	2775.05	-415.95	43.31	-214.84	-42.97	502250.96	639068.33	1.50	
2900.00	21.00	191.31	2868.86	-322.14	50.15	-248.78	-49.76	502217.02	639061.54	1.50	
3000.00	22.50	191.31	2961.74	-229.26	57.48	-285.11	-57.03	502180.69	639054.27	1.50	
3100.00	24.00	191.31	3053.62	-137.38	65.28	-323.82	-64.77	502141.98	639046.53	1.50	
3115.66	24.23	191.31	3067.92	-123.08	66.54	-330.09	-66.03	502135.71	639045.27	1.50	Hold
3200.00	24.23	191.31	3144.82	-46.18	73.39	-364.04	-72.82	502101.76	639038.48	0.00	
3300.00	24.23	191.31	3236.01	45.01	81.50	-404.29	-80.87	502061.51	639030.43	0.00	
3400.00	24.23	191.31	3327.19	136.19	89.62	-444.54	-88.92	502021.26	639022.38	0.00	
3500.00	24.23	191.31	3418.38	227.38	97.73	-484.79	-96.97	501981.01	639014.33	0.00	
3600.00	24.23	191.31	3509.57	318.57	105.84	-525.04	-105.02	501940.76	639006.28	0.00	
3700.00	24.23	191.31	3600.75	409.75	113.96	-565.29	-113.07	501900.51	638998.23	0.00	
3800.00	24.23	191.31	3691.94	500.94	122.07	-605.54	-121.12	501860.26	638990.18	0.00	
3900.00	24.23	191.31	3783.13	592.13	130.19	-645.79	-129.17	501820.01	638982.13	0.00	
4000.00	24.23	191.31	3874.32	683.32	138.30	-686.04	-137.22	501779.76	638974.08	0.00	
4100.00	24.23	191.31	3965.50	774.50	146.42	-726.30	-145.27	501739.50	638966.03	0.00	
4200.00	24.23	191.31	4056.69	865.69	154.53	-766.55	-153.33	501699.25	638957.97	0.00	
4300.00	24.23	191.31	4147.88	956.88	162.64	-806.80	-161.38	501659.00	638949.92	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4400.00	24.23	191.31	4239.06	1048.06	170.76	-847.05	-169.43	501618.75	638941.87	0.00	
4500.00	24.23	191.31	4330.25	1139.25	178.87	-887.30	-177.48	501578.50	638933.82	0.00	
4600.00	24.23	191.31	4421.44	1230.44	186.99	-927.55	-185.53	501538.25	638925.77	0.00	
4700.00	24.23	191.31	4512.62	1321.62	195.10	-967.80	-193.58	501498.00	638917.72	0.00	
4800.00	24.23	191.31	4603.81	1412.81	203.22	-1008.05	-201.63	501457.75	638909.67	0.00	
4900.00	24.23	191.31	4695.00	1504.00	211.33	-1048.30	-209.68	501417.50	638901.62	0.00	
5000.00	24.23	191.31	4786.19	1595.19	219.44	-1088.55	-217.73	501377.25	638893.57	0.00	
5100.00	24.23	191.31	4877.37	1686.37	227.56	-1128.80	-225.79	501337.00	638885.51	0.00	
5200.00	24.23	191.31	4968.56	1777.56	235.67	-1169.05	-233.84	501296.75	638877.46	0.00	
5300.00	24.23	191.31	5059.75	1868.75	243.79	-1209.30	-241.89	501256.50	638869.41	0.00	
5400.00	24.23	191.31	5150.93	1959.93	251.90	-1249.55	-249.94	501216.25	638861.36	0.00	
5500.00	24.23	191.31	5242.12	2051.12	260.01	-1289.80	-257.99	501176.00	638853.31	0.00	
5600.00	24.23	191.31	5333.31	2142.31	268.13	-1330.06	-266.04	501135.74	638845.26	0.00	
5700.00	24.23	191.31	5424.49	2233.49	276.24	-1370.31	-274.09	501095.49	638837.21	0.00	
5800.00	24.23	191.31	5515.68	2324.68	284.36	-1410.56	-282.14	501055.24	638829.16	0.00	
5900.00	24.23	191.31	5606.87	2415.87	292.47	-1450.81	-290.19	501014.99	638821.11	0.00	
6000.00	24.23	191.31	5698.06	2507.06	300.59	-1491.06	-298.24	500974.74	638813.06	0.00	
6100.00	24.23	191.31	5789.24	2598.24	308.70	-1531.31	-306.30	500934.49	638805.00	0.00	
6200.00	24.23	191.31	5880.43	2689.43	316.81	-1571.56	-314.35	500894.24	638796.95	0.00	
6300.00	24.23	191.31	5971.62	2780.62	324.93	-1611.81	-322.40	500853.99	638788.90	0.00	
6400.00	24.23	191.31	6062.80	2871.80	333.04	-1652.06	-330.45	500813.74	638780.85	0.00	
6500.00	24.23	191.31	6153.99	2962.99	341.16	-1692.31	-338.50	500773.49	638772.80	0.00	
6600.00	24.23	191.31	6245.18	3054.18	349.27	-1732.56	-346.55	500733.24	638764.75	0.00	
6700.00	24.23	191.31	6336.36	3145.36	357.39	-1772.81	-354.60	500692.99	638756.70	0.00	
6800.00	24.23	191.31	6427.55	3236.55	365.50	-1813.06	-362.65	500652.74	638748.65	0.00	
6900.00	24.23	191.31	6518.74	3327.74	373.61	-1853.31	-370.70	500612.49	638740.60	0.00	
7000.00	24.23	191.31	6609.92	3418.92	381.73	-1893.56	-378.75	500572.24	638732.55	0.00	
7100.00	24.23	191.31	6701.11	3510.11	389.84	-1933.82	-386.81	500531.98	638724.49	0.00	
7200.00	24.23	191.31	6792.30	3601.30	397.96	-1974.07	-394.86	500491.73	638716.44	0.00	
7300.00	24.23	191.31	6883.49	3692.49	406.07	-2014.32	-402.91	500451.48	638708.39	0.00	
7400.00	24.23	191.31	6974.67	3783.67	414.19	-2054.57	-410.96	500411.23	638700.34	0.00	
7500.00	24.23	191.31	7065.86	3874.86	422.30	-2094.82	-419.01	500370.98	638692.29	0.00	
7600.00	24.23	191.31	7157.05	3966.05	430.41	-2135.07	-427.06	500330.73	638684.24	0.00	
7700.00	24.23	191.31	7248.23	4057.23	438.53	-2175.32	-435.11	500290.48	638676.19	0.00	
7800.00	24.23	191.31	7339.42	4148.42	446.64	-2215.57	-443.16	500250.23	638668.14	0.00	
7900.00	24.23	191.31	7430.61	4239.61	454.76	-2255.82	-451.21	500209.98	638660.09	0.00	
8000.00	24.23	191.31	7521.79	4330.79	462.87	-2296.07	-459.26	500169.73	638652.04	0.00	
8100.00	24.23	191.31	7612.98	4421.98	470.98	-2336.32	-467.32	500129.48	638643.98	0.00	
8200.00	24.23	191.31	7704.17	4513.17	479.10	-2376.57	-475.37	500089.23	638635.93	0.00	
8300.00	24.23	191.31	7795.36	4604.36	487.21	-2416.82	-483.42	500048.98	638627.88	0.00	
8400.00	24.23	191.31	7886.54	4695.54	495.33	-2457.07	-491.47	500008.73	638619.83	0.00	
8500.00	24.23	191.31	7977.73	4786.73	503.44	-2497.32	-499.52	499968.48	638611.78	0.00	
8600.00	24.23	191.31	8068.92	4877.92	511.56	-2537.58	-507.57	499928.22	638603.73	0.00	
8700.00	24.23	191.31	8160.10	4969.10	519.67	-2577.83	-515.62	499887.97	638595.68	0.00	
8800.00	24.23	191.31	8251.29	5060.29	527.78	-2618.08	-523.67	499847.72	638587.63	0.00	
8900.00	24.23	191.31	8342.48	5151.48	535.90	-2658.33	-531.72	499807.47	638579.58	0.00	
9000.00	24.23	191.31	8433.66	5242.66	544.01	-2698.58	-539.77	499767.22	638571.53	0.00	
9100.00	24.23	191.31	8524.85	5333.85	552.13	-2738.83	-547.83	499726.97	638563.47	0.00	
9200.00	24.23	191.31	8616.04	5425.04	560.24	-2779.08	-555.88	499686.72	638555.42	0.00	
9279.64	24.23	191.31	8688.66	5497.66	566.70	-2811.13	-562.29	499654.67	638549.01	0.00	KOP
9300.00	24.59	195.16	8707.20	5516.20	568.64	-2819.32	-564.22	499646.48	638547.08	8.00	
9400.00	27.62	212.06	8797.11	5606.11	586.48	-2859.12	-581.99	499606.68	638529.31	8.00	
9500.00	32.28	225.15	8883.83	5692.83	617.82	-2897.66	-613.27	499568.14	638498.03	8.00	
9600.00	37.95	234.99	8965.66	5774.66	662.07	-2934.19	-657.46	499531.61	638453.84	8.00	
9700.00	44.26	242.49	9041.02	5850.02	718.35	-2968.01	-713.69	499497.79	638397.61	8.00	
9800.00	50.96	248.43	9108.43	5917.43	785.57	-2998.45	-780.86	499467.35	638330.44	8.00	
9900.00	57.90	253.33	9166.60	5975.60	862.43	-3024.91	-857.68	499440.89	638253.62	8.00	
10000.00	65.01	257.52	9214.37	6023.37	947.42	-3046.90	-942.64	499418.90	638168.66	8.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
10100.00	72.22	261.24	9250.83	6059.83	1038.90	-3063.97	-1034.09	499401.83	638077.21	8.00	
10200.00	79.49	264.68	9275.26	6084.26	1135.08	-3075.80	-1130.25	499390.00	637981.05	8.00	
10300.00	86.80	267.95	9287.19	6096.19	1234.09	-3082.16	-1229.25	499383.64	637882.05	8.00	
10361.60	91.31	269.94	9288.20	6097.20	1295.65	-3083.29	-1290.80	499382.51	637820.50	8.00	LP
10400.00	91.31	269.94	9287.33	6096.33	1334.04	-3083.33	-1329.20	499382.47	637782.10	0.00	
10500.00	91.31	269.94	9285.04	6094.04	1434.01	-3083.43	-1429.17	499382.37	637682.13	0.00	
10600.00	91.31	269.94	9282.75	6091.75	1533.99	-3083.54	-1529.15	499382.26	637582.15	0.00	
10700.00	91.31	269.94	9280.47	6089.47	1633.96	-3083.64	-1629.12	499382.16	637482.18	0.00	
10800.00	91.31	269.94	9278.18	6087.18	1733.94	-3083.75	-1729.09	499382.05	637382.21	0.00	
10900.00	91.31	269.94	9275.89	6084.89	1833.91	-3083.85	-1829.07	499381.95	637282.23	0.00	
11000.00	91.31	269.94	9273.61	6082.61	1933.88	-3083.96	-1929.04	499381.84	637182.26	0.00	
11100.00	91.31	269.94	9271.32	6080.32	2033.86	-3084.06	-2029.02	499381.74	637082.28	0.00	
11200.00	91.31	269.94	9269.04	6078.04	2133.83	-3084.17	-2128.99	499381.63	636982.31	0.00	
11300.00	91.31	269.94	9266.75	6075.75	2233.81	-3084.27	-2228.96	499381.53	636882.34	0.00	
11400.00	91.31	269.94	9264.46	6073.46	2333.78	-3084.38	-2328.94	499381.42	636782.36	0.00	
11500.00	91.31	269.94	9262.18	6071.18	2433.75	-3084.48	-2428.91	499381.32	636682.39	0.00	
11600.00	91.31	269.94	9259.89	6068.89	2533.73	-3084.59	-2528.88	499381.21	636582.42	0.00	
11700.00	91.31	269.94	9257.61	6066.61	2633.70	-3084.69	-2628.86	499381.11	636482.44	0.00	
11800.00	91.31	269.94	9255.32	6064.32	2733.67	-3084.80	-2728.83	499381.00	636382.47	0.00	
11900.00	91.31	269.94	9253.03	6062.03	2833.65	-3084.90	-2828.81	499380.90	636282.49	0.00	
12000.00	91.31	269.94	9250.75	6059.75	2933.62	-3085.01	-2928.78	499380.79	636182.52	0.00	
12100.00	91.31	269.94	9248.46	6057.46	3033.60	-3085.11	-3028.75	499380.69	636082.55	0.00	
12200.00	91.31	269.94	9246.17	6055.17	3133.57	-3085.21	-3128.73	499380.59	635982.57	0.00	
12300.00	91.31	269.94	9243.89	6052.89	3233.54	-3085.32	-3228.70	499380.48	635882.60	0.00	
12400.00	91.31	269.94	9241.60	6050.60	3333.52	-3085.42	-3328.68	499380.38	635782.62	0.00	
12500.00	91.31	269.94	9239.32	6048.32	3433.49	-3085.53	-3428.65	499380.27	635682.65	0.00	
12600.00	91.31	269.94	9237.03	6046.03	3533.47	-3085.63	-3528.62	499380.17	635582.68	0.00	
12700.00	91.31	269.94	9234.74	6043.74	3633.44	-3085.74	-3628.60	499380.06	635482.70	0.00	
12800.00	91.31	269.94	9232.46	6041.46	3733.41	-3085.84	-3728.57	499379.96	635382.73	0.00	
12900.00	91.31	269.94	9230.17	6039.17	3833.39	-3085.95	-3828.54	499379.85	635282.76	0.00	
13000.00	91.31	269.94	9227.88	6036.88	3933.36	-3086.05	-3928.52	499379.75	635182.78	0.00	
13100.00	91.31	269.94	9225.60	6034.60	4033.33	-3086.16	-4028.49	499379.64	635082.81	0.00	
13200.00	91.31	269.94	9223.31	6032.31	4133.31	-3086.26	-4128.47	499379.54	634982.83	0.00	
13300.00	91.31	269.94	9221.03	6030.03	4233.28	-3086.37	-4228.44	499379.43	634882.86	0.00	
13400.00	91.31	269.94	9218.74	6027.74	4333.26	-3086.47	-4328.41	499379.33	634782.89	0.00	
13500.00	91.31	269.94	9216.45	6025.45	4433.23	-3086.58	-4428.39	499379.22	634682.91	0.00	
13600.00	91.31	269.94	9214.17	6023.17	4533.20	-3086.68	-4528.36	499379.12	634582.94	0.00	
13700.00	91.31	269.94	9211.88	6020.88	4633.18	-3086.79	-4628.33	499379.01	634482.97	0.00	
13800.00	91.31	269.94	9209.60	6018.60	4733.15	-3086.89	-4728.31	499378.91	634382.99	0.00	
13900.00	91.31	269.94	9207.31	6016.31	4833.13	-3086.99	-4828.28	499378.81	634283.02	0.00	
14000.00	91.31	269.94	9205.02	6014.02	4933.10	-3087.10	-4928.26	499378.70	634183.04	0.00	
14100.00	91.31	269.94	9202.74	6011.74	5033.07	-3087.20	-5028.23	499378.60	634083.07	0.00	
14200.00	91.31	269.94	9200.45	6009.45	5133.05	-3087.31	-5128.20	499378.49	633983.10	0.00	
14300.00	91.31	269.94	9198.16	6007.16	5233.02	-3087.41	-5228.18	499378.39	633883.12	0.00	
14400.00	91.31	269.94	9195.88	6004.88	5332.99	-3087.52	-5328.15	499378.28	633783.15	0.00	
14500.00	91.31	269.94	9193.59	6002.59	5432.97	-3087.62	-5428.13	499378.18	633683.17	0.00	
14600.00	91.31	269.94	9191.31	6000.31	5532.94	-3087.73	-5528.10	499378.07	633583.20	0.00	
14700.00	91.31	269.94	9189.02	5998.02	5632.92	-3087.83	-5628.07	499377.97	633483.23	0.00	
14800.00	91.31	269.94	9186.73	5995.73	5732.89	-3087.94	-5728.05	499377.86	633383.25	0.00	
14900.00	91.31	269.94	9184.45	5993.45	5832.86	-3088.04	-5828.02	499377.76	633283.28	0.00	
15000.00	91.31	269.94	9182.16	5991.16	5932.84	-3088.15	-5927.99	499377.65	633183.31	0.00	
15100.00	91.31	269.94	9179.88	5988.88	6032.81	-3088.25	-6027.97	499377.55	633083.33	0.00	
15200.00	91.31	269.94	9177.59	5986.59	6132.79	-3088.36	-6127.94	499377.44	632983.36	0.00	
15300.00	91.31	269.94	9175.30	5984.30	6232.76	-3088.46	-6227.92	499377.34	632883.38	0.00	
15400.00	91.31	269.94	9173.02	5982.02	6332.73	-3088.56	-6327.89	499377.24	632783.41	0.00	
15500.00	91.31	269.94	9170.73	5979.73	6432.71	-3088.67	-6427.86	499377.13	632683.44	0.00	
15600.00	91.31	269.94	9168.44	5977.44	6532.68	-3088.77	-6527.84	499377.03	632583.46	0.00	
15700.00	91.31	269.94	9166.16	5975.16	6632.65	-3088.88	-6627.81	499376.92	632483.49	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
15800.00	91.31	269.94	9163.87	5972.87	6732.63	-3088.98	-6727.78	499376.82	632383.52	0.00	
15900.00	91.31	269.94	9161.59	5970.59	6832.60	-3089.09	-6827.76	499376.71	632283.54	0.00	
16000.00	91.31	269.94	9159.30	5968.30	6932.58	-3089.19	-6927.73	499376.61	632183.57	0.00	
16100.00	91.31	269.94	9157.01	5966.01	7032.55	-3089.30	-7027.71	499376.50	632083.59	0.00	
16200.00	91.31	269.94	9154.73	5963.73	7132.52	-3089.40	-7127.68	499376.40	631983.62	0.00	
16300.00	91.31	269.94	9152.44	5961.44	7232.50	-3089.51	-7227.65	499376.29	631883.65	0.00	
16400.00	91.31	269.94	9150.15	5959.15	7332.47	-3089.61	-7327.63	499376.19	631783.67	0.00	
16500.00	91.31	269.94	9147.87	5956.87	7432.45	-3089.72	-7427.60	499376.08	631683.70	0.00	
16600.00	91.31	269.94	9145.58	5954.58	7532.42	-3089.82	-7527.58	499375.98	631583.72	0.00	
16700.00	91.31	269.94	9143.30	5952.30	7632.39	-3089.93	-7627.55	499375.87	631483.75	0.00	
16800.00	91.31	269.94	9141.01	5950.01	7732.37	-3090.03	-7727.52	499375.77	631383.78	0.00	
16900.00	91.31	269.94	9138.72	5947.72	7832.34	-3090.14	-7827.50	499375.66	631283.80	0.00	
17000.00	91.31	269.94	9136.44	5945.44	7932.31	-3090.24	-7927.47	499375.56	631183.83	0.00	
17100.00	91.31	269.94	9134.15	5943.15	8032.29	-3090.34	-8027.44	499375.46	631083.86	0.00	
17200.00	91.31	269.94	9131.87	5940.87	8132.26	-3090.45	-8127.42	499375.35	630983.88	0.00	
17300.00	91.31	269.94	9129.58	5938.58	8232.24	-3090.55	-8227.39	499375.25	630883.91	0.00	
17400.00	91.31	269.94	9127.29	5936.29	8332.21	-3090.66	-8327.37	499375.14	630783.93	0.00	
17500.00	91.31	269.94	9125.01	5934.01	8432.18	-3090.76	-8427.34	499375.04	630683.96	0.00	
17600.00	91.31	269.94	9122.72	5931.72	8532.16	-3090.87	-8527.31	499374.93	630583.99	0.00	
17700.00	91.31	269.94	9120.43	5929.43	8632.13	-3090.97	-8627.29	499374.83	630484.01	0.00	
17800.00	91.31	269.94	9118.15	5927.15	8732.11	-3091.08	-8727.26	499374.72	630384.04	0.00	
17900.00	91.31	269.94	9115.86	5924.86	8832.08	-3091.18	-8827.23	499374.62	630284.07	0.00	
18000.00	91.31	269.94	9113.58	5922.58	8932.05	-3091.29	-8927.21	499374.51	630184.09	0.00	
18100.00	91.31	269.94	9111.29	5920.29	9032.03	-3091.39	-9027.18	499374.41	630084.12	0.00	
18200.00	91.31	269.94	9109.00	5918.00	9132.00	-3091.50	-9127.16	499374.30	629984.14	0.00	
18300.00	91.31	269.94	9106.72	5915.72	9231.97	-3091.60	-9227.13	499374.20	629884.17	0.00	
18400.00	91.31	269.94	9104.43	5913.43	9331.95	-3091.71	-9327.10	499374.09	629784.20	0.00	
18500.00	91.31	269.94	9102.14	5911.14	9431.92	-3091.81	-9427.08	499373.99	629684.22	0.00	
18600.00	91.31	269.94	9099.86	5908.86	9531.90	-3091.91	-9527.05	499373.89	629584.25	0.00	
18700.00	91.31	269.94	9097.57	5906.57	9631.87	-3092.02	-9627.03	499373.78	629484.27	0.00	
18800.00	91.31	269.94	9095.29	5904.29	9731.84	-3092.12	-9727.00	499373.68	629384.30	0.00	
18900.00	91.31	269.94	9093.00	5902.00	9831.82	-3092.23	-9826.97	499373.57	629284.33	0.00	
19000.00	91.31	269.94	9090.71	5899.71	9931.79	-3092.33	-9926.95	499373.47	629184.35	0.00	
19100.00	91.31	269.94	9088.43	5897.43	10031.77	-3092.44	-10026.92	499373.36	629084.38	0.00	
19200.00	91.31	269.94	9086.14	5895.14	10131.74	-3092.54	-10126.89	499373.26	628984.41	0.00	
19300.00	91.31	269.94	9083.86	5892.86	10231.71	-3092.65	-10226.87	499373.15	628884.43	0.00	
19400.00	91.31	269.94	9081.57	5890.57	10331.69	-3092.75	-10326.84	499373.05	628784.46	0.00	
19500.00	91.31	269.94	9079.28	5888.28	10431.66	-3092.86	-10426.82	499372.94	628684.48	0.00	
19600.00	91.31	269.94	9077.00	5886.00	10531.63	-3092.96	-10526.79	499372.84	628584.51	0.00	
19700.00	91.31	269.94	9074.71	5883.71	10631.61	-3093.07	-10626.76	499372.73	628484.54	0.00	
19800.00	91.31	269.94	9072.42	5881.42	10731.58	-3093.17	-10726.74	499372.63	628384.56	0.00	
19900.00	91.31	269.94	9070.14	5879.14	10831.56	-3093.28	-10826.71	499372.52	628284.59	0.00	
20000.00	91.31	269.94	9067.85	5876.85	10931.53	-3093.38	-10926.68	499372.42	628184.62	0.00	
20100.00	91.31	269.94	9065.57	5874.57	11031.50	-3093.49	-11026.66	499372.31	628084.64	0.00	
20200.00	91.31	269.94	9063.28	5872.28	11131.48	-3093.59	-11126.63	499372.21	627984.67	0.00	
20300.00	91.31	269.94	9060.99	5869.99	11231.45	-3093.69	-11226.61	499372.11	627884.69	0.00	
20400.00	91.31	269.94	9058.71	5867.71	11331.43	-3093.80	-11326.58	499372.00	627784.72	0.00	
20500.00	91.31	269.94	9056.42	5865.42	11431.40	-3093.90	-11426.55	499371.90	627684.75	0.00	
20600.00	91.31	269.94	9054.14	5863.14	11531.37	-3094.01	-11526.53	499371.79	627584.77	0.00	
20700.00	91.31	269.94	9051.85	5860.85	11631.35	-3094.11	-11626.50	499371.69	627484.80	0.00	
20800.00	91.31	269.94	9049.56	5858.56	11731.32	-3094.22	-11726.48	499371.58	627384.82	0.00	
20900.00	91.31	269.94	9047.28	5856.28	11831.29	-3094.32	-11826.45	499371.48	627284.85	0.00	
21000.00	91.31	269.94	9044.99	5853.99	11931.27	-3094.43	-11926.42	499371.37	627184.88	0.00	
21100.00	91.31	269.94	9042.70	5851.70	12031.24	-3094.53	-12026.40	499371.27	627084.90	0.00	
21200.00	91.31	269.94	9040.42	5849.42	12131.22	-3094.64	-12126.37	499371.16	626984.93	0.00	
21300.00	91.31	269.94	9038.13	5847.13	12231.19	-3094.74	-12226.34	499371.06	626884.96	0.00	
21400.00	91.31	269.94	9035.85	5844.85	12331.16	-3094.85	-12326.32	499370.95	626784.98	0.00	
21500.00	91.31	269.94	9033.56	5842.56	12431.14	-3094.95	-12426.29	499370.85	626685.01	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre) (TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
21600.00	91.31	269.94	9031.27	5840.27	12531.11	-3095.06	-12526.27	499370.74	626585.03	0.00	
21700.00	91.31	269.94	9028.99	5837.99	12631.09	-3095.16	-12626.24	499370.64	626485.06	0.00	
21800.00	91.31	269.94	9026.70	5835.70	12731.06	-3095.27	-12726.21	499370.53	626385.09	0.00	
21900.00	91.31	269.94	9024.41	5833.41	12831.03	-3095.37	-12826.19	499370.43	626285.11	0.00	
22000.00	91.31	269.94	9022.13	5831.13	12931.01	-3095.47	-12926.16	499370.33	626185.14	0.00	
22100.00	91.31	269.94	9019.84	5828.84	13030.98	-3095.58	-13026.13	499370.22	626085.17	0.00	
22200.00	91.31	269.94	9017.56	5826.56	13130.96	-3095.68	-13126.11	499370.12	625985.19	0.00	
22300.00	91.31	269.94	9015.27	5824.27	13230.93	-3095.79	-13226.08	499370.01	625885.22	0.00	
22400.00	91.31	269.94	9012.98	5821.98	13330.90	-3095.89	-13326.06	499369.91	625785.24	0.00	
22500.00	91.31	269.94	9010.70	5819.70	13430.88	-3096.00	-13426.03	499369.80	625685.27	0.00	
22600.00	91.31	269.94	9008.41	5817.41	13530.85	-3096.10	-13526.00	499369.70	625585.30	0.00	
22700.00	91.31	269.94	9006.13	5815.13	13630.82	-3096.21	-13625.98	499369.59	625485.32	0.00	
22800.00	91.31	269.94	9003.84	5812.84	13730.80	-3096.31	-13725.95	499369.49	625385.35	0.00	
22900.00	91.31	269.94	9001.55	5810.55	13830.77	-3096.42	-13825.93	499369.38	625285.37	0.00	
23000.00	91.31	269.94	8999.27	5808.27	13930.75	-3096.52	-13925.90	499369.28	625185.40	0.00	
23100.00	91.31	269.94	8996.98	5805.98	14030.72	-3096.63	-14025.87	499369.17	625085.43	0.00	
23200.00	91.31	269.94	8994.69	5803.69	14130.69	-3096.73	-14125.85	499369.07	624985.45	0.00	
23300.00	91.31	269.94	8992.41	5801.41	14230.67	-3096.84	-14225.82	499368.96	624885.48	0.00	
23361.60	91.31	269.94	8991.00	5800.00	14292.25	-3096.90	-14287.40	499368.90	624823.90	0.00	PBHL 212H

Formation Points: (Relative to Slot centre) (TVD relative to Drill Floor)

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Comment
Rustler	151.00	0.00	0.00	151.00	-3040.00	0.00	0.00	502465.80	639111.30	
Salado	482.00	0.00	0.00	482.00	-2709.00	0.00	0.00	502465.80	639111.30	
Top of Salt	675.00	0.00	0.00	675.00	-2516.00	0.00	0.00	502465.80	639111.30	
Base Salt	3340.57	24.23	191.31	3273.00	82.00	-420.62	-84.13	502045.18	639027.17	
Delaware/Lamar	3619.12	24.23	191.31	3527.00	336.00	-532.74	-106.56	501933.06	639004.74	
Bell Canyon	3667.37	24.23	191.31	3571.00	380.00	-552.16	-110.44	501913.64	639000.86	
Cherry Canyon	4636.81	24.23	191.31	4455.00	1264.00	-942.36	-188.49	501523.44	638922.81	
Manzanita Marker	4862.72	24.23	191.31	4661.00	1470.00	-1033.29	-206.68	501432.51	638904.62	
Brushy Canyon Ss.	6088.77	24.23	191.31	5779.00	2588.00	-1526.79	-305.39	500939.01	638805.91	
Basal Brushy Canyon Ss.	7535.25	24.23	191.31	7098.00	3907.00	-2109.00	-421.85	500356.80	638689.45	
Bone Spring Lm.	7836.82	24.23	191.31	7373.00	4182.00	-2230.39	-446.13	500235.41	638665.17	
Avalon Ss.	7894.95	24.23	191.31	7426.00	4235.00	-2253.79	-450.81	500212.01	638660.49	
Upper Avalon Carb.	8128.53	24.23	191.31	7639.00	4448.00	-2347.81	-469.61	500117.99	638641.69	
Upper Avalon Sh.	8218.46	24.23	191.31	7721.00	4530.00	-2384.00	-476.85	500081.80	638634.45	
Lw. Avalon Carb.	8306.19	24.23	191.31	7801.00	4610.00	-2419.31	-483.92	500046.49	638627.38	
Lw. Avalon Sh.	8480.56	24.23	191.31	7960.00	4769.00	-2489.50	-497.95	499976.30	638613.35	
Bone Spring Carb.	8690.02	24.23	191.31	8151.00	4960.00	-2573.81	-514.82	499891.99	638596.48	
First Bone Spring Ss.	8945.54	24.23	191.31	8384.00	5193.00	-2676.66	-535.39	499789.14	638575.91	
Second Bone Spring Carb.	9370.68	26.54	207.49	8771.00	5580.00	-2847.54	-575.36	499618.26	638535.94	
Second Bone Spring A Ss.	10235.92	82.11	265.87	9281.00	6090.00	-3078.72	-1165.58	499387.08	637945.72	

James Ranch Unit
DI 1 BS2A-7W #212H
Opt RSS
Eddy Co, NM

Weatherford

KB:3191
GL:3166

Plan Data for James Ranch Unit DI 1 BS2A-7W #212H Opt RSS

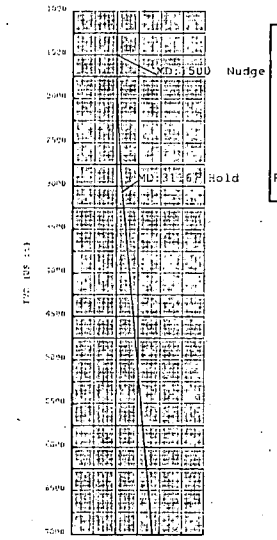
Plan Point Information:

MD (USft)	Inc (°)	Az (°)	TVD (USft)	Elevation (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	VSec (USft)	DLS (°/100ft)	Comments
0.00	0.00	0.00	0.00	3191.00	0.00	0.00	502465.80	639111.30	0.00	0.00	
1500.00	0.00	0.00	1500.00	1691.00	0.00	0.00	502465.80	639111.30	0.00	0.00	Nudge
3115.66	24.23	191.31	3067.92	123.08	-330.09	-66.03	502135.71	639045.27	66.54	1.50	Hold
9279.64	24.23	191.31	8688.66	-5497.66	-2811.13	-562.29	499654.67	638549.01	566.70	0.00	KOP
10361.60	91.31	269.94	9288.20	-6097.20	-3083.29	-1290.80	499382.51	637820.50	1295.65	8.00	LP
23361.60	91.31	269.94	8991.00	-5800.00	-3096.90	-14287.40	499368.90	624823.90	14292.25	0.00	PBHL 212H

Plan Data for James Ranch Unit DI 1 BS2A-7W #212H Opt RSS

Formation Point Information:

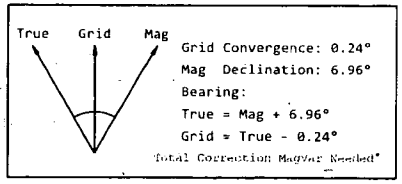
Name	TVD (USft)	Elevation (USft)	MD (USft)
Rustler	151.00	3040.00	151.00
Salado	482.00	2709.00	482.00
Top of Salt	675.00	2516.00	675.00
Base Salt	3273.00	-82.00	3340.57
Delaware/Lamar	3527.00	-336.00	3619.12
Bell Canyon	3571.00	-380.00	3667.37
Cherry Canyon	4455.00	-1264.00	4636.81
Manzanita Marker	4661.00	-1470.00	4862.72
Brushy Canyon Ss.	5779.00	-2588.00	6088.77
Basal Brushy Canyon Ss.	7098.00	-3907.00	7535.25
Bone Spring Lm.	7373.00	-4182.00	7836.82
Avalon Ss.	7426.00	-4235.00	7894.95
Upper Avalon Carb.	7639.00	-4448.00	8128.53
Upper Avalon Sh.	7721.00	-4530.00	8218.46
Lw. Avalon Carb.	7801.00	-4610.00	8306.19
Lw. Avalon Sh.	7960.00	-4769.00	8480.56
Bone Spring Carb.	8151.00	-4960.00	8690.02
First Bone Spring Ss.	8384.00	-5193.00	8945.54
Second Bone Spring Carb.	8771.00	-5580.00	9370.68
Second Bone Spring A Ss.	9281.00	-6090.00	10235.92



Plan Data for James Ranch Unit DI 1 BS2A-7W #212H Opt RSS

Target Set Information:
Name: James Ranch Unit DI 1 BS2A-7W #212H
Position offsets from Slot centre

Name	TVD Elevation (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)
FTP	9321.00	-6130.00	-3075.30	92.00	499390.50	639203.30
LTP	8992.15	-5801.15	-3096.80	-14237.40	499369.00	624873.90
PBHL 212H	8991.00	-5800.00	-3096.90	-14287.40	499368.90	624823.90



Drawing By: RWJ Date: 13 June 2019
Office Name: Weatherford - Drilling Services
Address: 10000 West County Road 116
Midland, Texas 79711 USA
+1.432.561.8892 Main
Russell.Joyner@Weatherford.com
Phone: Cell 713-303-5511

Plan Data for James Ranch Unit DI 1 BS2A-7W #212H Opt RSS

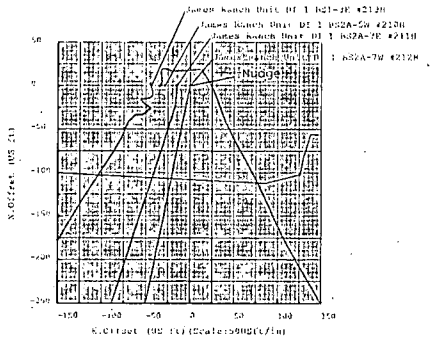
Field: XTO NAD 27 NME
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD27 / New Mexico East

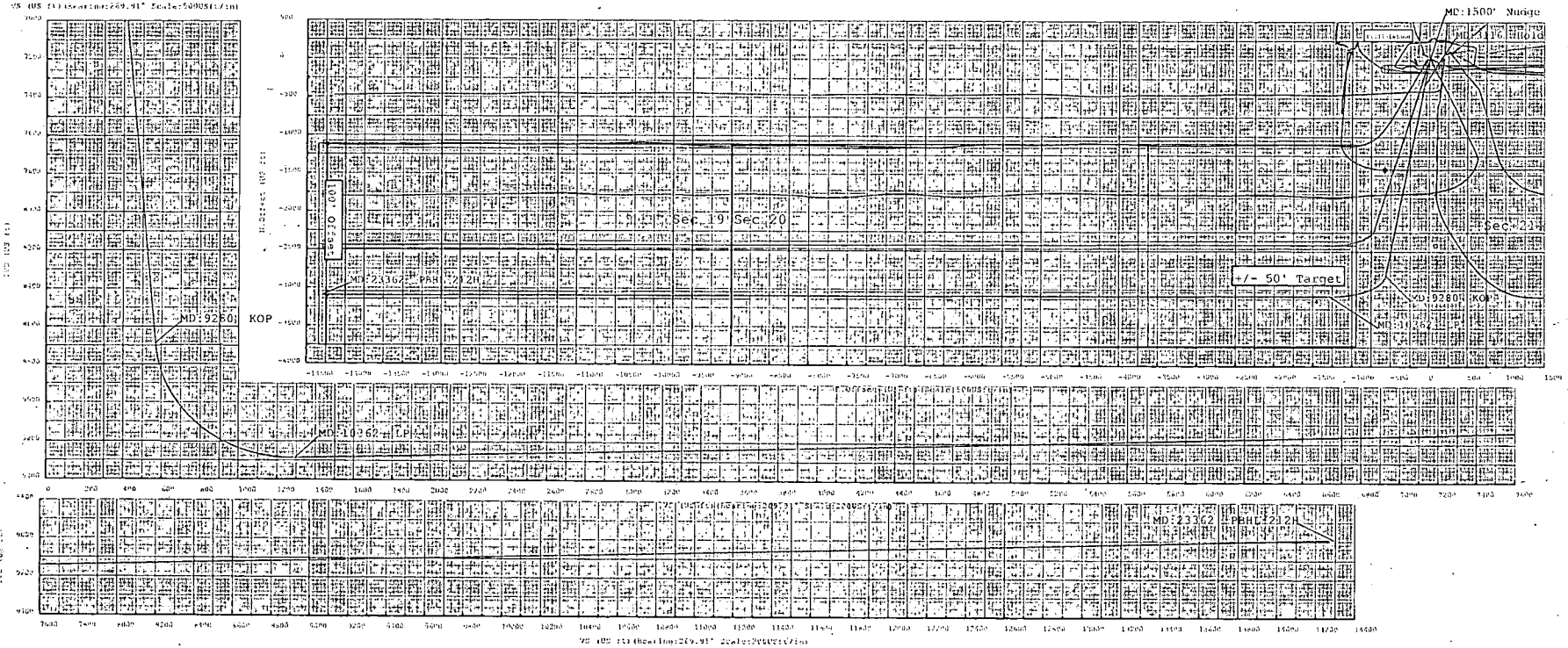
Site: James Ranch Unit DI 1 #210H_211H_212H_213H
Unit: USFeet TVD Reference:
Company Name: XTO Energy
Position: Northing: 502465.80USft Latitude: 32.380588°
Easting: 639082.80USft Longitude: -103.882803°
North Reference: Grid Grid Convergence: 0.24°
Elevation Above VRD: 3166.00USft
Comment: Eddy Co, NM

Slot: James Ranch Unit DI 1 BS2A-7W #212H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 502465.80USft Latitude: 32.380588°
+E/-W: 28.50USft Easting: 639111.30USft Longitude: -103.882710°
Elevation Above VRD: 3166.00USft

Well: James Ranch Unit DI 1 BS2A-7W #212H Opt RSS
Type: Main-Well
File Number:
Plan Folder: P1 Plan: P1:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 269.91°
+E/-W: 0.00USft
Magnetic Parameters:

Model:	Field Strength:	Declination:	Dip:	Date:
Need IFR	47845(nT)	6.96°	60.07°	2019-06-13





PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMNM-06808**
WELL NAME & NO.:	**James Ranch Unit DI1 BS2A-7W 212H**
SURFACE HOLE FOOTAGE:	**1542' FNL & 1732' FEL**
BOTTOM HOLE FOOTAGE	**0660' FSL & 0200' FWL Sec. 19, T. 22 S., R 30 E.**
LOCATION:	**Section 21, T. 22 S., R 30 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

The original COAs still stand with the following drilling modifications:

Commercial Well Determination
A commercial well determination shall be submitted after production has been established for at least six months.

Unit Wells
The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

A. DRILLING OPERATIONS 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

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

R-111- Potash
High Cave/Karst
Possibility of water flows in the Salado and Castile.
Possibility of lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressure may be encountered in the 3rd Bone Spring and all subsequent formations.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **18-5/8** inch surface casing shall be set at approximately **525** feet (a minimum of 25 feet into the Rustler Anhydrite and at least 25 feet 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 is to include the lead cement slurry.

    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.

13-3/8 1st Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **13-3/8** inch 1st 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 and potash.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is:

Operator has proposed DV tool at depth of 3527', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

5. 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.

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

C. 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 53.

2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8'' 1st intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8'' 1st intermediate casing shoe shall be 3000 (3M) 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. **Operator shall perform the 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. 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.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

c. 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.

d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

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