

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.	
2. Name of Operator		9. API Well No. 30-015-53643	
3a. Address		3b. Phone No. (include area code) 10. Field and Pool, or Exploratory	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area	
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		16. No of acres in lease	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		17. Spacing Unit dedicated to this well	
19. Proposed Depth		20. BLM/BIA Bond No. in file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		22. Approximate date work will start*	
23. Estimated duration		24. Attachments	
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)			
1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM.	
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Date	
Office		Date	
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.			
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.			

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 03/16/2023

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) 746-1283 Fax: (575) 746-9720

DISTRICT III
1000 RIO BRAZOS RD., 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, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015- 53643	Pool Code 30216	Pool Name Hay Hollow; Bone Spring, North
Property Code 333880	Property Name FLAMING SNAIL FEDERAL COM	Well Number 501H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3130.9'

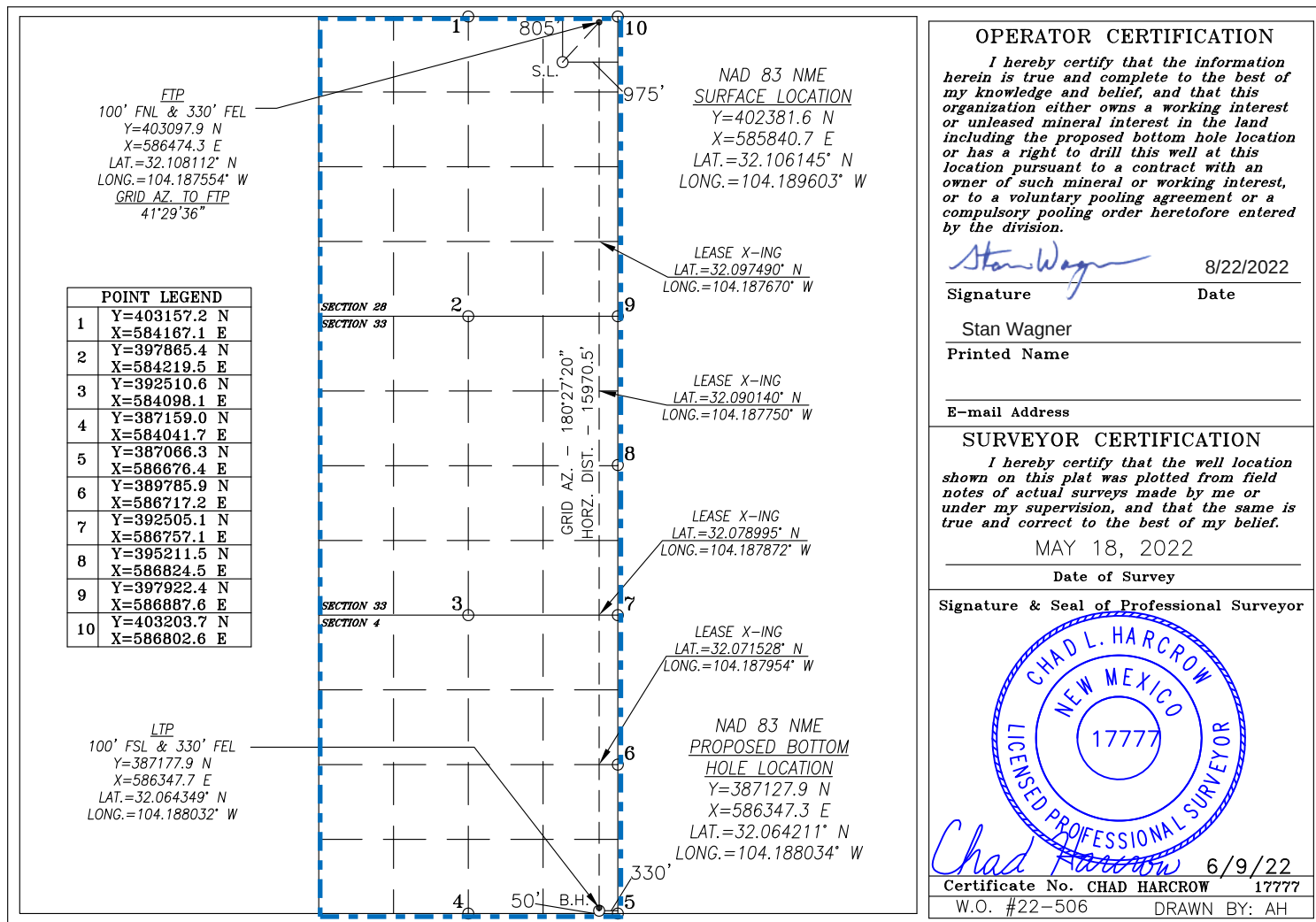
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	25-S	27-E		805	NORTH	975	EAST	EDDY

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
P	4	26-S	27-E		50	SOUTH	330	EAST	EDDY
Dedicated Acres 1920	Joint or Infill	Consolidation Code COM	Order No.						

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



State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Production LLC

OGRID: 229137

Date: 08/22/2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Flaming Snail Fed Com 501H	30-015	A-28-25S-27E	805 FNL & 975 FEL	± 1588	± 7149	± 2142
Flaming Snail Fed Com 502H	30-015-	A-28-25S-27E	805 FNL & 1035 FEL	± 1588	± 7149	± 2142
Flaming Snail Fed Com 503H	30-015-	C-28-25S-27E	855 FNL & 1715 FWL	± 1588	± 7149	± 2142
Flaming Snail Fed Com 504H	30-015-	C-28-25S-27E	855 FNL & 1655 FWL	± 1588	± 7149	± 2142
Flaming Snail Fed Com 520H	30-015-	A-28-25S-27E	805 FNL & 1005 FEL	± 1567	± 4376	± 1600
Flaming Snail Fed Com 521H	30-015-	C-28-25S-27E	855 FNL & 1685 FWL	± 1567	± 4376	± 1600

IV. Central Delivery Point Name: Flaming Snail Fed Com East CTB NWNE 28-25S-27E [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Flaming Snail Fed Com	Pending	± 4/01/23	± 25 days from spud	TBD	TBD	TBD
501H, 502H, 503H, 504H, 520H, 521H						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

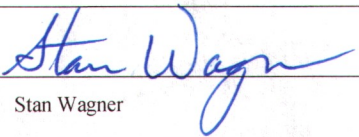
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 08/22/2022
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

All ConocoPhillips production facility equipment will be sized per industry standards (API 12J) with adequate retention time to effectively separate all phases of production. Each project will take into consideration the number of wells and type curves for each formation pool to ensure adequate facility capacity. Design considerations will also include review of all piping, tanks, VRU's and associated equipment to ensure optimized gas capture minimized risk of release.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

- During drilling, flare stacks will be located a minimum of 100 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety, and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

C. Completion Operations

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- Individual well test separators will be set to properly separate gas and liquids. A temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline.

D. Venting and flaring during production operations

- During each phase of well life (drilling, completion and production) of a ConocoPhillips well, COP personnel will follow all necessary procedures to ensure both the operation and the equipment are within the NMAC 19.15.27.8 Subsection D guidelines.
- During well operations that require unloading of the well to atmospheric pressure, all reasonable actions will be taken to minimize vented gas
- Through the life of the well all flaring shall be measured, and venting events quantified using the data available and industry best practice.

E. Performance standards for separation, storage tank and flare equipment

- All storage tanks and separation equipment are designed minimize risk of liquid or vapor release and optimize gas capture. This includes automation for automatic gauging and pressure monitoring.

- All flare stacks are equipped with auto ignition devices and/or continuous pilots and are designed to operate at maximum combustion efficiency pursuant NMAC 19.15.27.8 Subsection E. Flares will follow COP spacing guidelines to ensure they are a safe distance from combustibles and operations equipment.
- COP personnel will conduct routine AVO inspections on a regular basis per NMAC 19.15.27.8 Subsection E guidelines.

F. Measurement of vented and flared natural gas.

- Measurement equipment will be installed to quantify gas flared during drilling, completion and production of the well.
- All measurement devices installed will meet accuracy ratings per AGA and API standards.
- Measurement devices will be installed without manifolds that allow diversion of gas around the metering element, except for the sole purpose of inspection of servicing the measurement device.

VIII. Best Management Practices

- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize blowdowns to atmosphere
- When feasible, Operator will use electric or air actuated equipment to reduce bleed emissions

COG Production LLC - Flaming Snail Federal Com #501H

1. Geologic Formations

TVD of target	7,580' EOL	Pilot hole depth	NA
MD at TD:	23,484'	Deepest expected fresh water:	28'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	80	Water	
Top of Salt	521	Salt	
Base of Salt	1942	Salt	
Lamar	2174	Salt Water	
Bell Canyon	2221	Salt Water	
Cherry Canyon	3029	Oil/Gas	
Brushy Canyon	4151	Oil/Gas	
Bone Spring Lime	5729	Oil/Gas	
1st Bone Spring Sand	6672	Oil/Gas	
2nd Bone Spring Sand	7173	Oil/Gas	
3rd Bone Spring Sand	8508	Not Penetrated	
Wolfcamp	8832	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	485	13.375"	54.5	J55	STC	5.09	2.93	19.45
12.25"	0	2195	9.625"	40	J55	LTC	2.23	1.36	5.92
8.75"	0	23,484	5.5"	17	P110	LTC	2.04	3.66	3.45
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.

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

COG Production LLC - Flaming Snail Federal Com #501H

	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
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?	
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?	
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?	
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?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

COG Production LLC - Flaming Snail Federal Com #501H

3. Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	100	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter.	330	12.7	2.0	9.6	16	Lead: 35:65:6 C Blend
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
5.5 Prod	680	11.9	2.5	19	72	Lead: 50:50:10 H Blend
	4010	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	1,695'	20% OH in Lateral (KOP to EOL) – 25% OH in Vertical

COG Production LLC - Flaming Snail Federal Com #501H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12-1/4"	13-5/8"	2M	Annular	x	2000 psi
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			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 and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	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?
N	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.

COG Production LLC - Flaming Snail Federal Com #501H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	9-5/8" Int shoe	Saturated Brine	10 - 10.1	28-34	N/C
9-5/8" Int shoe	Lateral TD	Cut Brine	8.6 - 9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Production LLC - Flaming Snail Federal Com #501H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	3670 psi at 7580' TVD
Abnormal Temperature	NO 135 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
Y	Is casing pre-set?

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

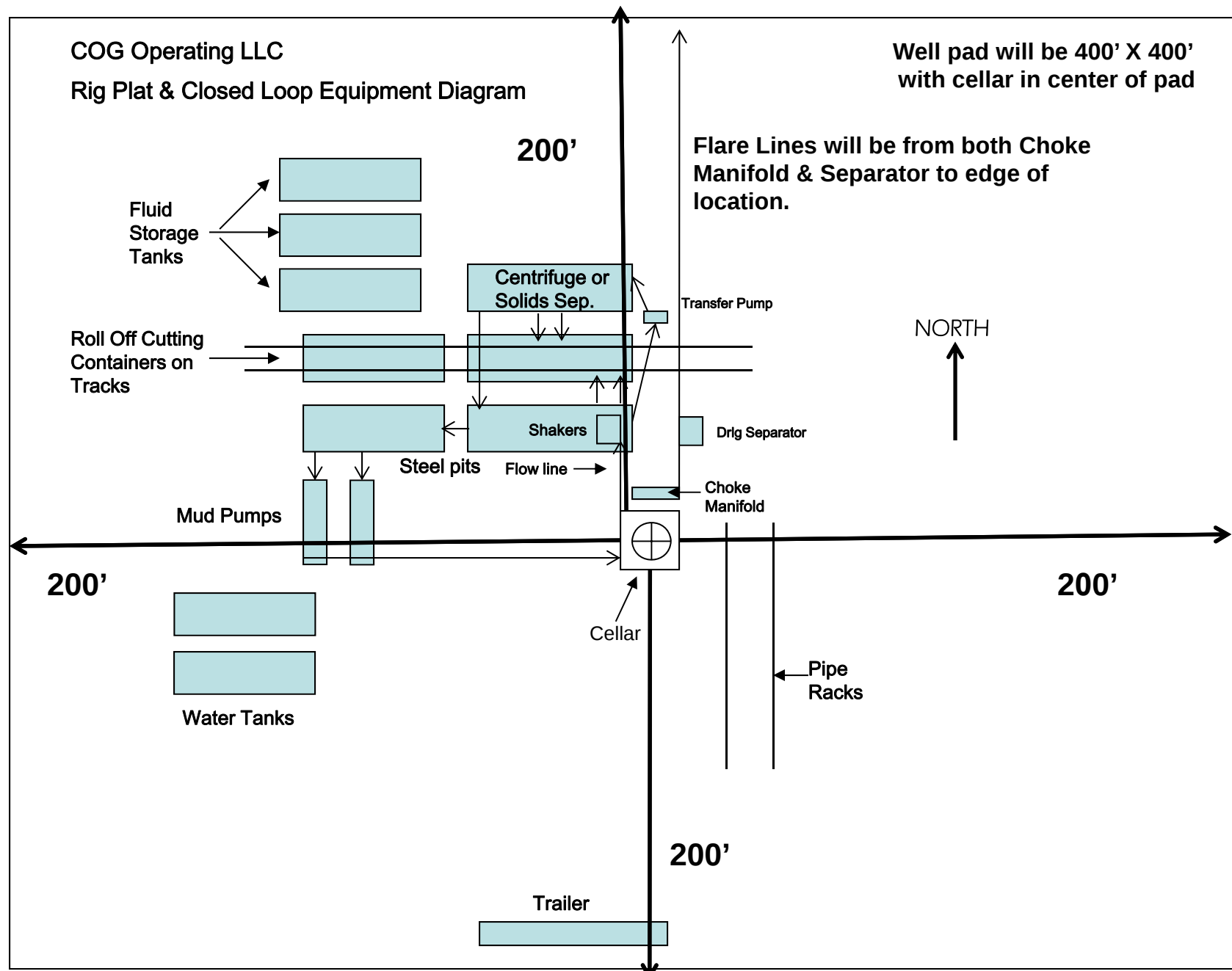


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

FLAMING SNAIL FED COM PROJECT

FLAMING SNAIL FEDERAL COM #501H

OWB

PWP0

Anticollision Report

01 July, 2022

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 95.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,000.0usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	7/1/2022		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	2,000.0	PWP0 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
2,000.0	7,123.4	PWP0 (OWB)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	
7,123.4	23,484.4	PWP0 (OWB)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
FLAMING SNAIL FED COM PROJECT						
*FLAMING SNAIL FED COM #701H - OWB - PWP0	7,721.0	7,558.1	41.0	12.2	1.425	Advise and Monitor, CC, ES,
*FLAMING SNAIL FED COM #702H - OWB - PWP0	2,994.9	2,986.4	150.2	140.8	15.906	CC
*FLAMING SNAIL FED COM #702H - OWB - PWP0	3,000.0	2,991.4	150.2	140.8	15.884	ES
*FLAMING SNAIL FED COM #702H - OWB - PWP0	3,500.0	3,484.9	170.8	159.3	14.794	SF
*FLAMING SNAIL FED COM #703H - OWB - PWP0	2,690.9	2,684.4	176.0	167.3	20.283	CC, ES
*FLAMING SNAIL FED COM #703H - OWB - PWP0	2,755.0	2,742.9	177.3	168.5	20.250	SF
*FLAMING SNAIL FED COM #704H - OWB - PWP0	2,622.3	2,653.8	195.3	186.9	23.148	CC, ES
*FLAMING SNAIL FED COM #704H - OWB - PWP0	2,755.0	2,774.2	200.3	191.5	22.979	SF
*FLAMING SNAIL FED COM #705H - OWB - PWP0	1,902.2	1,947.3	228.6	221.1	30.475	CC, ES
*FLAMING SNAIL FED COM #705H - OWB - PWP0	2,090.0	2,128.5	230.0	222.3	29.770	SF
*FLAMING SNAIL FED COM #706H - OWB - PWP0						Out of range
*FLAMING SNAIL FED COM #801H - OWB - PWP0	7,550.0	7,455.5	80.7	51.5	2.759	SF
*FLAMING SNAIL FED COM #801H - OWB - PWP0	7,570.3	7,469.1	79.3	50.7	2.779	CC, ES
*FLAMING SNAIL FED COM #802H - OWB - PWP0	2,816.5	2,784.8	309.4	300.2	33.558	CC, ES
*FLAMING SNAIL FED COM #802H - OWB - PWP0	3,705.0	3,648.3	373.5	361.0	29.993	SF
*FLAMING SNAIL FED COM #803H - OWB - PWP0	1,915.8	1,920.9	358.4	350.7	46.912	CC
*FLAMING SNAIL FED COM #803H - OWB - PWP0	2,090.0	2,088.3	358.5	350.6	45.444	ES
*FLAMING SNAIL FED COM #803H - OWB - PWP0	3,300.0	3,220.6	459.0	448.1	42.390	SF
CICADA UNIT #13H - OWB - AWP						Out of range
CICADA UNIT #14H - OWB - AWP						Out of range
CICADA UNIT #15H - OWB - AWP						Out of range
CICADA UNIT #16H - OWB - AWP	23,173.0	7,720.7	647.8	499.3	4.361	CC
CICADA UNIT #16H - OWB - AWP	23,180.0	7,720.7	647.9	499.3	4.360	ES
CICADA UNIT #16H - OWB - AWP	23,200.0	7,720.7	648.4	499.6	4.359	SF
CICADA UNIT #17H - OWB - AWP						Out of range
FLAMING SNAIL FEDERAL COM #502H - OWB - PWP0	1,995.1	1,995.8	59.9	53.3	9.108	CC
FLAMING SNAIL FEDERAL COM #502H - OWB - PWP0	2,000.0	2,000.7	59.9	53.3	9.103	ES, SF
FLAMING SNAIL FEDERAL COM #520H - OWB - PWP0	2,000.0	2,000.3	30.0	23.4	4.559	CC, ES
FLAMING SNAIL FEDERAL COM #520H - OWB - PWP0	23,465.0	23,777.5	784.2	538.9	3.198	SF
LEONARDO BKL FEDERAL COM #1 - OWB - AWP						Out of range

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

TD Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
FLAMING SNAIL FED COM PROJECT						
*FLAMING SNAIL FED COM #701H - OWB - PWP0	23,484.4	24,422.9				Out of Range @TD
*FLAMING SNAIL FED COM #702H - OWB - PWP0	23,484.4	24,369.6				Out of Range @TD
*FLAMING SNAIL FED COM #703H - OWB - PWP0	23,484.4	24,381.8				Out of Range @TD
*FLAMING SNAIL FED COM #704H - OWB - PWP0	23,484.4	24,378.8				Out of Range @TD
*FLAMING SNAIL FED COM #705H - OWB - PWP0	23,484.4	24,429.2				Out of Range @TD
*FLAMING SNAIL FED COM #706H - OWB - PWP0	23,484.4	24,346.1				Out of Range @TD
*FLAMING SNAIL FED COM #801H - OWB - PWP0	23,484.4	25,570.8				Out of Range @TD
*FLAMING SNAIL FED COM #802H - OWB - PWP0	23,484.4	25,500.7				Out of Range @TD
*FLAMING SNAIL FED COM #803H - OWB - PWP0	23,484.4	25,812.8				Out of Range @TD
CICADA UNIT #13H - OWB - AWP	23,484.4	7,754.9				Out of Range @TD
CICADA UNIT #14H - OWB - AWP	23,484.4	7,696.0				Out of Range @TD
CICADA UNIT #15H - OWB - AWP	23,484.4	7,719.4				Out of Range @TD
CICADA UNIT #16H - OWB - AWP	23,484.4	7,720.6	718.8	577.2	5.077	Out of Range @TD
CICADA UNIT #17H - OWB - AWP	23,484.4	7,686.9				Out of Range @TD
FLAMING SNAIL FEDERAL COM #502H - OWB - PWP0	23,484.4	23,377.7				Out of Range @TD
FLAMING SNAIL FEDERAL COM #520H - OWB - PWP0	23,484.4	23,779.1	784.4	539.1	3.198	Out of Range @TD
LEONARDO BKL FEDERAL COM #1 - OWB - AWP	23,484.4	7,516.9				Out of Range @TD

Offset Design: FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #701H - OWB - PWP0													Offset Site Error: 0.0 usft	
Survey Program: Reference		0-Standard Keeper 104, 8474-MWD+IFR1+FDIR						Rule Assigned: Distance					Offset Well Error: 3.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	11.1	11.1	3.0	3.0	3.77	202.3	13.3	202.8					
95.0	95.0	106.1	106.1	3.0	3.0	3.77	202.3	13.3	202.8	196.8	6.00	33.790		
100.0	100.0	111.1	111.1	3.0	3.0	3.77	202.3	13.3	202.8	196.8	6.00	33.789		
190.0	190.0	201.1	201.1	3.0	3.0	3.77	202.3	13.3	202.8	196.8	6.01	33.739		
200.0	200.0	211.1	211.1	3.0	3.0	3.77	202.3	13.3	202.8	196.8	6.01	33.731		
285.0	285.0	296.1	296.1	3.0	3.0	3.77	202.3	13.3	202.8	196.7	6.03	33.631		
300.0	300.0	311.1	311.1	3.0	3.0	3.77	202.3	13.3	202.8	196.7	6.03	33.608		
380.0	380.0	391.1	391.1	3.0	3.0	3.77	202.3	13.3	202.8	196.7	6.06	33.465		
400.0	400.0	411.1	411.1	3.0	3.0	3.77	202.3	13.3	202.8	196.7	6.07	33.424		
475.0	475.0	486.1	486.1	3.0	3.1	3.77	202.3	13.3	202.8	196.7	6.10	33.247		
500.0	500.0	511.1	511.1	3.1	3.1	3.77	202.3	13.3	202.8	196.7	6.11	33.181		
570.0	570.0	581.1	581.1	3.1	3.1	3.77	202.3	13.3	202.8	196.6	6.15	32.977		
600.0	600.0	611.1	611.1	3.1	3.1	3.77	202.3	13.3	202.8	196.6	6.17	32.883		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #701H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 8474-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum		Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
7,750.0	7,516.0	7,571.6	7,528.0	22.6	9.5	107.74	496.9	590.8	48.4	20.9	27.53	1.760 Advise and Monitor	
7,790.0	7,533.1	7,588.0	7,544.4	22.6	9.5	122.15	497.2	591.3	74.6	46.1	28.49	2.617	
7,800.0	7,537.0	7,591.8	7,548.2	22.6	9.5	124.60	497.2	591.5	82.5	53.7	28.75	2.870	
7,850.0	7,554.0	7,608.1	7,564.4	22.7	9.5	131.61	497.5	591.9	125.8	96.2	29.62	4.248	
7,885.0	7,563.4	7,617.0	7,573.4	22.7	9.6	132.30	497.6	592.2	158.2	128.3	29.96	5.282	
7,900.0	7,566.8	7,620.3	7,576.6	22.7	9.6	131.58	497.7	592.3	172.5	142.4	30.07	5.736	
7,950.0	7,575.3	7,628.2	7,584.6	22.8	9.6	123.74	497.8	592.5	220.8	190.4	30.32	7.280	
7,980.0	7,578.4	7,630.9	7,587.3	22.8	9.6	113.11	497.8	592.5	250.2	219.8	30.43	8.224	
8,000.0	7,579.5	7,631.9	7,588.2	22.8	9.6	102.40	497.8	592.5	270.0	239.5	30.48	8.857	
8,024.8	7,580.0	7,632.0	7,588.4	22.8	9.6	85.00	497.8	592.6	294.5	264.0	30.54	9.644	
8,075.0	7,579.9	7,631.3	7,587.6	22.8	9.6	83.90	497.8	592.5	344.4	313.7	30.63	11.244	
8,100.0	7,579.8	7,630.9	7,587.3	22.9	9.6	83.35	497.8	592.5	369.2	338.5	30.66	12.042	
8,170.0	7,579.7	7,629.8	7,586.2	22.9	9.6	81.80	497.8	592.5	438.9	408.1	30.73	14.280	
8,200.0	7,579.6	7,629.4	7,585.7	22.9	9.6	81.13	497.8	592.5	468.8	438.0	30.76	15.240	
8,265.0	7,579.4	7,628.4	7,584.7	23.0	9.6	79.69	497.8	592.5	533.6	502.8	30.81	17.320	
8,300.0	7,579.3	7,627.8	7,584.2	23.0	9.6	78.91	497.7	592.4	568.5	537.6	30.83	18.441	
8,360.0	7,579.2	7,626.9	7,583.2	23.1	9.6	77.58	497.7	592.4	628.3	597.5	30.86	20.363	
8,400.0	7,579.1	7,626.2	7,582.6	23.1	9.6	76.69	497.7	592.4	668.3	637.4	30.87	21.644	
8,455.0	7,579.0	7,625.3	7,581.7	23.1	9.6	75.47	497.7	592.4	723.2	692.3	30.90	23.406	
8,500.0	7,578.9	7,624.6	7,581.0	23.2	9.6	74.48	497.7	592.4	768.1	737.2	30.91	24.847	
8,550.0	7,578.7	7,623.8	7,580.2	23.3	9.6	73.38	497.7	592.3	818.0	787.1	30.93	26.448	
8,600.0	7,578.6	7,623.0	7,579.3	23.3	9.6	72.28	497.7	592.3	868.0	837.0	30.95	28.049	
8,645.0	7,578.5	7,622.2	7,578.6	23.4	9.6	71.30	497.7	592.3	912.9	882.0	30.96	29.489	
8,700.0	7,578.4	7,621.3	7,577.7	23.4	9.6	70.10	497.7	592.3	967.9	936.9	30.97	31.249	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #702H - OWB - PWP0											Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 8534-MWD+IFR1+FDIR											Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum Separation		Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Factor	
7,315.0	7,195.1	7,219.2	7,206.2	21.8	9.6	64.24	485.8	109.6	585.7	556.4	29.32	19.979
7,350.0	7,227.8	7,251.9	7,238.9	21.8	9.7	65.81	485.8	109.6	580.1	550.9	29.28	19.811
7,400.0	7,273.0	7,297.2	7,284.1	21.9	9.7	68.44	485.8	109.6	571.2	542.0	29.19	19.566
7,410.0	7,281.8	7,306.0	7,292.9	22.0	9.7	69.02	485.8	109.6	569.3	540.1	29.17	19.517
7,450.0	7,316.2	7,340.4	7,327.3	22.0	9.8	71.48	485.8	109.6	561.4	532.4	29.04	19.329
7,500.0	7,357.1	7,381.3	7,368.2	22.1	9.8	74.82	485.8	109.6	551.4	522.6	28.84	19.120
7,505.0	7,361.0	7,385.2	7,372.1	22.2	9.8	75.16	485.8	109.6	550.4	521.6	28.81	19.102
7,550.0	7,395.3	7,419.5	7,406.4	22.3	9.9	78.32	485.8	109.6	541.8	513.2	28.57	18.961
7,600.0	7,430.5	7,454.7	7,441.6	22.3	9.9	81.83	485.8	109.6	533.3	505.1	28.26	18.871
7,650.0	7,462.6	7,486.7	7,473.7	22.4	10.0	85.16	485.8	109.6	526.7	498.7	27.91	18.868
7,695.0	7,488.4	7,512.6	7,499.5	22.5	10.0	87.86	485.8	109.6	522.8	495.3	27.59	18.951
7,700.0	7,491.1	7,515.3	7,502.2	22.5	10.0	88.14	485.8	109.6	522.6	495.0	27.55	18.965
7,736.8	7,509.8	7,534.0	7,520.9	22.6	10.0	90.00	485.8	109.6	521.6	494.3	27.30	19.103
7,750.0	7,516.0	7,540.2	7,527.1	22.6	10.0	90.59	485.8	109.6	521.7	494.5	27.22	19.167
7,790.0	7,533.1	7,557.3	7,544.2	22.6	10.0	92.08	485.8	109.6	523.8	496.8	26.99	19.404
7,800.0	7,537.0	7,561.2	7,548.1	22.6	10.0	92.38	485.8	109.6	524.7	497.8	26.94	19.474
7,850.0	7,554.0	7,578.1	7,565.1	22.7	10.1	93.40	485.8	109.6	531.9	505.1	26.76	19.878
7,885.0	7,563.4	7,587.5	7,574.5	22.7	10.1	93.61	485.8	109.6	539.5	512.8	26.69	20.215
7,900.0	7,566.8	7,590.9	7,577.9	22.7	10.1	93.57	485.8	109.6	543.4	516.7	26.67	20.373
7,950.0	7,575.3	7,599.5	7,586.4	22.8	10.1	92.83	485.8	109.6	559.2	532.5	26.69	20.953
7,980.0	7,578.4	7,602.5	7,589.5	22.8	10.1	91.92	485.8	109.6	570.6	543.9	26.74	21.339
8,000.0	7,579.5	7,603.7	7,590.6	22.8	10.1	91.13	485.8	109.6	579.0	552.2	26.79	21.613
8,024.8	7,580.0	7,604.2	7,591.1	22.8	10.1	89.93	485.8	109.6	590.2	563.3	26.87	21.968
8,075.0	7,579.9	7,604.1	7,591.0	22.8	10.1	89.91	485.8	109.6	615.3	588.2	27.06	22.739
8,100.0	7,579.8	7,604.0	7,590.9	22.9	10.1	89.91	485.8	109.6	628.9	601.7	27.17	23.150
8,170.0	7,579.7	7,603.8	7,590.8	22.9	10.1	89.89	485.8	109.6	670.5	643.0	27.50	24.380
8,200.0	7,579.6	7,603.8	7,590.7	22.9	10.1	89.88	485.8	109.6	689.8	662.1	27.65	24.946
8,265.0	7,579.4	7,603.6	7,590.5	23.0	10.1	89.86	485.8	109.6	734.0	706.0	27.97	26.238
8,300.0	7,579.3	7,603.5	7,590.4	23.0	10.1	89.86	485.8	109.6	759.0	730.9	28.14	26.973
8,360.0	7,579.2	7,603.4	7,590.3	23.1	10.1	89.84	485.8	109.6	803.6	775.2	28.41	28.283
8,400.0	7,579.1	7,603.3	7,590.2	23.1	10.1	89.83	485.8	109.6	834.5	805.9	28.58	29.193
8,455.0	7,579.0	7,603.1	7,590.1	23.1	10.1	89.81	485.8	109.6	878.1	849.3	28.81	30.480
8,500.0	7,578.9	7,603.0	7,590.0	23.2	10.1	89.80	485.8	109.6	914.7	885.7	28.98	31.567
8,550.0	7,578.7	7,602.9	7,589.8	23.3	10.1	89.79	485.8	109.6	956.2	927.0	29.15	32.801
8,600.0	7,578.6	7,602.8	7,589.7	23.3	10.1	89.78	485.8	109.6	998.4	969.1	29.31	34.064

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #704H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 8495-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,035.0	4,958.7	4,904.4	4,872.9	13.8	6.4	-139.25	319.3	-432.1	872.1	853.8	18.22	47.861	
5,100.0	5,021.7	4,965.5	4,933.1	14.1	6.4	-139.55	322.6	-442.2	893.7	875.2	18.50	48.319	
5,130.0	5,050.9	4,993.7	4,960.9	14.2	6.5	-139.69	324.2	-446.9	903.7	885.1	18.62	48.525	
5,200.0	5,118.8	5,059.6	5,025.8	14.4	6.5	-139.98	327.7	-457.7	927.0	908.1	18.92	48.993	
5,225.0	5,143.0	5,083.1	5,048.9	14.5	6.5	-140.09	329.0	-461.6	935.4	916.4	19.03	49.156	
5,300.0	5,215.8	5,153.6	5,118.4	14.7	6.6	-140.39	332.8	-473.3	960.4	941.1	19.35	49.632	
5,320.0	5,235.2	5,172.5	5,136.9	14.8	6.6	-140.46	333.9	-476.4	967.1	947.7	19.44	49.755	
5,400.0	5,312.8	5,247.7	5,211.0	15.1	6.7	-140.76	338.0	-488.8	993.8	974.1	19.78	50.237	
5,415.0	5,327.4	5,261.8	5,224.9	15.1	6.7	-140.82	338.7	-491.1	998.9	979.0	19.85	50.325	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #801H - OWB - PWP0											Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 9475-MWD+IFR1+FDIR											Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum Separation		Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Factor	
7,315.0	7,195.1	7,265.4	7,221.6	21.8	9.1	40.12	611.6	528.9	173.2	142.1	31.09	5.572
7,350.0	7,227.8	7,297.0	7,252.9	21.8	9.2	43.24	613.5	532.9	159.4	128.2	31.21	5.107
7,400.0	7,273.0	7,340.5	7,296.0	21.9	9.2	49.79	616.1	538.3	137.7	106.4	31.32	4.397
7,410.0	7,281.8	7,349.0	7,304.4	22.0	9.2	51.47	616.6	539.4	133.2	101.9	31.32	4.252
7,450.0	7,316.2	7,381.8	7,336.9	22.0	9.3	59.75	618.5	543.6	115.0	83.8	31.25	3.681
7,500.0	7,357.1	7,420.0	7,374.7	22.1	9.3	73.83	620.7	548.3	94.1	63.4	30.70	3.066
7,505.0	7,361.0	7,423.7	7,378.4	22.2	9.3	75.47	620.9	548.7	92.3	61.7	30.60	3.017
7,550.0	7,395.3	7,455.5	7,410.0	22.3	9.4	91.36	622.7	552.4	80.7	51.5	29.26	2.759 SF
7,570.3	7,409.9	7,469.1	7,423.5	22.3	9.4	98.68	623.4	554.0	79.3	50.7	28.52	2.779 CC, ES
7,600.0	7,430.5	7,488.2	7,442.4	22.3	9.4	108.73	624.4	556.1	82.6	54.8	27.75	2.975
7,650.0	7,462.6	7,517.8	7,471.8	22.4	9.4	122.34	625.9	559.3	101.9	74.1	27.81	3.663
7,695.0	7,488.4	7,541.6	7,495.4	22.5	9.5	130.64	627.0	561.8	129.8	101.3	28.50	4.553
7,700.0	7,491.1	7,544.1	7,497.9	22.5	9.5	131.35	627.1	562.0	133.3	104.7	28.58	4.664
7,750.0	7,516.0	7,566.7	7,520.4	22.6	9.5	136.48	628.2	564.3	171.7	142.4	29.25	5.871
7,790.0	7,533.1	7,582.1	7,535.7	22.6	9.5	138.27	628.9	565.7	205.6	175.9	29.64	6.936
7,800.0	7,537.0	7,585.6	7,539.2	22.6	9.5	138.42	629.0	566.1	214.4	184.6	29.72	7.213
7,850.0	7,554.0	7,600.5	7,554.0	22.7	9.5	137.19	629.7	567.5	259.8	229.7	30.05	8.646
7,885.0	7,563.4	7,608.5	7,561.9	22.7	9.6	133.96	630.0	568.2	292.7	262.5	30.21	9.690
7,900.0	7,566.8	7,611.2	7,564.7	22.7	9.6	131.78	630.2	568.4	307.1	276.8	30.27	10.145
7,950.0	7,575.3	7,617.7	7,571.1	22.8	9.6	119.25	630.4	569.0	355.6	325.2	30.43	11.688
7,980.0	7,578.4	7,619.5	7,572.9	22.8	9.6	106.09	630.5	569.2	385.1	354.6	30.49	12.629
8,000.0	7,579.5	7,619.9	7,573.2	22.8	9.6	94.48	630.5	569.2	404.8	374.3	30.53	13.259
8,024.8	7,580.0	7,619.3	7,572.6	22.8	9.6	77.97	630.5	569.2	429.3	398.8	30.57	14.044
8,075.0	7,579.9	7,617.0	7,570.3	22.8	9.6	76.04	630.4	569.0	479.0	448.4	30.63	15.637
8,100.0	7,579.8	7,615.8	7,569.2	22.9	9.6	75.09	630.3	568.8	503.8	473.1	30.66	16.432
8,170.0	7,579.7	7,612.5	7,565.9	22.9	9.6	72.47	630.2	568.6	573.2	542.5	30.72	18.660
8,200.0	7,579.6	7,611.1	7,564.5	22.9	9.6	71.36	630.2	568.4	603.1	572.3	30.74	19.616
8,265.0	7,579.4	7,608.0	7,561.5	23.0	9.6	69.02	630.0	568.1	667.7	636.9	30.78	21.689
8,300.0	7,579.3	7,606.4	7,559.8	23.0	9.6	67.79	629.9	568.0	702.5	671.7	30.80	22.806
8,360.0	7,579.2	7,603.5	7,556.9	23.1	9.5	65.72	629.8	567.7	762.2	731.4	30.83	24.722
8,400.0	7,579.1	7,601.6	7,555.0	23.1	9.5	64.38	629.7	567.6	802.1	771.2	30.85	25.999
8,455.0	7,579.0	7,598.9	7,552.3	23.1	9.5	62.58	629.6	567.3	856.8	826.0	30.87	27.756
8,500.0	7,578.9	7,596.7	7,550.1	23.2	9.5	61.15	629.5	567.1	901.7	870.8	30.89	29.194
8,550.0	7,578.7	7,594.2	7,547.7	23.3	9.5	59.61	629.4	566.9	951.5	920.6	30.90	30.791

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #802H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 9442-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
7,315.0	7,195.1	7,215.0	7,200.2	21.8	9.5	82.35	625.0	-285.2	926.8	899.2	27.61	33.566	
7,350.0	7,227.8	7,247.7	7,232.9	21.8	9.5	83.24	625.0	-285.2	925.1	897.5	27.62	33.489	
7,400.0	7,273.0	7,293.0	7,278.1	21.9	9.6	84.67	625.0	-285.2	922.6	895.0	27.64	33.379	
7,410.0	7,281.8	7,301.8	7,286.9	22.0	9.6	84.97	625.0	-285.2	922.2	894.5	27.64	33.358	
7,450.0	7,316.2	7,336.2	7,321.3	22.0	9.6	86.24	625.0	-285.2	920.3	892.7	27.66	33.277	
7,500.0	7,357.1	7,377.0	7,362.2	22.1	9.7	87.89	625.0	-285.2	918.6	890.9	27.67	33.194	
7,505.0	7,361.0	7,381.0	7,366.1	22.2	9.7	88.05	625.0	-285.2	918.4	890.7	27.67	33.187	
7,550.0	7,395.3	7,415.2	7,400.4	22.3	9.7	89.52	625.0	-285.2	917.6	889.9	27.69	33.137	
7,565.3	7,406.4	7,426.4	7,411.5	22.3	9.7	90.00	625.0	-285.2	917.6	889.9	27.70	33.126	
7,600.0	7,430.5	7,450.5	7,435.6	22.3	9.7	91.05	625.0	-285.2	917.9	890.2	27.72	33.115	
7,650.0	7,462.6	7,482.5	7,467.7	22.4	9.8	92.40	625.0	-285.2	919.7	892.0	27.75	33.138	
7,695.0	7,488.4	7,508.4	7,493.5	22.5	9.8	93.39	625.0	-285.2	923.0	895.2	27.80	33.203	
7,700.0	7,491.1	7,511.1	7,496.2	22.5	9.8	93.48	625.0	-285.2	923.5	895.7	27.80	33.213	
7,750.0	7,516.0	7,536.0	7,521.1	22.6	9.8	94.23	625.0	-285.2	929.4	901.5	27.87	33.348	
7,790.0	7,533.1	7,553.1	7,538.2	22.6	9.9	94.54	625.0	-285.2	935.8	907.9	27.93	33.502	
7,800.0	7,537.0	7,557.0	7,542.1	22.6	9.9	94.57	625.0	-285.2	937.6	909.7	27.95	33.548	
7,850.0	7,554.0	7,573.9	7,559.1	22.7	9.9	94.46	625.0	-285.2	948.4	920.4	28.04	33.819	
7,885.0	7,563.4	7,583.3	7,568.5	22.7	9.9	94.08	625.0	-285.2	957.5	929.4	28.12	34.052	
7,900.0	7,566.8	7,586.7	7,571.9	22.7	9.9	93.84	625.0	-285.2	961.8	933.7	28.15	34.164	
7,950.0	7,575.3	7,595.3	7,580.4	22.8	9.9	92.69	625.0	-285.2	977.7	949.4	28.27	34.584	
7,980.0	7,578.4	7,598.3	7,583.5	22.8	9.9	91.74	625.0	-285.2	988.4	960.1	28.34	34.871	
8,000.0	7,579.5	7,599.5	7,584.6	22.8	9.9	90.99	625.0	-285.2	996.0	967.6	28.39	35.078	

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design:	FLAMING SNAIL FED COM PROJECT - *FLAMING SNAIL FED COM #803H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program:	0-Standard Keeper 104, 9563-MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.0	4,924.7	4,828.8	4,797.6	13.7	6.3	-127.66	481.5	-489.5	903.9	885.6	18.31	49.368		
5,035.0	4,958.7	4,861.9	4,830.3	13.8	6.3	-127.96	483.3	-494.3	914.3	895.8	18.46	49.519		
5,100.0	5,021.7	4,923.4	4,891.1	14.1	6.4	-128.50	486.5	-503.4	933.6	914.9	18.75	49.795		
5,130.0	5,050.9	4,951.8	4,919.1	14.2	6.4	-128.74	488.1	-507.5	942.6	923.7	18.88	49.919		
5,200.0	5,118.8	5,018.0	4,984.5	14.4	6.5	-129.29	491.6	-517.3	963.5	944.3	19.19	50.206		
5,225.0	5,143.0	5,041.6	5,007.9	14.5	6.5	-129.48	492.9	-520.8	971.0	951.7	19.30	50.307		
5,300.0	5,215.8	5,112.6	5,077.9	14.7	6.6	-130.03	496.7	-531.2	993.6	973.9	19.63	50.603		
5,320.0	5,235.2	5,131.5	5,096.6	14.8	6.6	-130.17	497.7	-534.0	999.6	979.9	19.72	50.681		

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - CICADA UNIT #16H - OWB - AWP													Offset Site Error:	0.0 usft	
Survey Program:		185-MWD		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	3.0 usft
Measured	Reference	Measured	Offset	Reference	Offset	Highside				Distance				Warning	
Depth	Vertical	Depth	Vertical			Toolface	+N/-S	+E/-W	Between	Between	Minimum	Separation			
(usft)	Depth	(usft)	Depth	(usft)	(usft)	(°)	(usft)	(usft)	Centres	Ellipses	Separation	Factor			
	(usft)		(usft)						(usft)	(usft)	(usft)				
22,420.0	7,545.5	7,721.0	7,678.3	113.5	32.3	-89.60	-14,947.3	1,156.6	993.4	886.4	106.97	9.286			
22,500.0	7,545.4	7,720.9	7,678.3	114.1	32.3	-89.60	-14,947.3	1,156.6	934.2	822.7	111.43	8.383			
22,515.0	7,545.3	7,720.9	7,678.3	114.3	32.3	-89.60	-14,947.3	1,156.6	923.4	811.1	112.31	8.222			
22,600.0	7,545.1	7,720.9	7,678.3	114.9	32.3	-89.60	-14,947.3	1,156.6	864.9	747.4	117.54	7.359			
22,610.0	7,545.1	7,720.9	7,678.3	115.0	32.3	-89.59	-14,947.3	1,156.6	858.3	740.1	118.17	7.263			
22,700.0	7,544.9	7,720.9	7,678.2	115.6	32.3	-89.59	-14,947.3	1,156.6	802.2	678.0	124.11	6.463			
22,705.0	7,544.9	7,720.9	7,678.2	115.7	32.3	-89.59	-14,947.3	1,156.6	799.2	674.8	124.44	6.422			
22,800.0	7,544.6	7,720.8	7,678.2	116.4	32.3	-89.59	-14,947.3	1,156.6	747.6	616.7	130.89	5.711			
22,895.0	7,544.4	7,720.8	7,678.2	117.1	32.3	-89.59	-14,947.3	1,156.6	705.0	567.9	137.11	5.142			
22,900.0	7,544.4	7,720.8	7,678.2	117.2	32.3	-89.59	-14,947.3	1,156.6	703.0	565.6	137.42	5.116			
22,990.0	7,544.2	7,720.8	7,678.1	117.8	32.3	-89.58	-14,947.3	1,156.6	673.2	530.6	142.55	4.723			
23,000.0	7,544.2	7,720.8	7,678.1	117.9	32.3	-89.58	-14,947.3	1,156.6	670.5	527.5	143.05	4.688			
23,085.0	7,544.0	7,720.7	7,678.1	118.5	32.3	-89.58	-14,947.3	1,156.6	653.8	507.2	146.56	4.461			
23,100.0	7,543.9	7,720.7	7,678.1	118.7	32.3	-89.58	-14,947.3	1,156.6	651.9	504.9	147.03	4.434			
23,173.0	7,543.7	7,720.7	7,678.1	119.2	32.3	-89.58	-14,947.3	1,156.6	647.8	499.3	148.54	4.361 CC			
23,180.0	7,543.7	7,720.7	7,678.1	119.3	32.3	-89.58	-14,947.3	1,156.6	647.9	499.3	148.61	4.360 ES			
23,200.0	7,543.7	7,720.7	7,678.1	119.4	32.3	-89.58	-14,947.3	1,156.6	648.4	499.6	148.76	4.359 SF			
23,275.0	7,543.5	7,720.7	7,678.0	120.0	32.3	-89.58	-14,947.3	1,156.6	655.8	507.4	148.46	4.418			
23,300.0	7,543.4	7,720.7	7,678.0	120.2	32.3	-89.57	-14,947.3	1,156.6	660.2	512.1	148.06	4.459			
23,370.0	7,543.3	7,720.6	7,678.0	120.7	32.3	-89.57	-14,947.3	1,156.6	677.1	530.9	146.26	4.630			
23,400.0	7,543.2	7,720.6	7,678.0	120.9	32.3	-89.57	-14,947.3	1,156.6	686.4	541.2	145.21	4.727			
23,434.4	7,543.1	7,720.6	7,678.0	121.2	32.3	-89.57	-14,947.3	1,156.6	698.6	554.7	143.84	4.857			
23,465.0	7,543.0	7,720.6	7,678.0	121.4	32.3	-89.57	-14,947.3	1,156.6	710.6	568.1	142.49	4.987			
23,484.4	7,543.0	7,720.6	7,678.0	121.5	32.3	-89.57	-14,947.3	1,156.6	718.8	577.2	141.58	5.077			

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - FLAMING SNAIL FEDERAL COM #502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 2000-MWD+IFR1+MS, 7093-MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum		Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Factor	
0.0	0.0	0.7	0.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.00	9.985
95.0	95.0	95.7	95.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.00	9.985
100.0	100.0	100.7	100.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.00	9.981
190.0	190.0	190.7	190.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.00	9.980
200.0	200.0	200.7	200.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.01	9.972
285.0	285.0	285.7	285.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.01	9.970
300.0	300.0	300.7	300.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.02	9.958
380.0	380.0	380.7	380.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.02	9.955
400.0	400.0	400.7	400.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.03	9.940
475.0	475.0	475.7	475.7	3.0	3.0	-91.05	-1.1	-59.9	59.9	53.9		6.03	9.934
500.0	500.0	500.7	500.7	3.1	3.1	-91.05	-1.1	-59.9	59.9	53.9		6.04	9.917
570.0	570.0	570.7	570.7	3.1	3.1	-91.05	-1.1	-59.9	59.9	53.9		6.05	9.908
600.0	600.0	600.7	600.7	3.1	3.1	-91.05	-1.1	-59.9	59.9	53.9		6.06	9.889
665.0	665.0	665.7	665.7	3.1	3.1	-91.05	-1.1	-59.9	59.9	53.8		6.07	9.878
700.0	700.0	700.7	700.7	3.1	3.1	-91.05	-1.1	-59.9	59.9	53.8		6.08	9.857
760.0	760.0	760.7	760.7	3.1	3.1	-91.05	-1.1	-59.9	59.9	53.8		6.09	9.842
800.0	800.0	800.7	800.7	3.2	3.2	-91.05	-1.1	-59.9	59.9	53.8		6.10	9.820
855.0	855.0	855.7	855.7	3.2	3.2	-91.05	-1.1	-59.9	59.9	53.8		6.11	9.801
900.0	900.0	900.7	900.7	3.2	3.2	-91.05	-1.1	-59.9	59.9	53.8		6.13	9.779
950.0	950.0	950.7	950.7	3.2	3.2	-91.05	-1.1	-59.9	59.9	53.8		6.14	9.756
1,000.0	1,000.0	1,000.7	1,000.7	3.2	3.2	-91.05	-1.1	-59.9	59.9	53.8		6.15	9.735
1,045.0	1,045.0	1,045.7	1,045.7	3.3	3.3	-91.05	-1.1	-59.9	59.9	53.7		6.17	9.707
1,100.0	1,100.0	1,100.7	1,100.7	3.3	3.3	-91.05	-1.1	-59.9	59.9	53.7		6.19	9.686
1,140.0	1,140.0	1,140.7	1,140.7	3.3	3.3	-91.05	-1.1	-59.9	59.9	53.7		6.21	9.653
1,200.0	1,200.0	1,200.7	1,200.7	3.4	3.4	-91.05	-1.1	-59.9	59.9	53.7		6.22	9.634
1,235.0	1,235.0	1,235.7	1,235.7	3.4	3.4	-91.05	-1.1	-59.9	59.9	53.7		6.24	9.596
1,300.0	1,300.0	1,300.7	1,300.7	3.4	3.4	-91.05	-1.1	-59.9	59.9	53.7		6.25	9.578
1,330.0	1,330.0	1,330.7	1,330.7	3.4	3.4	-91.05	-1.1	-59.9	59.9	53.6		6.28	9.535
1,400.0	1,400.0	1,400.7	1,400.7	3.5	3.5	-91.05	-1.1	-59.9	59.9	53.6		6.29	9.519
1,425.0	1,425.0	1,425.7	1,425.7	3.5	3.5	-91.05	-1.1	-59.9	59.9	53.6		6.33	9.470
1,500.0	1,500.0	1,500.7	1,500.7	3.5	3.5	-91.05	-1.1	-59.9	59.9	53.6		6.34	9.457
1,520.0	1,520.0	1,520.7	1,520.7	3.6	3.6	-91.05	-1.1	-59.9	59.9	53.5		6.37	9.402
1,600.0	1,600.0	1,600.7	1,600.7	3.6	3.6	-91.05	-1.1	-59.9	59.9	53.5		6.38	9.392
1,615.0	1,615.0	1,615.7	1,615.7	3.6	3.6	-91.05	-1.1	-59.9	59.9	53.5		6.42	9.332
1,700.0	1,700.0	1,700.7	1,700.7	3.7	3.7	-91.05	-1.1	-59.9	59.9	53.5		6.43	9.324
1,710.0	1,710.0	1,710.7	1,710.7	3.7	3.7	-91.05	-1.1	-59.9	59.9	53.5		6.47	9.258
1,800.0	1,800.0	1,800.7	1,800.7	3.8	3.8	-91.05	-1.1	-59.9	59.9	53.4		6.47	9.254
1,805.0	1,805.0	1,805.7	1,805.7	3.8	3.8	-91.05	-1.1	-59.9	59.9	53.4		6.52	9.182
1,900.0	1,900.0	1,900.7	1,900.7	3.9	3.9	-91.05	-1.1	-59.9	59.9	53.3		6.58	9.108
1,995.0	1,995.0	1,995.7	1,995.7	3.9	3.9	-91.05	-1.1	-59.9	59.9	53.3		6.58	9.108 CC
1,995.1	1,995.1	1,995.8	1,995.8	3.9	3.9	-91.05	-1.1	-59.9	59.9	53.3		6.58	9.103 ES, SF
2,000.0	2,000.0	2,000.7	2,000.7	3.9	3.9	-91.05	-1.1	-59.9	59.9	53.3		6.77	9.109
2,090.0	2,090.0	2,089.6	2,089.6	4.0	4.1	-130.04	0.0	-60.7	61.6	54.9		6.79	9.139
2,100.0	2,100.0	2,100.0	2,100.0	4.1	4.1	-130.02	0.3	-60.9	62.0	55.3		7.36	9.122
2,185.0	2,184.9	2,183.2	2,183.1	4.5	4.7	-129.79	3.6	-63.4	67.2	59.8		7.48	9.146
2,200.0	2,199.8	2,198.0	2,197.8	4.6	4.8	-129.73	4.4	-63.9	68.4	60.9		8.01	9.548
2,280.0	2,279.6	2,276.4	2,276.0	5.1	5.3	-129.43	9.7	-67.8	76.5	68.5		8.15	9.684
2,300.0	2,299.5	2,295.9	2,295.4	5.2	5.4	-129.35	11.2	-68.9	79.0	70.8		8.65	10.361
2,375.0	2,373.9	2,368.9	2,367.9	5.6	5.8	-129.03	18.1	-73.9	89.6	81.0		8.82	10.621
2,400.0	2,398.7	2,393.1	2,391.9	5.8	5.9	-128.92	20.6	-75.8	93.7	84.9		9.28	11.468
2,470.0	2,467.9	2,460.6	2,458.6	6.2	6.3	-128.63	28.7	-81.7	106.4	97.1			

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - FLAMING SNAIL FEDERAL COM #502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 2000-MWD+IFR1+MS, 7093-MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Distance		Minimum Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor		
5,035.0	4,958.7	4,905.7	4,828.5	13.8	13.6	-125.88	513.6	-435.8	855.8	831.1	24.76	34.569	
5,100.0	5,021.7	4,967.7	4,888.6	14.1	13.8	-125.87	526.1	-445.0	875.1	849.9	25.21	34.718	
5,130.0	5,050.9	4,996.4	4,916.3	14.2	13.9	-125.87	531.9	-449.2	884.1	858.6	25.42	34.784	
5,200.0	5,118.8	5,063.2	4,981.0	14.4	14.1	-125.86	545.4	-459.1	904.9	879.0	25.90	34.933	
5,225.0	5,143.0	5,087.1	5,004.1	14.5	14.2	-125.86	550.2	-462.6	912.3	886.2	26.08	34.984	
5,300.0	5,215.8	5,158.7	5,073.4	14.7	14.4	-125.85	564.7	-473.2	934.6	908.0	26.60	35.132	
5,320.0	5,235.2	5,177.8	5,091.9	14.8	14.5	-125.84	568.6	-476.0	940.5	913.8	26.74	35.170	
5,400.0	5,312.8	5,254.2	5,165.9	15.1	14.8	-125.83	584.0	-487.3	964.3	937.0	27.30	35.318	
5,415.0	5,327.4	5,268.5	5,179.7	15.1	14.8	-125.83	586.9	-489.4	968.8	941.4	27.41	35.345	
5,500.0	5,409.9	5,349.7	5,258.3	15.4	15.1	-125.82	603.3	-501.4	994.0	966.0	28.01	35.492	
5,510.0	5,419.6	5,359.2	5,267.6	15.5	15.1	-125.82	605.3	-502.8	997.0	968.9	28.08	35.508	

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: FLAMING SNAIL FED COM PROJECT - FLAMING SNAIL FEDERAL COM #520H - OWB - PWP0											Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 2000-MWD+IFR1+MS, 7459-MWD+IFR1+MS											Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum Separation		Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Factor	
22,200.0	7,546.1	22,512.5	7,966.3	111.9	111.7	122.47	-13,963.7	-143.3	782.2	556.2	225.98	3.461
22,230.0	7,546.0	22,542.5	7,966.4	112.1	111.9	122.48	-13,993.7	-143.6	782.2	555.8	226.43	3.454
22,300.0	7,545.8	22,612.5	7,966.4	112.6	112.4	122.49	-14,063.7	-144.1	782.3	554.8	227.50	3.439
22,325.0	7,545.8	22,637.5	7,966.4	112.8	112.6	122.50	-14,088.7	-144.3	782.4	554.5	227.88	3.433
22,400.0	7,545.6	22,712.5	7,966.4	113.4	113.2	122.51	-14,163.7	-144.9	782.5	553.5	229.02	3.417
22,420.0	7,545.5	22,732.5	7,966.5	113.5	113.3	122.51	-14,183.7	-145.1	782.5	553.2	229.32	3.412
22,500.0	7,545.4	22,812.5	7,966.5	114.1	113.9	122.53	-14,263.7	-145.7	782.6	552.1	230.54	3.395
22,515.0	7,545.3	22,827.5	7,966.5	114.3	114.0	122.53	-14,278.7	-145.8	782.7	551.9	230.77	3.392
22,600.0	7,545.1	22,912.5	7,966.6	114.9	114.7	122.55	-14,363.7	-146.5	782.8	550.7	232.06	3.373
22,610.0	7,545.1	22,922.5	7,966.6	115.0	114.8	122.55	-14,373.7	-146.6	782.8	550.6	232.21	3.371
22,700.0	7,544.9	23,012.5	7,966.6	115.6	115.4	122.56	-14,463.7	-147.3	783.0	549.4	233.58	3.352
22,705.0	7,544.9	23,017.5	7,966.6	115.7	115.5	122.57	-14,468.7	-147.3	783.0	549.3	233.66	3.351
22,800.0	7,544.6	23,112.5	7,966.7	116.4	116.2	122.58	-14,563.7	-148.1	783.1	548.0	235.11	3.331
22,895.0	7,544.4	23,207.5	7,966.7	117.1	116.9	122.60	-14,658.7	-148.9	783.3	546.7	236.55	3.311
22,900.0	7,544.4	23,212.5	7,966.7	117.2	116.9	122.60	-14,663.7	-148.9	783.3	546.6	236.63	3.310
22,990.0	7,544.2	23,302.5	7,966.8	117.8	117.6	122.62	-14,753.7	-149.6	783.4	545.4	238.00	3.292
23,000.0	7,544.2	23,312.5	7,966.8	117.9	117.7	122.62	-14,763.7	-149.7	783.4	545.3	238.15	3.290
23,085.0	7,544.0	23,397.5	7,966.8	118.5	118.3	122.63	-14,848.7	-150.4	783.6	544.1	239.44	3.272
23,100.0	7,543.9	23,412.5	7,966.8	118.7	118.4	122.64	-14,863.7	-150.5	783.6	543.9	239.67	3.269
23,180.0	7,543.7	23,492.5	7,966.9	119.3	119.0	122.65	-14,943.7	-151.1	783.7	542.8	240.89	3.253
23,200.0	7,543.7	23,512.5	7,966.9	119.4	119.2	122.65	-14,963.7	-151.3	783.7	542.5	241.20	3.249
23,275.0	7,543.5	23,587.5	7,966.9	120.0	119.8	122.67	-15,038.7	-151.9	783.9	541.5	242.34	3.235
23,300.0	7,543.4	23,612.5	7,966.9	120.2	119.9	122.67	-15,063.7	-152.1	783.9	541.2	242.72	3.230
23,370.0	7,543.3	23,682.5	7,966.9	120.7	120.5	122.68	-15,133.7	-152.6	784.0	540.2	243.79	3.216
23,400.0	7,543.2	23,712.5	7,967.0	120.9	120.7	122.69	-15,163.7	-152.9	784.1	539.8	244.24	3.210
23,434.4	7,543.1	23,746.9	7,967.0	121.2	121.0	122.70	-15,198.0	-153.1	784.1	539.3	244.77	3.203
23,465.0	7,543.0	23,777.5	7,967.0	121.4	121.2	122.70	-15,228.7	-153.4	784.2	538.9	245.23	3.198 SF
23,484.4	7,543.0	23,779.1	7,967.0	121.5	121.2	122.70	-15,230.2	-153.4	784.4	539.1	245.26	3.198

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to *KB=30ft @ 3160.9usft

Offset Depths are relative to Offset Datum

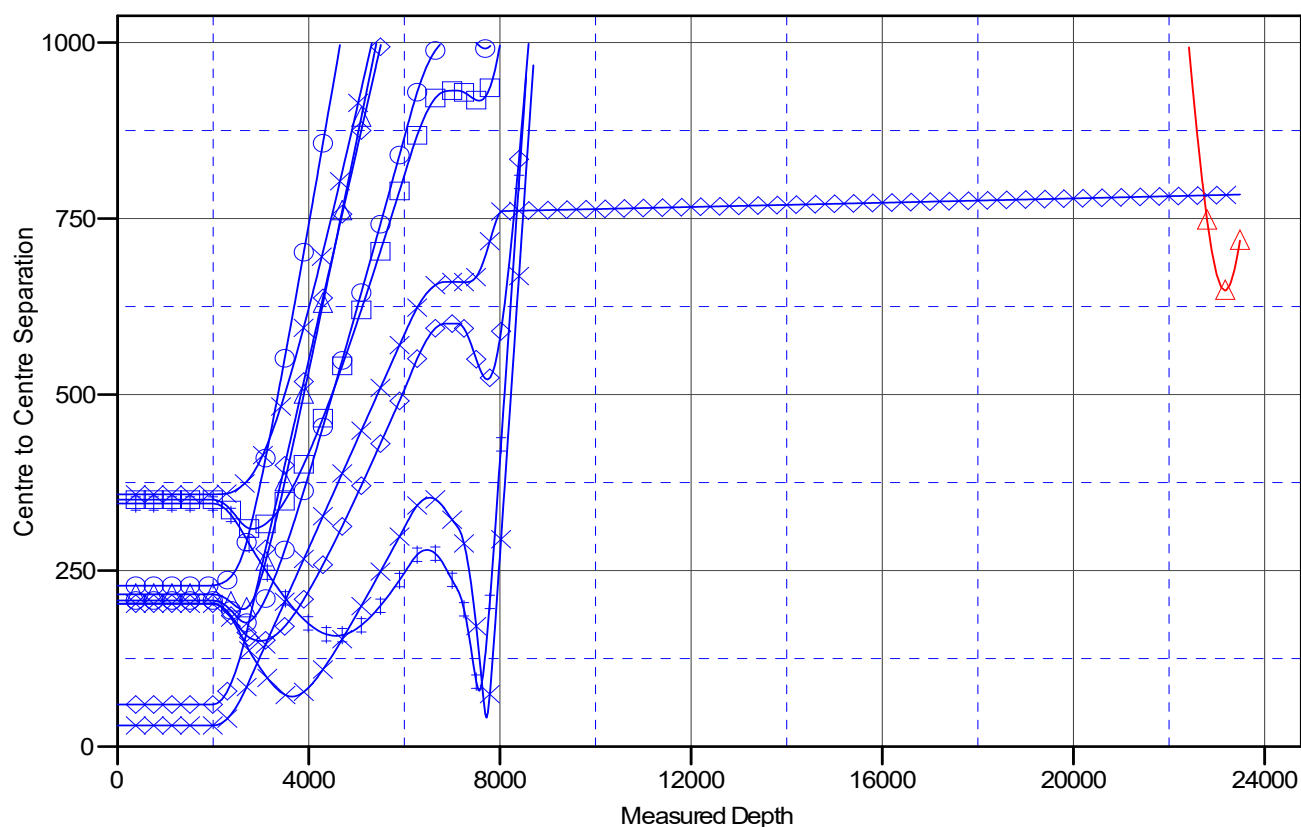
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: FLAMING SNAIL FEDERAL COM #501H

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

Grid Convergence at Surface is: 0.08°

Ladder Plot



LEGEND

*FLAMING SNAIL FED COM #01H, OWB, PWP0 V0
 *FLAMING SNAIL FED COM #02H, OWB, PWP0 V0
 *FLAMING SNAIL FED COM #03H, OWB, PWP0 V0
 *FLAMING SNAIL FED COM #04H, OWB, PWP0 V0

*FLAMING SNAIL FED COM #05H, OWB, PWP0 V0
 *FLAMING SNAIL FED COM #01H, OWB, PWP0 V0
 *FLAMING SNAIL FED COM #02H, OWB, PWP0 V0
 *FLAMING SNAIL FED COM #03H, OWB, PWP0 V0

CICADA UNIT #16H, OWB, AWP V0
 FLAMING SNAIL FEDERAL COM #502H, OWB, PWP0 V0
 FLAMING SNAIL FEDERAL COM #520H, OWB, PWP0 V0

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

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	*KB=30ft @ 3160.9usft
Reference Site:	FLAMING SNAIL FED COM PROJECT	MD Reference:	*KB=30ft @ 3160.9usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 15 Central Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to *KB=30ft @ 3160.9usft

Offset Depths are relative to Offset Datum

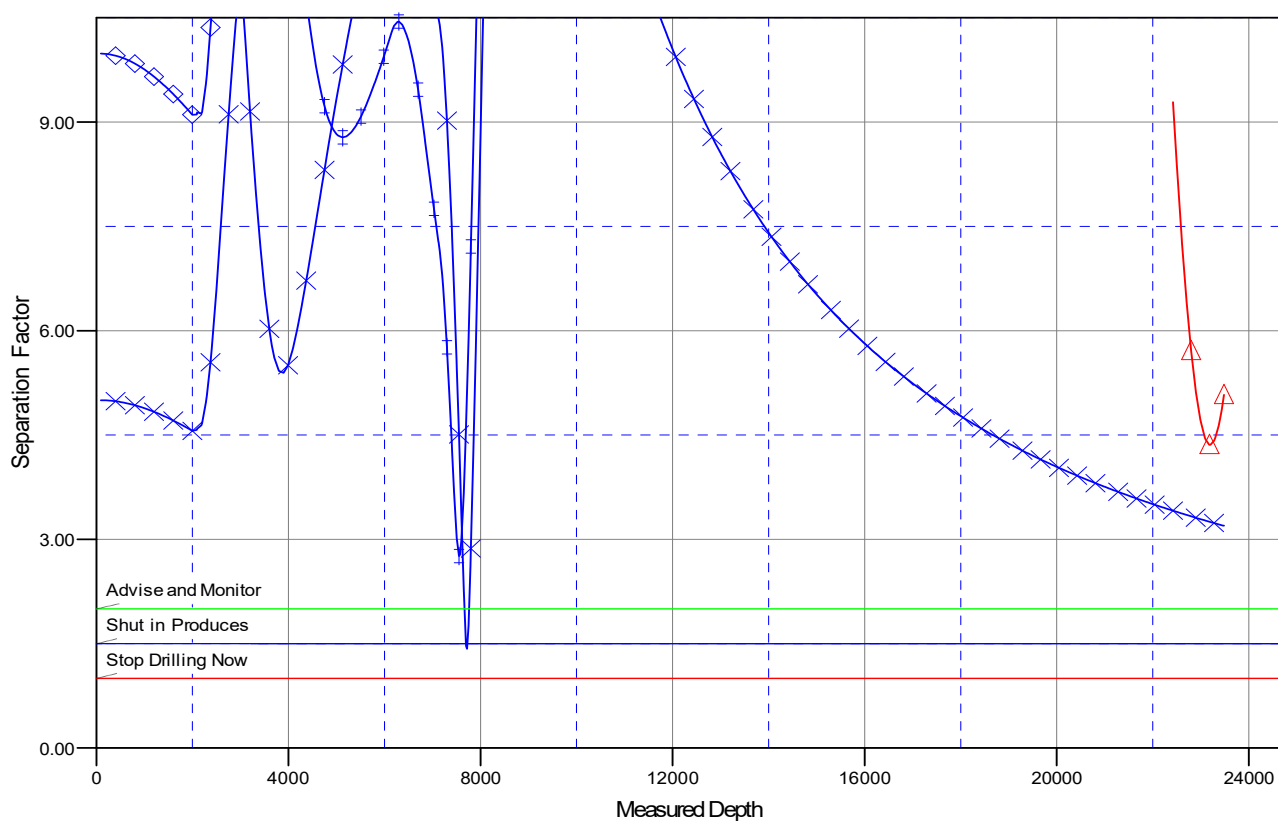
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: FLAMING SNAIL FEDERAL COM #501H

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

Grid Convergence at Surface is: 0.08°

Separation Factor Plot



LEGEND

*FLAMING SNAIL FED COM #01H, OWB, PWP0 V0	*FLAMING SNAIL FED COM #05H, OWB, PWP0 V0	CICADA UNIT #16H, OWB, AWP V0
*FLAMING SNAIL FED COM #02H, OWB, PWP0 V0	*FLAMING SNAIL FED COM #01H, OWB, PWP0 V0	FLAMING SNAIL FEDERAL COM #502H, OWB, PWP0 V0
*FLAMING SNAIL FED COM #03H, OWB, PWP0 V0	*FLAMING SNAIL FED COM #02H, OWB, PWP0 V0	FLAMING SNAIL FEDERAL COM #520H, OWB, PWP0 V0
*FLAMING SNAIL FED COM #04H, OWB, PWP0 V0	*FLAMING SNAIL FED COM #03H, OWB, PWP0 V0	

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

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

FLAMING SNAIL FED COM PROJECT

FLAMING SNAIL FEDERAL COM #501H

OWB

Plan: PWP0

Standard Planning Report

01 July, 2022

ConocoPhillips

Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project	ATLAS PROSPECT (NM-E)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		FLAMING SNAIL FED COM PROJECT				
Site Position:		Northing:	403,021.72 usft	Latitude:	32° 6' 28.642 N	
From:	Map	Easting:	540,311.87 usft	Longitude:	104° 12' 11.304 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.07 °

Well	FLAMING SNAIL FEDERAL COM #501H					
Well Position	+N/-S	-697.4 usft	Northing:	402,324.30 usft	Latitude:	32° 6' 21.685 N
	+E/-W	4,345.3 usft	Easting:	544,657.20 usft	Longitude:	104° 11' 20.793 W
Position Uncertainty		3.0 usft	Wellhead Elevation:		Ground Level:	3,130.9 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	1/1/2023	6.85	59.71	47,408.83526530

Design	PWP0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	178.10

Plan Survey Tool Program	Date	7/1/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	2,000.0 PWP0 (OWB)	Standard Keeper 104	
			Standard Wireline Keeper ver 1	
2	2,000.0	7,123.4 PWP0 (OWB)	MWD+IFR1+MS	
			OWSG MWD + IFR1 + Multi-St	
3	7,123.4	23,484.4 PWP0 (OWB)	MWD+IFR1+MS	
			OWSG MWD + IFR1 + Multi-St	

ConocoPhillips
Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,700.1	14.00	39.09	2,693.2	66.1	53.7	2.00	2.00	0.00	39.09	
6,149.3	14.00	39.09	6,039.8	713.8	579.9	0.00	0.00	0.00	0.00	
6,849.4	0.00	0.00	6,733.0	779.9	633.6	2.00	-2.00	0.00	180.00	
7,123.4	0.00	0.00	7,007.0	779.9	633.6	0.00	0.00	0.00	0.00	
8,024.8	90.14	180.45	7,580.0	205.5	629.0	10.00	10.00	-19.92	180.45	
23,434.4	90.14	180.45	7,543.1	-15,203.5	506.7	0.00	0.00	0.00	0.00	
23,484.4	90.14	180.45	7,543.0	-15,253.5	506.3	0.00	0.00	0.00	0.00	

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Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
START BUILD 2.00									
2,100.0	2.00	39.09	2,100.0	1.4	1.1	-1.3	2.00	2.00	0.00
2,200.0	4.00	39.09	2,199.8	5.4	4.4	-5.3	2.00	2.00	0.00
2,300.0	6.00	39.09	2,299.5	12.2	9.9	-11.8	2.00	2.00	0.00
2,400.0	8.00	39.09	2,398.7	21.6	17.6	-21.0	2.00	2.00	0.00
2,500.0	10.00	39.09	2,497.5	33.8	27.4	-32.9	2.00	2.00	0.00
2,600.0	12.00	39.09	2,595.6	48.6	39.5	-47.3	2.00	2.00	0.00
2,700.1	14.00	39.09	2,693.2	66.1	53.7	-64.2	2.00	2.00	0.00
START HOLD @ 2700.1 MD									
2,800.0	14.00	39.09	2,790.1	84.8	68.9	-82.5	0.00	0.00	0.00
2,900.0	14.00	39.09	2,887.1	103.6	84.2	-100.8	0.00	0.00	0.00
3,000.0	14.00	39.09	2,984.1	122.4	99.4	-119.0	0.00	0.00	0.00
3,100.0	14.00	39.09	3,081.2	141.2	114.7	-137.3	0.00	0.00	0.00
3,200.0	14.00	39.09	3,178.2	159.9	129.9	-155.5	0.00	0.00	0.00
3,300.0	14.00	39.09	3,275.2	178.7	145.2	-173.8	0.00	0.00	0.00
3,400.0	14.00	39.09	3,372.3	197.5	160.5	-192.1	0.00	0.00	0.00
3,500.0	14.00	39.09	3,469.3	216.3	175.7	-210.3	0.00	0.00	0.00
3,600.0	14.00	39.09	3,566.3	235.1	191.0	-228.6	0.00	0.00	0.00
3,700.0	14.00	39.09	3,663.3	253.8	206.2	-246.9	0.00	0.00	0.00
3,800.0	14.00	39.09	3,760.4	272.6	221.5	-265.1	0.00	0.00	0.00
3,900.0	14.00	39.09	3,857.4	291.4	236.7	-283.4	0.00	0.00	0.00
4,000.0	14.00	39.09	3,954.4	310.2	252.0	-301.6	0.00	0.00	0.00
4,100.0	14.00	39.09	4,051.5	329.0	267.3	-319.9	0.00	0.00	0.00
4,200.0	14.00	39.09	4,148.5	347.7	282.5	-338.2	0.00	0.00	0.00
4,300.0	14.00	39.09	4,245.5	366.5	297.8	-356.4	0.00	0.00	0.00
4,400.0	14.00	39.09	4,342.5	385.3	313.0	-374.7	0.00	0.00	0.00
4,500.0	14.00	39.09	4,439.6	404.1	328.3	-393.0	0.00	0.00	0.00
4,600.0	14.00	39.09	4,536.6	422.9	343.5	-411.2	0.00	0.00	0.00
4,700.0	14.00	39.09	4,633.6	441.6	358.8	-429.5	0.00	0.00	0.00
4,800.0	14.00	39.09	4,730.7	460.4	374.1	-447.7	0.00	0.00	0.00
4,900.0	14.00	39.09	4,827.7	479.2	389.3	-466.0	0.00	0.00	0.00
5,000.0	14.00	39.09	4,924.7	498.0	404.6	-484.3	0.00	0.00	0.00
5,100.0	14.00	39.09	5,021.7	516.7	419.8	-502.5	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,200.0	14.00	39.09	5,118.8	535.5	435.1	-520.8	0.00	0.00	0.00	
5,300.0	14.00	39.09	5,215.8	554.3	450.3	-539.1	0.00	0.00	0.00	
5,400.0	14.00	39.09	5,312.8	573.1	465.6	-557.3	0.00	0.00	0.00	
5,500.0	14.00	39.09	5,409.9	591.9	480.9	-575.6	0.00	0.00	0.00	
5,600.0	14.00	39.09	5,506.9	610.6	496.1	-593.8	0.00	0.00	0.00	
5,700.0	14.00	39.09	5,603.9	629.4	511.4	-612.1	0.00	0.00	0.00	
5,800.0	14.00	39.09	5,700.9	648.2	526.6	-630.4	0.00	0.00	0.00	
5,900.0	14.00	39.09	5,798.0	667.0	541.9	-648.6	0.00	0.00	0.00	
6,000.0	14.00	39.09	5,895.0	685.8	557.1	-666.9	0.00	0.00	0.00	
6,100.0	14.00	39.09	5,992.0	704.5	572.4	-685.2	0.00	0.00	0.00	
6,149.3	14.00	39.09	6,039.8	713.8	579.9	-694.2	0.00	0.00	0.00	
START DROP -2.00										
6,200.0	12.99	39.09	6,089.2	723.0	587.4	-703.1	2.00	-2.00	0.00	
6,300.0	10.99	39.09	6,187.0	739.1	600.5	-718.8	2.00	-2.00	0.00	
6,400.0	8.99	39.09	6,285.5	752.6	611.4	-731.9	2.00	-2.00	0.00	
6,500.0	6.99	39.09	6,384.5	763.3	620.2	-742.3	2.00	-2.00	0.00	
6,600.0	4.99	39.09	6,483.9	771.4	626.8	-750.2	2.00	-2.00	0.00	
6,700.0	2.99	39.09	6,583.7	776.8	631.1	-755.5	2.00	-2.00	0.00	
6,800.0	0.99	39.09	6,683.6	779.5	633.3	-758.1	2.00	-2.00	0.00	
6,849.4	0.00	0.00	6,733.0	779.9	633.6	-758.4	2.00	-2.00	-79.16	
START HOLD @ 6849.4 MD										
6,900.0	0.00	0.00	6,783.6	779.9	633.6	-758.4	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,883.6	779.9	633.6	-758.4	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,983.6	779.9	633.6	-758.4	0.00	0.00	0.00	
7,123.4	0.00	0.00	7,007.0	779.9	633.6	-758.4	0.00	0.00	0.00	
START DLS 10.00 TFO 180.45										
7,150.0	2.66	180.45	7,033.6	779.2	633.6	-757.8	10.00	10.00	0.00	
7,200.0	7.66	180.45	7,083.4	774.7	633.6	-753.3	10.00	10.00	0.00	
7,250.0	12.66	180.45	7,132.6	765.9	633.5	-744.5	10.00	10.00	0.00	
7,300.0	17.66	180.45	7,180.8	752.9	633.4	-731.4	10.00	10.00	0.00	
7,350.0	22.66	180.45	7,227.8	735.6	633.2	-714.2	10.00	10.00	0.00	
7,400.0	27.66	180.45	7,273.0	714.4	633.1	-693.0	10.00	10.00	0.00	
7,450.0	32.66	180.45	7,316.2	689.3	632.9	-667.9	10.00	10.00	0.00	
7,500.0	37.66	180.45	7,357.1	660.5	632.7	-639.2	10.00	10.00	0.00	
7,550.0	42.66	180.45	7,395.3	628.3	632.4	-606.9	10.00	10.00	0.00	
7,600.0	47.66	180.45	7,430.5	592.8	632.1	-571.5	10.00	10.00	0.00	
7,650.0	52.66	180.45	7,462.6	554.5	631.8	-533.2	10.00	10.00	0.00	
7,700.0	57.66	180.45	7,491.1	513.4	631.5	-492.2	10.00	10.00	0.00	
7,750.0	62.66	180.45	7,516.0	470.1	631.1	-448.9	10.00	10.00	0.00	
7,800.0	67.66	180.45	7,537.0	424.7	630.8	-403.6	10.00	10.00	0.00	
7,850.0	72.66	180.45	7,554.0	377.7	630.4	-356.6	10.00	10.00	0.00	
7,900.0	77.66	180.45	7,566.8	329.4	630.0	-308.3	10.00	10.00	0.00	
7,950.0	82.66	180.45	7,575.3	280.1	629.6	-259.1	10.00	10.00	0.00	
8,000.0	87.66	180.45	7,579.5	230.3	629.2	-209.3	10.00	10.00	0.00	
8,024.8	90.14	180.45	7,580.0	205.5	629.0	-184.6	10.00	10.00	0.00	
START HOLD @ 8024.8 MD										
8,100.0	90.14	180.45	7,579.8	130.3	628.4	-109.4	0.00	0.00	0.00	
8,200.0	90.14	180.45	7,579.6	30.4	627.6	-9.5	0.00	0.00	0.00	
8,300.0	90.14	180.45	7,579.3	-69.6	626.9	90.4	0.00	0.00	0.00	
8,400.0	90.14	180.45	7,579.1	-169.6	626.1	190.3	0.00	0.00	0.00	
8,500.0	90.14	180.45	7,578.9	-269.6	625.3	290.2	0.00	0.00	0.00	
8,600.0	90.14	180.45	7,578.6	-369.6	624.5	390.1	0.00	0.00	0.00	
8,700.0	90.14	180.45	7,578.4	-469.6	623.7	490.1	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,800.0	90.14	180.45	7,578.1	-569.6	622.9	590.0	0.00	0.00	0.00
8,900.0	90.14	180.45	7,577.9	-669.6	622.1	689.9	0.00	0.00	0.00
9,000.0	90.14	180.45	7,577.7	-769.6	621.3	789.8	0.00	0.00	0.00
9,100.0	90.14	180.45	7,577.4	-869.6	620.5	889.7	0.00	0.00	0.00
9,200.0	90.14	180.45	7,577.2	-969.6	619.7	989.6	0.00	0.00	0.00
9,300.0	90.14	180.45	7,576.9	-1,069.6	618.9	1,089.6	0.00	0.00	0.00
9,400.0	90.14	180.45	7,576.7	-1,169.6	618.1	1,189.5	0.00	0.00	0.00
9,500.0	90.14	180.45	7,576.5	-1,269.6	617.3	1,289.4	0.00	0.00	0.00
9,600.0	90.14	180.45	7,576.2	-1,369.6	616.5	1,389.3	0.00	0.00	0.00
9,700.0	90.14	180.45	7,576.0	-1,469.6	615.7	1,489.2	0.00	0.00	0.00
9,800.0	90.14	180.45	7,575.8	-1,569.6	614.9	1,589.1	0.00	0.00	0.00
9,900.0	90.14	180.45	7,575.5	-1,669.6	614.2	1,689.0	0.00	0.00	0.00
10,000.0	90.14	180.45	7,575.3	-1,769.6	613.4	1,789.0	0.00	0.00	0.00
10,100.0	90.14	180.45	7,575.0	-1,869.6	612.6	1,888.9	0.00	0.00	0.00
10,200.0	90.14	180.45	7,574.8	-1,969.6	611.8	1,988.8	0.00	0.00	0.00
10,300.0	90.14	180.45	7,574.6	-2,069.6	611.0	2,088.7	0.00	0.00	0.00
10,400.0	90.14	180.45	7,574.3	-2,169.6	610.2	2,188.6	0.00	0.00	0.00
10,500.0	90.14	180.45	7,574.1	-2,269.6	609.4	2,288.5	0.00	0.00	0.00
10,600.0	90.14	180.45	7,573.8	-2,369.6	608.6	2,388.5	0.00	0.00	0.00
10,700.0	90.14	180.45	7,573.6	-2,469.6	607.8	2,488.4	0.00	0.00	0.00
10,800.0	90.14	180.45	7,573.4	-2,569.6	607.0	2,588.3	0.00	0.00	0.00
10,900.0	90.14	180.45	7,573.1	-2,669.6	606.2	2,688.2	0.00	0.00	0.00
11,000.0	90.14	180.45	7,572.9	-2,769.6	605.4	2,788.1	0.00	0.00	0.00
11,100.0	90.14	180.45	7,572.6	-2,869.5	604.6	2,888.0	0.00	0.00	0.00
11,200.0	90.14	180.45	7,572.4	-2,969.5	603.8	2,987.9	0.00	0.00	0.00
11,300.0	90.14	180.45	7,572.2	-3,069.5	603.0	3,087.9	0.00	0.00	0.00
11,400.0	90.14	180.45	7,571.9	-3,169.5	602.2	3,187.8	0.00	0.00	0.00
11,500.0	90.14	180.45	7,571.7	-3,269.5	601.4	3,287.7	0.00	0.00	0.00
11,600.0	90.14	180.45	7,571.4	-3,369.5	600.7	3,387.6	0.00	0.00	0.00
11,700.0	90.14	180.45	7,571.2	-3,469.5	599.9	3,487.5	0.00	0.00	0.00
11,800.0	90.14	180.45	7,571.0	-3,569.5	599.1	3,587.4	0.00	0.00	0.00
11,900.0	90.14	180.45	7,570.7	-3,669.5	598.3	3,687.3	0.00	0.00	0.00
12,000.0	90.14	180.45	7,570.5	-3,769.5	597.5	3,787.3	0.00	0.00	0.00
12,100.0	90.14	180.45	7,570.2	-3,869.5	596.7	3,887.2	0.00	0.00	0.00
12,200.0	90.14	180.45	7,570.0	-3,969.5	595.9	3,987.1	0.00	0.00	0.00
12,300.0	90.14	180.45	7,569.8	-4,069.5	595.1	4,087.0	0.00	0.00	0.00
12,400.0	90.14	180.45	7,569.5	-4,169.5	594.3	4,186.9	0.00	0.00	0.00
12,500.0	90.14	180.45	7,569.3	-4,269.5	593.5	4,286.8	0.00	0.00	0.00
12,600.0	90.14	180.45	7,569.1	-4,369.5	592.7	4,386.8	0.00	0.00	0.00
12,700.0	90.14	180.45	7,568.8	-4,469.5	591.9	4,486.7	0.00	0.00	0.00
12,800.0	90.14	180.45	7,568.6	-4,569.5	591.1	4,586.6	0.00	0.00	0.00
12,900.0	90.14	180.45	7,568.3	-4,669.5	590.3	4,686.5	0.00	0.00	0.00
13,000.0	90.14	180.45	7,568.1	-4,769.5	589.5	4,786.4	0.00	0.00	0.00
13,100.0	90.14	180.45	7,567.9	-4,869.5	588.7	4,886.3	0.00	0.00	0.00
13,200.0	90.14	180.45	7,567.6	-4,969.5	588.0	4,986.2	0.00	0.00	0.00
13,300.0	90.14	180.45	7,567.4	-5,069.5	587.2	5,086.2	0.00	0.00	0.00
13,400.0	90.14	180.45	7,567.1	-5,169.5	586.4	5,186.1	0.00	0.00	0.00
13,500.0	90.14	180.45	7,566.9	-5,269.5	585.6	5,286.0	0.00	0.00	0.00
13,600.0	90.14	180.45	7,566.7	-5,369.5	584.8	5,385.9	0.00	0.00	0.00
13,700.0	90.14	180.45	7,566.4	-5,469.5	584.0	5,485.8	0.00	0.00	0.00
13,800.0	90.14	180.45	7,566.2	-5,569.5	583.2	5,585.7	0.00	0.00	0.00
13,900.0	90.14	180.45	7,565.9	-5,669.5	582.4	5,685.7	0.00	0.00	0.00
14,000.0	90.14	180.45	7,565.7	-5,769.4	581.6	5,785.6	0.00	0.00	0.00
14,100.0	90.14	180.45	7,565.5	-5,869.4	580.8	5,885.5	0.00	0.00	0.00

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Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,200.0	90.14	180.45	7,565.2	-5,969.4	580.0	5,985.4	0.00	0.00	0.00	
14,300.0	90.14	180.45	7,565.0	-6,069.4	579.2	6,085.3	0.00	0.00	0.00	
14,400.0	90.14	180.45	7,564.7	-6,169.4	578.4	6,185.2	0.00	0.00	0.00	
14,500.0	90.14	180.45	7,564.5	-6,269.4	577.6	6,285.1	0.00	0.00	0.00	
14,600.0	90.14	180.45	7,564.3	-6,369.4	576.8	6,385.1	0.00	0.00	0.00	
14,700.0	90.14	180.45	7,564.0	-6,469.4	576.0	6,485.0	0.00	0.00	0.00	
14,800.0	90.14	180.45	7,563.8	-6,569.4	575.3	6,584.9	0.00	0.00	0.00	
14,900.0	90.14	180.45	7,563.5	-6,669.4	574.5	6,684.8	0.00	0.00	0.00	
15,000.0	90.14	180.45	7,563.3	-6,769.4	573.7	6,784.7	0.00	0.00	0.00	
15,100.0	90.14	180.45	7,563.1	-6,869.4	572.9	6,884.6	0.00	0.00	0.00	
15,200.0	90.14	180.45	7,562.8	-6,969.4	572.1	6,984.5	0.00	0.00	0.00	
15,300.0	90.14	180.45	7,562.6	-7,069.4	571.3	7,084.5	0.00	0.00	0.00	
15,400.0	90.14	180.45	7,562.3	-7,169.4	570.5	7,184.4	0.00	0.00	0.00	
15,500.0	90.14	180.45	7,562.1	-7,269.4	569.7	7,284.3	0.00	0.00	0.00	
15,600.0	90.14	180.45	7,561.9	-7,369.4	568.9	7,384.2	0.00	0.00	0.00	
15,700.0	90.14	180.45	7,561.6	-7,469.4	568.1	7,484.1	0.00	0.00	0.00	
15,800.0	90.14	180.45	7,561.4	-7,569.4	567.3	7,584.0	0.00	0.00	0.00	
15,900.0	90.14	180.45	7,561.2	-7,669.4	566.5	7,684.0	0.00	0.00	0.00	
16,000.0	90.14	180.45	7,560.9	-7,769.4	565.7	7,783.9	0.00	0.00	0.00	
16,100.0	90.14	180.45	7,560.7	-7,869.4	564.9	7,883.8	0.00	0.00	0.00	
16,200.0	90.14	180.45	7,560.4	-7,969.4	564.1	7,983.7	0.00	0.00	0.00	
16,300.0	90.14	180.45	7,560.2	-8,069.4	563.3	8,083.6	0.00	0.00	0.00	
16,400.0	90.14	180.45	7,560.0	-8,169.4	562.5	8,183.5	0.00	0.00	0.00	
16,500.0	90.14	180.45	7,559.7	-8,269.4	561.8	8,283.4	0.00	0.00	0.00	
16,600.0	90.14	180.45	7,559.5	-8,369.4	561.0	8,383.4	0.00	0.00	0.00	
16,700.0	90.14	180.45	7,559.2	-8,469.4	560.2	8,483.3	0.00	0.00	0.00	
16,800.0	90.14	180.45	7,559.0	-8,569.4	559.4	8,583.2	0.00	0.00	0.00	
16,900.0	90.14	180.45	7,558.8	-8,669.3	558.6	8,683.1	0.00	0.00	0.00	
17,000.0	90.14	180.45	7,558.5	-8,769.3	557.8	8,783.0	0.00	0.00	0.00	
17,100.0	90.14	180.45	7,558.3	-8,869.3	557.0	8,882.9	0.00	0.00	0.00	
17,200.0	90.14	180.45	7,558.0	-8,969.3	556.2	8,982.9	0.00	0.00	0.00	
17,300.0	90.14	180.45	7,557.8	-9,069.3	555.4	9,082.8	0.00	0.00	0.00	
17,400.0	90.14	180.45	7,557.6	-9,169.3	554.6	9,182.7	0.00	0.00	0.00	
17,500.0	90.14	180.45	7,557.3	-9,269.3	553.8	9,282.6	0.00	0.00	0.00	
17,600.0	90.14	180.45	7,557.1	-9,369.3	553.0	9,382.5	0.00	0.00	0.00	
17,700.0	90.14	180.45	7,556.8	-9,469.3	552.2	9,482.4	0.00	0.00	0.00	
17,800.0	90.14	180.45	7,556.6	-9,569.3	551.4	9,582.3	0.00	0.00	0.00	
17,900.0	90.14	180.45	7,556.4	-9,669.3	550.6	9,682.3	0.00	0.00	0.00	
18,000.0	90.14	180.45	7,556.1	-9,769.3	549.8	9,782.2	0.00	0.00	0.00	
18,100.0	90.14	180.45	7,555.9	-9,869.3	549.1	9,882.1	0.00	0.00	0.00	
18,200.0	90.14	180.45	7,555.6	-9,969.3	548.3	9,982.0	0.00	0.00	0.00	
18,300.0	90.14	180.45	7,555.4	-10,069.3	547.5	10,081.9	0.00	0.00	0.00	
18,400.0	90.14	180.45	7,555.2	-10,169.3	546.7	10,181.8	0.00	0.00	0.00	
18,500.0	90.14	180.45	7,554.9	-10,269.3	545.9	10,281.8	0.00	0.00	0.00	
18,600.0	90.14	180.45	7,554.7	-10,369.3	545.1	10,381.7	0.00	0.00	0.00	
18,700.0	90.14	180.45	7,554.5	-10,469.3	544.3	10,481.6	0.00	0.00	0.00	
18,800.0	90.14	180.45	7,554.2	-10,569.3	543.5	10,581.5	0.00	0.00	0.00	
18,900.0	90.14	180.45	7,554.0	-10,669.3	542.7	10,681.4	0.00	0.00	0.00	
19,000.0	90.14	180.45	7,553.7	-10,769.3	541.9	10,781.3	0.00	0.00	0.00	
19,100.0	90.14	180.45	7,553.5	-10,869.3	541.1	10,881.2	0.00	0.00	0.00	
19,200.0	90.14	180.45	7,553.3	-10,969.3	540.3	10,981.2	0.00	0.00	0.00	
19,300.0	90.14	180.45	7,553.0	-11,069.3	539.5	11,081.1	0.00	0.00	0.00	
19,400.0	90.14	180.45	7,552.8	-11,169.3	538.7	11,181.0	0.00	0.00	0.00	
19,500.0	90.14	180.45	7,552.5	-11,269.3	537.9	11,280.9	0.00	0.00	0.00	

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Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,600.0	90.14	180.45	7,552.3	-11,369.3	537.1	11,380.8	0.00	0.00	0.00
19,700.0	90.14	180.45	7,552.1	-11,469.3	536.3	11,480.7	0.00	0.00	0.00
19,800.0	90.14	180.45	7,551.8	-11,569.2	535.6	11,580.6	0.00	0.00	0.00
19,900.0	90.14	180.45	7,551.6	-11,669.2	534.8	11,680.6	0.00	0.00	0.00
20,000.0	90.14	180.45	7,551.3	-11,769.2	534.0	11,780.5	0.00	0.00	0.00
20,100.0	90.14	180.45	7,551.1	-11,869.2	533.2	11,880.4	0.00	0.00	0.00
20,200.0	90.14	180.45	7,550.9	-11,969.2	532.4	11,980.3	0.00	0.00	0.00
20,300.0	90.14	180.45	7,550.6	-12,069.2	531.6	12,080.2	0.00	0.00	0.00
20,400.0	90.14	180.45	7,550.4	-12,169.2	530.8	12,180.1	0.00	0.00	0.00
20,500.0	90.14	180.45	7,550.1	-12,269.2	530.0	12,280.1	0.00	0.00	0.00
20,600.0	90.14	180.45	7,549.9	-12,369.2	529.2	12,380.0	0.00	0.00	0.00
20,700.0	90.14	180.45	7,549.7	-12,469.2	528.4	12,479.9	0.00	0.00	0.00
20,800.0	90.14	180.45	7,549.4	-12,569.2	527.6	12,579.8	0.00	0.00	0.00
20,900.0	90.14	180.45	7,549.2	-12,669.2	526.8	12,679.7	0.00	0.00	0.00
21,000.0	90.14	180.45	7,548.9	-12,769.2	526.0	12,779.6	0.00	0.00	0.00
21,100.0	90.14	180.45	7,548.7	-12,869.2	525.2	12,879.5	0.00	0.00	0.00
21,200.0	90.14	180.45	7,548.5	-12,969.2	524.4	12,979.5	0.00	0.00	0.00
21,300.0	90.14	180.45	7,548.2	-13,069.2	523.6	13,079.4	0.00	0.00	0.00
21,400.0	90.14	180.45	7,548.0	-13,169.2	522.9	13,179.3	0.00	0.00	0.00
21,500.0	90.14	180.45	7,547.7	-13,269.2	522.1	13,279.2	0.00	0.00	0.00
21,600.0	90.14	180.45	7,547.5	-13,369.2	521.3	13,379.1	0.00	0.00	0.00
21,700.0	90.14	180.45	7,547.3	-13,469.2	520.5	13,479.0	0.00	0.00	0.00
21,800.0	90.14	180.45	7,547.0	-13,569.2	519.7	13,579.0	0.00	0.00	0.00
21,900.0	90.14	180.45	7,546.8	-13,669.2	518.9	13,678.9	0.00	0.00	0.00
22,000.0	90.14	180.45	7,546.6	-13,769.2	518.1	13,778.8	0.00	0.00	0.00
22,100.0	90.14	180.45	7,546.3	-13,869.2	517.3	13,878.7	0.00	0.00	0.00
22,200.0	90.14	180.45	7,546.1	-13,969.2	516.5	13,978.6	0.00	0.00	0.00
22,300.0	90.14	180.45	7,545.8	-14,069.2	515.7	14,078.5	0.00	0.00	0.00
22,400.0	90.14	180.45	7,545.6	-14,169.2	514.9	14,178.4	0.00	0.00	0.00
22,500.0	90.14	180.45	7,545.4	-14,269.2	514.1	14,278.4	0.00	0.00	0.00
22,600.0	90.14	180.45	7,545.1	-14,369.2	513.3	14,378.3	0.00	0.00	0.00
22,700.0	90.14	180.45	7,544.9	-14,469.1	512.5	14,478.2	0.00	0.00	0.00
22,800.0	90.14	180.45	7,544.6	-14,569.1	511.7	14,578.1	0.00	0.00	0.00
22,900.0	90.14	180.45	7,544.4	-14,669.1	510.9	14,678.0	0.00	0.00	0.00
23,000.0	90.14	180.45	7,544.2	-14,769.1	510.1	14,777.9	0.00	0.00	0.00
23,100.0	90.14	180.45	7,543.9	-14,869.1	509.4	14,877.8	0.00	0.00	0.00
23,200.0	90.14	180.45	7,543.7	-14,969.1	508.6	14,977.8	0.00	0.00	0.00
23,300.0	90.14	180.45	7,543.4	-15,069.1	507.8	15,077.7	0.00	0.00	0.00
23,400.0	90.14	180.45	7,543.2	-15,169.1	507.0	15,177.6	0.00	0.00	0.00
23,434.4	90.14	180.45	7,543.1	-15,203.5	506.7	15,211.9	0.00	0.00	0.00
START HOLD @ 23434.4 MD									
23,484.4	90.14	180.45	7,543.0	-15,253.5	506.3	15,261.9	0.00	0.00	0.00
TD @ 23484.4 MD									

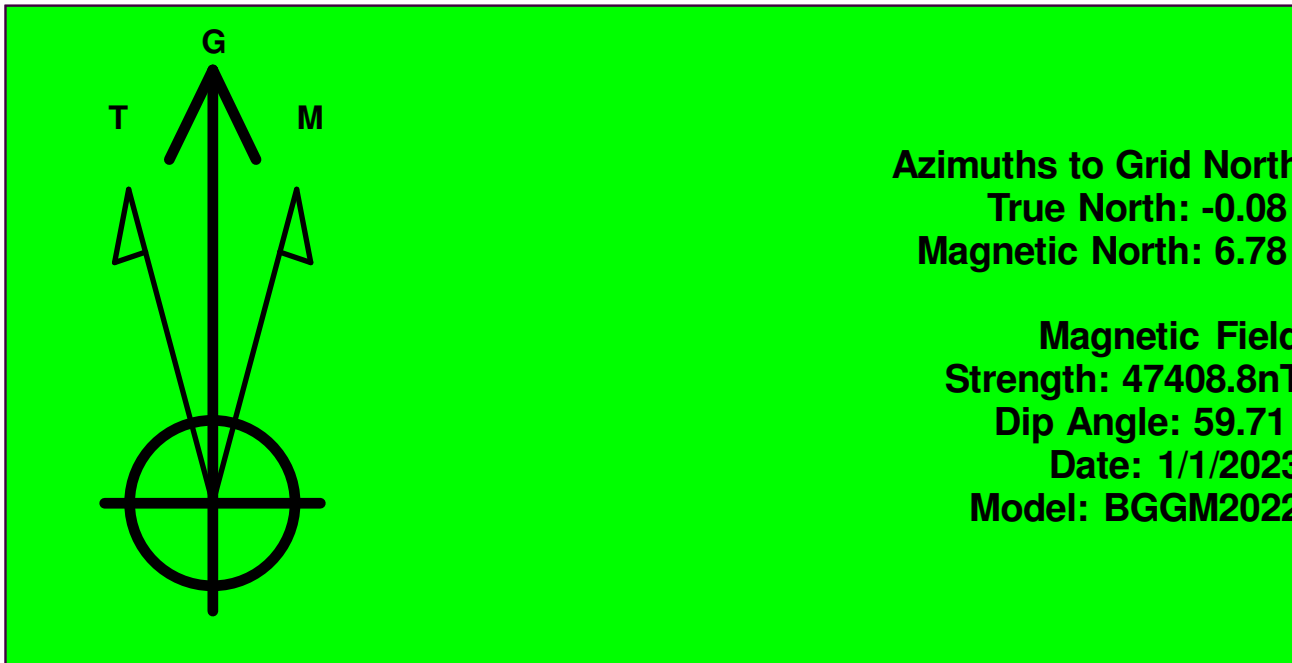
ConocoPhillips

Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well FLAMING SNAIL FEDERAL COM #501H
Company:	DELAWARE BASIN WEST	TVD Reference:	*KB=30ft @ 3160.9usft
Project:	ATLAS PROSPECT (NM-E)	MD Reference:	*KB=30ft @ 3160.9usft
Site:	FLAMING SNAIL FED COM PROJECT	North Reference:	Grid
Well:	FLAMING SNAIL FEDERAL COM #501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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
VT (FLAMING SNAIL FE - plan hits target center - Point	0.00	0.00	7,007.0	779.9	633.6	403,104.16	545,290.80	32° 6' 29.394 N	104° 11' 13.414 W
PBHL (FLAMING SNAIL - plan hits target center - Rectangle (sides W100.0 H15,970.2 D20.0)	0.14	0.46	7,543.0	-15,253.5	506.3	387,070.80	545,163.50	32° 3' 50.721 N	104° 11' 15.146 W
LTP (FLAMING SNAIL F - plan hits target center - Point	0.00	0.00	7,543.1	-15,203.5	506.7	387,120.80	545,163.90	32° 3' 51.216 N	104° 11' 15.141 W
FTP (FLAMING SNAIL F - plan misses target center by 194.8usft at 7601.9usft MD (7431.8 TVD, 591.4 N, 632.1 E) - Circle (radius 50.0)	0.00	0.00	7,581.4	716.2	633.6	403,040.50	545,290.80	32° 6' 28.764 N	104° 11' 13.415 W

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,000.0	2,000.0	0.0	0.0	START BUILD 2.00	
2,700.1	2,693.2	66.1	53.7	START HOLD @ 2700.1 MD	
6,149.3	6,039.8	713.8	579.9	START DROP -2.00	
6,849.4	6,733.0	779.9	633.6	START HOLD @ 6849.4 MD	
7,123.4	7,007.0	779.9	633.6	START DLS 10.00 TFO 180.45	
8,024.8	7,580.0	205.5	629.0	START HOLD @ 8024.8 MD	
23,434.4	7,543.1	-15,203.5	506.7	START HOLD @ 23434.4 MD	
23,484.4	7,543.0	-15,253.5	506.3	TD @ 23484.4 MD	



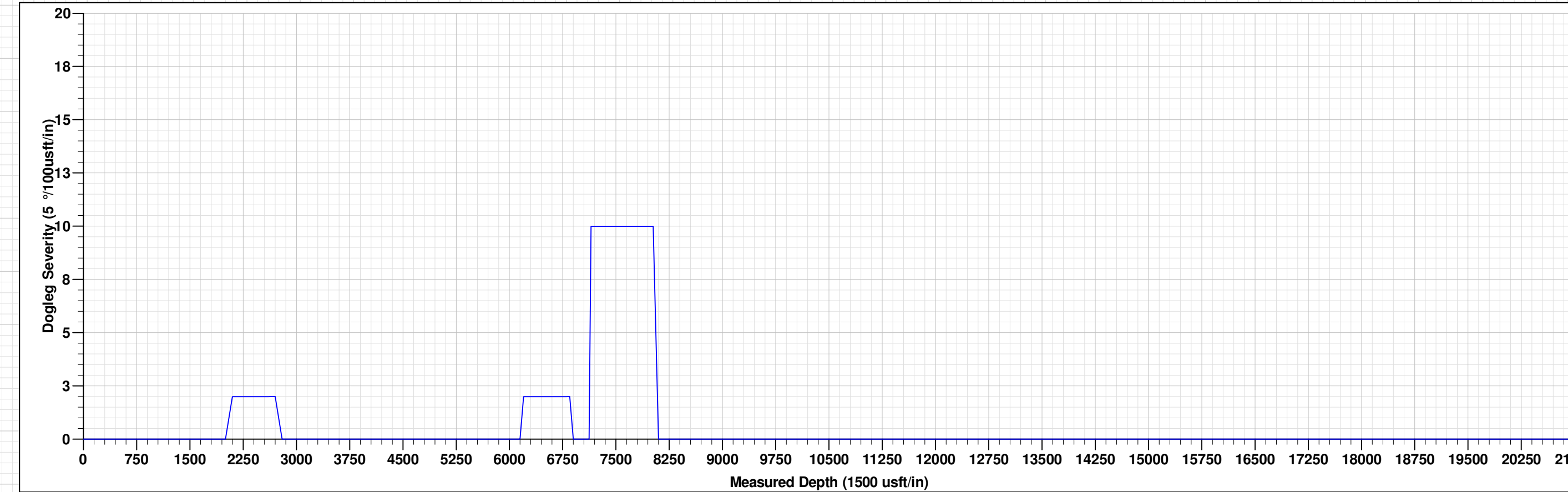
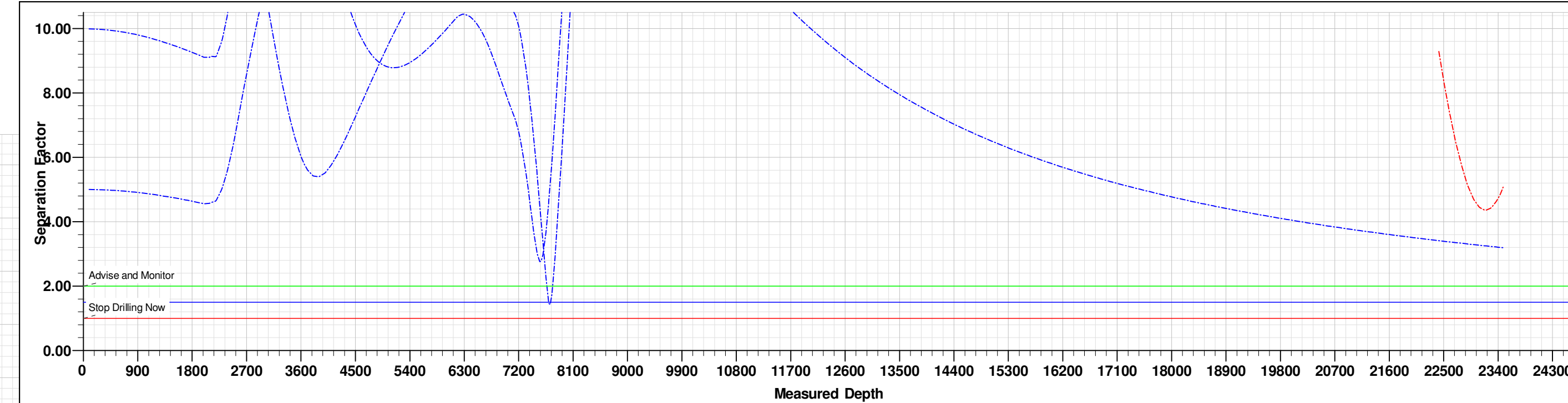
Project: ATLAS PROSPECT (NM-E)
Site: FLAMING SNAIL FED COM PROJECT
Well: FLAMING SNAIL FEDERAL COM #501H
Wellbore: OWB
Design: PWP0
GL: 3130.9
*KB=30ft @ 3160.9usft

WELL DETAILS: FLAMING SNAIL FEDERAL COM #501H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	402324.30	544657.20	32° 6' 21.685 N	104° 11' 20.793 W

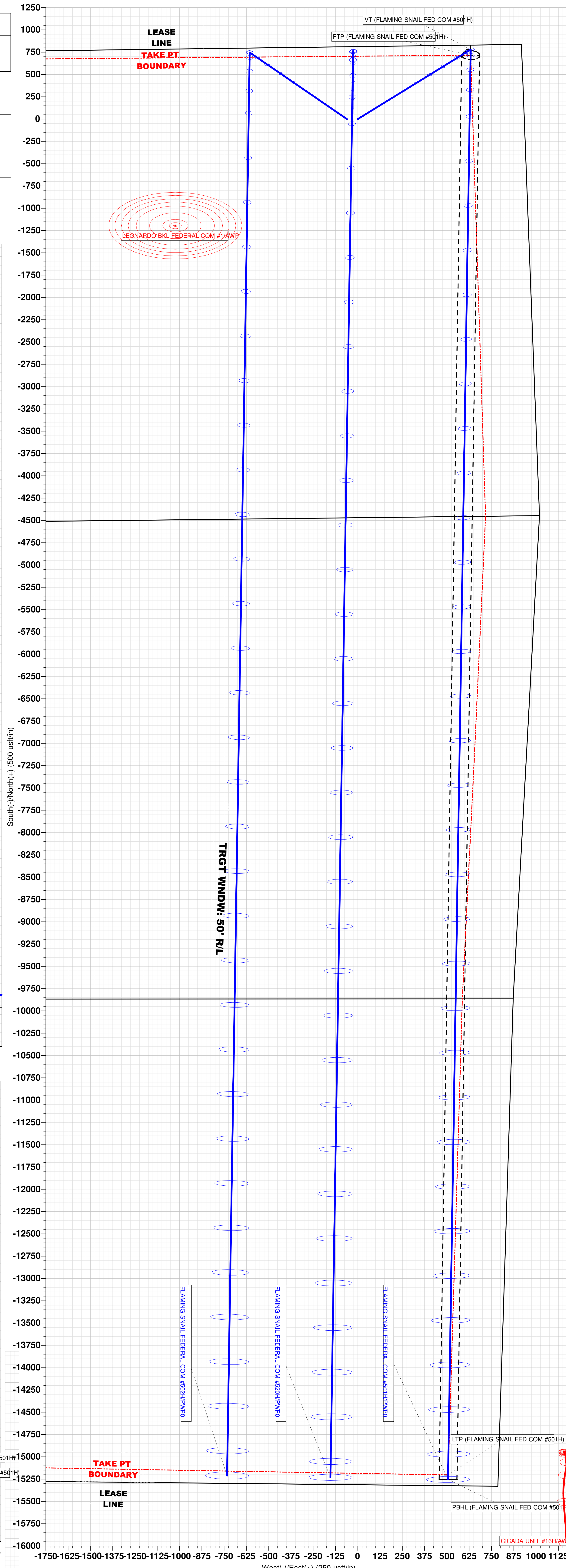
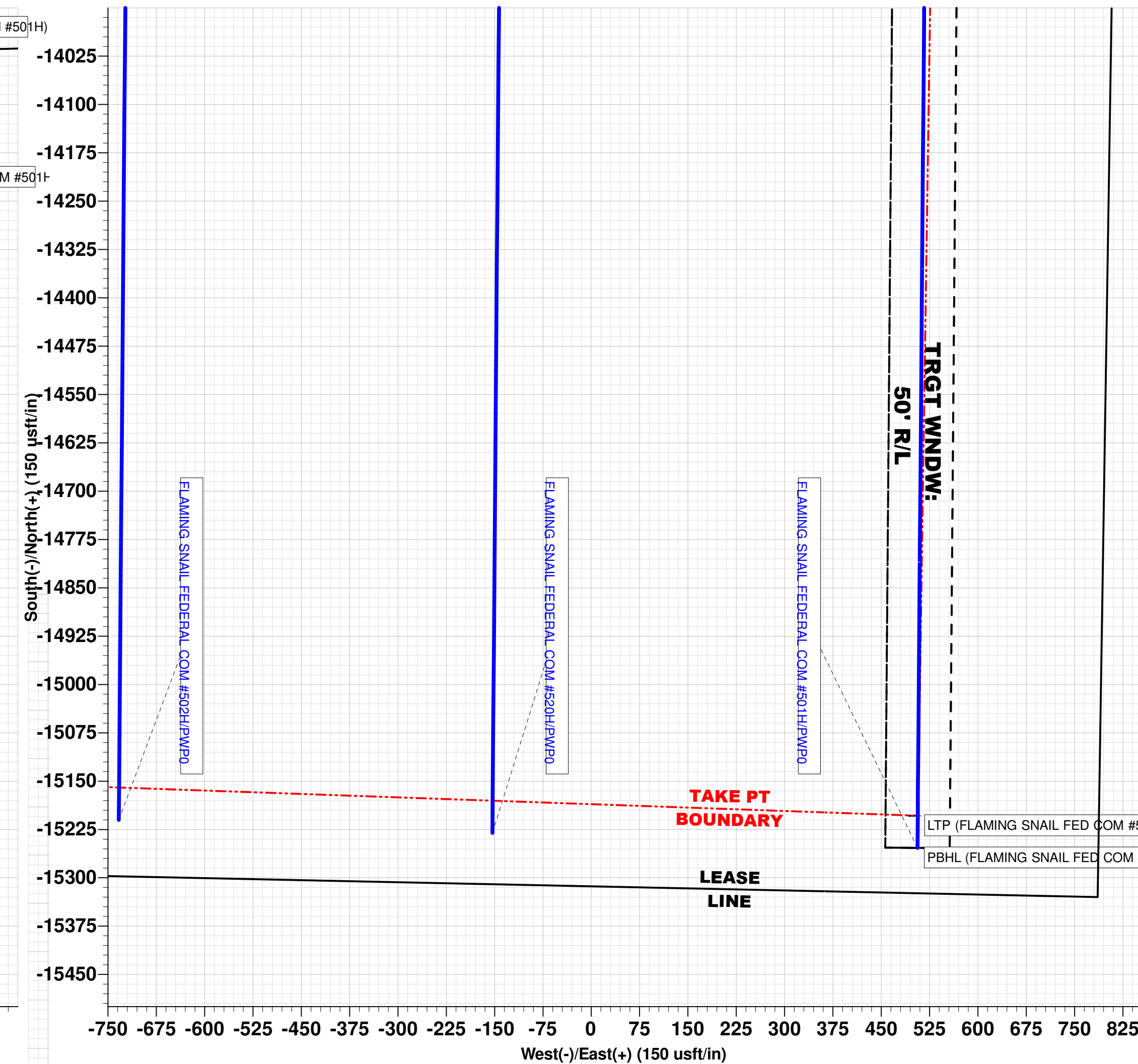
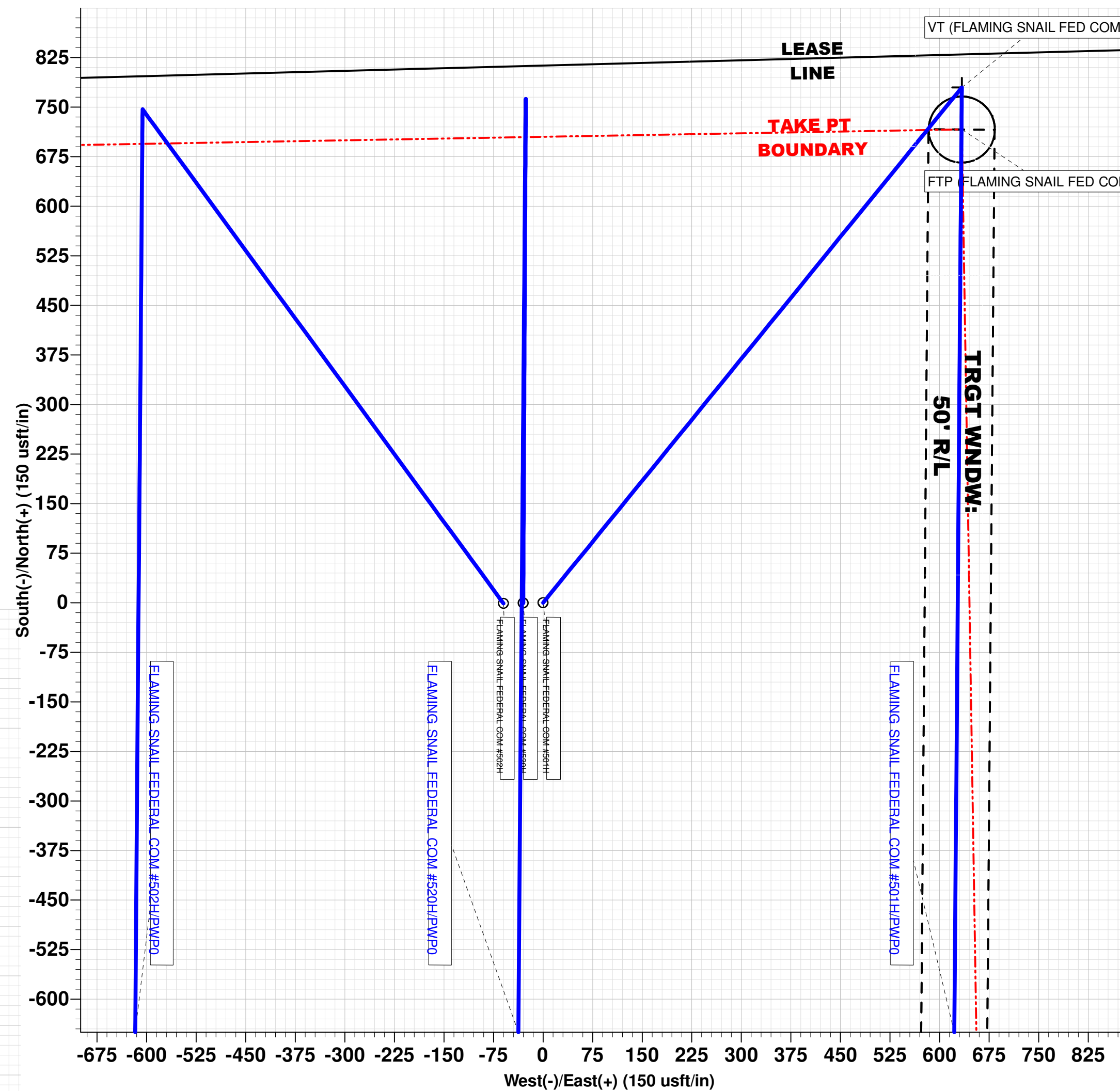
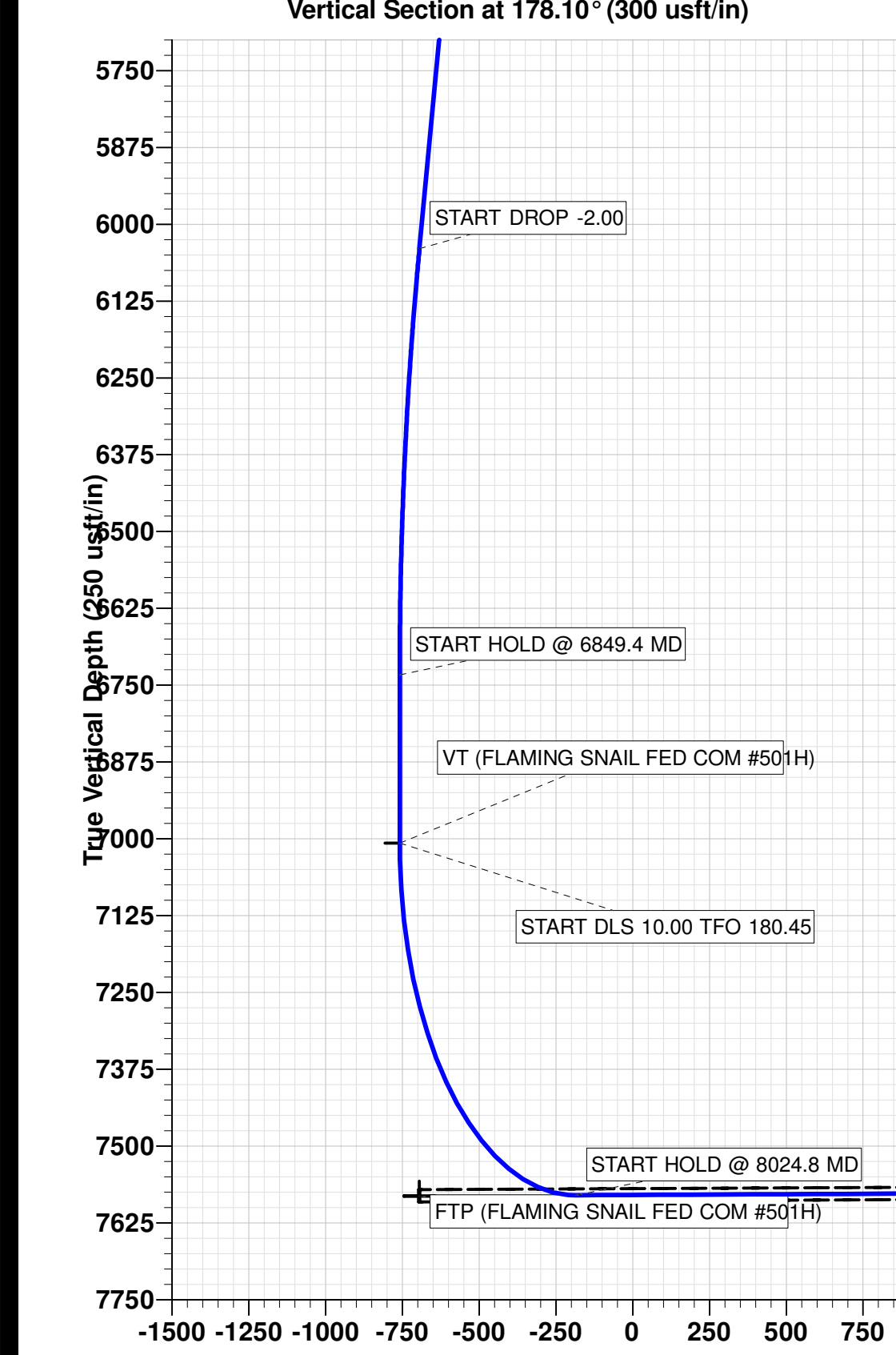
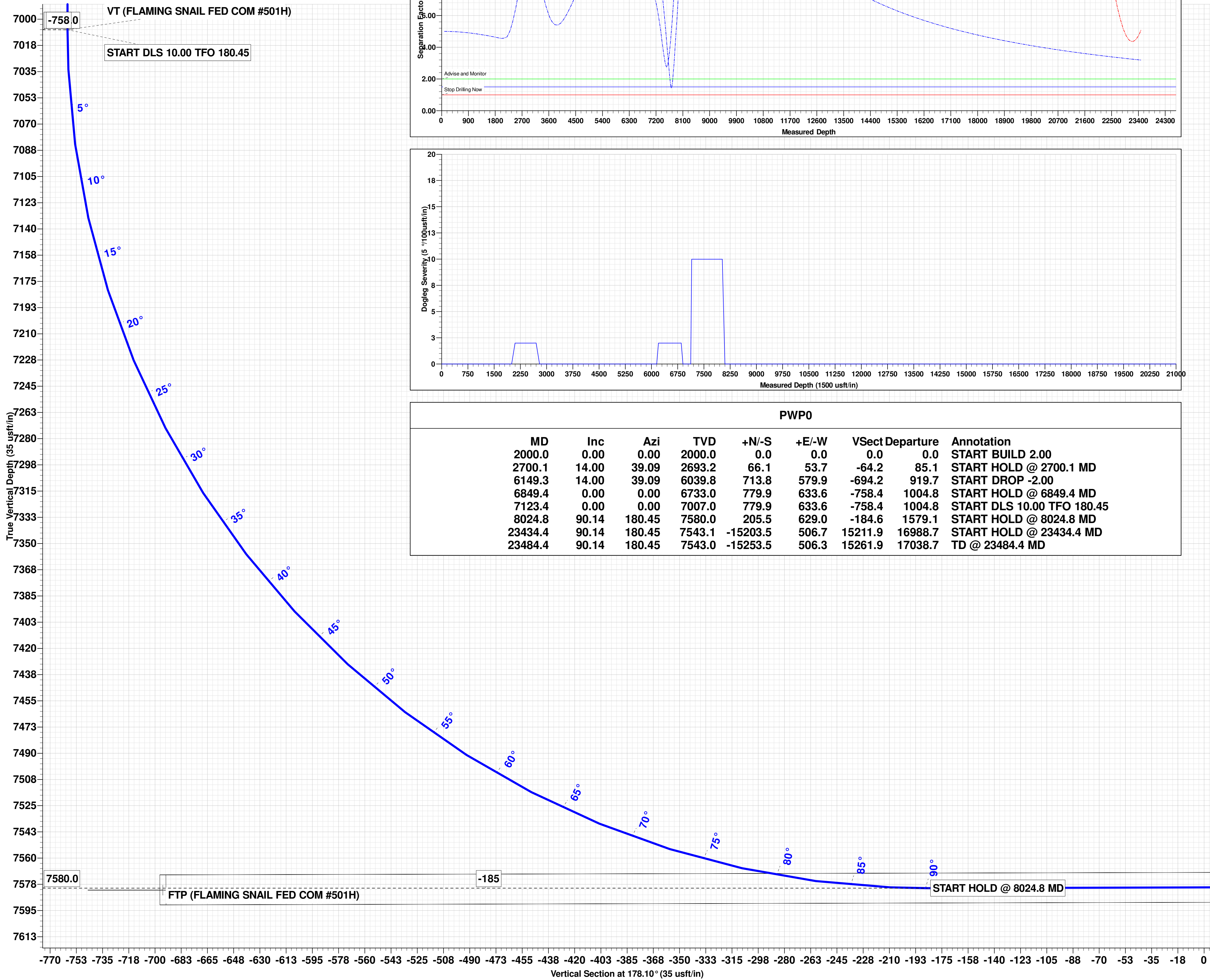
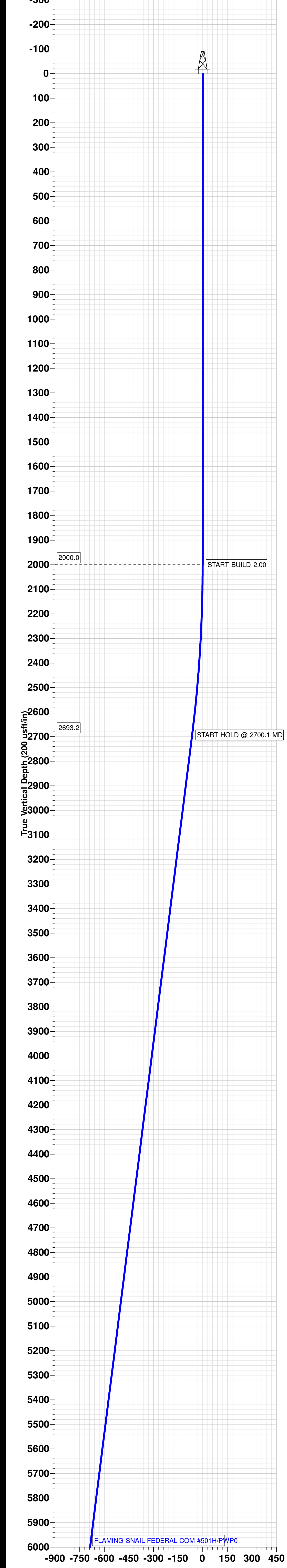
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
VT (FLAMING SNAIL FED COM #501H)	7007.0	779.9	633.6	403104.16	545290.80	Point
PBHL (FLAMING SNAIL FED COM #501H)	7543.0	-15253.5	506.3	387070.80	545163.50	Rectangle (Sides: L15970.2 W100.0)
LTP (FLAMING SNAIL FED COM #501H)	7543.1	-15203.5	506.7	387120.80	545163.90	Point
FTP (FLAMING SNAIL FED COM #501H)	7581.4	716.2	633.6	403040.50	545290.80	Circle (Radius: 50.0)



PWP0

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
2000.0	0.00	0.00	2000.0	0.0	0.0	0.0	0.0	START BUILD 2.00
2700.1	14.00	39.09	2693.2	66.1	53.7	-64.2	85.1	START HOLD @ 2700.1 MD
6149.3	14.00	39.09	6039.8	713.8	579.9	-694.2	919.7	START DROP -2.00
6849.4	0.00	0.00	6733.0	779.9	633.6	-758.4	1004.8	START HOLD @ 6849.4 MD
7123.4	0.00	0.00	7007.0	779.9	633.6	-758.4	1004.8	START DLS 10.00 TFO 180.45
8024.8	90.14	180.45	7580.0	205.5	629.0	-184.6	1579.1	START HOLD @ 8024.8 MD
23434.4	90.14	180.45	7543.1	-15203.5	506.7	15211.9	16988.7	START HOLD @ 23434.4 MD
23484.4	90.14	180.45	7543.0	-15253.5	506.3	15261.9	17038.7	TD @ 23484.4 MD



TRGT WNDW:
10' A/B

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM 092167
COUNTY:	Eddy

Wells:

East Well Pad

Flaming Snail Federal 501H

Surface Hole Location: 805' FNL & 975' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 50' FSL & 330' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 502H

Surface Hole Location: 805' FNL & 1035' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 50' FSL & 1570' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 520H

Surface Hole Location: 805' FNL & 1005' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 50' FSL & 990' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 701H

Surface Hole Location: 655' FNL & 915' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 330' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 702H

Surface Hole Location: 655' FNL & 945' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 815' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 703H

Surface Hole Location: 655' FNL & 975' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 330' FSL & 1300' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 704H

Surface Hole Location: 655' FNL & 1005' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 1785' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 705H

Surface Hole Location: 655' FNL & 1035' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 2270' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 801H

Surface Hole Location: 505' FNL & 975' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 330' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 802H

Surface Hole Location: 505' FNL & 1005' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 1210' FEL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal 803H

Surface Hole Location: 505' FNL & 1035' FEL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 2090' FEL, Section 4, T. 26 S, R 27 E.

West Well Pad

Flaming Snail Federal Com 503H

Surface Hole Location: 957' FNL & 1589' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 50' FSL & 2390' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 504H

Surface Hole Location: 957' FNL & 1529' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 50' FSL & 990' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 521H

Surface Hole Location: 957' FNL & 1559' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 50' FSL & 1570' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 706H

Surface Hole Location: 757' FNL & 1709' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 2490' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 707H

Surface Hole Location: 757' FNL & 1679' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 2005' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 708H

Surface Hole Location: 757' FNL & 1649' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 1520' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 709H

Surface Hole Location: 757' FNL & 1619' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 1036' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 710H

Surface Hole Location: 757' FNL & 1589' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 550' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 804H

Surface Hole Location: 557' FNL & 1649' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 2310' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 805H

Surface Hole Location: 557' FNL & 1619' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 1430' FWL, Section 4, T. 26 S, R 27 E.

Flaming Snail Federal Com 806H

Surface Hole Location: 557' FNL & 1589' FWL, Section 28, T. 25 S., R. 27 E.

Bottom Hole Location: 200' FSL & 550' FWL, Section 4, T. 26 S, R 27 E.

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Watershed
 - Cave/Karst
 - Range
 - Special Status Plant Species
 - Texas Hornshell Mussel
 - VRM IV
- ☐ **Construction**
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 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Watershed:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

TANK BATTERY:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

BURIED/SURFACE LINE(S):

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present.

The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

Cave/Karst:**Construction Mitigation**

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD or project:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.

- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required:

- Closed loop system using steel tanks - all fluids and cuttings will be hauled off-site and disposed of properly at an authorized site
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional drilling is only allowed at depths greater than 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost circulation zones will be logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See drilling COAs.

Production Mitigation

In order to mitigate the impacts from production activities and due to the nature of karst terrane, the following Conditions of Approval will apply to this APD:

- Tank battery locations and facilities will be bermed and lined with a 20 mil thick permanent liner that has a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Development and implementation of a leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Residual and Cumulative Mitigation

The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be taken to correct the problem to the BLM's approval.

Plugging and Abandonment Mitigation

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Livestock Grazing:

Cattleguards

Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Figure 1. Pipe H-brace specifications

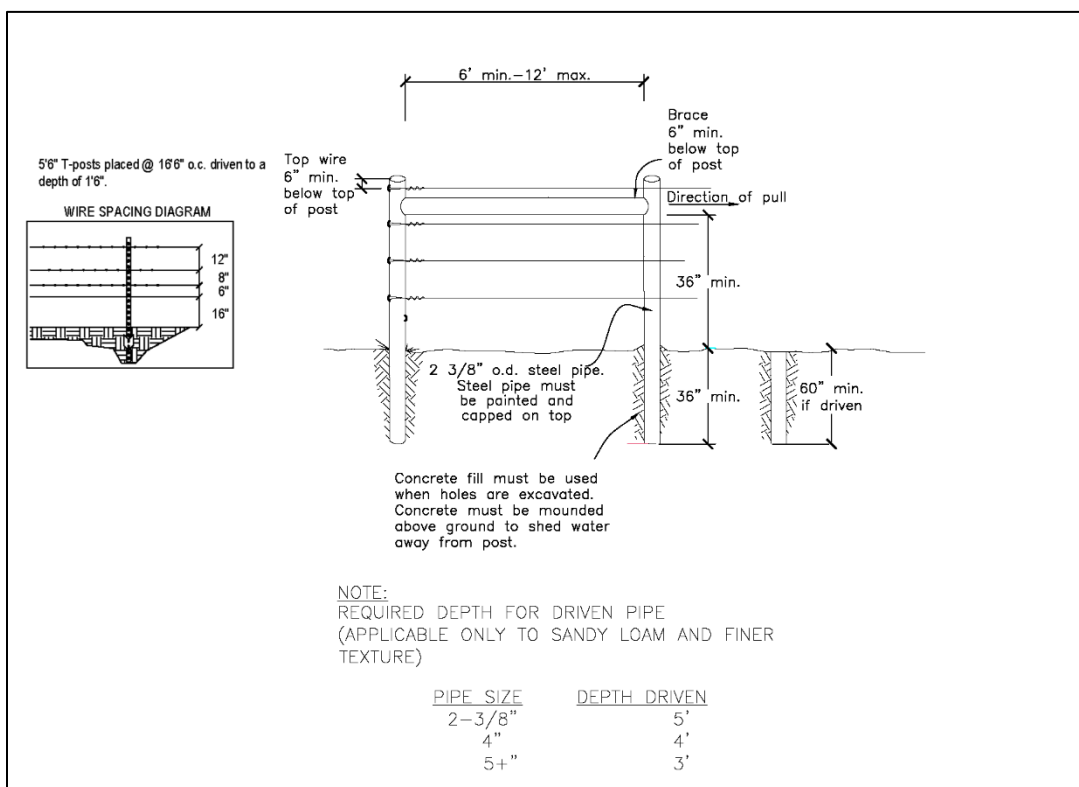
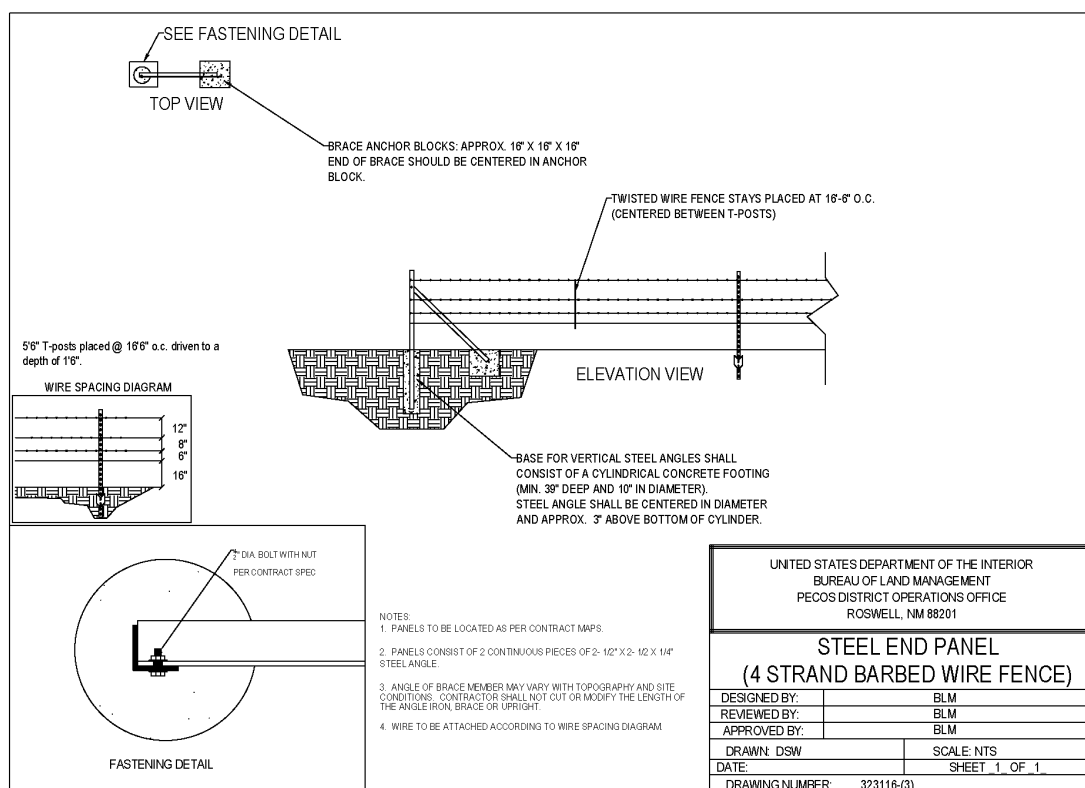


Figure 2. Angle iron brace specifications



Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

Special Status Plant Species:

Prior to initiating project construction activities, the proposed ROW and temporary construction must be barricaded in the form of temporary barbed fencing for the protection of two Gypsum milkvetch individuals. A 30 meter fence will run parallel to the right of way, on the appropriate side, for every located individual or cluster. Operators must reduce temporary construction by no less than 10 meters for every known individual or cluster located within the temporary construction area.

For the protection of known SSPS occurrences, a third-party bio monitor must monitor vehicle and construction activity while project-related surface disturbing activities are being conducted within 30 meters of an identified SSPS location.

Vehicles and equipment must be kept on existing roads and approved surfaces only and must not travel across undisturbed surfaces; workers shall not park off the roads or ROW in undisturbed areas. Addition and alteration of project components shall require SSPS surveys and re-analysis of impacts.

The operator is responsible for coordinating with the third party contractor and the BLM Botanist (blm_nm_cfo_ssps@blm.gov) for specific location of the plant and appropriate fencing protocols.

Transplants:
Gypsum milkvetch locations

T25 R27 Sec 28:

- Two individuals located at the on well pad

Gypsum milkvetch locations fencing:

T25 R27 Sec 28

- Two located to the East of pad

Texas Hornshell Mussel:

Oil and Gas Zone D - CCA Boundary requirements.

- Implement erosion control measures in accordance with the Reasonable and Prudent Practices for Stabilization ("RAPPS")
- Comply with SPCC requirements in accordance with 40 CFR Part 112;
- Comply with the United States Army Corp of Engineers (USACE) Nationwide 12 General Permit, where applicable;
- Utilize technologies (like underground borings for pipelines), where feasible;
- Educate personnel, agents, contractors, and subcontractors about the requirements of conservation measures, COAs, Stips and provide direction in accordance with the Permit.

VRM IV:

Short-term mitigation measures include painting all above-ground structures that are not subject to safety requirements (including meter housing) Shale Green, which is a flat non-reflective paint color listed in the BLM Standard Environmental Color Chart (CC-001: June 2013). Long-term mitigation measures include the removal of wells and associated infrastructure following abandonment (end of cost-effective production). Previously impacted areas will be reclaimed by removing structures and caliche pads, returning disturbed areas to natural grade, and revegetating with an approved BLM seed mixture; thereby eliminating visual impacts.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

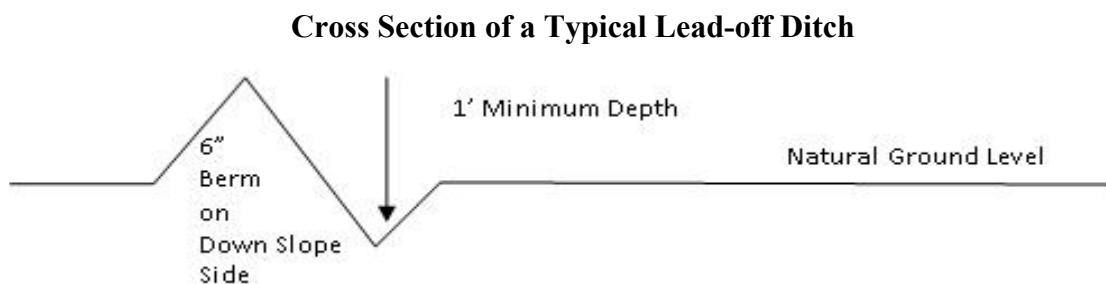
Turnouts

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

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

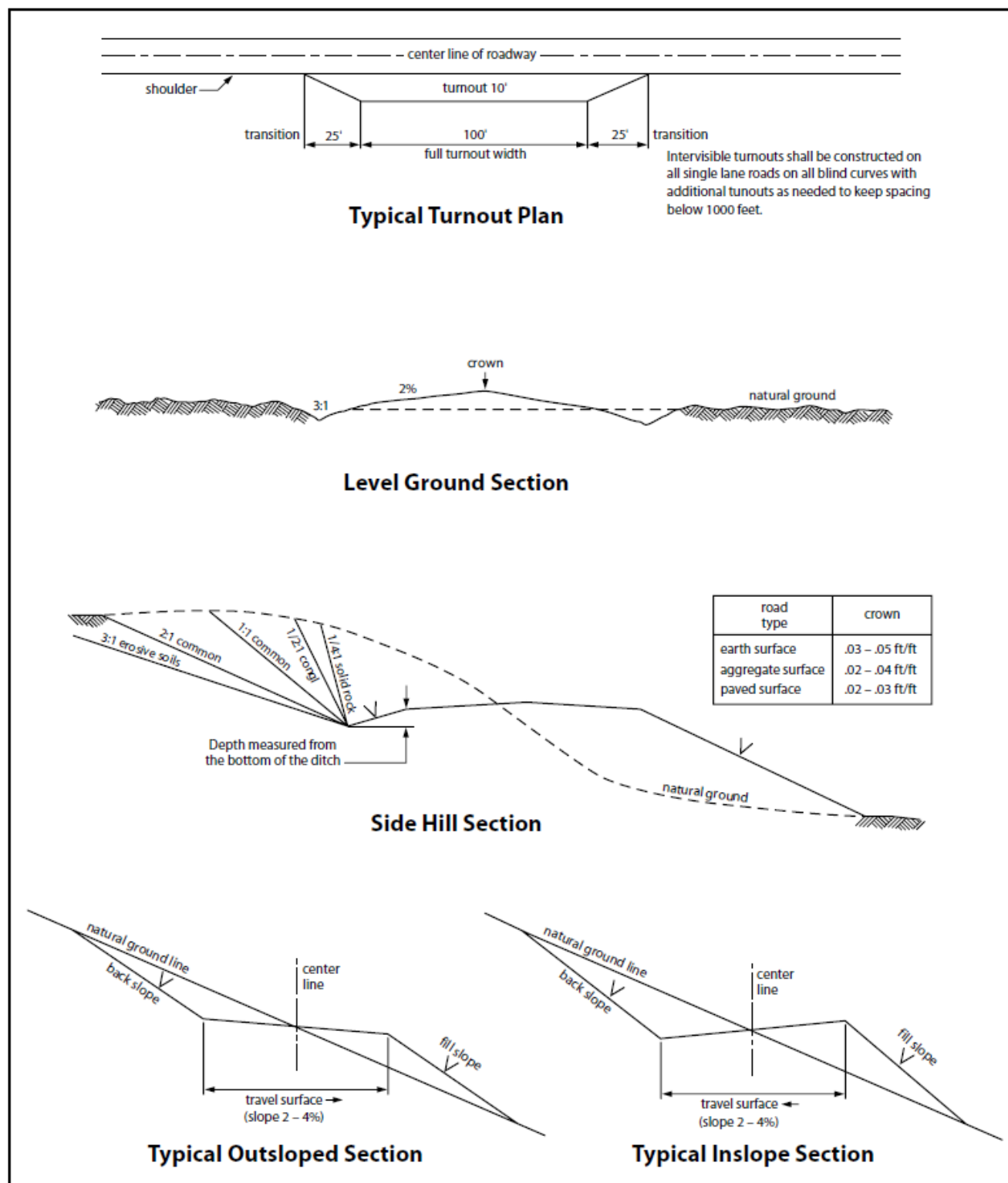


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage

channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.

- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, siting valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on

the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless

otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

- ☒ **Seed Mixture 1**
- ☐ **Seed Mixture 2**
- ☐ **Seed Mixture 2/LPC**
- ☐ **Seed Mixture 3**
- ☒ **Seed Mixture 4**
- ☐ **Seed Mixture Aplomado Falcon Mixture**

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

21. Special Stipulations:

Karst:

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, siting valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

C. ELECTRIC LINES

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required

by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such

discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

11. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

12. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

13. Special Stipulations:

For reclamation remove poles, lines, transformer, etc. and dispose of properly.

Fill in any holes from the poles removed.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 1 for Loamy Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

Mixture 4, for Gypsum Sites

The holder shall seed all the disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Alkali Sacaton (<i>Sporobolus airoides</i>)	1.5
DWS~ Four-wing saltbush (<i>Atriplex canescens</i>)	8.0

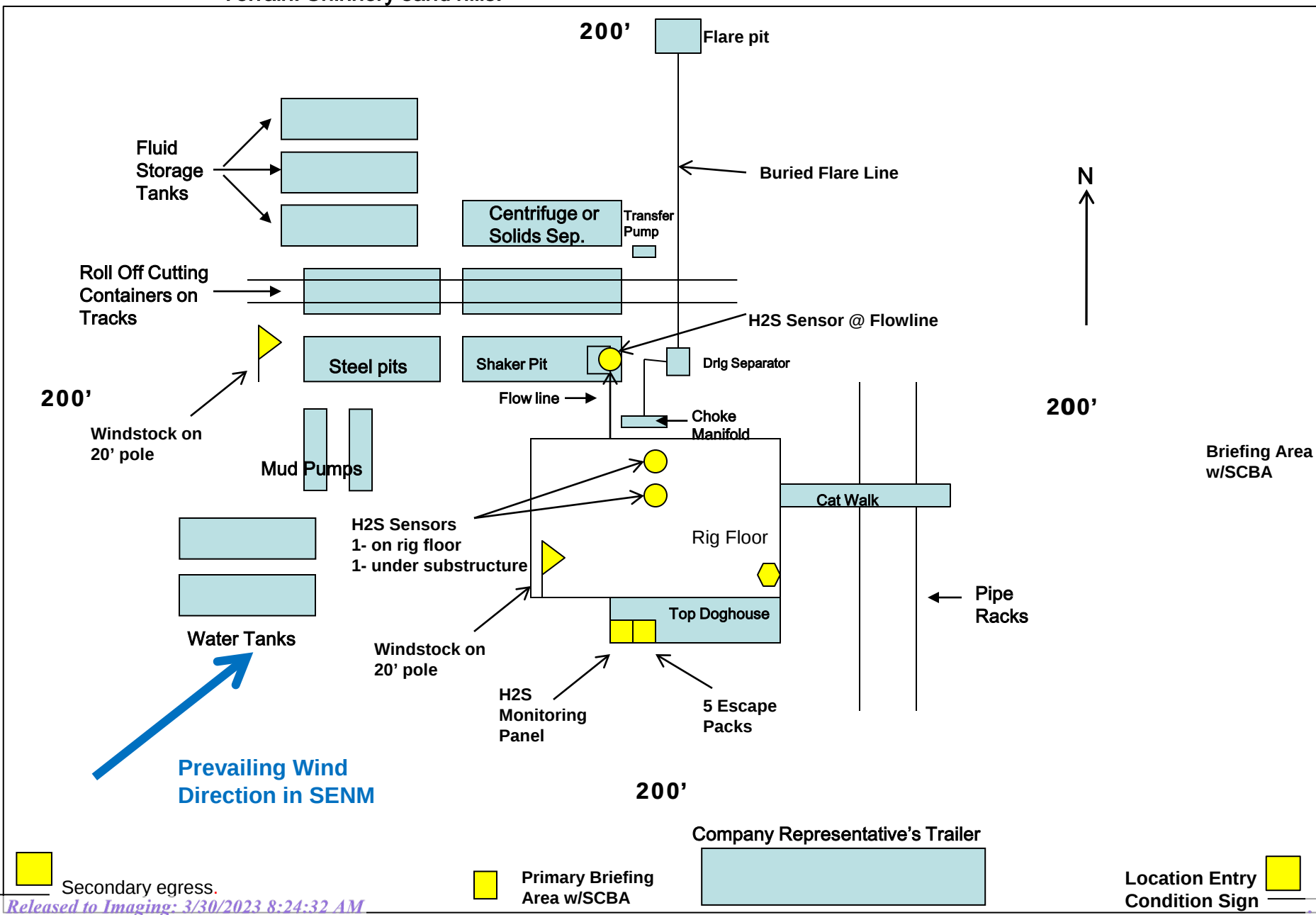
~DWS: DeWinged Seed

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

COG Operating LLC
H₂S Equipment Schematic
Terrain: Shinnery sand hills.

Well pad will be 400' x 400'
with cellar in center of pad



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- a. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- c. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream we will shut in and install H₂S equipment.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

- b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED***
- 2. HARD HATS REQUIRED***
- 3. SMOKING IN DESIGNATED AREAS ONLY***
- 4. BE WIND CONSCIOUS AT ALL TIMES***
- 5. CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE***

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
Dallas Daley	432-818-2329	432-631-6977

EMERGENCY RESPONSE NUMBERS

	<u>OFFICE</u>
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

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 Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 200112

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 200112
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Will require administrative order for non-standard spacing unit	3/24/2023
kpickford	Notify OCD 24 hours prior to casing & cement	3/24/2023
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	3/24/2023
kpickford	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	3/24/2023
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	3/24/2023
kpickford	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	3/24/2023