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

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

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

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No. 30-015-54147

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	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
Title		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	Office	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/22/2023

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos 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 and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 4, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-54147	74160	CARLSBAD, WOLFCAMP, EAST (GAS)

Property Code	Property Name	Well Number
334682	ANEJO FEDERAL COM	403H

OGRID No.	Operator Name	Elevation
372262	SPC RESOURCES, LLC	3153'

Surface Location

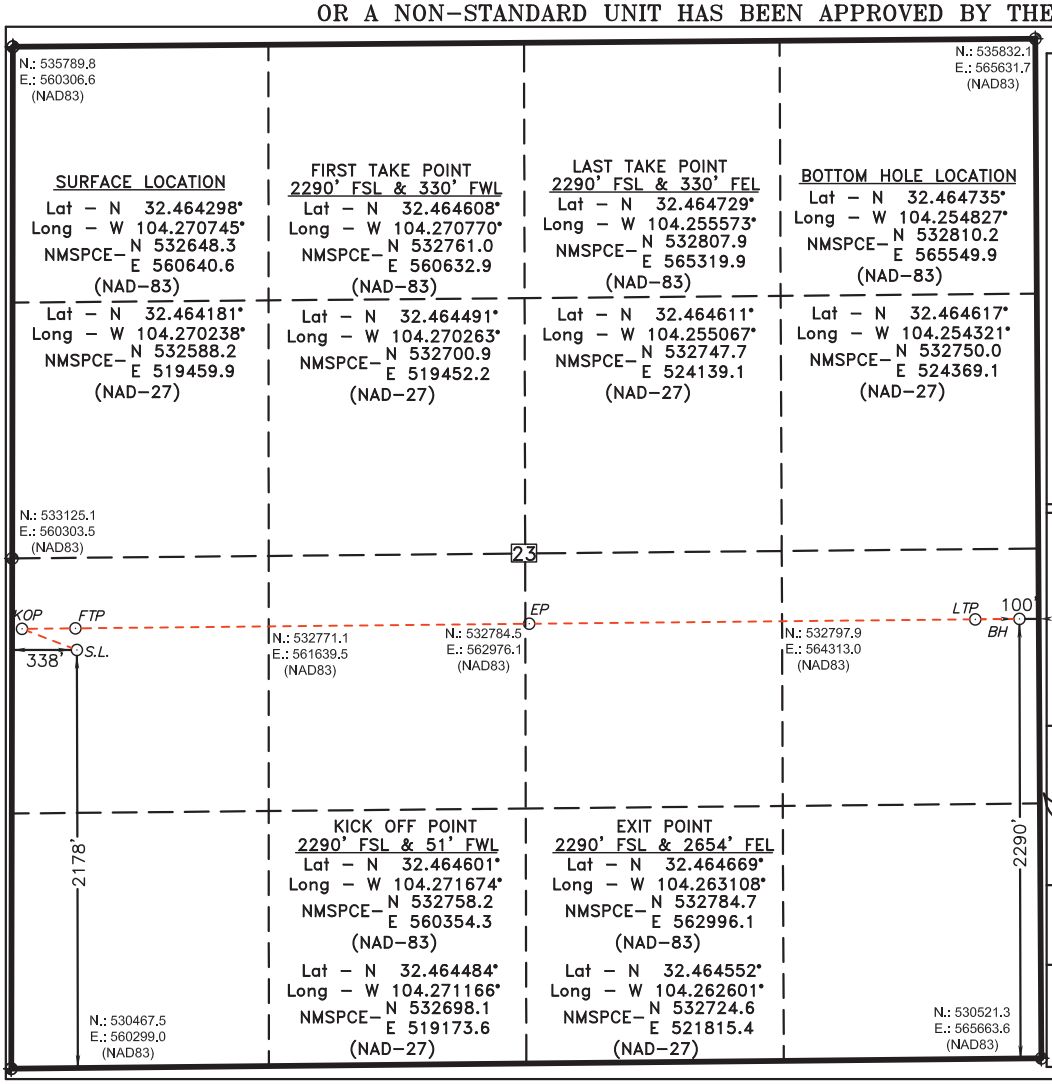
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
L	23	21 S	26 E		2178	SOUTH	338	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
I	23	21 S	26 E		2290	SOUTH	100	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	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



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unLEAsed mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

5/11/2022
Signature Date

Lelan J Anders
Printed Name

LAnders@SantoPetroleum.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

JANUARY 21, 2022
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 500' 1000' 1500' 2000' N
SCALE: 1" = 1000'
WO Num.: 35529

SPC Resources

Anejo Federal Com 403H
Eddy County, NM

Prepared by Lelan J Anders
Nov 2022

Well Name	Anejo Federal Com 403H	Drilling Rig	TBD
County	Eddy, NM	Field	[71120] AVALON, WOLFCAMP (GAS)
API Number	30-015-	OGRID Number	371496
AFE #		AFE Days	18
H_2S ROE	There is known H2S in the area	AFE Amount	
Lat / Long NAD 83	N 32.464298° W 104.270745°	Location	2178' FSL & 338' FWL Sec 23, T21S, R26E
NMSPCE SHL	N = 532648.3 E = 560640.6	NMSPCE BHL	N = 532810.2 E = 565549.9
Elevation	3,153'	KB Elevation	3,178'
MD / TVD	13,485' / 8,637'	Rig Floor	25'

Driving Directions:

From the intersection of Hwy 285 and the George Shoup Relief Rte – Go south 1.0 miles. Turn left on to lease road, follow 0.4 miles to location.

Billing Information:

accountspayable@santopetroleum.com

Health, Safety, and Environmental Concerns:

- Always obey posted speed limit signs
- Everyone that arrives on location must check in with the Santo Company Representative and present an H2S Safety Certification card.
- All Pioneer employees and third-party representatives that are Short Service or Non-English-speaking Employees shall notify the Santo Company Representative to ensure the safety of everyone present on location.
- JSA's are required for everyone on location prior to any operations including, but not limited to, casing running, cementing, picking up tools, using heavy machinery, etc.

Handling Media & Other Public Inquiries on Location

- Be courteous and polite, but do NOT give any details or answer any questions.
- Tell the inquiring party that only Santo Petroleum company management is authorized to talk to the media.
- Direct them to call Santo's main line at 575-736-3250 or email Info@SantoPetroleum.com for the fastest response.

Hole Section Summary and Well Diagram

String	Hole Size	Casing	Approx. Depth	Depth Criteria
Surface	26"	20" 94# J55 STC	120'	Surface Water Protection
1st Intermediate	17 1/2"	13 3/8" 54.5# J55 BTC	575'	Groundwater protection
2nd Intermediate	12 1/4"	10 3/4" 40.5# L80 BTC	2,755'	Case off salt/ lost circulation
Production	8 3/4"	5 1/2" 20# HCP110 CDCHT	13,485'	Final TD determined by casing tally and projection from Directional Driller

Bit, Hydraulics, and Drilling Parameters

Size	Vendor	Type	Depth Out	TFA	WOB (k-lbs)	RPM	Flowrate (GPM)	Pressure (psi)
17 1/2"	Reed	TK69	575'	2.0	35-40K	80-110	800-1000	1500-2500
12 1/4"	Ulterra	SPL616	2,755'	1.1	25-50K	80-120	700-800	3000-3500
8-3/4" Vertical	Smith	XS716	8,000'	1.0	15-30K	80-120	500-600	3000-3500
8-3/4" Curve	Security	GTD64DU	8,850'	1.0	5-50K		400-600	2500-3000
8-3/4" Lateral	Ulterra	SPL616	13,485'	1.0	15-40K	80-120	400-600	3000-5000
8-3/4" Backup	Smith	XS616	13,485'	1.0	15-40K	80-120	400-600	3000-5000

Cement Program

String	Hole Size	Casing	LEAD SLURRY			TAIL SLURRY		
			Weight	TOC	Excess / OH	Weight	TOC	Excess / OH
1st Intermediate	17 1/2"	13 3/8"	N/A	N/A	N/A	14.8	Surface	100%
2nd Intermediate	12 1/4"	10 3/4"	12.8	Surface	100%	14.8	2,240'	100%
Production	8 ¾"	5 1/2"	11.5	Surface	20%	13.2	8,000'	20%

BHA Program

Section	Hole Size	BHA Description
1st Intermediate	17 1/2"	• 17 1/2" PDC Bit • 9 5/8" x 8" 7/8 4.0 1.75 FBH (w/ 11 3/4" NBS) • IBS (1/4" UG) • NMPC • UBHO • 2 – NMDC (MWD) • 3 – 8" DC • 12 – 6.5" Drill Collars
2nd Intermediate	12 1/4"	• 12 1/4" PDC Bit • 9 5/8" x 8" 7/8 4.0 1.75 FBH (w/ 11 3/4" NBS) • IBS (1/4" UG) • NMPC • UBHO • 2 – NMDC (MWD) • 3 – 8" DC • 12 – 6.5" Drill Collars
Production Vertical	8 3/4"	• 8-3/4" PDC Bit • 7" 1.75 FBH 7/8 5.0 (w/ ½" UG NBS) • IBS (1/2" UG) • NMPC • UBHO • 2 – NMDC (MWD) • 12 – 6.5" Drill Collars • 5 – 5" HWDP • 1- Drilling Jars • 12 – 5" HWDP
Production Curve	8 3/4"	• 8-3/4" PDC Bit • 7" 2.12 FBH 6/7 5.0 (Slick Sleeve) • NMPC • UBHO • 2 - NMDC (MWD)
Production Lateral	8 3/4"	• 8 3/4" PDC Bit • 7" 1.5 FBH 6/7 5.0 (w/ 8" NBS) • 8 1/4" Nortrak • 1 – UBHO • 2 – NMDC (MWD) • 90 – jnts 4" DP • 1 – NOV Agitator • 4" Drill Pipe •

Casing Characteristics

String	Depth (ft)	OD (in)	ID (in)	Cpl OD (in)	Drift (in)	Weight (#/ft)	Grade	Conn	Burst (psi)	Collapse (psi)	Tension (k-lbs)	Torque (ft-lbs)		
												Min	Opt	Max
Surface	120'	20	19.124	21	18.936	94	J55	STC	2110	520	1480			
1st Intermediate	575' TVD	13 3/8	12.615	14.375	12.459	54.5	J55	BTC	1730	1130	607	Δ	Δ	Δ
2nd Intermediate	2,755' TVD	10 3/4	10.05	11.75	9.894	40.5	J55	BTC	3130	1580	964	Δ	Δ	Δ
Production	13,485' MD	5 1/2	4.778	6.154	4.653	20	HCP110	BTC	12640	12200	641	Δ	Δ	Δ

Mud Program

Hole Section	Fluid Type	Mud Weight (ppg)	Funnel Visc (s/qt)	PV	YP	pH	API Fluid Loss	Cl- (mg/L)	6 rpm	Drill Solids (%)	ES
26" 0'-120'	Spud Mud/ Bentonite	8.5-9.2	38-40	8-10	8-10	8.0-9.0	NC	1-5k	-	<5	-
17 1/2" 120'-575'	Spud Mud/ Bentonite	8.5-9.2	38-40	8-10	8-10	8.0-9.0	NC	1-5k	-	<5	-
12 1/4" 575'–2,755'	Brine/ Prehydrated Bentonite	10-10.1	28-29	NA	NA	10.5	NC	170k+	-	<5	-
8 ¾" 2,755'-TD	OBM	9.5-9.8	45-50	15-20	8-12	-	RF	250k-300k	9-15	-	600-900

Survey Program

Hole	Type	Comments
17 ½"	Inclination & Azm	Every 90' while drilling ahead w/ MWD Tools and Gamma
12 ¼"	Inc/ Azm/ Gamma	Every 90' while drilling ahead w/ MWD Tools and Gamma
8 ¾"	Inc/ Azm/ Azm Gamma	Curve section will be surveyed every 45' unless discussed otherwise. 90' surveys in the lateral.

Make sure all the surveys are recorded in IADC report. Company rep is not to sign off on daily IADC until surveys are put in.

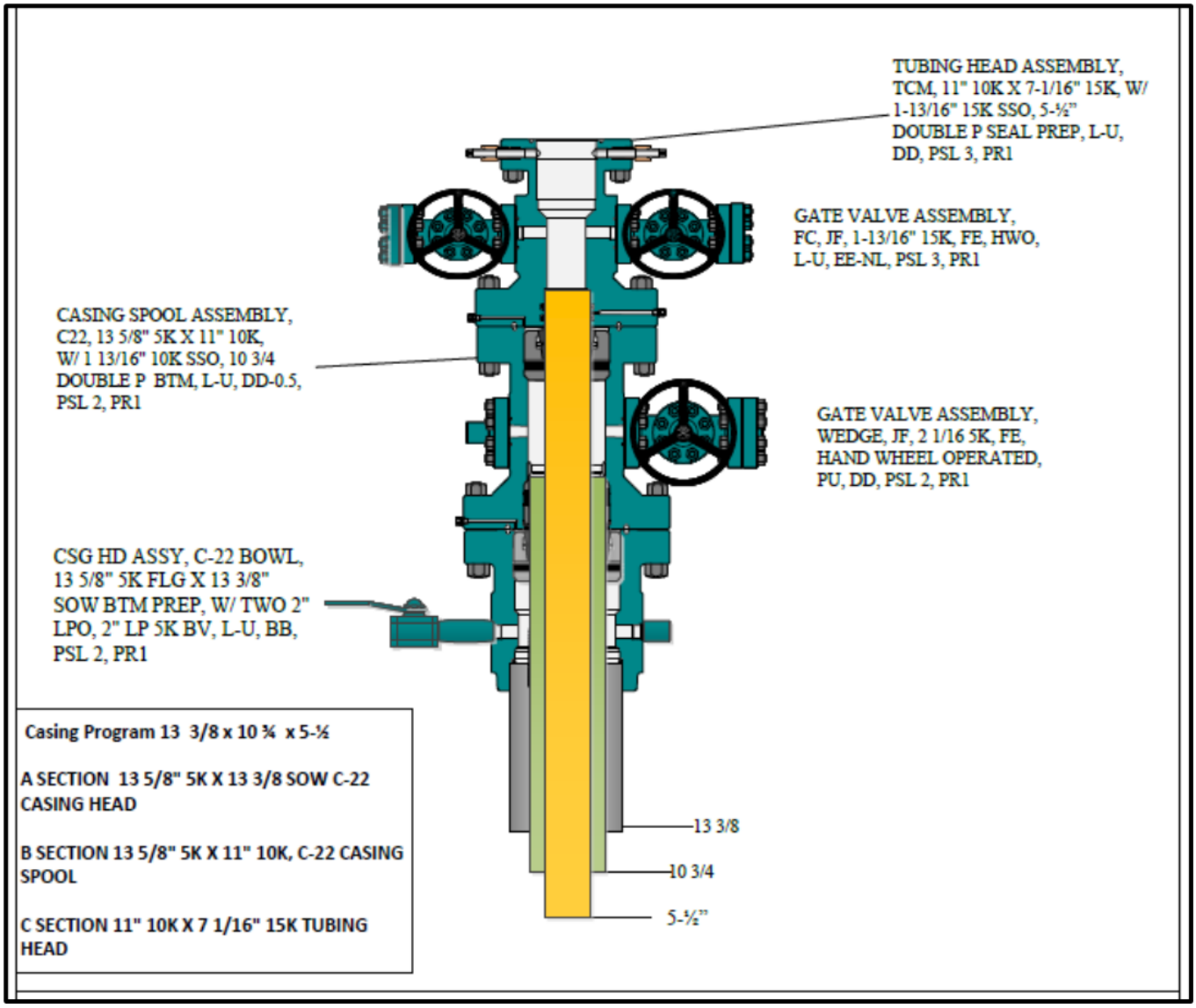
Note: Maintain survey program and ensure deviation stays manageable in the vertical hole section.

Directional Target

KB Depth (ft)	Departure from BHL	Comments
Vertical hole	100' radius	Try to keep DLS below 3 degrees.
Production lateral	+/- 15' Window	Geologists will continue to monitor formation dip with gamma and adjust as needed.

Wellhead Equipment

Section	Man.	Bottom Flange		Top Flange		Comments
		Size (in.)	WP (psi)	Size (in.)	WP (psi)	
Casing Head Sec A	AFS	13 3/8" SOW	-	13 5/8"	5000	Test casing head weld to 790 psi (70% of 13 3/8" J55 54.5# casing collapse pressure)
Casing Head Sec B	AFS	13 5/8"	5000	11"	10000	Test Void to 1,100 psi (70% of 10 3/4" J55 40.5# casing collapse). See vendor instructions for installation and testing procedures
Tubing Head	AFS	11"	10000	7-1/16"	15000	Test tubing head void to 7,500 psi (70% of 5 1/2" HCP110 20# casing collapse). Install blind flange or valve on top of the tubing head.



BOP Equipment

Casing Size (in.)	Wellhead Flange		BOP Stack			Pressure Test (psi)			
						Initial		Subsequent	
	Size (in.)	Pressure (psi)	Type[1]	Size (in.)	Pressure (psi)	Rams	Ann	Rams	Ann
13 3/8"	13 5/8"	5000	**R, R, A, G**	13 5/8"	10000	250/**3500**	250/**1500**		
10 3/4"	13 5/8"	10000	**R, R, A, G**	13 5/8"	10000	250/**5000**	250/**2500**	250/**5000**	250/**2500**

***Test BOPE 250/5000 psi, and 250/2500 psi for the annular preventer. This pressure exceeds the burst rating of 10 3/4" casing, therefore caution must be used to avoid exposing the casing to this high pressure. Make sure test plug is properly installed prior to beginning testing and bradenhead valve is left open at all times while testing.**

(Single) R=Ram Preventer; (Double) R=Ram Preventer; A=Annular; G=Rotating Head

- One set of pipe rams should be located below drilling spool.
- Blind rams should be in lower most double ram cavity.
- Pipe rams should be fitted for 5" solid body ram.
- Use new ring gaskets every time BOPE is installed.
- Insure all BOPE tests are recorded and kept in Drilling Supervisor Office.
- TIW valve and inside BOP with appropriate wrenches must always be on rig floor.
- Drill pipe float is required in all BHA(s).

All BOPE test pressures to be held for a minimum of 5 minutes. Relevant well control equipment shall be tested following replacement of any pressure containing component; or following removal, then reinstallation of BOP stack; or following installation of each casing string; or at the discretion of the Drill Site Manager or Drilling Superintendent.

BOP/Casing Test Assumptions

13 3/8" Surface Casing:

All BOP Tests: Should be done by a 3rd party tester and held for 5 mins each. All BOP test charts are to be kept for record and done at a minimum of every 21 days. **Note: a test plug should be utilized and the casing valve left open for the entire BOP test**

Surface Casing Test: **500 psi** pressure drop of no more than 10% over 30 min test.

Intermediate Casing Test: **1500 psi** Acceptable pressure drop of no more than 10% over 30 min test. **ENSURE CASING HEAD A-SECTION WELLHEAD VALVE IS OPEN FOR THE ENTIRE TEST.** *Burst of 10 3/4" casing rated at 3130 psi*

Possible hole problems

Surface Hole Section

- Red Beds swelling – use Soap/SAPP as necessary to prevent swelling clays
- Possible lost circulation
- Wellbore cleaning problems due to unconsolidated formation, larger hole sizes.

Intermediate Hole Section

- Seepage/ lost circulation
- Wellbore deviation concerns. We will have directional tools in the hole for this interval.
- Differential sticking possiblity, should the solids and mud weight become excessive.

Production Hole Section

- Seepage/ lost circulation
- H2S/ water flow
- Transition Zones – reduce top drive RPM/ WOB when drilling through transition zones to extend bit/ BHA life.
- Abrasive drilling/ chert/ pyrite
- Excessive drag on connections that could require periodic weighted sweeps prior to running surveys or tripping for bit.
- Wellbore cleaning. Duning effect in curve of horizontal section of wellbore.
- Poor wellbore cleaning in horizontal section.

Approximate Formation Tops

ANTICIPATED GEOLOGIC MARKERS			
#	Marker*	MD (ft)	TVD (ft)
1	Option 1: Kelly Bushing	3,178	
2	Ground Level Elevation	3,153	
3			
4	Tanshill		142
5	Yates		333
6	Seven Rivers		536
7	Capitan	per directional plan	600
8	Delaware	per directional plan	2,238
9	Bone Spring	per directional plan	4,483
10	1st BSPG Sand	per directional plan	5,858
11	2nd Bone Spring Carbonate	per directional plan	6,108
12	2nd Bone Spring Sand	per directional plan	6,553
13	3rd Bone Spring Carbonate	per directional plan	6,943
14	3rd Bone Spring Sand	per directional plan	8,038
17	WOLFCAMP A	per directional plan	8,403
18	**Wolfcamp A-XY - Y Sand**	per directional plan	8,505
19	**TOP WINDOW at LANDING POINT**	per directional plan	8,516
20	**LANDING POINT (Y SAND TARGET)**	per directional plan	8,526
21	**BASE WINDOW at LANDING POINT**	per directional plan	8,536

Formation Evaluation

Type	Section \ Comments
MWD/ Azimuthal Gamma Ray	Gamma Ray logging **from drill out of 13 3/8" casing to completion of wellbore.** ***Azimuthal Gamma in lateral section.*** Vendor – Wellbenders – Rich Fancher – 936-444-7679
Mud Logging	Rigged up and Logging **30' samples from surface casing to TD of wellbore.** Vendor – Columbine – Ed Lesnick – (412) 559-3133
Geosteering	Geosteering with gamma ray and MWD while drilling the curve and lateral hole sections. Vendor – Columbine – Ed Lesnick – (412) 559-3133

Drilling Procedure

Pre-Rig Move

a. Ensure Emergency Evacuation Procedure and location coordinates are identified and documented prior to rig move.
b. Review Emergency Response Plan and emergency contact list.
c. Ensure the following information is received prior to rig move: approved trucking route, permit, GAU (water board) letter, AFE number, and well files.
d. Drive to location and note any road hazards and power lines.
e. Have conductor pre-set at the depth referenced on ***Hole Section Summary.***
f. DSM to have JSA from rig contractor prior to rig move.
g. Conduct pre-job safety meeting with all persons, including 3rd party personnel, involved in rig move prior to mobilization. Update JSA as necessary. Shut off injectors.

Rig Move & Pre-spud

a. Move in rig from previous location per rig contractor move plan.
b. In morning report, note any downtime and waiting conditions during the move, including waiting on trucks, daylight, location, or road conditions.
c. Notify BLM & NMOCD prior to well spud (575) 234-5972 & (505) 476-3440. Note time of notification and name of operator in morning report along with the job number.
d. Complete detailed pre-spud rig inspection with the rig manager.
e. **Pick up joint of drill pipe and verify derrick and top drive are leveled over the hole before accepting rig.**
f. Make sure solids control equipment is rigged up while crane is available during rig move.
g. Rig up diverter system and function test.

1st Intermediate Hole Drilling

Anticipated Problems

Type	Comments
Hole Cleaning	GPM should always be maximized to aid in hole cleaning. Only if losses are experienced should Max GPM's not be maintained.
Lost Circulation	Partial to total loss returns can be experienced. If LCM treatments do not help do not continue to pump them and be prepared to dry drill to TD if necessary.
Hole Sticking	Hole sticking can become issue with red beds exposed. Limited time of clays being exposed is crucial. Maintain mud properties per the program to reduce clay swelling.

a. Make up a 17 1/2" Surface hole BHA, drilling to 575' as referenced in the ***BHA program.***

b. Commence drilling surface hole at 400 GPM flow rate until depth is 100' below conductor. Monitor cellar and ground around conductor to ensure ground is not washing out. Limit surface RPMs to 40 until the stabilizers are clear of the conductor.

c. Circulate through the steel pits maintaining volumes with additions of gel sweeps. Maintain mud weight with surface mud cleaning equipment.

d. Continue drilling surface hole from ~80' to TD while bringing up parameters. Use surface parameters as referenced on ***Drilling Parameters.***

e. Monitor pick up, slack off, torque, returns, and standpipe pressure to evaluate hole cleaning. Pump high viscosity sweeps as needed as per the mud program.

f. **SIMOPS:** While drilling surface hole – strap, inspect, and drift surface casing and ensure that centralizers and float equipment are on site.

g. **SIMOPS:** Verify the correct A-section of the wellhead has been delivered and measure the internal depth to determine the length of the surface casing that will be inserted into the bottom of the wellhead.

h. A wiper trip is not required to run casing. Pump a viscous sweep at TD prior to tripping out of the hole. Circulate a minimum of two bottoms up at TD.

i. POOH drilling string and BHA, racking back 9 5/8" motor for the intermediate hole run. If excessive drag is observed (>50 kips) call Drilling Superintendent to discuss possible clean out trip before commencing.

j. Notify BLM & NMOCD of running and cementing surface casing if not done prior to spud and make a note in morning report. **Give the cementing company a first call notice for upcoming cement job. Have circulating iron on location prior to PU shoe track.**

1st Intermediate Hole Casing

a. Conduct pre-job safety meeting with rig and casing crew
b. Rig up Casing Crew to run 13 3/8" 54.5# J55 BTC casing.
c. **SIMOPS**: Have a circulating swedge, swivel joint, and 2" low-torque available on the rig floor; function test low-torque valve on XO's.
d. **SIMOPS**: Visually inspect float equipment for damage.
e. Pick up first joint and verify derrick and top drive are aligned over hole to minimize cross threading.
f. Make up and run 13 3/8" 54.5# J55 BTC casing as follows:

1 - Nose Guide Shoe
1 joint 13 3/8" 54.5# J55 BTC casing
1 - Float Collar
13 3/8" 54.5# J55 BTC casing to surface
Place bow spring centralizers as follows:
1 bow spring on collar stop 10' above shoe
1 bow spring on coupling above float collar
1 bow spring on couplings every 4 joints to cellar.

- **SIMOPS**: Conduct the pre-job safety meeting with the cementing crew while circulating prior to the cement job.
  - **Chain down casing**

g. Wash down the last joint of the 13 3/8" casing. Establish circulation slowly and circulate two bottoms up. Once casing is landed do not move casing again while circulating hole.
h. Rig up to displace with cement pump truck. Plan to do cementing job through cementing head. **Make sure to have 2" high pressure hose or 1502 connection available to switch back to rig pumps if problems occur with cementing equipment. Drilling Supervisor is to visually verify that plug is properly loaded in cementing head.**
i. Ensure pressure is bled off mud lines.
j. Pressure test cement line to 250 psi low and 3500 psi high – hold each test for 5 minutes.
k. Mix and pump cement as follows:

See attached detailed cement proposal for slurry specifics

Fluid #	Fluid Type	Fluid Name	Estimated Avg Rate (bbl/min)	Downhole Volume (bbl)	Time (min)
1	Spacer	Spacer (FW)	8	30	3.8
2	Cement	Tail Cement	6	103	15.5
3	Displacement Fluid	Fresh Water	8	89	11.9
				Contingency 50%	15.6
				Job Time	**46.8**

**** Field blend test must have TT of no less than 2 hrs ****

l. Drop wiper plug and displace with pump truck to float collar. Drilling supervisor to witness displacement volumes either on pump truck or in cementer van with computer tracked volumes.

m. Decrease rate to ~4 bpm for last 10 bbls. DO NOT OVERDISPLACE

n. Bump plug and pressure up to 500 psi over final displacing pressure for **5 minutes**, do not exceed burst pressure rating for casing at any time, then bleed back to 0 psi. Check for back flow to ensure float is holding.
   a. If floats do not hold, call DS and prep to hold pressure on casing until cement sets up.

o. Report cement returns throughout cement job and report final volume of cement to surface in morning report.
   a. Be ready to flush cement from surface lines and conductor once job is completed.

p. **If there are no cement returns to surface, a top job with 1" tubing will be necessary.** Discuss remedial actions with DS before calling the NMOCD.
   - Notify the NMOCD
   - Calculate estimated top of cement from lift pressures
   - Take temperature survey if requested by NMOCD
   - Notify the NMOCD of results of the temperature survey
   - Perform remedial work as required

q. Conduct PJSM; rig down cementing head and lines.

- Ensure that the casing is centered and level.
- Rough cut the casing above the final cut point.
- Remove the conductor
- **Fine cut the casing taking into consideration the length of the casing that will be inserted into the wellhead so that the top flange of the multibowl wellhead will be at ground level. Make sure to confirm measurements with actual wellhead on the location and discuss with DS prior to operations.**
- Weld the A section of the wellhead in place and allow to cool.
- Test the void between the welds to 790 psi (70% of casing collapse)
- Nipple up 13 5/8" 10M BOP stack per the following: (bottom to top)
  - A-section MBU wellhead
  - DSA (11" 10K x 13 5/8" 10K)
  - 13 5/8" 10M Single Rams with 5" rams
  - 13 5/8" 10M psi Double Ram (Blinds on bottom, 5" Pipe Rams on top)
  - 13 5/8 5M psi Annular Preventer
  - 13 5/8" Rotating Head

This BOP NU could vary with rig specific equipment. Consult with DS prior to NU.

r. **SIMOPS:** Make up test plug offline with one joint of DP.

s. Run test plug and perform remaining BOPE test as referenced in BOP Test Section for 5 minutes and chart same (test includes FOSV, IBOP and Top Drive valves). Retrieve test plug and chart results.

t. File BOP test chart in well file.

u. Install wear bushing.

v. Pick up 12 1/4" BHA as per ***BHA Section***

w. Commence drilling the intermediate hole with the saturated brine mud.
x. Drill out the shoe track, limiting surface RPMs to 40 and flow rate to 400 GPM. Pump high viscosity gel sweeps as necessary while drilling cement. Record the firmness of cement in morning report.
y. Drill 10' of new formation and circulate hole clean ensuring MW in and out are equal.
z. Pull back into casing shoe, close BOP and perform **FIT to 10 ppg EMW.**
    - If shoe test is not obtained notify DS prior to drilling ahead.

2nd Intermediate Hole Drilling

Anticipated Problems

Type	Comments
Hole Cleaning	Maintain maximum GPM when possible, to aid in hydraulics and hole cleaning. Make sure to monitor sweeps when they return to surface and adjust the frequency as needed.
Lost Circulation	Lost circulation can be encountered. Have LCM material readily available on location. Be prepared with enough volume to dry drill to TD if unable to re-establish returns.

a. **Make sure that mud-loggers are rigged up and ready to catch samples prior to drilling out surface casing shoe.**
b. Drill out surface casing shoe with brine and continue circulating through the steel pits following Buckeye mud program.
c. Drill the Intermediate hole section as follows:
    - See recommended drilling parameters in **Bit Program.** Maintain enough WOB to maximize motor differential and maximize rotary speed to minimize building tendencies. Attempt to maximize flow rate to 700-800 GPM as hole conditions allow. If vibration is observed, adjust parameters in small increments trying to find a sweet spot.
    - Do not let weight drill off after kelly down. Cut rotary down to half, P/U and make connection. After connections, fan the PDC bit back to bottom to mitigate bit damage.
    - Conduct drill off tests every tour and every formation change to optimize drill rate.
    - Monitor and record pick up, slack off, and rotating weight/torque at every connection and evaluate as an indication of hole conditions.
    - Have bulk LCM on location at all times during drilling. Pump precautionary sweeps. Viscosify mud as necessary w/ polymer & salt gel to dampen string vibration & stick slip.
d. Continue drilling to TD. Adjust TD deeper if necessary to accommodate the casing pipe tally.
e. Pump a fluid caliper at TD of intermediate hole to confirm cement volumes.

f. A wiper trip is not required to run casing. Pump a viscous sweep at TD prior to tripping out of the hole. Circulate a minimum of two bottoms up at TD.
g. TOOH racking back DP and laying down 12 1/4" BHA.
h. **SIMOPS:** While drilling intermediate hole – strap, inspect, and drift casing and ensure that float equipment, and centralizers are on site. Make visual inspection of equipment.

2nd Intermediate Hole Casing

a. **Pull wear bushing from wellhead.**
b. Conduct pre-job safety meeting with the casing running crew.
c. **SIMOPS:** Have a circulating swedge, swivel joint, and 2" low-torque available on the rig floor; function test low-torque valve on XO's.
d. **SIMOPS:** Visually inspect float equipment for damage; ensure that manufacturer model and numbers match with the descriptions below.
e. **SIMOPS:** PU first joint and verify derrick and top drive are leveled over the hole to minimize cross threading.
f. Make up and run 9 5/8" 40# L80 BTC casing as follows:
   - PDC Drillable Float Shoe (thread locked).
   - 2 joints 9 5/8" 40# L80 BTC casing (thread locked).
   - PDC Drillable float collar (thread locked)
   - 9 5/8" 40# L80 BTC to surface
g. After making up the shoe track, ensure proper operation of float equipment.
h. Pick up landing joint with mandrel and wash last joint to bottom. Verify with wellhead technician mandrel is properly seated in MBS as per wellhead provider's running procedures.
i. Break circulation slowly and circulate 2x bottoms at 400 GPM.
j. **SIMOPS:** Conduct pre-job safety meeting with cementing crew prior to cement job while circulating.
k. **MAKE SURE all float equipment and ALL PLUGS for the intermediate casing come from the same manufacturer.**
l. Rig up cementing head (with top wiper plug pre-installed in cement head) and surface lines. Pressure test lines to 250/5000 psi; ensure that surface equipment is isolated from downhole while testing. Ensure pressure is bled off mud lines. **Drilling supervisor is to visually verify that the plug is properly loaded in the cement head before installing it on casing.**
m. Mix and pump spacers / cement job at 8 BPM as follows (ensure and record all pressures and rates):

*****See detailed Cement Proposal for slurry specifics*****

Fluid #	Fluid Type	Fluid Name	Estimated Avg Rate bbl/min	Downhole Volume bbl	Time min
1	Spacer	Fresh water	8	20	2.5
2	Cement	Lead Cement	6	144	24.5
3	Fluid	Displacement Fluid	8	276	34.5
			Contingency 50%		33.5
			Job Time		**95.0**

*****Note: Field blend tests should have TT no less than 3 hrs*****

n. Catch sample of dry cement, mix water, and wet cement.

o. Drop wiper plug and displace with pump truck to float collar. Drilling supervisor to witness displacement volumes on pump truck or in cementer van with computer tracked volumes.

p. Decrease rate to ~4 bpm for last 10 bbls. DO NOT OVERDISPLACE

q. Bump plug and pressure up to 500 psi over final displacing pressure for **5 minutes**, do not exceed burst pressure rating for casing at any time, then bleed back to 0 psi. Check for back flow to ensure float is holding.

   a. If floats do not hold, call DS and prep to hold pressure on casing until cement sets up.

o. Report cement returns throughout cement job and report final volume of cement returned to surface in morning report.

p. Drain the BOP stack through the annulus gate valve and flush out the BOP stack thoroughly with fresh water to avoid any obstructions.

q. Back out landing joint as per AFS running procedures and lay down. PU washout tool on joint of drill pipe and clean out area for pack-off to ensure no cement is left.

r. Make up pack-off with joint of drill pipe and install in wellhead with UWS wellhead technician guidance.

s. Once pack-off is properly installed test to **1,100 psi (~70% of collapse rating of 9 5/8" 40# L80 BTC casing)**

t. **Install Wear Bushing**

u. Pick up 8 3/4" vertical BHA defined in **BHA Program**. Shallow hole test directional tools.

v. TIH until you tag up at the float collar. Perform casing test to 1,500 psi. Pressure test casing with rig pumps to referenced pressures on casing test section using EDR system to chart results and document in well file. Surface pressure should not decline more than 10% in 30 minutes. If casing test fails, notify superintendent prior to drilling out shoe track.

w. Drill out shoe track and circ bottoms up to clear casing of any residual cement cuttings. Drill 10 ft of new formation and circulate bottoms up and ensure mud weight in and out is consistent.

x. Pull back into the casing and close BOP, perform FIT to **11.0 ppg EMW.**

- If shoe test fails notify drilling superintendent before drilling ahead.

Production Hole Pilot Drilling

Anticipated Problems

Type	Comments
Hole Cleaning	Maintain maximum GPM when possible to aid in hydraulics and hole cleaning. Make sure to monitor sweeps when they return to surface and adjust the frequency as needed.
Lost Circulation	Lost circulation can be encountered. Have LCM material readily available on location. Be prepared with enough volume to dry drill to TD if unable to re-establish returns.
Water flow	Possible water flows from the Delaware Mountain formations. Monitor pits for gains and losses. Have gas buster and power choke rigged up prior to drill out.
Bit Abrasion	This hole section is very difficult in larger hole sizes. ROP should be watched closely while encountering formation tops. If ROP decreases steadily down to 30 FPH, discuss with DS/ DE the possibility of a bit trip to avoid DBR.

a. Drill out intermediate casing shoe with cut brine/ prehydrated gel and continue circulating through the steel pits following Buckeye mud program.

b. Drill the pilot hole section as follows:

- See recommended drilling parameters in **Bit Program.** Maintain enough WOB to maximize motor differential and maximize rotary speed to minimize building tendencies. Attempt to maximize flow rate to 600-800 GPM as hole conditions allow. If vibration is observed, adjust parameters in small increments trying to find a sweet spot.
- Do not let weight drill off after kelly down. Cut rotary down to half, P/U and make connection. After connections, fan the PDC bit back to bottom to mitigate bit damage.
- Conduct drill off tests every tour and every formation change to optimize drill rate.
- Monitor and record pick up, slack off, and rotating weight/torque at every connection and evaluate as an indication of hole conditions.
- Have bulk LCM on location at all times during drilling. Pump precautionary sweeps. Viscosify mud as necessary w/ polymer & salt gel to dampen string vibration & stick slip.

c. A couple hundred feet before TD of the pilot hole, begin mudding up with white starch for water loss of <12 cc.

d. Once pilot hole TD is reached, circulate and condition the hole. Pump a sweep and make a short trip (10 stands) to check for fill. Return to bottom and spot a 100 bbl pill prior to TOOH for logging run.

e. TOH and lay down 8 3/4" vertical BHA.

Production Hole Curve/ Lateral Drilling

Anticipated Problems

Type	Comments
Wellbore cleaning	Poor wellbore clean can occur while drilling the horizontal section. Maintain maximum allowable GPM's to aid in hole cleaning. Use of clean up cycle should be used as hole dictates. These should be performed at MCMR (max circulating max rotating).
Excessive Torque and Drag	Clean up cycles and sweeps to aid in hole cleaning. Lubricity tests to be run on mud properties.
Seepage/ Lost Circulation	Have LCM on hand in case of lost circulation or seepage losses. Drill with minimum mud weight allowable while still maintaining proper hydrostatic pressure on the hole.
Abnormal Pressure	Monitor PVT system at all times in case of any well influx. Adjust mud properties as necessary if abnormal pressure is encountered.

a. Pick Up 8 3/4" curve assembly.
b. Drill the production hole curve **as per directional plan:**
   - **10° /100 ft BUR to EOC**.
   - Drilling parameters as referenced in **Drilling Parameters.**
   - **Attempt to drill curve with minimal flow rate to reduce washout on low side of hole and to allow for constant tool face control.**
c. Maintain sufficient WOB to maximize the differential pressure based on the motor and bit limits.
d. Continue to monitor all surveys closely; calculate motor yield and project to TD after every survey to calculate build rates needed to land on target.
   - If you take a survey that has less than desired BUR, begin taking check shots between survey points to verify motor yield is sufficient.
   - If at any time calculated build rates to land on target are greater than motor yield stop drilling and contact DS and DE.
   - Directional team, on-site mud logger, and geologist to stay in constant communication while drilling curve section.
e. Once at EOC, TOH racking back DP and laying down curve BHA.
f. PU 8 ¾" lateral BHA as noted in BHA summary section. Note any tight spots on TIH on morning report.
g. TIH and resume drilling production lateral hole section.
   - See recommended drilling parameters in **Bit Program.** Maintain enough WOB to maximize motor differential and maximize rotary speed to minimize building tendencies. Attempt to maximize flow rate as hole

conditions allow. If vibration is observed, adjust parameters in small increments trying to find a sweet spot.

- Surveys should be taken at least every stand and more often if surveys indicate building tendencies. **Follow directional plan and notify DS and DE if surveys indicate issues maintaining plan.**
- After connections, fan the PDC bit back to bottom to mitigate bit damage.
- Monitor and record pick up, slack off, and rotating weight/torque at every connection and evaluate as an indication of hole conditions.
- **While drilling entire hole section PVT data should be watched closely for gains/losses.**
- Run centrifuge equipment continuously to keep LGS down and maximize ROP.

h. Do not allow the torque to fluctuate greater than +/-1000 ft-lbs. If the formation appears "ratty" (erratic torque or larger swings in torque values), incrementally adjust the surface RPM and the WOB to eliminate this problem (Reduce RPMs in 3-5 RPM intervals, allowing sufficient time between adjustments for the string to stabilize).

i. Have LCM on location per the Buckeye mud program at all times during drilling.

j. Monitor and record pick up, slack off, and rotating weight/torque at every connection. Evaluate each for indications of hole conditions. Reference motor operating limits for the maximum and minimum operating flow rates.

k. SIMOPS: While drilling production hole section, ensure casing is received, cleaned, tallied, and drifted with an API drift.

l. Refer to the oil-based mud procedure for specific drilling fluid handling procedures while drilling the production hole.

m. Continue drilling to TD. Once at TD perform clean up cycle while pumping high vis sweeps prior to TOH. Discuss with DS and DE about sweep frequency and rotating parameters.

- Space out to allow a full stand (90ft) to be available to reciprocate drill pipe while pumping clean up cycle.
- Pump at maximum allowable pump GPM's while rotating at maximum allowable RPM's

Production Hole Casing

NOTE: Notify the NMOCD of intent to run and cement the production casing.

a. Conduct a pre-job safety meeting.
   - Hold safety meetings accordingly.

b. **SIMOPS**: Visually inspect float equipment for damage and proper operation; ensure that the manufacturer model and numbers match with the descriptions below.

c. Rig up CRT tool to run 5 1/2" production casing.

d. Make up and run 5 1/2" 20# HCP110 BTC production casing as follows:

   1 – 5 1/2" Float Shoe -thread locked
   1 - joint 5 1/2" 20# HCP110 BTC casing - thread locked
   1 – 5 1/2" Float Collar
   5 1/2" 20# HCP110 BTC to base of curve (Confirm with DE)
   1 – 5 1/2" Float-In Sub
   5 1/2" 20# HCP110 BTC to surface
   Marker joints at halfway in the lateral and 200' above KOP

e. After making up the shoe track, pump through equipment to ensure that floats are clean of any obstructions. Confirm flow.

f. Pick up and run casing with casing crew. Monitor returns on the trip tank or pit volume and fill the casing every 20 joints. Stop at the intermediate casing shoe and break circulation. Record pick up and slack off weights.

g. Proceed TIH through curve and lateral filling on the fly with CRT tool.

h. Tag bottom and confirm hole depth.

i. **SIMOPS:** Conduct pre-job safety meeting with cementing crew while circulating prior to cement job.

j. Rig up cementing head (with top wiper plug pre-installed in cement head) and surface lines. Pressure test lines to 250/5000 psi; ensure that surface equipment is isolated from downhole while testing. Ensure pressure is bled off mud lines. **Drilling supervisor is to visually verify that the plug is properly loaded in the cement head before installing it on casing.**

k. Mix and pump spacers / cement job at 8 BPM as follows (ensure and record all pressures and rates):

*****See detailed Cement Proposal for slurry specifics*****

Fluid #	Fluid Type	Fluid Name	Estimated Avg Rate bbl/min	Downhole Volume	Time min
1	Spacer	GXT Spacer	8	40	5
2	Cement	Lead Cement	8	75.6	10
3	Cement	Tail Cement	8	472	58.5
4	Displacement	Sugar Water	8	20	2.5
5	Displacement	Treated Water	8	247	32
			Contingency	25%	27
			Total Job Time	135	

*****Note: Field blend tests prior to job should have thickening time no less than 5.5 hrs*****

l. Catch sample of dry cement, mix water, and wet cement.

m. Drop top wiper plug and displace with cement truck to float collar with 2% KCL water, **do not over displace**. Slow pump rate to ±2 BPM for the last 10 bbls. Bump plug and pressure up to 500 psi for 5 minutes, then bleed back to 0 psi. Check for back flow. Flow check annulus and confirm fluid level is holding at surface and record results.

n. Once it has been confirmed that floats are holding, pressure up to burst the top wiper plug rupture disk. Displace with an additional 3 bbls for a wet shoe.

o. Monitor well and confirm well is static for a min of 30 min.

p. Back out landing joint as per AFS running procedures and lay down. PU washout tool on joint of drill pipe and clean out area for pack-off to ensure no cement is left.

q. Make up pack-off with joint of drill pipe and install in wellhead with wellhead technician guidance.

r. ND BOP and install the Tubing Head and test to 7500 psi.

s. Laydown remaining drill string from derrick.

t. Prep for Rig Release.

Cement Plan - Anejo Federal Com 403H									
Surface Casing: 20" casing inside of 26" hole set at 120' MD									
Cement Stage	**Cement Type**	**Additives**	**Volume (cuft)**	**Density**	**Excess**	**Yield**	**Length**	**Total sks**	**Total bbls**
Lead	Class C	Foam Preventer @ 0.5 gals/100sks, Sodium Chloride @ 2.0 BWOW, Sodium Metasilicate, 1.0 BWOB	144	12.0	100%	1.44	40	100	44.7
Tail	Class C	Foam Preventer @ 0.5 gals/100sks, Sodium Chloride @ 2.0 BWOW, Sodium Metasilicate, 1.0 BWOB	217	12.0		1.44	80	151	
1st Intermediate Casing: 13-3/8" casing inside of 17.5" hole set at 575' MD									
Cement Stage	**Cement Type**	**Additives**	**Volume (cuft)**	**Density**	**Excess**	**Yield**	**Length**	**Total sks**	**Total bbls**
Lead	Class C	Foam Preventer @ 0.5 gals/100sks, Sodium Chloride @ 2.0 BWOW, Sodium Metasilicate, 1.0 BWOB	138	12.0	100%	1.38	175	100	103.1
Tail	Class C	Foam Preventer @ 0.5 gals/100sks, Sodium Chloride @ 2.0 BWOW, Sodium Metasilicate, 1.0 BWOB	661	12.0		1.38	400	479	
1st Intermediate Casing: 9-5/8" casing inside of 13-3/8" casing and 12-1/4" Open Hole									
Cement Stage	**Cement Type**	**Additives**	**Volume (cuft)**	**Density**	**Excess**	**Yield**	**Length**	**Total sks**	**Total bbls**
Lead	Class C	Foam Preventer @ 0.5 gals/100sks, Sodium Chloride @ 2.0 BWOW, Sodium Metasilicate, 1.0 BWOB	1469	12.0	100%	2.4	2312	612	109.0
Tail	Class C	Foam Preventer @ 0.005 gals/sks, Retarder @ 0.2 BWOB	313	14.8	100%	1.33	500	235	41.9
Production Casing: 5-1/2" casing inside of 9-5/8" casing and 8-3/4" Open Hole									
Cement Stage	**Cement Type**	**Additives**	**Volume (cuft)**	**Density**	**Excess**	**Yield**	**Length**	**Total sks**	**Total bbls**
Lead	35/65 POZ H	5% Salt BWOW + 4% Bentonite + 0.4%CAS-2 + 0.1% CFR-1 +0.2% CFL-1 + 0.4% CFL-5 + 0.65% CR-1	2496	13.5	50%	1.6	6500	1560	277.8
Tail	35/65 POZ H	5% Salt BWOW + 4% Bentonite + 0.4%CAS-2 + 0.1% CFR-1 +0.2% CFL-1 + 0.4% CFL-5 + 0.65% CR-1	2206	13.5	25%	1.6	6985	1378	245.4

Anejo Federal Com 403H - Casing Design

Casing String	Size	Weight	Grade	Condition	API	Tapered	Burst	Collapse	Tension (1000 lbs)	Connection	Conn Tensile (1000 lbs)	Length	API Design Factor			
													Burst	Collapse	Tension	Coupling
Surface	20"	94	J-55	NEW	Standard	NO	2,110	520	1,480	STC	784	120	1.67	5.71	13.30	7.05
1st Intermediate	13-3/8"	54.4	J-55	NEW	Standard	NO	2,730	1,130	853	LTC	547	575	1.52	2.59	6.50	4.17
2nd Intermediate	9-5/8"	40	L-80	NEW	Standard	NO	5,750	3,090	916	BTC	737	2,755	1.96	1.48	4.36	3.51
Production	5-1/2"	20	HCP-110	NEW	Standard	NO	12,640	11,100	641	BTC	641	13,485	1.48	2.09	2.67	2.67

Anejo Federal Com 403H

Casing Design Factors are derived on the following assumptions:

Surface Casing	
Collapse	Full evacuation
Burst	1200 psi casing test with 10 ppg mud weight
Tension	Weight of casing +100,000 allowable overpull
Coupling	Weight of casing +100,000 allowable overpull
1st Intermediate Casing	
Collapse	Full evacuation
Burst	1500 psi casing test with 10 ppg mud weight
Tension	Weight of casing +100,000 allowable overpull
Coupling	Weight of casing +100,000 allowable overpull
2nd Intermediate Casing	
Collapse	Full evacuation
Burst	1500 psi casing test with 10 ppg mud weight
Tension	Weight of casing +100,000 allowable overpull
Coupling	Weight of casing +100,000 allowable overpull
Production Casing	
Collapse	Full evacuation
Burst	1500 psi casing test with 10 ppg mud weight
Tension	Weight of casing +100,000 allowable overpull
Coupling	Weight of casing +100,000 allowable overpull

Santo Petroleum

Eddy County, NM (NAD 83 - NME)
ANEJO FEDERAL COM
403H

Wellbore #1

Plan: PLAN #3

Standard Planning Report

07 February, 2022

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 403H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site:	ANEJO FEDERAL COM	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #3		

Project Eddy County, NM (NAD 83 - NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site ANEJO FEDERAL COM

Site Position:		**Northing:**	532,121.20 usft	**Latitude:**	32.462841
From:	Map	**Easting:**	565,484.10 usft	**Longitude:**	-104.255043
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.042 °

Well 403H

Well Position	**+N/-S**	527.10 usft	**Northing:**	532,648.30 usft	**Latitude:**	32.464298
	+E/-W	-4,843.50 usft	**Easting:**	560,640.60 usft	**Longitude:**	-104.270746
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,153.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	02/02/22	6.812	59.994	47,498.91874944

Design PLAN #3

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	89.43

Plan Survey Tool Program **Date** 02/07/22

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,485.23	PLAN #3 (Wellbore #1)	MWD+IGRF	
				OWSG MWD + IGRF or WI	

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 403H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site:	ANEJO FEDERAL COM	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #3		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,840.00	0.00	0.00	1,840.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,942.02	3.06	291.00	1,941.98	0.98	-2.54	3.00	3.00	0.00	291.002	
7,557.89	3.06	291.00	7,549.83	108.45	-282.48	0.00	0.00	0.00	0.000	
7,710.92	0.00	89.43	7,702.79	109.91	-286.29	2.00	-2.00	0.00	180.000	
7,960.92	0.00	89.43	7,952.79	109.91	-286.29	0.00	0.00	0.00	0.000	
8,851.53	89.06	89.43	8,525.67	115.55	277.25	10.00	10.00	0.00	0.000	PLAN LP #403H: 2
10,336.71	89.06	89.43	8,550.00	130.42	1,762.15	0.00	0.00	0.00	0.000	PLAN #403H CP1:
10,369.48	88.41	89.43	8,550.72	130.75	1,794.91	2.00	-2.00	0.00	179.954	
13,255.13	88.41	89.43	8,631.00	159.60	4,679.30	0.00	0.00	0.00	0.000	PLAT #403H LTP: 2
13,485.23	88.41	89.43	8,637.40	161.90	4,909.30	0.00	0.00	0.00	0.000	PLAT #403H BHL: 2

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 403H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site:	ANEJO FEDERAL COM	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PLAT #403H SHL: 2178' FSL & 338' FWL									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,840.00	0.00	0.00	1,840.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	1.80	291.00	1,899.99	0.34	-0.88	-0.88	3.00	3.00	0.00
1,942.02	3.06	291.00	1,941.98	0.98	-2.54	-2.53	3.00	3.00	0.00
2,000.00	3.06	291.00	1,999.87	2.09	-5.43	-5.41	0.00	0.00	0.00
2,100.00	3.06	291.00	2,099.73	4.00	-10.42	-10.38	0.00	0.00	0.00
2,200.00	3.06	291.00	2,199.58	5.91	-15.40	-15.34	0.00	0.00	0.00
2,300.00	3.06	291.00	2,299.44	7.83	-20.39	-20.31	0.00	0.00	0.00
2,400.00	3.06	291.00	2,399.30	9.74	-25.37	-25.27	0.00	0.00	0.00
2,500.00	3.06	291.00	2,499.16	11.65	-30.36	-30.24	0.00	0.00	0.00
2,600.00	3.06	291.00	2,599.01	13.57	-35.34	-35.21	0.00	0.00	0.00
2,700.00	3.06	291.00	2,698.87	15.48	-40.33	-40.17	0.00	0.00	0.00
2,800.00	3.06	291.00	2,798.73	17.40	-45.31	-45.14	0.00	0.00	0.00
2,900.00	3.06	291.00	2,898.58	19.31	-50.30	-50.10	0.00	0.00	0.00
3,000.00	3.06	291.00	2,998.44	21.22	-55.28	-55.07	0.00	0.00	0.00
3,100.00	3.06	291.00	3,098.30	23.14	-60.27	-60.03	0.00	0.00	0.00
3,200.00	3.06	291.00	3,198.16	25.05	-65.25	-65.00	0.00	0.00	0.00
3,300.00	3.06	291.00	3,298.01	26.96	-70.23	-69.96	0.00	0.00	0.00
3,400.00	3.06	291.00	3,397.87	28.88	-75.22	-74.93	0.00	0.00	0.00
3,500.00	3.06	291.00	3,497.73	30.79	-80.20	-79.89	0.00	0.00	0.00
3,600.00	3.06	291.00	3,597.59	32.70	-85.19	-84.86	0.00	0.00	0.00
3,700.00	3.06	291.00	3,697.44	34.62	-90.17	-89.83	0.00	0.00	0.00
3,800.00	3.06	291.00	3,797.30	36.53	-95.16	-94.79	0.00	0.00	0.00
3,900.00	3.06	291.00	3,897.16	38.45	-100.14	-99.76	0.00	0.00	0.00
4,000.00	3.06	291.00	3,997.02	40.36	-105.13	-104.72	0.00	0.00	0.00
4,100.00	3.06	291.00	4,096.87	42.27	-110.11	-109.69	0.00	0.00	0.00
4,200.00	3.06	291.00	4,196.73	44.19	-115.10	-114.65	0.00	0.00	0.00
4,300.00	3.06	291.00	4,296.59	46.10	-120.08	-119.62	0.00	0.00	0.00
4,400.00	3.06	291.00	4,396.45	48.01	-125.07	-124.58	0.00	0.00	0.00
4,500.00	3.06	291.00	4,496.30	49.93	-130.05	-129.55	0.00	0.00	0.00
4,600.00	3.06	291.00	4,596.16	51.84	-135.04	-134.51	0.00	0.00	0.00
4,700.00	3.06	291.00	4,696.02	53.76	-140.02	-139.48	0.00	0.00	0.00
4,800.00	3.06	291.00	4,795.87	55.67	-145.01	-144.45	0.00	0.00	0.00
4,900.00	3.06	291.00	4,895.73	57.58	-149.99	-149.41	0.00	0.00	0.00
5,000.00	3.06	291.00	4,995.59	59.50	-154.98	-154.38	0.00	0.00	0.00

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 403H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site:	ANEJO FEDERAL COM	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	3.06	291.00	5,095.45	61.41	-159.96	-159.34	0.00	0.00	0.00
5,200.00	3.06	291.00	5,195.30	63.32	-164.94	-164.31	0.00	0.00	0.00
5,300.00	3.06	291.00	5,295.16	65.24	-169.93	-169.27	0.00	0.00	0.00
5,400.00	3.06	291.00	5,395.02	67.15	-174.91	-174.24	0.00	0.00	0.00
5,500.00	3.06	291.00	5,494.88	69.06	-179.90	-179.20	0.00	0.00	0.00
5,600.00	3.06	291.00	5,594.73	70.98	-184.88	-184.17	0.00	0.00	0.00
5,700.00	3.06	291.00	5,694.59	72.89	-189.87	-189.13	0.00	0.00	0.00
5,800.00	3.06	291.00	5,794.45	74.81	-194.85	-194.10	0.00	0.00	0.00
5,900.00	3.06	291.00	5,894.31	76.72	-199.84	-199.06	0.00	0.00	0.00
6,000.00	3.06	291.00	5,994.16	78.63	-204.82	-204.03	0.00	0.00	0.00
6,100.00	3.06	291.00	6,094.02	80.55	-209.81	-209.00	0.00	0.00	0.00
6,200.00	3.06	291.00	6,193.88	82.46	-214.79	-213.96	0.00	0.00	0.00
6,300.00	3.06	291.00	6,293.73	84.37	-219.78	-218.93	0.00	0.00	0.00
6,400.00	3.06	291.00	6,393.59	86.29	-224.76	-223.89	0.00	0.00	0.00
6,500.00	3.06	291.00	6,493.45	88.20	-229.75	-228.86	0.00	0.00	0.00
6,600.00	3.06	291.00	6,593.31	90.12	-234.73	-233.82	0.00	0.00	0.00
6,700.00	3.06	291.00	6,693.16	92.03	-239.72	-238.79	0.00	0.00	0.00
6,800.00	3.06	291.00	6,793.02	93.94	-244.70	-243.75	0.00	0.00	0.00
6,900.00	3.06	291.00	6,892.88	95.86	-249.69	-248.72	0.00	0.00	0.00
7,000.00	3.06	291.00	6,992.74	97.77	-254.67	-253.68	0.00	0.00	0.00
7,100.00	3.06	291.00	7,092.59	99.68	-259.65	-258.65	0.00	0.00	0.00
7,200.00	3.06	291.00	7,192.45	101.60	-264.64	-263.62	0.00	0.00	0.00
7,300.00	3.06	291.00	7,292.31	103.51	-269.62	-268.58	0.00	0.00	0.00
7,400.00	3.06	291.00	7,392.17	105.42	-274.61	-273.55	0.00	0.00	0.00
7,500.00	3.06	291.00	7,492.02	107.34	-279.59	-278.51	0.00	0.00	0.00
7,557.89	3.06	291.00	7,549.83	108.45	-282.48	-281.39	0.00	0.00	0.00
7,600.00	2.22	291.00	7,591.90	109.14	-284.29	-283.19	2.00	-2.00	0.00
7,700.00	0.22	291.00	7,691.87	109.90	-286.28	-285.17	2.00	-2.00	0.00
7,710.92	0.00	89.43	7,702.79	109.91	-286.29	-285.19	2.00	-2.00	0.00
7,800.00	0.00	0.00	7,791.87	109.91	-286.29	-285.19	0.00	0.00	0.00
7,900.00	0.00	0.00	7,891.87	109.91	-286.29	-285.19	0.00	0.00	0.00
7,960.92	0.00	89.43	7,952.79	109.91	-286.29	-285.19	0.00	0.00	0.00
8,000.00	3.91	89.43	7,991.84	109.92	-284.96	-283.85	10.00	10.00	0.00
8,050.00	8.91	89.43	8,041.51	109.98	-279.38	-278.28	10.00	10.00	0.00
8,100.00	13.91	89.43	8,090.51	110.08	-269.50	-268.39	10.00	10.00	0.00
8,150.00	18.91	89.43	8,138.45	110.22	-255.38	-254.27	10.00	10.00	0.00
8,200.00	23.91	89.43	8,184.99	110.40	-237.14	-236.03	10.00	10.00	0.00
8,250.00	28.91	89.43	8,229.76	110.63	-214.91	-213.80	10.00	10.00	0.00
8,300.00	33.91	89.43	8,272.42	110.89	-188.86	-187.75	10.00	10.00	0.00
8,350.00	38.91	89.43	8,312.65	111.18	-159.19	-158.08	10.00	10.00	0.00
8,400.00	43.91	89.43	8,350.14	111.51	-126.14	-125.02	10.00	10.00	0.00
8,450.00	48.91	89.43	8,384.60	111.88	-89.94	-88.82	10.00	10.00	0.00
8,500.00	53.91	89.43	8,415.78	112.27	-50.87	-49.75	10.00	10.00	0.00
8,550.00	58.91	89.43	8,443.43	112.68	-9.23	-8.11	10.00	10.00	0.00
8,588.48	62.76	89.43	8,462.19	113.02	24.36	25.48	10.00	10.00	0.00
PLAT #403H FTP: 2290' FSL & 330' FWL									
8,600.00	63.91	89.43	8,467.36	113.12	34.65	35.78	10.00	10.00	0.00
8,650.00	68.91	89.43	8,487.36	113.58	80.46	81.58	10.00	10.00	0.00
8,700.00	73.91	89.43	8,503.30	114.06	127.83	128.96	10.00	10.00	0.00
8,750.00	78.91	89.43	8,515.04	114.54	176.41	177.54	10.00	10.00	0.00
8,800.00	83.91	89.43	8,522.51	115.04	225.83	226.96	10.00	10.00	0.00
8,851.53	89.06	89.43	8,525.67	115.55	277.25	278.38	10.00	10.00	0.00
PLAN LP #403H: 2290' FSL & 615' FWL									
8,900.00	89.06	89.43	8,526.46	116.04	325.71	326.84	0.00	0.00	0.00

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 403H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site:	ANEJO FEDERAL COM	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #3		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,000.00	89.06	89.43	8,528.10	117.04	425.69	426.83	0.00	0.00	0.00
9,100.00	89.06	89.43	8,529.74	118.04	525.67	526.82	0.00	0.00	0.00
9,200.00	89.06	89.43	8,531.38	119.04	625.65	626.80	0.00	0.00	0.00
9,300.00	89.06	89.43	8,533.02	120.04	725.63	726.79	0.00	0.00	0.00
9,400.00	89.06	89.43	8,534.65	121.04	825.61	826.78	0.00	0.00	0.00
9,500.00	89.06	89.43	8,536.29	122.04	925.60	926.76	0.00	0.00	0.00
9,600.00	89.06	89.43	8,537.93	123.05	1,025.58	1,026.75	0.00	0.00	0.00
9,700.00	89.06	89.43	8,539.57	124.05	1,125.56	1,126.74	0.00	0.00	0.00
9,800.00	89.06	89.43	8,541.21	125.05	1,225.54	1,226.72	0.00	0.00	0.00
9,900.00	89.06	89.43	8,542.85	126.05	1,325.52	1,326.71	0.00	0.00	0.00
10,000.00	89.06	89.43	8,544.48	127.05	1,425.50	1,426.70	0.00	0.00	0.00
10,100.00	89.06	89.43	8,546.12	128.05	1,525.48	1,526.68	0.00	0.00	0.00
10,200.00	89.06	89.43	8,547.76	129.05	1,625.47	1,626.67	0.00	0.00	0.00
10,300.00	89.06	89.43	8,549.40	130.05	1,725.45	1,726.66	0.00	0.00	0.00
10,336.71	89.06	89.43	8,550.00	130.42	1,762.15	1,763.36	0.00	0.00	0.00
PLAN #403H CP1: 2290' FSL & 2100' FWL									
10,369.48	88.41	89.43	8,550.72	130.75	1,794.91	1,796.12	2.00	-2.00	0.00
10,400.00	88.41	89.43	8,551.57	131.05	1,825.42	1,826.63	0.00	0.00	0.00
10,500.00	88.41	89.43	8,554.36	132.05	1,925.37	1,926.59	0.00	0.00	0.00
10,600.00	88.41	89.43	8,557.14	133.05	2,025.33	2,026.55	0.00	0.00	0.00
10,700.00	88.41	89.43	8,559.92	134.05	2,125.29	2,126.51	0.00	0.00	0.00
10,800.00	88.41	89.43	8,562.70	135.05	2,225.24	2,226.48	0.00	0.00	0.00
10,900.00	88.41	89.43	8,565.48	136.05	2,325.20	2,326.44	0.00	0.00	0.00
11,000.00	88.41	89.43	8,568.26	137.05	2,425.16	2,426.40	0.00	0.00	0.00
11,100.00	88.41	89.43	8,571.05	138.05	2,525.11	2,526.36	0.00	0.00	0.00
11,200.00	88.41	89.43	8,573.83	139.05	2,625.07	2,626.32	0.00	0.00	0.00
11,300.00	88.41	89.43	8,576.61	140.05	2,725.02	2,726.28	0.00	0.00	0.00
11,400.00	88.41	89.43	8,579.39	141.05	2,824.98	2,826.24	0.00	0.00	0.00
11,500.00	88.41	89.43	8,582.17	142.05	2,924.94	2,926.21	0.00	0.00	0.00
11,600.00	88.41	89.43	8,584.96	143.05	3,024.89	3,026.17	0.00	0.00	0.00
11,700.00	88.41	89.43	8,587.74	144.05	3,124.85	3,126.13	0.00	0.00	0.00
11,800.00	88.41	89.43	8,590.52	145.05	3,224.81	3,226.09	0.00	0.00	0.00
11,900.00	88.41	89.43	8,593.30	146.05	3,324.76	3,326.05	0.00	0.00	0.00
12,000.00	88.41	89.43	8,596.08	147.05	3,424.72	3,426.01	0.00	0.00	0.00
12,100.00	88.41	89.43	8,598.87	148.05	3,524.67	3,525.97	0.00	0.00	0.00
12,200.00	88.41	89.43	8,601.65	149.05	3,624.63	3,625.93	0.00	0.00	0.00
12,300.00	88.41	89.43	8,604.43	150.05	3,724.59	3,725.90	0.00	0.00	0.00
12,400.00	88.41	89.43	8,607.21	151.05	3,824.54	3,825.86	0.00	0.00	0.00
12,500.00	88.41	89.43	8,609.99	152.05	3,924.50	3,925.82	0.00	0.00	0.00
12,600.00	88.41	89.43	8,612.78	153.05	4,024.46	4,025.78	0.00	0.00	0.00
12,700.00	88.41	89.43	8,615.56	154.05	4,124.41	4,125.74	0.00	0.00	0.00
12,800.00	88.41	89.43	8,618.34	155.05	4,224.37	4,225.70	0.00	0.00	0.00
12,900.00	88.41	89.43	8,621.12	156.05	4,324.33	4,325.66	0.00	0.00	0.00
13,000.00	88.41	89.43	8,623.90	157.05	4,424.28	4,425.62	0.00	0.00	0.00
13,100.00	88.41	89.43	8,626.68	158.05	4,524.24	4,525.59	0.00	0.00	0.00
13,200.00	88.41	89.43	8,629.47	159.05	4,624.19	4,625.55	0.00	0.00	0.00
13,255.13	88.41	89.43	8,631.00	159.60	4,679.30	4,680.66	0.00	0.00	0.00
PLAT #403H LTP: 2290' FSL & 330' FEL									
13,300.00	88.41	89.43	8,632.25	160.05	4,724.15	4,725.51	0.00	0.00	0.00
13,400.00	88.41	89.43	8,635.03	161.05	4,824.11	4,825.47	0.00	0.00	0.00
13,485.23	88.41	89.43	8,637.40	161.90	4,909.30	4,910.67	0.00	0.00	0.00
PLAT #403H BHL: 2290' FSL & 100' FEL									

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well 403H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site:	ANEJO FEDERAL COM	**North Reference:**	Grid
Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN #3		

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
PLAT #403H SHL: 21' - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	532,648.30	560,640.60	32.464298	-104.270746
PLAT #403H FTP: 22 - plan misses target center by 66.99usft at 8588.48usft MD (8462.19 TVD, 113.02 N, 24.36 E) - Point	0.00	0.00	8,521.00	112.70	-7.70	532,761.00	560,632.90	32.464608	-104.270770
PLAN LP #403H: 229 - plan hits target center - Point	0.00	0.00	8,525.67	115.55	277.25	532,763.85	560,917.85	32.464616	-104.269847
PLAN #403H CP1: 22 - plan hits target center - Point	0.00	0.00	8,550.00	130.42	1,762.15	532,778.72	562,402.75	32.464654	-104.265032
PLAT #403H LTP: 22 - plan hits target center - Point	0.00	0.00	8,631.00	159.60	4,679.30	532,807.90	565,319.90	32.464729	-104.255573
PLAT #403H BHL: 22 - plan hits target center - Point	0.00	0.00	8,637.40	161.90	4,909.30	532,810.20	565,549.90	32.464735	-104.254828

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
483.00	483.00	SURFACE	0.000	0.000
2,785.25	2,784.00	INTERMEDIATE	0.000	0.000

Santo Petroleum

Eddy County, NM (NAD 83 - NME)
ANEJO FEDERAL COM
403H

Wellbore #1
PLAN #3

Anticollision Report

08 March, 2022

Anticollision Report

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Reference PLAN #3

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000.00 us	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 02/07/22

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	13,485.23	PLAN #3 (Wellbore #1)	MWD+IGRF	OWSG MWD + IGRF or WMM

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
ANEJO FEDERAL COM						
204H - Wellbore #1 - PLAN #3	700.00	700.00	39.91	35.34	8.733	CC, ES
204H - Wellbore #1 - PLAN #3	800.00	797.92	42.42	37.16	8.062	SF
303H - Wellbore #1 - PLAN #3	700.00	701.00	20.00	15.43	4.373	CC, ES
303H - Wellbore #1 - PLAN #3	13,485.23	13,368.18	680.05	416.56	2.581	SF

Offset Design ANEJO FEDERAL COM - 204H - Wellbore #1 - PLAN #3 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD+IGRF — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-178.564	-39.90	-1.00	39.91				
100.00	100.00	100.00	100.00	0.13	0.13	-178.564	-39.90	-1.00	39.91	39.64	0.27	148.454	
200.00	200.00	200.00	200.00	0.49	0.49	-178.564	-39.90	-1.00	39.91	38.93	0.99	40.488	
300.00	300.00	300.00	300.00	0.85	0.85	-178.564	-39.90	-1.00	39.91	38.21	1.70	23.440	
400.00	400.00	400.00	400.00	1.21	1.21	-178.564	-39.90	-1.00	39.91	37.49	2.42	16.495	
500.00	500.00	500.00	500.00	1.57	1.57	-178.564	-39.90	-1.00	39.91	36.78	3.14	12.725	
600.00	600.00	600.00	600.00	1.93	1.93	-178.564	-39.90	-1.00	39.91	36.06	3.85	10.357	
700.00	700.00	700.00	700.00	2.29	2.29	-178.564	-39.90	-1.00	39.91	35.34	4.57	8.733	CC, ES
800.00	800.00	797.92	797.87	2.64	2.62	-177.817	-42.33	-1.61	42.42	37.16	5.26	8.062	SF
900.00	900.00	895.32	894.98	3.00	2.95	-176.031	-49.58	-3.44	49.95	44.02	5.93	8.421	
1,000.00	1,000.00	991.72	990.58	3.36	3.29	-174.022	-61.46	-6.44	62.51	55.92	6.59	9.486	
1,100.00	1,100.00	1,086.64	1,084.00	3.72	3.65	-172.281	-77.72	-10.53	80.04	72.81	7.23	11.067	
1,200.00	1,200.00	1,180.72	1,175.69	4.08	4.06	-170.920	-98.15	-15.68	102.32	94.45	7.87	13.001	
1,300.00	1,300.00	1,277.84	1,270.00	4.44	4.51	-169.963	-120.60	-21.35	126.10	117.53	8.57	14.715	
1,400.00	1,400.00	1,374.95	1,364.32	4.79	4.98	-169.309	-143.06	-27.01	149.90	140.64	9.26	16.185	
1,500.00	1,500.00	1,472.07	1,458.63	5.15	5.47	-168.835	-165.52	-32.67	173.71	163.74	9.97	17.425	
1,600.00	1,600.00	1,569.18	1,552.94	5.51	5.97	-168.475	-187.97	-38.33	197.53	186.85	10.68	18.498	
1,700.00	1,700.00	1,666.30	1,647.25	5.87	6.48	-168.192	-210.43	-43.99	221.36	209.96	11.39	19.432	
1,800.00	1,800.00	1,763.41	1,741.57	6.23	6.99	-167.964	-232.89	-49.65	245.19	233.08	12.11	20.253	
1,900.00	1,899.99	1,860.49	1,835.85	6.58	7.52	-98.542	-255.34	-55.31	269.16	256.34	12.82	20.993	
2,000.00	1,999.87	1,957.35	1,929.91	6.93	8.04	-99.024	-277.73	-60.96	293.73	280.19	13.53	21.704	
2,100.00	2,099.73	2,054.17	2,023.94	7.28	8.57	-99.781	-300.12	-66.60	318.42	304.17	14.25	22.348	
2,200.00	2,199.58	2,151.00	2,117.97	7.64	9.11	-100.430	-322.51	-72.25	343.15	328.19	14.97	22.927	

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

SANTO PETROLEUM

Anticollision Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Offset Design ANEJO FEDERAL COM - 204H - Wellbore #1 - PLAN #3 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD+IGRF — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,300.00	2,299.44	2,247.82	2,212.00	7.99	9.64	-100.992	-344.90	-77.89	367.92	352.23	15.69	23.450	
2,400.00	2,399.30	2,344.65	2,306.03	8.35	10.18	-101.482	-367.29	-83.54	392.73	376.31	16.41	23.925	
2,500.00	2,499.16	2,441.47	2,400.07	8.71	10.72	-101.915	-389.68	-89.18	417.55	400.41	17.14	24.358	
2,600.00	2,599.01	2,538.30	2,494.10	9.07	11.26	-102.299	-412.07	-94.83	442.39	424.52	17.87	24.753	
2,700.00	2,698.87	2,635.12	2,588.13	9.43	11.81	-102.642	-434.46	-100.47	467.25	448.65	18.60	25.116	
2,800.00	2,798.73	2,731.94	2,682.16	9.79	12.35	-102.950	-456.85	-106.12	492.13	472.79	19.34	25.450	
2,900.00	2,898.58	2,828.77	2,776.19	10.15	12.89	-103.229	-479.24	-111.76	517.02	496.94	20.07	25.758	
3,000.00	2,998.44	2,925.59	2,870.22	10.51	13.44	-103.482	-501.62	-117.40	541.91	521.10	20.81	26.043	
3,100.00	3,098.30	3,022.42	2,964.25	10.87	13.99	-103.713	-524.01	-123.05	566.82	545.27	21.55	26.308	
3,200.00	3,198.16	3,119.24	3,058.28	11.24	14.54	-103.925	-546.40	-128.69	591.73	569.45	22.28	26.554	
3,300.00	3,298.01	3,216.07	3,152.31	11.60	15.08	-104.119	-568.79	-134.34	616.66	593.63	23.02	26.783	
3,400.00	3,397.87	3,312.89	3,246.34	11.96	15.63	-104.298	-591.18	-139.98	641.58	617.82	23.76	26.997	
3,500.00	3,497.73	3,409.72	3,340.38	12.33	16.18	-104.464	-613.57	-145.63	666.52	642.01	24.51	27.198	
3,600.00	3,597.59	3,506.54	3,434.41	12.69	16.73	-104.618	-635.96	-151.27	691.45	666.20	25.25	27.386	
3,700.00	3,697.44	3,603.36	3,528.44	13.06	17.28	-104.761	-658.35	-156.92	716.40	690.40	25.99	27.563	
3,800.00	3,797.30	3,700.19	3,622.47	13.43	17.83	-104.895	-680.74	-162.56	741.34	714.61	26.73	27.729	
3,900.00	3,897.16	3,802.99	3,716.50	13.79	18.42	-105.020	-703.13	-168.20	766.29	738.79	27.50	27.862	
4,000.00	3,997.02	3,906.16	3,810.53	14.16	19.01	-105.137	-725.52	-173.85	791.24	762.97	28.27	27.986	
4,100.00	4,096.87	4,009.34	3,904.56	14.53	19.59	-105.247	-747.91	-179.49	816.20	787.16	29.04	28.102	
4,200.00	4,196.73	4,087.49	3,998.59	14.89	20.04	-105.350	-770.30	-185.14	841.16	811.44	29.72	28.307	
4,300.00	4,296.59	4,184.31	4,092.62	15.26	20.59	-105.448	-792.69	-190.78	866.12	835.66	30.46	28.433	
4,400.00	4,396.45	4,281.14	4,186.66	15.63	21.14	-105.540	-815.07	-196.43	891.08	859.87	31.21	28.553	
4,500.00	4,496.30	4,377.96	4,280.69	15.99	21.70	-105.627	-837.46	-202.07	916.05	884.09	31.96	28.667	
4,600.00	4,596.16	4,474.79	4,374.72	16.36	22.25	-105.709	-859.85	-207.72	941.01	908.31	32.70	28.775	
4,700.00	4,696.02	4,571.61	4,468.75	16.73	22.80	-105.787	-882.24	-213.36	965.98	932.53	33.45	28.878	
4,800.00	4,795.87	4,668.43	4,562.78	17.10	23.36	-105.861	-904.63	-219.01	990.95	956.75	34.20	28.976	
4,900.00	4,895.73	4,765.26	4,656.81	17.47	23.91	-105.932	-927.02	-224.65	1,015.92	980.98	34.95	29.070	
5,000.00	4,995.59	4,862.08	4,750.84	17.83	24.46	-105.999	-949.41	-230.29	1,040.90	1,005.20	35.70	29.160	
5,100.00	5,095.45	4,958.91	4,844.87	18.20	25.02	-106.063	-971.80	-235.94	1,065.87	1,029.43	36.45	29.246	
5,200.00	5,195.30	5,055.73	4,938.90	18.57	25.57	-106.124	-994.19	-241.58	1,090.85	1,053.65	37.20	29.328	
5,300.00	5,295.16	5,152.56	5,032.94	18.94	26.12	-106.182	-1,016.58	-247.23	1,115.82	1,077.88	37.94	29.407	
5,400.00	5,395.02	5,249.38	5,126.97	19.31	26.68	-106.238	-1,038.97	-252.87	1,140.80	1,102.11	38.69	29.482	
5,500.00	5,494.88	5,346.21	5,221.00	19.68	27.23	-106.291	-1,061.36	-258.52	1,165.78	1,126.33	39.45	29.555	
5,600.00	5,594.73	5,443.03	5,315.03	20.05	27.79	-106.342	-1,083.75	-264.16	1,190.76	1,150.56	40.20	29.624	
5,700.00	5,694.59	5,558.78	5,427.53	20.42	28.44	-106.404	-1,110.17	-270.82	1,215.53	1,174.45	41.09	29.583	
5,800.00	5,794.45	5,727.89	5,593.38	20.79	29.30	-106.547	-1,142.02	-278.85	1,236.18	1,193.88	42.30	29.226	
5,900.00	5,894.31	5,900.53	5,764.41	21.15	30.05	-106.769	-1,164.68	-284.57	1,251.05	1,207.67	43.38	28.841	
6,000.00	5,994.16	6,075.55	5,938.91	21.52	30.66	-107.072	-1,177.42	-287.78	1,260.00	1,215.69	44.31	28.437	
6,100.00	6,094.02	6,230.70	6,094.02	21.89	31.08	-107.408	-1,180.18	-288.47	1,263.18	1,218.12	45.06	28.031	
6,200.00	6,193.88	6,330.56	6,193.88	22.26	31.30	-107.639	-1,180.18	-288.47	1,264.79	1,219.04	45.75	27.647	
6,300.00	6,293.73	6,430.42	6,293.73	22.63	31.53	-107.869	-1,180.18	-288.47	1,266.42	1,219.99	46.43	27.276	
6,400.00	6,393.59	6,541.41	6,404.38	23.00	31.77	-108.427	-1,180.11	-281.71	1,267.73	1,220.61	47.12	26.907	
6,500.00	6,493.45	6,647.52	6,507.14	23.37	31.95	-109.827	-1,179.85	-255.87	1,268.40	1,220.60	47.80	26.538	
6,600.00	6,593.31	6,739.77	6,591.30	23.74	32.06	-111.709	-1,179.48	-218.34	1,269.70	1,221.22	48.48	26.192	
6,700.00	6,693.16	6,816.91	6,656.31	24.11	32.12	-113.719	-1,179.06	-176.93	1,273.18	1,224.03	49.15	25.904	
6,800.00	6,793.02	6,880.21	6,705.11	24.48	32.15	-115.633	-1,178.66	-136.66	1,280.20	1,230.43	49.77	25.720	
6,900.00	6,892.88	6,931.91	6,741.48	24.85	32.17	-117.351	-1,178.29	-99.94	1,291.82	1,241.52	50.30	25.684	
7,000.00	6,992.74	6,974.29	6,768.73	25.22	32.17	-118.848	-1,177.97	-67.50	1,308.71	1,258.03	50.68	25.823	
7,100.00	7,092.59	7,009.30	6,789.37	25.59	32.18	-120.138	-1,177.69	-39.23	1,331.24	1,280.34	50.90	26.156	
7,200.00	7,192.45	7,038.50	6,805.25	25.96	32.19	-121.244	-1,177.44	-14.73	1,359.53	1,308.59	50.94	26.688	
7,300.00	7,292.31	7,063.11	6,817.65	26.33	32.19	-122.194	-1,177.23	6.53	1,393.50	1,342.68	50.82	27.420	
7,400.00	7,392.17	7,084.06	6,827.47	26.70	32.19	-123.014	-1,177.04	25.03	1,432.96	1,382.40	50.56	28.343	

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

SANTO PETROLEUM

Anticollision Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Offset Design ANEJO FEDERAL COM - 204H - Wellbore #1 - PLAN #3 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD+IGRF — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,500.00	7,492.02	7,100.00	6,834.49	27.07	32.20	-123.644	-1,176.90	39.34	1,477.61	1,427.45	50.16	29.460	
7,600.00	7,591.90	7,117.79	6,841.85	27.44	32.20	-124.757	-1,176.74	55.53	1,526.93	1,477.26	49.67	30.739	
7,700.00	7,691.87	7,132.51	6,847.56	27.80	32.21	-126.333	-1,176.60	69.10	1,579.32	1,530.19	49.13	32.146	
7,800.00	7,791.87	7,150.00	6,853.89	28.13	32.21	163.883	-1,176.44	85.40	1,634.83	1,586.28	48.55	33.673	
7,900.00	7,891.87	7,150.00	6,853.89	28.48	32.21	163.883	-1,176.44	85.40	1,694.18	1,646.39	47.79	35.452	
8,000.00	7,991.84	7,169.53	6,860.36	28.80	32.22	70.685	-1,176.25	103.83	1,756.60	1,709.39	47.22	37.204	
8,100.00	8,090.51	7,183.67	6,864.65	29.08	32.23	62.989	-1,176.12	117.30	1,818.42	1,771.89	46.53	39.081	
8,200.00	8,184.99	7,200.00	6,869.19	29.32	32.24	56.315	-1,175.96	132.98	1,876.98	1,831.13	45.84	40.942	
8,300.00	8,272.42	7,220.83	6,874.33	29.52	32.25	50.774	-1,175.76	153.17	1,930.57	1,885.31	45.26	42.659	
8,400.00	8,350.14	7,250.00	6,880.29	29.73	32.28	46.321	-1,175.47	181.72	1,977.77	1,932.95	44.82	44.128	

SANTO PETROLEUM

Anticollision Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Offset Design ANEJO FEDERAL COM - 303H - Wellbore #1 - PLAN #3 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD+IGRF — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.00	0.00	0.00	0.00	-178.854	-20.00	-0.40	20.00				
100.00	100.00	101.00	100.00	0.13	0.14	-178.854	-20.00	-0.40	20.00	19.73	0.27	73.426	
200.00	200.00	201.00	200.00	0.49	0.50	-178.854	-20.00	-0.40	20.00	19.01	0.99	20.219	
300.00	300.00	301.00	300.00	0.85	0.85	-178.854	-20.00	-0.40	20.00	18.30	1.71	11.723	
400.00	400.00	401.00	400.00	1.21	1.21	-178.854	-20.00	-0.40	20.00	17.58	2.42	8.255	
500.00	500.00	501.00	500.00	1.57	1.57	-178.854	-20.00	-0.40	20.00	16.86	3.14	6.370	
600.00	600.00	601.00	600.00	1.93	1.93	-178.854	-20.00	-0.40	20.00	16.15	3.86	5.186	
700.00	700.00	701.00	700.00	2.29	2.29	-178.854	-20.00	-0.40	20.00	15.43	4.57	4.373	CC, ES
800.00	800.00	799.98	798.93	2.64	2.63	-175.773	-22.30	-1.65	22.39	17.12	5.27	4.248	
900.00	900.00	901.20	897.46	3.00	2.97	-169.717	-28.93	-5.25	29.52	23.56	5.96	4.955	
1,000.00	1,000.00	1,001.61	996.64	3.36	3.32	-165.475	-36.86	-9.55	38.22	31.57	6.65	5.745	
1,100.00	1,100.00	1,102.02	1,095.82	3.72	3.68	-162.814	-44.78	-13.85	47.06	39.70	7.35	6.399	
1,200.00	1,200.00	1,202.43	1,195.00	4.08	4.05	-160.998	-52.70	-18.15	55.96	47.90	8.06	6.944	
1,300.00	1,300.00	1,302.84	1,294.18	4.44	4.42	-159.680	-60.62	-22.45	64.91	56.14	8.77	7.404	
1,400.00	1,400.00	1,403.25	1,393.37	4.79	4.80	-158.683	-68.54	-26.75	73.88	64.40	9.48	7.795	
1,500.00	1,500.00	1,503.66	1,492.55	5.15	5.18	-157.901	-76.46	-31.05	82.86	72.67	10.19	8.133	
1,600.00	1,600.00	1,604.07	1,591.73	5.51	5.57	-157.273	-84.39	-35.35	91.86	80.96	10.90	8.426	
1,700.00	1,700.00	1,704.48	1,690.91	5.87	5.95	-156.756	-92.31	-39.65	100.87	89.26	11.62	8.684	
1,800.00	1,800.00	1,804.89	1,790.09	6.23	6.34	-156.325	-100.23	-43.95	109.89	97.56	12.33	8.911	
1,900.00	1,899.99	1,905.30	1,889.27	6.58	6.73	-87.255	-108.15	-48.25	118.86	105.82	13.04	9.112	
2,000.00	1,999.87	2,005.77	1,988.39	6.93	7.12	-88.989	-116.07	-52.54	127.72	113.96	13.76	9.285	
2,100.00	2,099.73	2,106.26	2,087.49	7.28	7.51	-90.789	-123.98	-56.84	136.69	122.22	14.47	9.447	
2,200.00	2,199.58	2,206.75	2,186.59	7.64	7.90	-92.367	-131.90	-61.14	145.78	130.60	15.19	9.600	
2,300.00	2,299.44	2,307.24	2,285.70	7.99	8.30	-93.758	-139.82	-65.43	154.97	139.07	15.91	9.743	
2,400.00	2,399.30	2,407.73	2,384.80	8.35	8.69	-94.993	-147.73	-69.73	164.24	147.61	16.63	9.877	
2,500.00	2,499.16	2,508.22	2,483.90	8.71	9.09	-96.096	-155.65	-74.02	173.58	156.22	17.35	10.003	
2,600.00	2,599.01	2,591.29	2,583.00	9.07	9.41	-97.086	-163.56	-78.32	182.97	164.96	18.02	10.157	
2,700.00	2,698.87	2,709.20	2,682.10	9.43	9.88	-97.980	-171.48	-82.62	192.41	173.61	18.81	10.232	
2,800.00	2,798.73	2,809.69	2,781.21	9.79	10.27	-98.789	-179.39	-86.91	201.90	182.36	19.53	10.336	
2,900.00	2,898.58	2,889.82	2,880.31	10.15	10.59	-99.526	-187.31	-91.21	211.42	191.23	20.19	10.471	
3,000.00	2,998.44	2,989.33	2,979.41	10.51	10.98	-100.199	-195.22	-95.51	220.97	200.06	20.92	10.564	
3,100.00	3,098.30	3,088.84	3,078.51	10.87	11.37	-100.817	-203.14	-99.80	230.55	208.91	21.65	10.651	
3,200.00	3,198.16	3,188.35	3,177.61	11.24	11.77	-101.385	-211.05	-104.10	240.16	217.78	22.37	10.733	
3,300.00	3,298.01	3,287.86	3,276.72	11.60	12.16	-101.909	-218.97	-108.39	249.79	226.68	23.10	10.811	
3,400.00	3,397.87	3,387.37	3,375.82	11.96	12.55	-102.395	-226.89	-112.69	259.43	235.60	23.84	10.884	
3,500.00	3,497.73	3,486.89	3,474.92	12.33	12.95	-102.845	-234.80	-116.99	269.10	244.53	24.57	10.954	
3,600.00	3,597.59	3,586.40	3,574.02	12.69	13.34	-103.265	-242.72	-121.28	278.77	253.47	25.30	11.019	
3,700.00	3,697.44	3,685.91	3,673.13	13.06	13.73	-103.656	-250.63	-125.58	288.47	262.43	26.03	11.082	
3,800.00	3,797.30	3,785.42	3,772.23	13.43	14.13	-104.022	-258.55	-129.88	298.17	271.41	26.76	11.141	
3,900.00	3,897.16	3,884.93	3,871.33	13.79	14.52	-104.365	-266.46	-134.17	307.89	280.39	27.50	11.197	
4,000.00	3,997.02	3,984.44	3,970.43	14.16	14.92	-104.686	-274.38	-138.47	317.61	289.38	28.23	11.250	
4,100.00	4,096.87	4,083.95	4,069.53	14.53	15.31	-104.989	-282.29	-142.76	327.35	298.38	28.97	11.301	
4,200.00	4,196.73	4,183.46	4,168.64	14.89	15.70	-105.274	-290.21	-147.06	337.09	307.39	29.70	11.350	
4,300.00	4,296.59	4,282.97	4,267.74	15.26	16.10	-105.543	-298.12	-151.36	346.84	316.41	30.43	11.396	
4,400.00	4,396.45	4,382.48	4,366.84	15.63	16.49	-105.798	-306.04	-155.65	356.60	325.43	31.17	11.441	
4,500.00	4,496.30	4,481.99	4,465.94	15.99	16.89	-106.039	-313.96	-159.95	366.37	334.46	31.90	11.483	
4,600.00	4,596.16	4,581.50	4,565.04	16.36	17.28	-106.267	-321.87	-164.25	376.14	343.50	32.64	11.524	
4,700.00	4,696.02	4,681.01	4,664.15	16.73	17.68	-106.484	-329.79	-168.54	385.92	352.54	33.38	11.563	
4,800.00	4,795.87	4,780.52	4,763.25	17.10	18.07	-106.690	-337.70	-172.84	395.70	361.59	34.11	11.600	
4,900.00	4,895.73	4,880.03	4,862.35	17.47	18.47	-106.886	-345.62	-177.14	405.49	370.64	34.85	11.636	
5,000.00	4,995.59	4,979.54	4,961.45	17.83	18.86	-107.073	-353.53	-181.43	415.28	379.70	35.59	11.670	
5,100.00	5,095.45	5,079.05	5,060.56	18.20	19.26	-107.251	-361.45	-185.73	425.08	388.75	36.32	11.703	

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

SANTO PETROLEUM

Anticollision Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Offset Design ANEJO FEDERAL COM - 303H - Wellbore #1 - PLAN #3 — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD+IGRF — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,195.30	5,178.56	5,159.66	18.57	19.65	-107.421	-369.36	-190.02	434.88	397.82	37.06	11.735	
5,300.00	5,295.16	5,278.07	5,258.76	18.94	20.05	-107.584	-377.28	-194.32	444.68	406.88	37.80	11.765	
5,400.00	5,395.02	5,377.59	5,357.86	19.31	20.44	-107.740	-385.19	-198.62	454.49	415.95	38.53	11.795	
5,500.00	5,494.88	5,477.10	5,456.96	19.68	20.84	-107.889	-393.11	-202.91	464.30	425.03	39.27	11.823	
5,600.00	5,594.73	5,576.61	5,556.07	20.05	21.23	-108.032	-401.03	-207.21	474.11	434.10	40.01	11.850	
5,700.00	5,694.59	5,676.12	5,655.17	20.42	21.63	-108.169	-408.94	-211.51	483.93	443.18	40.75	11.877	
5,800.00	5,794.45	5,775.63	5,754.27	20.79	22.02	-108.301	-416.86	-215.80	493.75	452.26	41.48	11.902	
5,900.00	5,894.31	5,875.14	5,853.37	21.15	22.42	-108.427	-424.77	-220.10	503.57	461.35	42.22	11.927	
6,000.00	5,994.16	5,974.65	5,952.47	21.52	22.82	-108.549	-432.69	-224.39	513.39	470.43	42.96	11.951	
6,100.00	6,094.02	6,074.16	6,051.58	21.89	23.21	-108.666	-440.60	-228.69	523.22	479.52	43.70	11.974	
6,200.00	6,193.88	6,173.67	6,150.68	22.26	23.61	-108.779	-448.52	-232.99	533.04	488.61	44.44	11.996	
6,300.00	6,293.73	6,273.18	6,249.78	22.63	24.00	-108.888	-456.43	-237.28	542.87	497.70	45.17	12.017	
6,400.00	6,393.59	6,372.69	6,348.88	23.00	24.40	-108.993	-464.35	-241.58	552.70	506.79	45.91	12.038	
6,500.00	6,493.45	6,472.20	6,447.98	23.37	24.79	-109.094	-472.26	-245.88	562.54	515.89	46.65	12.059	
6,600.00	6,593.31	6,571.71	6,547.09	23.74	25.19	-109.192	-480.18	-250.17	572.37	524.98	47.39	12.078	
6,700.00	6,693.16	6,671.22	6,646.19	24.11	25.58	-109.286	-488.10	-254.47	582.21	534.08	48.13	12.097	
6,800.00	6,793.02	6,770.73	6,745.29	24.48	25.98	-109.377	-496.01	-258.76	592.05	543.18	48.87	12.116	
6,900.00	6,892.88	6,870.24	6,844.39	24.85	26.38	-109.466	-503.93	-263.06	601.89	552.28	49.61	12.134	
7,000.00	6,992.74	6,969.75	6,943.50	25.22	26.77	-109.551	-511.84	-267.36	611.73	561.38	50.34	12.151	
7,100.00	7,092.59	7,069.26	7,042.60	25.59	27.17	-109.634	-519.76	-271.65	621.57	570.49	51.08	12.168	
7,200.00	7,192.45	7,168.77	7,141.70	25.96	27.56	-109.714	-527.67	-275.95	631.41	579.59	51.82	12.184	
7,300.00	7,292.31	7,268.29	7,240.80	26.33	27.96	-109.792	-535.59	-280.25	641.26	588.70	52.56	12.200	
7,400.00	7,392.17	7,379.36	7,351.47	26.70	28.39	-109.899	-543.92	-284.77	650.70	597.32	53.37	12.191	
7,500.00	7,492.02	7,504.42	7,476.37	27.07	28.85	-110.202	-549.28	-287.68	656.85	602.63	54.22	12.114	
7,600.00	7,591.90	7,619.95	7,591.90	27.44	29.22	-110.651	-550.19	-288.17	659.34	604.38	54.97	11.995	
7,700.00	7,691.87	7,719.93	7,691.87	27.80	29.52	-110.837	-550.19	-288.17	660.10	604.45	55.65	11.861	
7,800.00	7,791.87	7,819.93	7,791.87	28.13	29.83	-179.837	-550.19	-288.17	660.11	603.80	56.31	11.723	
7,900.00	7,891.87	7,920.53	7,892.11	28.48	30.11	179.565	-550.12	-281.29	660.05	603.08	56.97	11.586	
7,910.00	7,901.87	7,930.42	7,901.87	28.51	30.14	90.002	-550.11	-279.67	660.05	603.02	57.03	11.573	
8,000.00	7,991.84	8,016.48	7,985.23	28.80	30.34	88.251	-549.90	-258.61	660.38	602.79	57.59	11.468	
8,100.00	8,090.51	8,108.12	8,069.45	29.08	30.51	86.183	-549.54	-222.73	661.61	603.52	58.09	11.389	
8,200.00	8,184.99	8,196.69	8,144.42	29.32	30.63	84.245	-549.07	-175.74	663.57	605.08	58.48	11.347	
8,300.00	8,272.42	8,282.72	8,209.48	29.52	30.70	82.480	-548.51	-119.58	666.01	607.22	58.78	11.330	
8,400.00	8,350.14	8,366.69	8,264.17	29.73	30.75	80.926	-547.87	-55.96	668.66	609.60	59.06	11.322	
8,500.00	8,415.78	8,449.04	8,308.23	30.00	30.77	79.616	-547.18	13.52	671.26	611.85	59.41	11.300	
8,600.00	8,467.36	8,530.14	8,341.45	30.37	30.79	78.576	-546.44	87.43	673.55	613.61	59.93	11.238	
8,700.00	8,503.30	8,610.34	8,363.72	30.89	30.89	77.824	-545.67	164.41	675.33	614.59	60.74	11.119	
8,800.00	8,522.51	8,689.97	8,374.99	31.57	31.37	77.377	-544.89	243.16	676.44	614.57	61.86	10.935	
8,900.00	8,526.46	8,781.01	8,377.16	32.40	32.17	77.254	-543.98	334.16	676.75	613.33	63.42	10.671	
9,000.00	8,528.10	8,881.01	8,378.41	33.41	33.23	77.222	-542.98	434.15	676.83	611.43	65.41	10.348	
9,100.00	8,529.74	8,981.01	8,379.67	34.59	34.45	77.190	-541.98	534.13	676.92	609.20	67.72	9.995	
9,200.00	8,531.38	9,081.01	8,380.92	35.92	35.82	77.158	-540.99	634.12	677.01	606.67	70.34	9.625	
9,300.00	8,533.02	9,181.01	8,382.17	37.39	37.32	77.126	-539.99	734.11	677.10	603.88	73.22	9.248	
9,400.00	8,534.65	9,281.01	8,383.42	38.98	38.93	77.094	-538.99	834.09	677.19	600.86	76.33	8.871	
9,500.00	8,536.29	9,381.01	8,384.67	40.68	40.65	77.062	-537.99	934.08	677.28	597.62	79.66	8.502	
9,600.00	8,537.93	9,481.01	8,385.92	42.48	42.46	77.030	-536.99	1,034.07	677.37	594.21	83.16	8.145	
9,700.00	8,539.57	9,581.01	8,387.17	44.35	44.35	76.998	-536.00	1,134.05	677.46	590.63	86.83	7.802	
9,800.00	8,541.21	9,681.01	8,388.42	46.30	46.32	76.966	-535.00	1,234.04	677.55	586.92	90.64	7.475	
9,900.00	8,542.85	9,781.01	8,389.67	48.32	48.34	76.935	-534.00	1,334.03	677.64	583.08	94.57	7.166	
10,000.00	8,544.48	9,881.01	8,390.92	50.39	50.42	76.903	-533.00	1,434.01	677.73	579.13	98.61	6.873	
10,100.00	8,546.12	9,981.00	8,392.17	52.51	52.55	76.871	-532.00	1,534.00	677.82	575.08	102.74	6.597	
10,200.00	8,547.76	10,081.00	8,393.42	54.67	54.72	76.839	-531.00	1,633.98	677.92	570.96	106.96	6.338	

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

SANTO PETROLEUM

Anticollision Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Offset Design ANEJO FEDERAL COM - 303H - Wellbore #1 - PLAN #3 — **Offset Site Error:** 0.00 usft

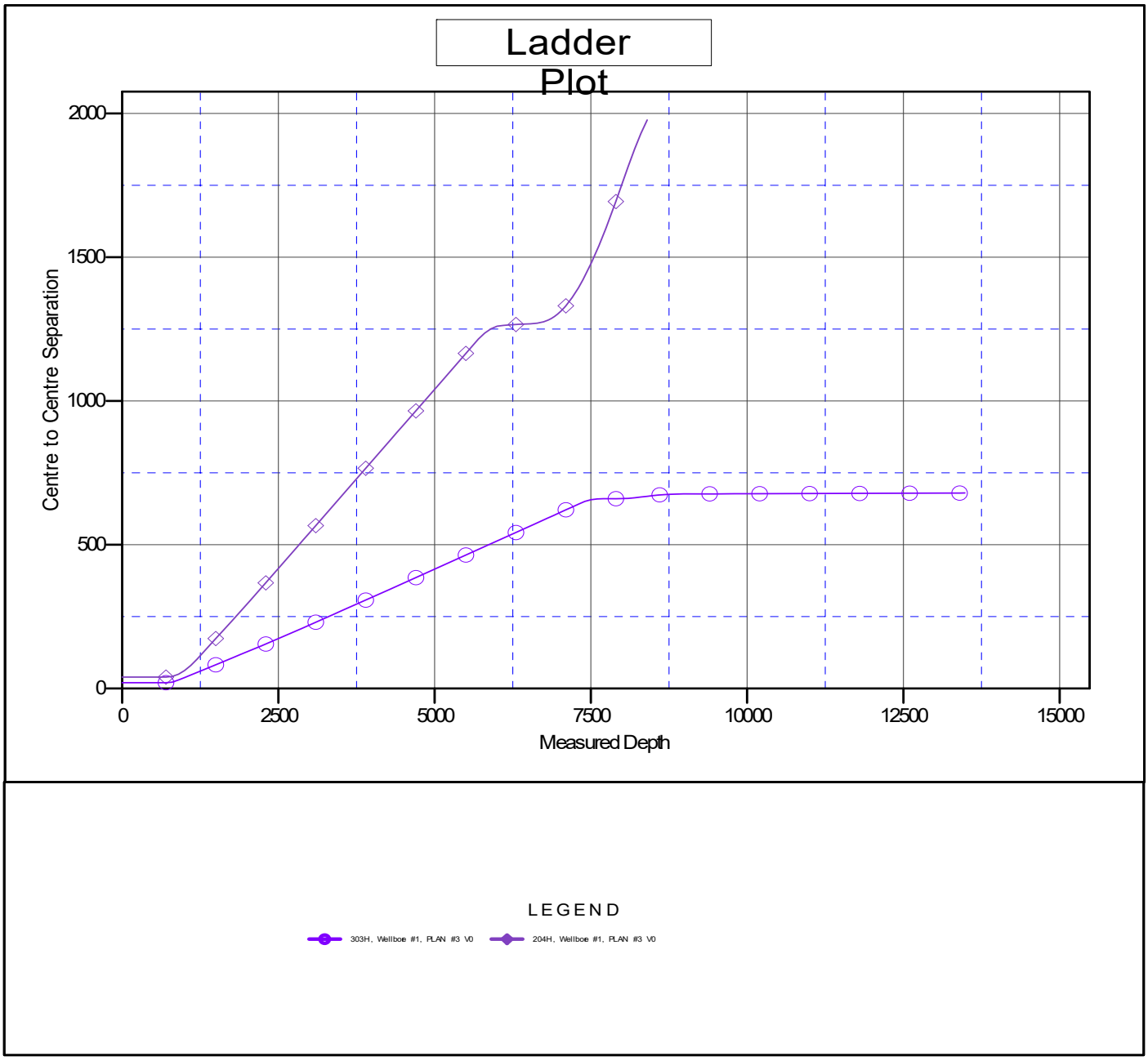
Survey Program: 0-MWD+IGRF — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	8,549.40	10,181.00	8,394.67	56.88	56.93	76.807	-530.01	1,733.97	678.01	566.75	111.25	6.094	
10,400.00	8,551.57	10,282.97	8,396.65	59.12	59.22	76.788	-528.98	1,835.91	678.06	562.41	115.65	5.863	
10,500.00	8,554.36	10,382.97	8,399.13	61.39	61.49	76.763	-527.98	1,935.87	678.12	558.05	120.07	5.648	
10,600.00	8,557.14	10,482.96	8,401.61	63.69	63.80	76.738	-526.97	2,035.83	678.18	553.63	124.55	5.445	
10,700.00	8,559.92	10,582.96	8,404.09	66.01	66.12	76.713	-525.96	2,135.80	678.24	549.17	129.07	5.255	
10,800.00	8,562.70	10,682.96	8,406.57	68.35	68.47	76.688	-524.96	2,235.76	678.31	544.67	133.64	5.076	
10,900.00	8,565.48	10,782.96	8,409.05	70.72	70.84	76.663	-523.95	2,335.73	678.37	540.13	138.24	4.907	
11,000.00	8,568.26	10,882.96	8,411.53	73.10	73.23	76.638	-522.95	2,435.69	678.43	535.55	142.88	4.748	
11,100.00	8,571.05	10,982.96	8,414.01	75.50	75.63	76.614	-521.94	2,535.65	678.50	530.95	147.55	4.599	
11,200.00	8,573.83	11,082.96	8,416.49	77.91	78.04	76.589	-520.93	2,635.62	678.56	526.32	152.24	4.457	
11,300.00	8,576.61	11,182.96	8,418.97	80.34	80.47	76.564	-519.93	2,735.58	678.62	521.66	156.96	4.324	
11,400.00	8,579.39	11,282.96	8,421.45	82.78	82.92	76.539	-518.92	2,835.54	678.69	516.99	161.70	4.197	
11,500.00	8,582.17	11,382.96	8,423.93	85.23	85.37	76.514	-517.91	2,935.51	678.75	512.29	166.47	4.077	
11,600.00	8,584.96	11,482.96	8,426.41	87.69	87.83	76.489	-516.91	3,035.47	678.82	507.57	171.25	3.964	
11,700.00	8,587.74	11,582.96	8,428.89	90.16	90.30	76.464	-515.90	3,135.44	678.88	502.83	176.05	3.856	
11,800.00	8,590.52	11,682.96	8,431.37	92.64	92.78	76.439	-514.89	3,235.40	678.95	498.08	180.86	3.754	
11,900.00	8,593.30	11,782.96	8,433.85	95.12	95.27	76.414	-513.89	3,335.36	679.01	493.32	185.69	3.657	
12,000.00	8,596.08	11,882.96	8,436.33	97.62	97.76	76.389	-512.88	3,435.33	679.07	488.54	190.53	3.564	
12,100.00	8,598.87	11,982.96	8,438.81	100.12	100.27	76.365	-511.87	3,535.29	679.14	483.75	195.39	3.476	
12,200.00	8,601.65	12,082.96	8,441.29	102.63	102.77	76.340	-510.87	3,635.25	679.20	478.95	200.26	3.392	
12,300.00	8,604.43	12,182.96	8,443.77	105.14	105.29	76.315	-509.86	3,735.22	679.27	474.14	205.13	3.311	
12,400.00	8,607.21	12,282.96	8,446.25	107.66	107.81	76.290	-508.85	3,835.18	679.33	469.32	210.02	3.235	
12,500.00	8,609.99	12,382.96	8,448.73	110.18	110.33	76.265	-507.85	3,935.15	679.40	464.49	214.91	3.161	
12,600.00	8,612.78	12,482.96	8,451.21	112.71	112.86	76.240	-506.84	4,035.11	679.46	459.65	219.82	3.091	
12,700.00	8,615.56	12,582.96	8,453.69	115.24	115.39	76.215	-505.83	4,135.07	679.53	454.80	224.73	3.024	
12,800.00	8,618.34	12,682.95	8,456.17	117.78	117.93	76.191	-504.83	4,235.04	679.60	449.95	229.64	2.959	
12,900.00	8,621.12	12,782.95	8,458.65	120.32	120.47	76.166	-503.82	4,335.00	679.66	445.09	234.57	2.898	
13,000.00	8,623.90	12,882.95	8,461.13	122.86	123.02	76.141	-502.82	4,434.96	679.73	440.23	239.50	2.838	
13,100.00	8,626.68	12,982.95	8,463.61	125.41	125.57	76.116	-501.81	4,534.93	679.79	435.36	244.43	2.781	
13,200.00	8,629.47	13,082.95	8,466.10	127.96	128.12	76.091	-500.80	4,634.89	679.86	430.48	249.37	2.726	
13,300.00	8,632.25	13,182.95	8,468.58	130.51	130.67	76.066	-499.80	4,734.85	679.93	425.61	254.32	2.674	
13,400.00	8,635.03	13,282.95	8,471.06	133.07	133.23	76.042	-498.79	4,834.82	679.99	420.72	259.27	2.623	
13,485.23	8,637.40	13,368.18	8,473.17	135.25	135.41	76.020	-497.93	4,920.02	680.05	416.56	263.49	2.581 SF	

Anticollision Report

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to RKB = 25' @ 3178.00usft (TBD)	Coordinates are relative to: 403H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.034°



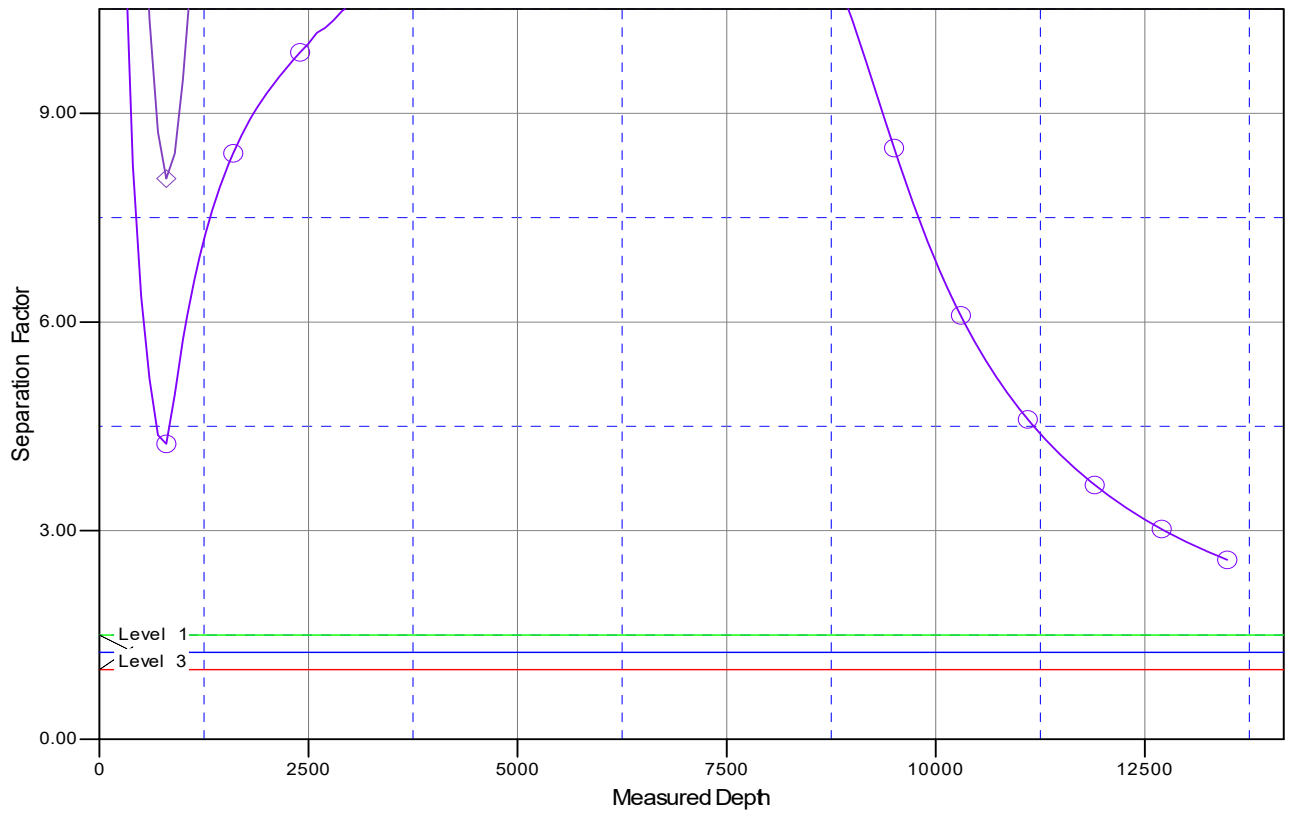
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

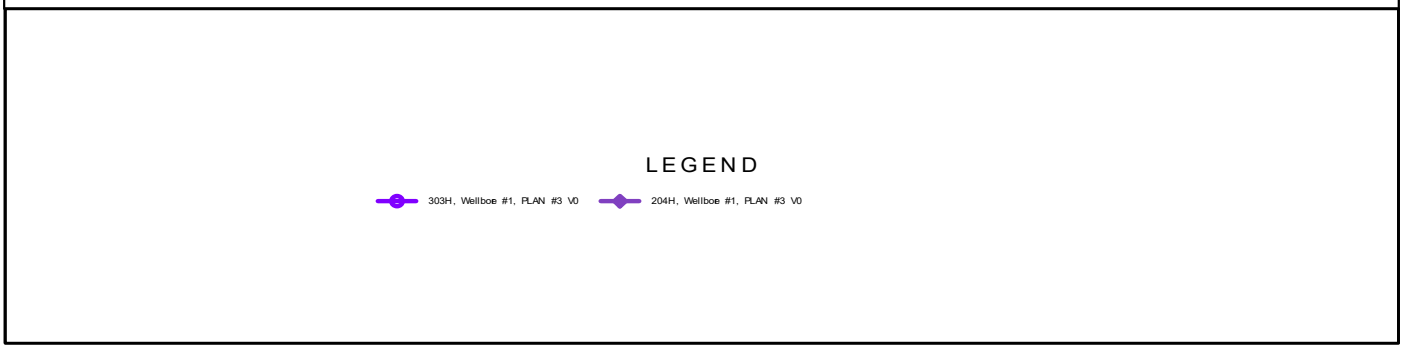
Anticollision Report

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well 403H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Reference Site:	ANEJO FEDERAL COM	**MD Reference:**	RKB = 25' @ 3178.00usft (TBD)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	403H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	WBDS_SQL_2
Reference Design:	PLAN #3	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to RKB = 25' @ 3178.00usft (TBD)	Coordinates are relative to: 403H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.034°

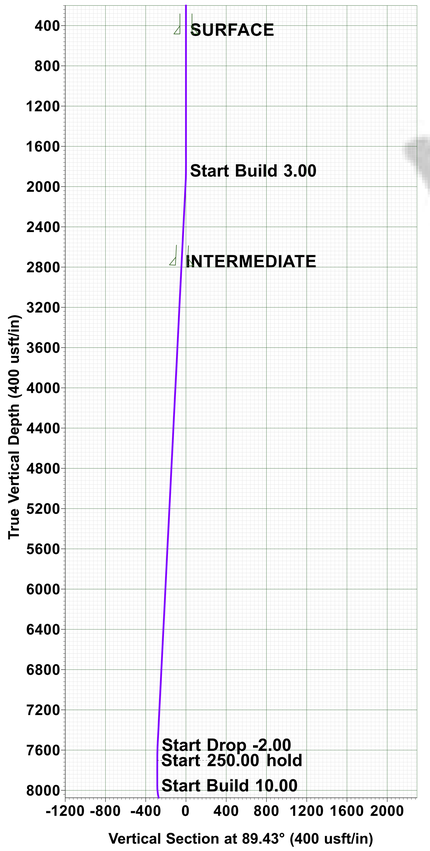
Separation Factor Plot





SANTO PETROLEUM

Company: Santo Petroleum
Project: Eddy County, NM (NAD 83 - NME)
Site: ANEJO FEDERAL COM
Well: 403H
Wellbore: Wellbore #1
Rig: TBD
Design: PLAN #3 / 10:25, March 08 2022



WELL DETAILS: 403H

RKB = 25' @ 3178.00usft (TBD)
3153.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	532648.30	560640.60	32.464298	-104.270745

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1840.00	0.00	0.00	1840.00	0.00	0.00	0.00	0.00	
3	1942.02	3.06	291.00	1941.98	0.98	-2.54	3.00	-2.53	
4	7557.89	3.06	291.00	7549.83	108.45	-282.48	0.00	-281.39	
5	7710.92	0.00	89.43	7702.79	109.91	-286.29	2.00	-285.19	
6	7960.92	0.00	89.43	7952.79	109.91	-286.29	0.00	-285.19	
7	8851.53	89.06	89.43	8525.67	115.55	277.25	10.00	278.38	PLAN LP #403H: 2290' FSL & 615' FWL
8	10336.71	89.06	89.43	8550.00	130.42	1762.15	0.00	1763.36	PLAN #403H CP1: 2290' FSL & 2100' FWL
9	10369.48	88.41	89.43	8550.72	130.75	1794.91	2.00	1796.12	
10	13255.13	88.41	89.43	8631.00	159.60	4679.30	0.00	4680.66	PLAT #403H LTP: 2290' FSL & 330' FEL
11	13485.23	88.41	89.43	8637.40	161.90	4909.30	0.00	4910.67	PLAT #403H BHL: 2290' FSL & 100' FEL

DESIGN TARGET DETAILS

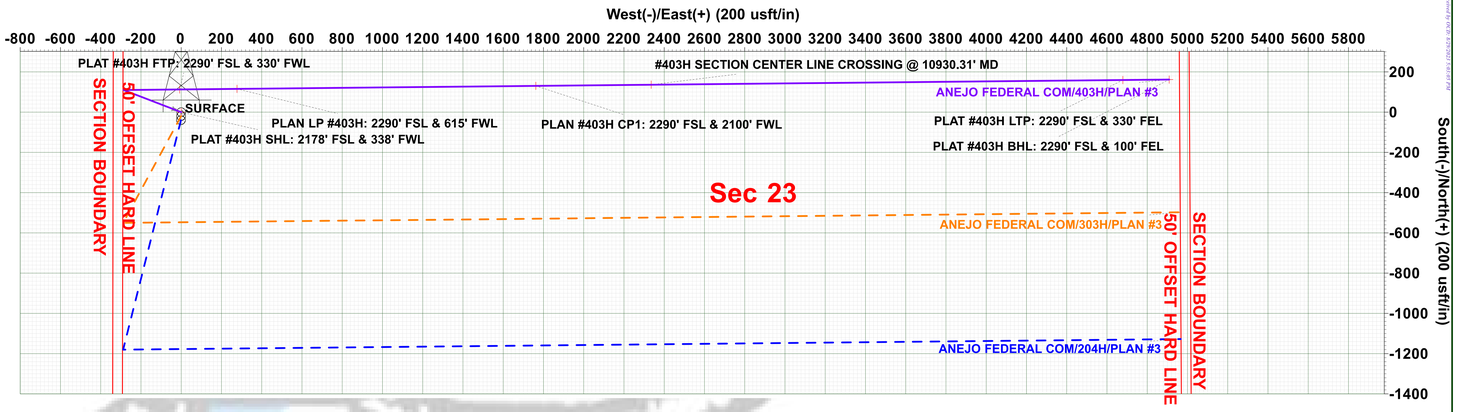
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PLAT #403H SHL: 2178' FSL & 338' FWL	0.00	0.00	0.00	532648.30	560640.60	32.464298	-104.270745
PLAT #403H FTP: 2290' FSL & 330' FWL	8521.00	112.70	-7.70	532761.00	560632.90	32.464608	-104.270770
PLAN LP #403H: 2290' FSL & 615' FWL	8525.67	115.55	277.25	532763.85	560917.85	32.464616	-104.269846
PLAN #403H CP1: 2290' FSL & 2100' FWL	8550.00	130.42	1762.15	532778.72	562402.75	32.464654	-104.265032
#403H SECTION CENTER LINE CROSSING @ 10930.31' MD	8565.77	136.20	2335.50	532784.50	562976.10	32.464669	-104.263173
PLAT #403H LTP: 2290' FSL & 330' FEL	8631.00	159.60	4679.30	532807.90	565319.90	32.464729	-104.255573
PLAT #403H BHL: 2290' FSL & 100' FEL	8637.40	161.90	4909.30	532810.20	565549.90	32.464734	-104.254827

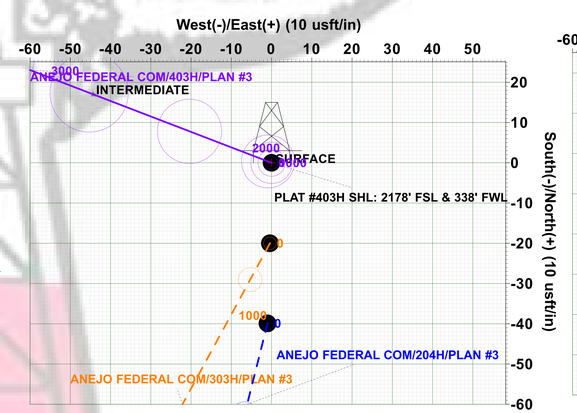
Azimuths to Grid North
True North: -0.03°
Magnetic North: 6.78°

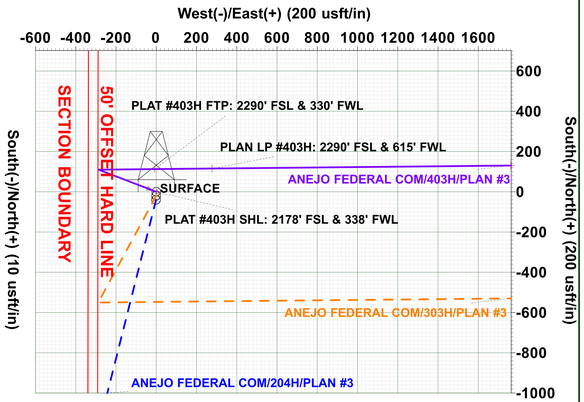
Magnetic Field
Strength: 47498.9snT
Dip Angle: 59.99°
Date: 02/02/2022
Model: IGRF2020

CORRECTION REFERENCE DATA:

To convert a Magnetic Direction to a Grid Direction, Add 6.779°
To convert a True Direction to a Grid Direction, Subtract 0.034°
To convert a Magnetic Direction to a True Direction, Add 6.812° East
Magnetic Declination: 6.812°
Magnetic Dip Angle: 59.994°
Magnetic Field Strength: 47498.91874944nT

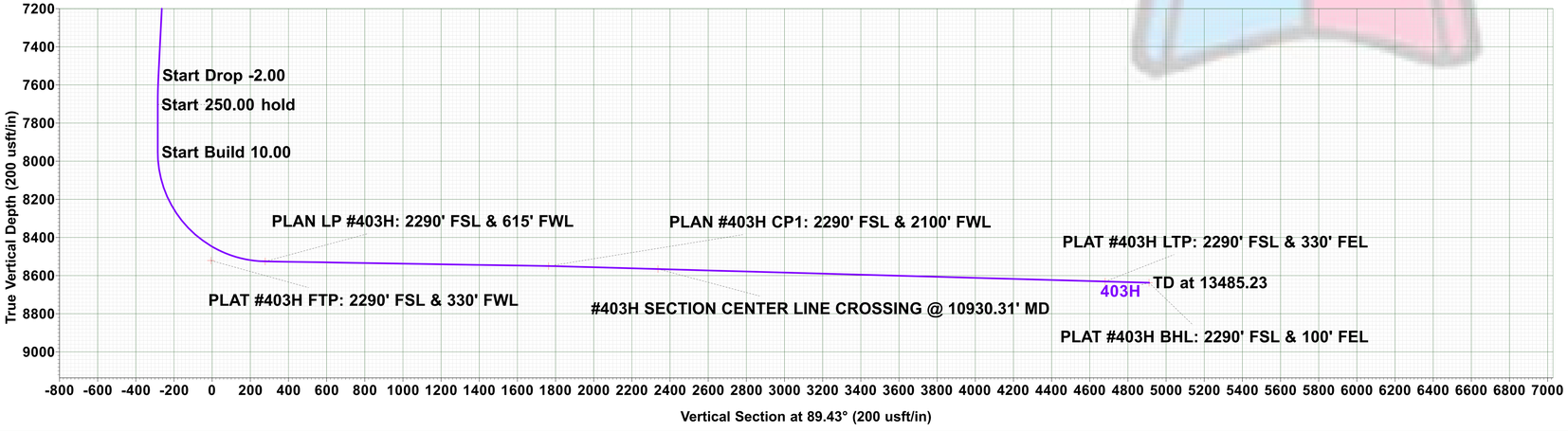


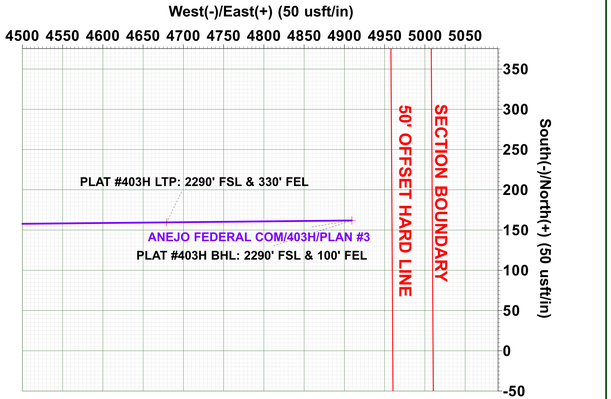




PROJECT DETAILS: Eddy County, NM (NAD 83 - NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level





Disclaimer:
All Plan Details, boundary lines and offset well location/ survey data is provided by customer and subject to customer approval.

Plan: PLAN #3 (403H/Wellbore #1) TBD

Created By: Derek Stephens Date: 10:25, March 08 2022

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**SPC RESOURCES LLC**
LEASE NO.:	**NMNM0489599**
WELL NAME & NO.:	ANEJO FED COM 403H
SURFACE HOLE FOOTAGE:	2178'/S & 338'/W
BOTTOM HOLE FOOTAGE	2290'/S & 100'/E
LOCATION:	SECTION 23, T21S, R26E, NMP
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	○ Medium	◉ High
Cave/Karst Potential	○ Critical		
Variance	◉ None	○ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	○ Both
Other	☑ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

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

B. CASING

Casing Design:

1. The **20** inch surface casing shall be set at approximately **350** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after

Approval Date: 05/22/2023

completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The **13-3/8** inch first intermediate casing shall be set at approximately **575** feet. The minimum required fill of cement behind the **13-3/8** inch first intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The **9-5/8** inch second intermediate casing shall be set at approximately **2,100** feet. The minimum required fill of cement behind the **9-5/8** inch second intermediate casing is:

Approval Date: 05/22/2023

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

- Cement should tie-back at least **50 feet** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

C. PRESSURE CONTROL

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

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

c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the second intermediate casing shoe shall be **3000 (3M)** psi.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a

larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been

done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

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

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test

does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

OTA05082023

Approval Date: 05/22/2023

SPC Resources

Hydrogen Sulfide Drilling Operations Plan

SPC Resources, LLC
101 S. 4th Street, Suite B
Artesia, NM 88210
(575) 736-3250

1. H_2S Safety Instructions to the following:
    - Characteristics of H_2S.
    - Physical effects and hazards.
    - Principal and operation of H_2S detectors, warning system and briefing areas.
    - Evacuation procedures, routes and First Aid.
    - Proper use of safety equipment and life support systems.
    - Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30 min pressure demand air packs.

2. H_2S Detection & Alarm Systems:
    - H_2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud returns pits by the shale shaker. Additional H_2S monitors may be placed as deemed necessary.
    - An audio alarm system will be installed on the derrick, the floor, and in the doghouse.

3. Windsocks and Wind Streamers:
    - Windsocks at mud pit area should be high enough to be visible.
    - Windsock on the rig floor/top of doghouse should be high enough to be visible.

4. Condition Flags & Signs:
    - Warning sign on access road to location
    - Flags to be displayed on sign at entrance to location
        i. Green Flag – Normal Safe Operation Condition
        ii. Yellow Flag – Potential Pressure and Danger
        iii. Red Flag – Danger (H_2S present in dangerous concentrations) Only H_2S trained personnel admitted on location

5. Well Control Equipment:
    - See attached APD

SPC Resources

6. Communications:
   - While working under masks, chalkboards will be used for communications
   - Hand signals will be used where chalk board is inappropriate
   - Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at drilling foreman's trailer or living quarters.

7. Drilling Stem Testing:
   - No Drill Stem Tests or hole coring is planned at this time.

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavenger chemicals if necessary.

10. Emergency Contacts:

Emergency Contact Information - Santo Personnel				
Santo Petroleum, LLC	**Artesia Office**	575-736-3250	**Houston**	713-600-7500
Key Parties at Santo Petroleum	**Title**	**Office**	**Mobile**	**Email**
Gary Waldrop	Field Land Manager	575-736-3256	469-261-3446	gwaldrop@santopetroleum.com
Lelan J Anders	VP, Operations	713-600-7502	281-908-1752	landers@santopetroleum.com
Hanson Yates	President	713-600-7503	713-412-2097	hyates@santopetroleum.com

Carlsbad, New Mexico:	
Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
New Mexico Oil Conservation Division	575-887-6544

SPC
Resources

Santa Fe, New Mexico:	
New Mexico Emergency Response Commission	505-476-9600
New Mexico Emergency Response Commission (24 hr)	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

Federal Contacts:	
Carlsbad BLM Office	575-234-5972
National Emergency Response Center (Washington, DC)	800-424-8802

Medical:	
Flight for Life - Lubbock, TX	806-743-9911
AeroCare - Lubbock, TX	806-747-8923
Med Flight Air Ambulance - Albuquerque, NM	505-842-4433
SB Air Med Service - Albuquerque, NM	505-842-4949

Well Control/Other:	
Wild Well Control	281-784-4700
Boots & Coots IWC	800-256-9688
B.J. Services	575-746-3569
Halliburton	575-746-2757

Operator Name: SPC RESOURCES LLC

Well Name: ANEJO FED COM **Well Number:** 403H

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Clean caliche will be hauled from 3rd party pit as depicted on the attached map.

Construction Materials source location

Caliche_Source_Map_20220309132850.pdf

Section 7 - Methods for Handling

Waste type: DRILLING

Waste content description: Drill cuttings, mud/fluids, salts and other chemicals from the well during drilling and completion operations
Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: steel tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: NMOCD approved disposal facility

Waste type: SEWAGE

Waste content description: black and grey water

Amount of waste: 350 barrels

Waste disposal frequency : Weekly

Safe containment description: poly tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** STATE
Disposal type description:

Disposal location description: local wastewater treatment plant

Operator Name: SPC RESOURCES LLC

Well Name: ANEJO FED COM **Well Number:** 403H

Waste type: GARBAGE

Waste content description: garbage and trash produced during drilling and completion operations

Amount of waste: 21600 pounds

Waste disposal frequency : Weekly

Safe containment description: Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** STATE

Disposal type description:

Disposal location description: local landfill

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location steel tanks

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

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

Drilling Plan Data Report
05/23/2023

APD ID: 10400083735
Submission Date: 05/23/2022

Operator Name: SPC RESOURCES LLC

Well Name: ANEJO FED COM
Well Number: 403H

Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
8302372	---	3178	30	30	OTHER : sand/gravel/unconsolidated	NONE	N
8302373	TANSILL	3036	142	142	OTHER : dolomite, limestone, silt	NONE	N
8302374	YATES	2845	333	333	OTHER : silts, sand, carbonates	NONE	N
8302375	SEVEN RIVERS	2642	536	536	ANHYDRITE, DOLOMITE	NONE	N
8302376	CAPITAN REEF	2578	600	600	ANHYDRITE, DOLOMITE, LIMESTONE	NONE	N
8302377	DELAWARE	940	2238	2238	SANDSTONE, SHALE	NATURAL GAS, OIL, USEABLE WATER	N
8302378	BONE SPRING	-1305	4483	4483	LIMESTONE, SHALE	NATURAL GAS, OIL, USEABLE WATER	N
8302379	BONE SPRING 1ST	-2680	5858	5858	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL, USEABLE WATER	N
8302380	BONE SPRING 2ND	-2930	6108	6108	LIMESTONE, SHALE	NATURAL GAS, OIL	N
8302381	BONE SPRING 2ND	-3375	6553	6553	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
8302382	BONE SPRING 3RD	-3765	6943	6943	LIMESTONE, SHALE	NATURAL GAS, OIL	N
8302383	BONE SPRING 3RD	-4860	8038	8038	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
8302384	WOLFCAMP	-5225	8403	8403	OTHER : sandstone, silt, shale, limestone	NATURAL GAS, OIL	Y

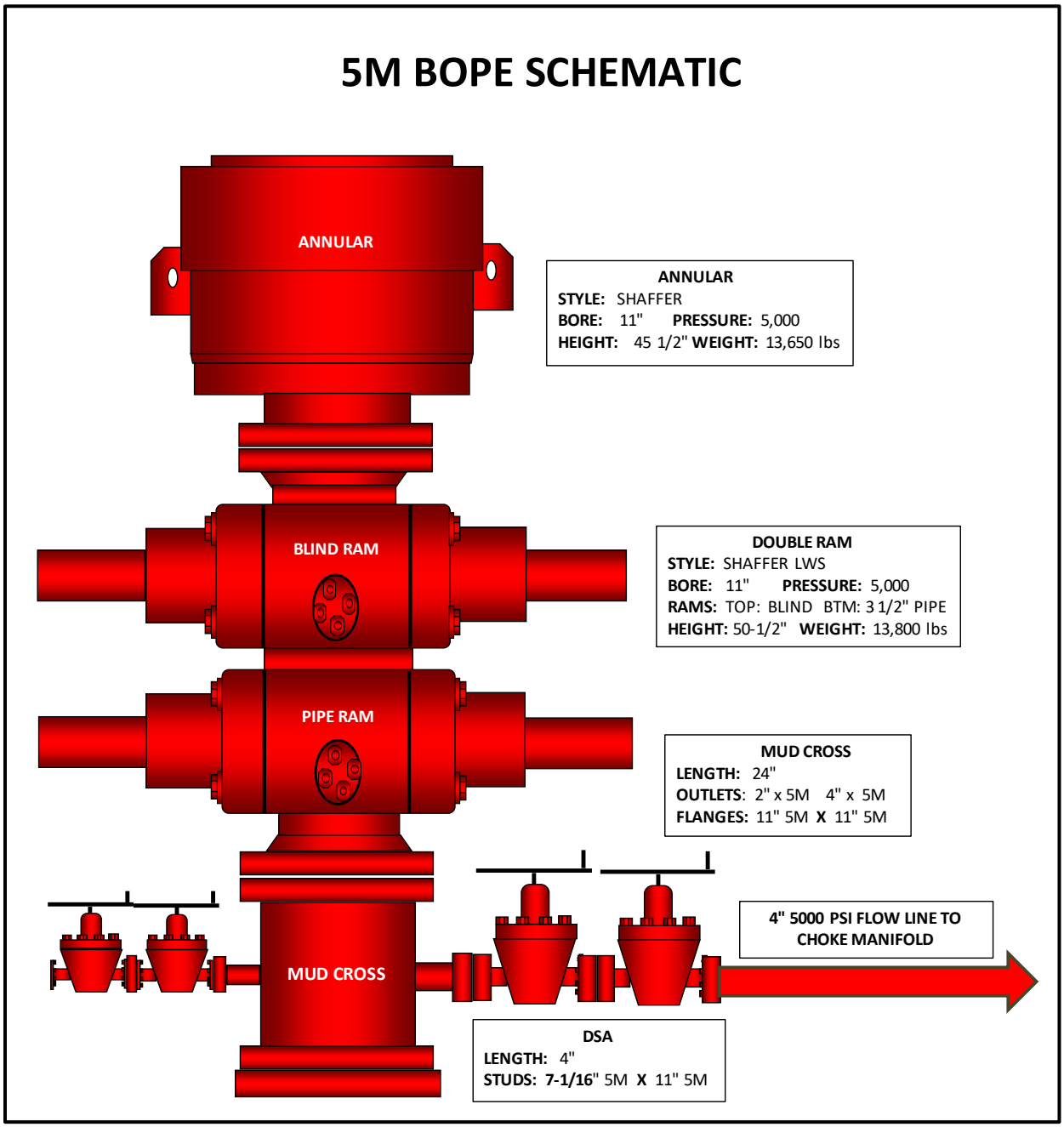
Section 2 - Blowout Prevention

SPC Resources

SPC RESOURCES, LLC
101 S. 4th Street, Suite B
Artesia, NM 88210

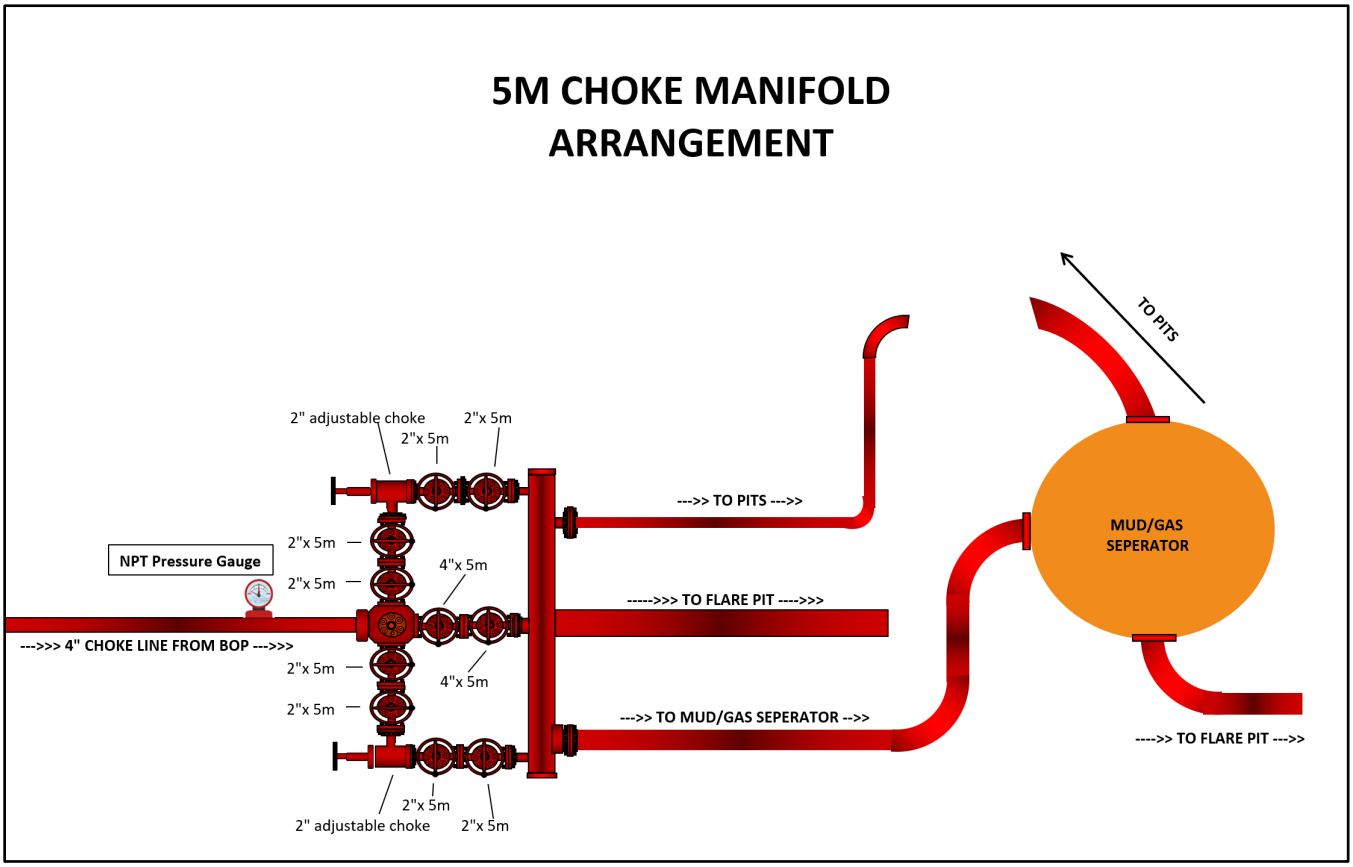
Nipple-Up

a. Raise stack and center over the wellhead
b. Install DSA and ring gaskets
c. Lower stack onto DSA
d. Torque DSA flange bolts in a star pattern to the specified torque
e. Verify BOP is centered to the rotary table
f. Install rotating head
g. Install hydraulic lines to BOP
h. Verify manifold line-up
i. Test BOP & manifold



SPC Resources

SPC RESOURCES, LLC
101 S. 4th Street, Suite B
Artesia, NM 88210



Pressure Testing

a. All testing to be completed and charted by 3rd party testing crews
b. All tests should be done for each BOP/Valve/Choke Manifold:
    1. Recorded for 10 minutes on low pressure (500 psi)
    2. Recorded for 10 minutes on high pressure (5000 psi)
    3. All BOP testing will be completed with a test plug in place in wellhead
c. After BOP testing is complete, remove test plug and test casing to 2000 psi for 30 minutes
d. Company representative to email all copies of all plots to Drilling Engineer as well as save in the well file.
e. BOP's shall be function tested every day.

Gas Buster Operation

a. Flow should be directed to pits unless choke is needed to control gas
b. Adjustable choke to adjusted only by SPC Resources Rep on location only
c. Flare should remain burning (pilot lit) anytime fluid is going through gas buster
d. Choke needs to be monitored to not overrun gas buster or flare

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 258950

CONDITIONS

Operator: SPC RESOURCES, LLC P.O. Box 1020 Artesia, NM 88211	OGRID: 372262
	Action Number: 258950
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	8/31/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/31/2023
ward.rikala	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	8/31/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	8/31/2023
ward.rikala	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	8/31/2023