

District I1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720**District II**811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720**District III**1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**District IV**1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462**State of New Mexico**Form C-101
Revised July 18, 2013**Energy Minerals and Natural Resources****Oil Conservation Division**☐ AMENDED REPORT**1220 South St. Francis Dr.****Santa Fe, NM 87505****APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

¹ Operator Name and Address Tascosa Energy Partners, LLC 901 W. Missouri, Midland, Texas 79701		² OGRID Number 329748
		³ API Number 30 015 47641
⁴ Property Code Catalina 30 EH State	⁵ Property Name Well No. 001H	

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
E	30	20-S	27- E		1980	North	200	West	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
H	30	20-S	27-E		1980	North	330	East	Eddy

9. Pool Information

Pool Name	Pool Code

Additional Well Information

¹¹ Work Type N	¹² Well Type O	¹³ Cable/Rotary R	¹⁴ Lease Type State	¹⁵ Ground Level Elevation 3244
¹⁶ Multiple N	¹⁷ Proposed Depth 12,388 MD 7830 TVD	¹⁸ Formation 3rd Bone Springs	¹⁹ Contractor TBD	²⁰ Spud Date November 2020
Depth to Ground water 150 ft		Distance from nearest fresh water well 2.0 miles		Distance to nearest surface water 1.85 miles

☒ We will be using a closed-loop system in lieu of lined pits**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	17-1/2	13-3/8	48# H-40 STC	450 ft	608	0
Intermediate	12-1/4	9-5/8	36# J-55 LTC	2500 ft	968	0
Production	8-3/4 + 7-7/8	5-1/2	17# & 20# HCP	12,285 ft	2,522 (3) stgs	1500 ft FS

Casing/Cement Program: Additional Comments

See: Cement Prog; Csg Prog; Directional plan; Rig Equipment list; Mud Program

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	5000	Drilling Contractor Equipment

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.I further certify that I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.Signature: *Alyssa McNear*

Printed name: Electronically Filed by Alyssa McNear

Title: **Engineering Manager**E-mail Address: **adavanzo@tascosaep.com**Date: **10-7-2020**Phone: **720 244 4417****OIL CONSERVATION DIVISION**

Approved By:

*Kurt Simmons*Title: **NMOCD, Santa Fe**Approved Date: **11/23/2020**

Expiration Date:

Conditions of Approval Attached

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name CATALINA 30EH STATE	⁶ Well Number #1
⁷ OGRID No. 329748 -	⁸ Operator Name TASCOSA ENERGY PARTNERS, LLC.	⁹ Elevation 3244'

¹⁰Surface Location

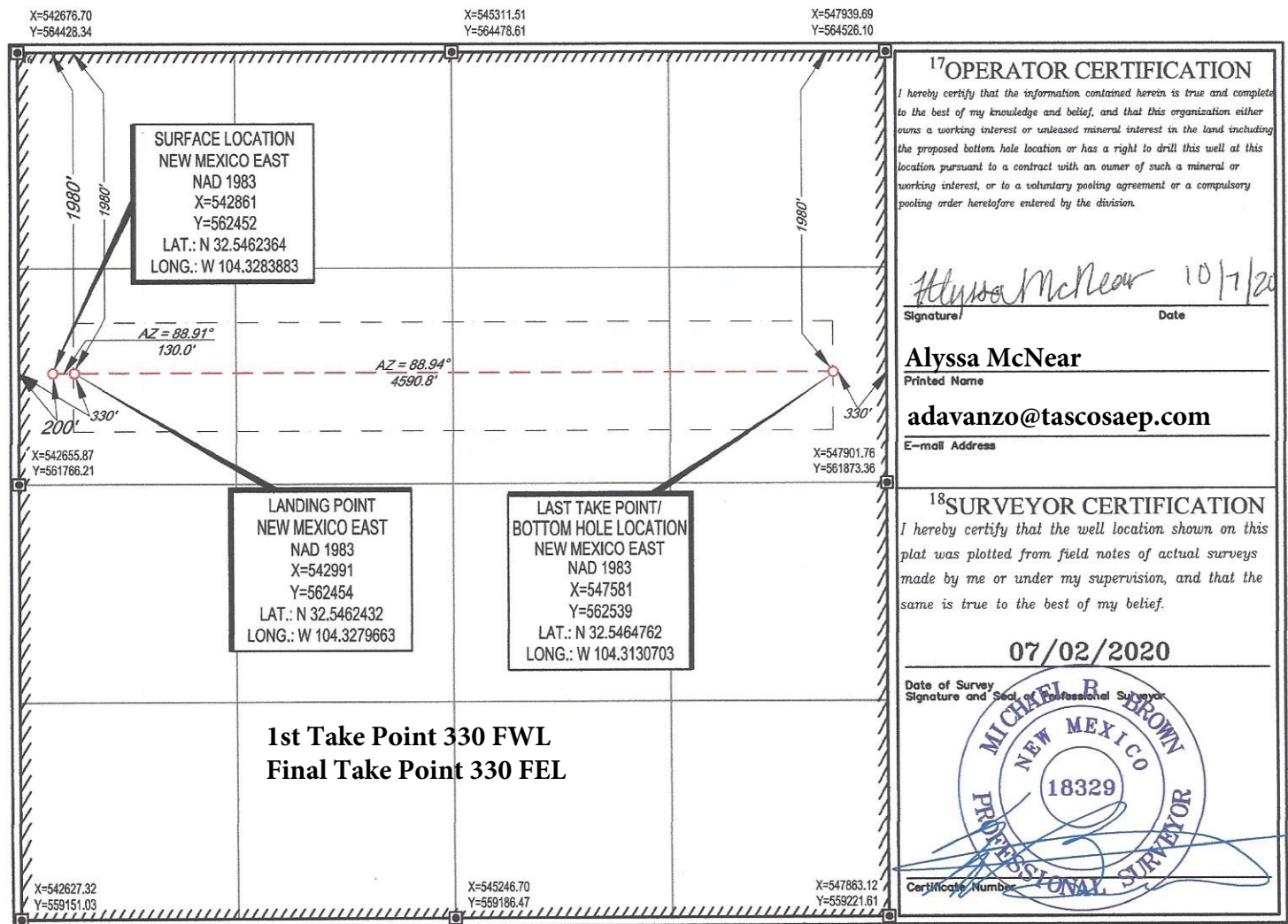
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	30	20-S	27-E	-	1980'	NORTH	200'	WEST	EDDY

¹¹Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	30	20-S	27-E	-	1980'	NORTH	330'	EAST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



¹⁷OPERATOR 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.

Alyssa McNear 10/7/20
Signature Date
Alyssa McNear
Printed Name
adavanzo@tascosaep.com
E-mail Address

¹⁸SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

07/02/2020
Date of Survey
Signature and Seal of Professional Surveyor
MICHAEL R. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR
Certificate Number



AES Drilling Fluids, LLC

Catalina 30 EH STATE 1H

SEC 30, T2OS R27E
EDDY COUNTY, NEW MEXICO

RIG: TBD

EST. FORMATION TOPS	DEPTH TVD	MUD WEIGHT ppg	SYSTEM Interval	HOLE SIZE (in)	CSG SIZE (in)	PROPERTIES / COMMENTS
13-3/8" CASING POINT	500'	8.4-9.0	SURFACE	17 1/2"	13 3/8"	0' MD 500' MD
7 RIVERS	935'	9.8-10.0	FRESH WATER			
QUEEN	1,415'	9.8-10.0	Mud Weight	8.4 — 9.0	ppg	
GRAYBURG	1,915'	9.8-10.0	Funnel Viscosity	28 — 40	sec	
9-5/8" CASING POINT	3,000'	9.8-10.0	PV @ 120°F	4 — 10	cps	
3RD BONE SPRING	7,300'	8.8-9.2	YP @ 120°F	6 — 12	lb/100 ft ²	
TARGET: 3RD BS	7,500'	8.8-9.2	pH	7.0 — 8.0		
			API Fluid Loss	N/C	mls	
			LGS	< 8	%	
			Drill out with fresh water, allowing the system to mud up natively. Pump Freshwater Gel sweeps, as needed, for hole cleaning. Recommend using Drilling Paper and Blue Max (soap) throughout the potential reactive red beds. Soap and Sapp Sticks can be used every connection down the drill pipe.			
			INTERMEDIATE	12 1/4"	9 5/8"	500' MD 3,000' MD
			BRINE WATER			
			Mud Weight	9.8 — 10.0	ppg	
			Funnel Viscosity	28 — 30	sec	
			PV @ 120°F	1 — 4	cps	
			YP @ 120°F	1 — 8	lb/100 ft ²	
			PH	10.0 — 11.0		
			LGS	< 8	%	
			Drill out 13-3/8" surface casing with brine water. Use Lime for a 10.0-11.0 pH. Sweep the hole, as needed, with Freshwater Gel. Recommend saving spud mud and using this as the base for sweeps. Use Salt Gel if sweeps are built from active system volume. Use Drilling Paper for seepage, and Agri Plug and Cedar Fiber for heavier losses.			
			PRODUCTION VERTICAL	8 3/4"	5 1/2"	3,000' MD 6,925' MD
			CUT BRINE			
			Mud Weight	8.8 — 9.2	ppg	
			Funnel Viscosity	28 — 30	sec	
			PV @ 120°F	1 — 4	cps	
			YP @ 120°F	1 — 8	lb/100 ft ²	
			PH	10.0 — 10.5		
			LGS	< 6	%	
			Drill out 9-5/8" intermediate casing with 8.8-9.2ppg cut brine water. Run all SCE and add fresh water, as needed, to maintain mud weight within specification. Use Lime for a 10.0 - 10.5 pH. Pump viscous sweeps as needed to aid in hole cleaning.			
			CURVE/LATERAL	7 7/8"	5 1/2"	6,925' MD 12,307' MD
			CUT BRINE			
			Mud Weight	8.8 — 9.2	ppg	
			Funnel Viscosity	32 — 36	sec	
			PV @ 120°F	1 — 8	cps	
			YP @ 120°F	1 — 10	lb/100 ft ²	
			PH	10.0 — 10.5		
			LGS	< 6	%	
			Continue drilling lateral section using an 8.8-9.2ppg, cut brine water. Add EnerLUBE III and graphite to the circulating system to aid in reducing torque. At TD, recommend circulating a minimum of 4 bottoms up, to ensure a clean hole prior to performing tripping operations.			
			EOC	8,050'	5-1/2"	12,385'
			KOP	6,850'		
All Total circulating volumes have a surface mud pit factor of 500 bbls included in the total.						
ACCOUNT MANAGER			AES PERMIAN		CORPORATE	
GABE SINDELAR: 903.570.4730			MIDLAND, TX 432.684.7101		HOUSTON, TX 888.556.5628	

SURFACE	
±0' MD/TVD - ±450' MD/TVD	
Hole Size: 17-1/2" Casing Size: 13-3/8"	
<u>Drilling Fluid System</u>	FRESH WATER / FRESHWATER GEL SWEEPS
<u>Potential Problems</u>	Hole Cleaning. Formation Losses. Gumbo Formation.

Recommended Properties		Recommended Products	
Properties	Specifications	Products	Concentration (lb/bbl)
Mud Weight	±8.4 – 9.0 lb/gal	Freshwater Gel	20.0-25.0 in sweeps
Funnel Viscosity	28-40 sec/qt	Soda Ash	0.25-0.5 in sweeps
Plastic Viscosity	4-10 cP	Drilling Paper	A/N
Yield Point	6-12 lb/100 ft ²	Blue Max (soap)	A/N
Viscometer 6 θ	1-4 RPM	Agri-Plug	A/N
10 sec Gel	1-10 lb/100 ft ²	Cedar Fiber	A/N
10 min Gel	1-20 lb/100 ft ²	Cotton Seed Hulls	A/N
30 min Gel	1-25 lb/100 ft ²	Soap Sticks	A/N
pH	7.0 – 8.0	SAPP Sticks	A/N
A.P.I. Fluid Loss	N/C	Nut Plug	A/N
Low Gravity Solids	< 8% by vol		

Rheologies and Gel Strengths should be checked at ambient temperature.

INTERVAL OBJECTIVES:

Suggest spudding with fresh water, building mud natively. If more viscosity is needed, add Soda Ash and Freshwater Gel to the system.

- ✿ Mixing LCM may cause issues with directional equipment. Consult with Company man and DD representative on proper lb/bbl before introducing to the system.
- ✿ Sweep the hole, as needed, with viscous Freshwater Gel from the slug pit. EnerPlus (PHPA), may also be used for sweeps. At connections, pour 1-2 gallons of EnerPlus down the drill string.
- ✿ Drop 1-2 SAPP sticks down the drill string and/or add SAPP powder to the active pits to help with potential reactive red beds. Soap sticks and Blue Max may also be added to help prevent bit balling.
- ✿ Be alert for the Red Bed formation right out from conductor. Watch for a red tint in the drilling fluid, as well as flocculation. You will also see sand and fine gravel. Be prepared to water the fluid back with fresh water. Sweep the hole with Drilling Paper to reduce filter cake build up.
- ✿ If possible, save the spud mud, this fluid can be used for sweeps, while in the brine section of the Intermediate interval.

INTERMEDIATE ±500' MD/TVD - ±2,500' MD/TVD Hole Size: 12-1/4" Casing Size: 9-5/8"	
<u>Drilling Fluid System</u>	BRINE WATER
<u>Potential Problems</u>	Hole Cleaning. Formation Losses. Severe Washout.

Recommended Properties		Recommended Products	
<i>Properties</i>	<i>Specifications</i>	<i>Products</i>	<i>Concentration (lb/bbl)</i>
Mud Weight	±9.8-10.0 lb/gal	Freshwater Gel	20.0-25.0/sweeps
Funnel Viscosity	28-30 sec/qt	Soda Ash	0.25-0.50/Sweeps
Plastic Viscosity	1-4 cP	Lime	A/N
Yield Point	1-8 lb/100 ft ²	Agri-Plug	A/N
Viscometer 6 Θ	1-2 RPM	Cedar Fiber	A/N
10 sec Gel	1-10 lb/100 ft ²	Drilling Paper	A/N
10 min Gel	1-10 lb/100 ft ²	EnerPlus (PHPA)	A/N
30 min Gel	1-10 lb/100 ft ²		
pH	10.0-11.0		
A.P.I. Fluid Loss	N/C		
Low Gravity Solids	< 8 % by vol		

Rheologies and Gel Strengths should be checked at ambient temperature.

INTERVAL OBJECTIVES:

Drill out 13-3/8" surface casing with brine water, circulating the steel pits. Run all SCE, and dilute, as necessary, to maintain a 9.8-10.0ppg. Use Lime for a 10.0-11 pH.

- ✿ Pump viscous Freshwater Gel sweeps to ensure a clean hole. Use Saltwater Gel if sweeps are built with active system volume. Adding 1 – 2 gallons of EnerPlus, (PHPA), down the drill pipe on connections, will also help with cleaning the hole.
- ✿ Soap Sticks may be dropped down the drill pipe, every other connection, to help keep the Bit/BHA clean.
- ✿ Add Drilling Paper for seepage and Cedar Fiber / Agri Plug for heavier losses. If losses become too severe, recommend utilizing fresh water to maintain volume while continuing to drill to casing point.
- ✿ At TD, recommend sweeping the hole with 50-60 bbl viscous Freshwater Gel fluid. Monitor cuttings at the shakers to determine hole conditions and continue to circulate if necessary.

PRODUCTION VERTICAL ±2,500' MD/TVD - ±6,850 (KOP) MD Hole Size: 8-3/4" Casing Size: 5-1/2"	
<u>Drilling Fluid System</u>	CUT BRINE WATER
<u>Potential Problems</u>	Hole Cleaning. Formation Losses. Severe Washout.

Recommended Properties		Recommended Products	
<i>Properties</i>	<i>Specifications</i>	<i>Products</i>	<i>Concentration (lb/bbl)</i>
Mud Weight	±8.8-9.2 lb/gal	Soda Ash	0.25 – 0.50 in sweeps
Funnel Viscosity	28-30 sec/qt	Lime	A/N
Plastic Viscosity	1-4 cP	ECM 1	A/N
Yield Point	1-8 lb/100 ft ²	ECM 2	A/N
Viscometer 6 Θ	1-2 RPM	LCF Blend	A/N
10 sec Gel	1-8 lb/100 ft ²	EnerZan	A/N
10 min Gel	1-25 lb/100 ft ²	WGS 546	A/N
30 min Gel	1-30 lb/100 ft ²	Caustic Soda	A/N
pH	10.0-10.5	Cal-Carb Mix	A/N
A.P.I. Fluid Loss	N/C		
Low Gravity Solids	< 6 % by vol		

Rheologies and Gel Strengths should be checked at ambient temperature.

INTERVAL OBJECTIVES:

Drill out the 9-5/8" intermediate casing with cut brine water. Maintain an 8.8 – 9.2ppg mud weight with additions of fresh water and running all available SCE. Mix Lime for a 10.0 – 10.5pH.

- ✿ Pump viscous EnerZAN sweeps as needed to aid in hole cleaning.
- ✿ Losses can occur during this interval. Reducing the mud weight, with additions of fresh water, will be the best option. If LCM is required, adhere to the parameters outlined by the tools in the hole. ECM 1, and ECM 2 should be used as the medium to fine LCMs.

CURVE/LATERAL

±6,850' - 8,050' / 7,500' (EOC) MD/TVD - ±12,287' MD

Hole Size: 8-3/4" x 7-7/8" Casing Size: 5-1/2"

<u>Drilling Fluid System</u>	CUT BRINE WATER / XC POLYMER SWEEPS
<u>Potential Problems</u>	Hole Cleaning. Formation Losses. Severe Washout.

Recommended Properties		Recommended Products	
Properties	Specifications	Products	Concentration (lb/bbl)
Mud Weight	±8.8-9.2 lb/gal	EnerZAN	0.75- 1.25
Funnel Viscosity	32-36 sec/qt	Lime	0.50 - 0.75
Plastic Viscosity	1-8 cP	ECM 1	A/N
Yield Point	1-10 lb/100 ft ²	ECM 2	A/N
Viscometer 6 Θ	1-6 RPM	LCF Blend	A/N
10 sec Gel	1-8 lb/100 ft ²	EnerLube III	A/N
10 min Gel	1-25 lb/100 ft ²	EnerPAC R	A/N
30 min Gel	1-30 lb/100 ft ²	GXM PLUS - graphite	A/N
pH	10.0-10.5	White Starch	A/N
A.P.I. Fluid Loss	N/C		
Low Gravity Solids	< 6 % by vol		

Rheologies and Gel Strengths should be checked at ambient temperature.

INTERVAL OBJECTIVES:

Continue drilling with cut brine water. Maintain an 8.8 – 9.2 ppg mud weight with additions of fresh water and running all available SCE. Mix Lime for a 10.0 – 10.5pH. EnerLube III can be used to aid in torque.

- ✿ Introduce 1.0 – 1.5% ENERLUBE III in the active system while drilling the lateral. Track torque and drag trends. Increase to 2% for excessive torque and drag.
- ✿ Add 0.75 lb/bbl of EnerZAN to the circulating system if a light mud up is needed.
- ✿ GXM PLUS, a high performance crystalline graphite flake can be added to enhance mechanical lubrication, filtration control, and wellbore stability. Introduce 1 – 3 ppb to the circulating system.
- ✿ Losses can occur during this interval. Reducing the mud weight, with additions of fresh water, will be the best option. If LCM is required, adhere to the parameters outlined by the tools in the hole. ECM 1 and ECM 2 should be used as the medium to fine LCMs.
- ✿ At TD, recommend sweeping the hole and circulating a minimum of 4-6 bottoms up. Monitor cuttings at the shakers to determine hole conditions and continue to circulate if necessary.
- ✿ If needed, spot a fluid loss pill on bottom. This will aid in running casing to bottom more trouble free. The pill should be 80 – 100bbls, 55 – 60 viscous, with an 8 – 10cc/30 min fluid loss.

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State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr.

Santa Fe, NM 87505

Form APD Comments

PERMIT COMMENTS

Operator Name and Address: Tascosa Energy Partners, LLC# 329748 901 West Missouri, Midland, Texas 79701		API Number:
		Well: Catalina 30 EH State # 1H

Created By	Comment	Comment Date
wright	H2S concentrations of wells in this area from surface to TD are low enough that a contingency plan is not required.	8/15/2020



Catalina 30 EH State # 1H

Closed Loop Drilling System

Operations and Maintenance Plan

Closed Loop equipment will be inspected and monitored closely, on a daily basis, by each drilling rig tour and by those hired specifically to operate the equipment. Any leak or release detected will be repaired immediately and the proper NMOCD official will be notified within the 48 hr requirement. A large release will require Tascosa Energy Partners, LLC representatives to contact NMOCD immediately at the Artesia office 575 748 1283 as stated by NMOCD rule 116. Mike Bratcher 575 626 0857 secondary contact.

Closure Plan

During and after drilling operations, liquids (which apply), all drill cuttings and drilling fluids will be hauled and disposed of at the R-360 disposal (permit number NM-01-0006) located about 30 miles East of Carlsbad, New Mexico. An alternate approved disposal site has been selected “Parabo” NM 01-0003 which is 3 miles East of Eunice. The Second site would only be used in the event of problems with CRI disposal.

Catalina 30 EH State # 1H CEMENT SUMMARY
SL=1980 FNL & 200 FWL (SW/NW), Section 30, T20S,
R27E, Eddy County, New Mexico.
3rd Bone Springs Horizontal Test_TV D ± 7743

1. **Surface hole TD = 450 ft.** Cement Circulated. Estimated BHT = **(78°F)** 200% W/O
Surface hole = 17.5 inch @ 450 FT
Surface casing = 13.375" 48# H-40 STC

Slurry = Lead 408 sks "C" w/ 4% gel & 2% CaCl₂ mixed 13.5 ppg 1.74 yield.

Coverage calc 200% excess 340 ft to surface.

Slurry = Tail 200 sks "C" w/ 2% CaCl₂ mixed 14.8 ppg.

Coverages calc 200% excess 450 ft = 340 ft.

2. **Intermediate hole TD = 2,500 ft. (95° F) TOC @ Surface** w/ 150% W/O open hole
Intermediate hole = 12.25 inch @ 2500 ft.
Intermediate Casing = 9.625" 36# J-55 LTC

Slurry = Lead 668 sks "C" 65/poze 35/6% gel w/ 5% NaCl mixed 12.4 ppg.

Coverage calc 150% excess 2019 ft to surface.

Slurry = Tail 300 sks "C" w/ 1% CaCl₂ mixed 14.8 ppg.

Coverage calc 150% excess 2500-2019 ft.

3. **Production Hole Depth = ± 12,385 ft MD. "± 7,780" TVD. (Temp est 137° F)_TOC 1,500 ft** w/ 50% (W/O) OPEN HOLE (3 stage cmt job). Tools @ 6000 ft & 4000 ft.
Production Hole Part 1= (7.875 inch x 5.5 inch Casing) 12,385 ft-8,100 ft.
Production Hole Part 2 = (8.75inch x 5.5 inch Casing) 2,500 ft-8,100 ft.
Production Hole Part 3 = (9.625 inch Csg x 5.5 inch Casing) 2,500 ft- 1,500 ft.
KOP ± 7138. EOC ± 8053 (88.68°)

Stage 1 (12,385-6000 ft) 50% W/O_(1916 Cuf Ft) (Total 1,474 sks)

Slurry = 1474 sks 50/50 poz "H" w/ 1% gel + 5 pps gilsonite + ¼ pps gilsonite mixed 14.1 ppg w/ 1.3 yield

Coverage = 50% excess **12,385 ft to 8,100 ft** (7.875" hole x 5.5" Csg)

Coverage = 50% excess **8,100 ft to 6000 ft** (8.75" hole x 5.5" Csg)

Stage 2 (6,000-4,000 ft) 100% W/O_(1,011 cu ft) (Total 520 sks)

Slurry Lead = 420 sks 65:35:6 "C"/Poz/Gel mixed 12.4 ppg w/ 2.09 yield.

Coverage calc 50% excess 5,737 ft to 4000 ft

Slurry tail = 100 sks "C" neat mixed 14.8 ppg w/ 1.33 yield.

Coverage calc = 100% excess 6000 ft – 5,737 ft.

Stage 3 (4,000 – 1,500 ft) 100% W/O open hole (total 528 sks)

Slurry = Lead 129 sks "C" 65:35:6 Poz:Gel mixed 12.4 ppg w/ 2.09 yield.

Coverage Calc no excess (2,500 to 1,500 ft)

Slurry = Lead 299 sks "C" 65:35:6 Poz:Gel mixed 12.4 ppg w/ 2.09 yield.

Coverage calc 100% excess (3,737-1,500 ft)

Slurry = Tail 100 sks "C" neat mixed 14.8 ppg w/ 1.32 yield.

Coverage calc 100% excess (4,000 ft to 3,737 ft)

Well name:

Catalina 30-EH State # 1H

Operator: **Tascosa Energy Partners, LLC**

String type: **Surface Casing (450)**

Location: **Eddy County, New Mexico. SWNW, Sec 30, T20S, R27E**

Design parameters:

Collapse

Mud weight: 9.50 ppg

Design is based on evacuated pipe.

Minimum design factors:

Collapse:

DF 1.125

Burst:

DF 1.10

Environment:

H2S considered? No
Surface temperature: 75.00 °F
BHTemp 78 °F
Temp gradient: 0.70 °F/100ft
Minimum sec length: 500 ft
Minimum Drift: 12.25 in
Cement top: Surface

Burst

Max anticipated surface pressure

= 250.00 psi

Internal gradient: = 0.12 psi/ft

Calculated BHP = 304.00 psi

Tension:

8 Rd STC: 1.80

8 Rd LTC: 1.80

Buttress: 1.60

Premium: 1.50

Body yield: 1.50

Non-directional string.

(J)

(J)

(J)

(J)

(B)

Re subsequent strings:

Next setting depth: 2,350 ft
Next mud weight: 10.000 ppg
Next setting BHP: 1,221 psi
Fracture mud wt: 12.000 ppg
Safety Factor Injection 1 ppg
Fracture depth: 450 ft
Injection pressure 304 psi

Tension is based on buoyed wgt.

Neutral pt: 385.00 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	45	13.375	48.00	H-40	ST&C	450	450	12.59	396.8
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	222	740	3.329	304	1730	5.69	21.6	322	14.91

Prepared
by: Richard Wright

Phone: (432) 695 6970
FAX: (432) 695 6973

Date: 08/03/20
Midland, Texas

Remarks:

Collapse is based on a vertical depth of 450 ft, a mud weight of 9.5 ppg. The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:

Catalina 30-EH State # 1H

Operator: **Tascosa Energy Partners, LLC**

String type: **Intermediate Casing (2500)**

Location: **Eddy County, New Mexico. SWNW, Sec 30, T20S, R27E**

Design parameters:

Collapse

Mud weight: 10.00 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

DF 1.125

Burst:

DF 1.1

Environment:

H2S considered? No
Surface temperature: 75.00 °F
BH Temp 90 °F
Temp Gradient 0.70 °F/100ft
Minimum Sec Length 500 ft
Minimum Drift: 8.75 in
Cement top: Surface

Burst

Max anticipated surface
pressure: 1,388.00 psi

Internal gradient: 0.12 psi/ft
Calculated BHP 1,688.00 psi

No backup mud specified.

Tension:

8 Rd STC: 1.80
8 Rd LTC: 1.80
Buttress: 1.60
Premium: 1.50
Body yield: 1.50

Non-directional string.

(J)

(J)

(J)

(J)

(B)

Re subsequent strings:

Tension is based on buoyed wgt.
Neutral pt: 2,118.00 ft

Next setting depth: 12,425 ft MD
Next mud weight: 9.2 ppg
Next setting BHP: 5,162 psi
Fracture mud wt: 12 ppg
Safety Factor-Injection 1 ppg
Fracture depth: 2500 ft
Injection pressure 1688 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	2500	9.625	36	J-55	LT&C	2500	2500	8.796	954.9
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	1299	2020	1.555	1688	3520	2.085	76.239	453	5.94 J

Prepared

by: Richard Wright

Phone: (432) 695 6970

FAX: (432) 695 6973

Date: 08/03/20

Midland, Texas

Remarks:

Collapse is based on a vertical depth of 2500 ft, a mud weight of 10 ppg. The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:

Catalina 30-EH State # 1H

Operator: **Tascosa Energy Partners, LLC**

String type: **Production Csg: Frac (12,385 ft MD)**

Location: **Eddy County, New Mexico. SWNW, Sec 30, T20S, R27E**

Design parameters:

Collapse

Mud weight:

Design is based on evacuated pipe.

9.50 ppg

Minimum design factors:

Collapse:

DF 1.125

Burst:

DF 1.12

Environment:

H2S considered?

No

Surface temperature:

75.00 °F

Bottom hole temp:

128.9 °F

Temperature gradient:

0.70 °F/100ft

Minimum section lgth:

1,500 ft

Minimum Drift:

4.653 in

Cement top:

1,500 ft

Burst

Max anticipated surface

pressure FRAC @ RATE: 10,000.00 psi

Internal gradient: 0.434 psi/ft

Calculated BHP 10,467.00 psi

backup mud specified. 0.434 psi/ft

Net Injection Pressure Surface 10,000.00 psi

Net Injection Pressure TVD 5,554.00 psi

Annular surface PSI 0 psi

Tension:

8 Rd STC: 1.80 (J)

8 Rd LTC: 1.80 (J)

Buttress: 1.60 (J)

Premium: 1.50 (J)

Body yield: 1.50 (B)

Directional Info - Build & Hold

Kick-off point 6850 ft

Departure at shoe: 4750 ft

Maximum dogleg: 8 °/100ft

Inclination at shoe: 89 °

Tension is based on buoyed weight. (.85474 factor)

Neutral pt: **6525** assun ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	ID Diameter (in)	Internal Capacity (ft³)
2	6850	5.5	17	HCP-110	CDC	6850	6850	4.767	4.892	913.69
1	5535	5.5	20	HCP-110	CDC HTQ	7830	12385	4.653	4.778	675.49

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
2	3458	9440	2.73	10000	12090	1.209	119	601	2.92 J
1	3822	12200	3.19	10000	12360	1.236	14.7	667	45.4 J

Prepared
by: Richard Wright

Phone: (432) 695 6970
FAX: (432) 695 6973

Date: 08/03/20
Midland, Texas

Remarks:

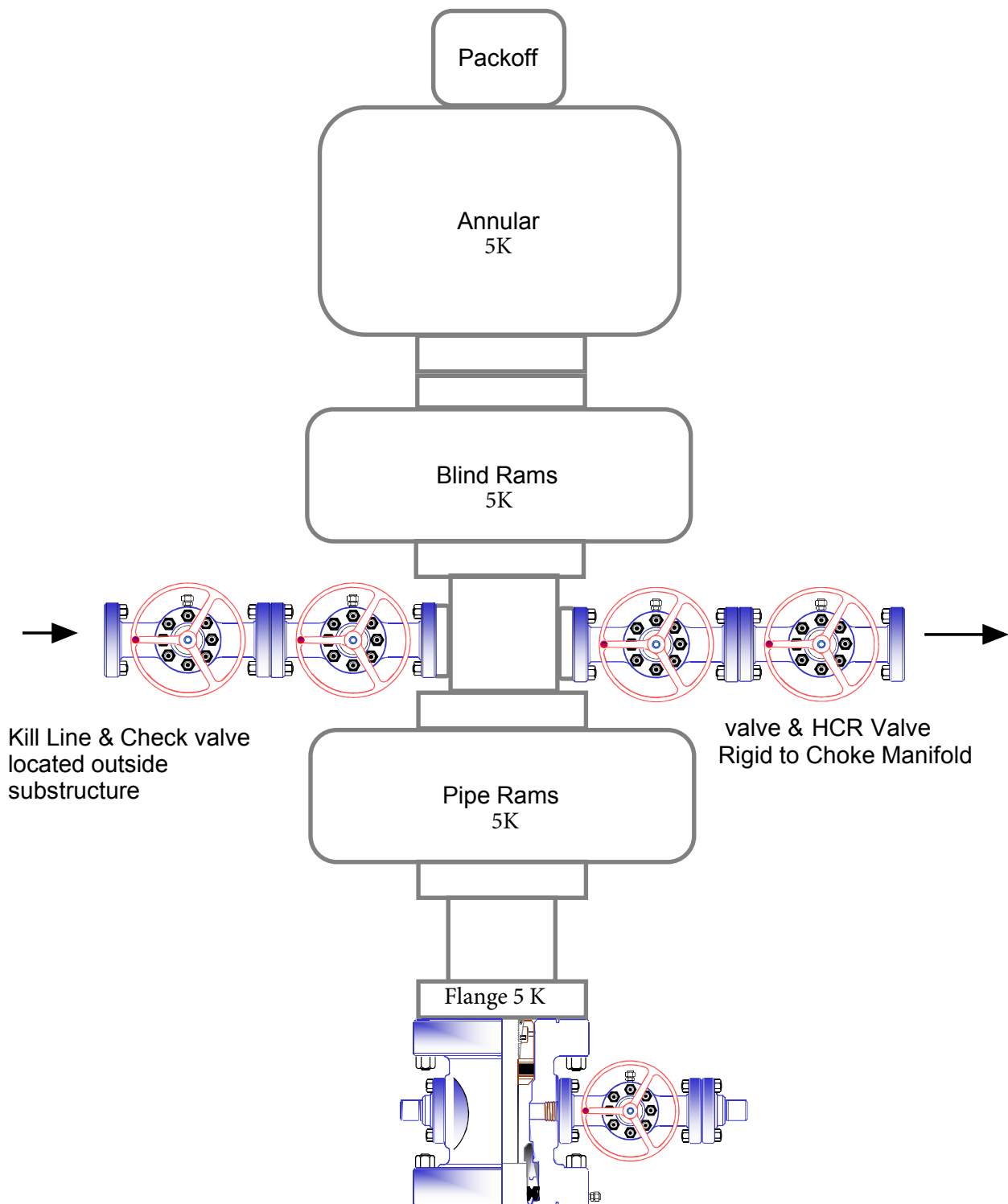
Collapse is based on a vertical depth of 7737 ft, a mud weight of 9.5 ppg. The casing is considered to be evacuated for collapse purposes.
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a tensile load which is added to the axial load.

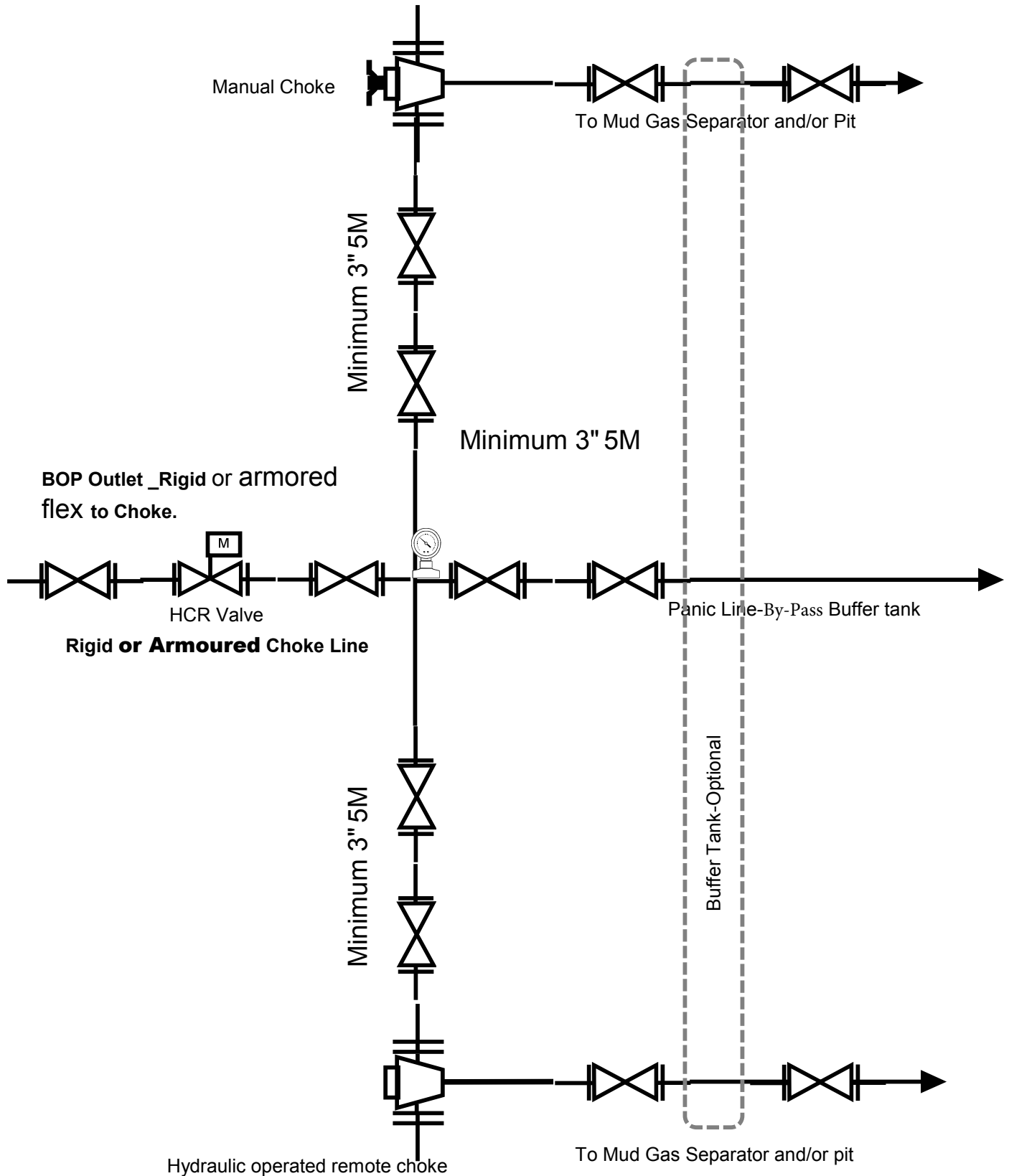
5000 PSI BOP Schematic

Catalina 30EH State #1H



Catalina 30 EH State # 1H

5000 psi Choke manifold



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 08/15/2020

☒ Original Operator & OGRID No.: Tascosa Energy Partners, LLC 329748
☐ Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Catalina 30 EH State # 1H		E,S30,T20S,R27E	1980 FNL & 200 FWL	1500	None	Sales Line will be in place

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services and will be connected to Enterprise's high pressure gathering system located in Eddy County, New Mexico. It will require $\pm 2500'$ of pipeline to connect the facility to high pressure gathering system. Tascosa provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Tascosa and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise's Processing Plant located in 32°39.224'N & 103°53.728'W, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

LONG's METHOD OF SURVEY COMPUTATION

OBLIQUE CIRCULAR ARC INTERPOLATION

0	MD OF INTERPOLATION DEPTH,(feet)
#N/A	TVD COORDINATE OF THE DEPTH (feet)
#N/A	N/S COORDINATE OF DEPTH (feet)
#N/A	E/W COORDINATE OF DEPTH (feet)

3 D DISTANCE BETWEEN STATION A AND STATION B

DISTANCE TABLE

STATION A	STATION B
0.00	0.00
0.00	0.00
0.00	0.00
0.00	ft

TABLE OF SURVEY STATIONS

Calculator =

STA #	ΔMD ft	INCL deg	AZIM deg	MD ft	TVD ft	N+/S- ft	E+/W- ft	DLS deg/100FT
1	TIE POINT =>	0	0	2950.00	2950.00	0.00	0.00	-
2	100	0	290	3050.00	3050.00	0.00	0.00	0.00
3	100	1	290	3150.00	3149.99	0.30	-0.82	1.00
4	100	2	290	3250.00	3249.96	1.19	-3.28	1.00
5	100	3	290	3350.00	3349.86	2.69	-7.38	1.00
6	100	4	280	3450.00	3449.68	4.19	-13.27	1.17
7	100	4	280	3550.00	3549.43	5.40	-20.14	0.00
8	100	4	280	3650.00	3649.19	6.61	-27.01	0.00
9	100	4	280	3750.00	3748.95	7.82	-33.88	0.00
10	100	4	280	3850.00	3848.70	9.03	-40.75	0.00
11	100	4	270	3950.00	3948.46	9.64	-47.67	0.70
12	100	4	270	4050.00	4048.22	9.64	-54.65	0.00
13	100	4	270	4150.00	4147.97	9.64	-61.63	0.00
14	100	4	260	4250.00	4247.73	9.03	-68.55	0.70
15	100	4	260	4350.00	4347.49	7.82	-75.42	0.00
16	100	4	260	4450.00	4447.24	6.61	-82.29	0.00
17	100	4	250	4550.00	4547.00	4.81	-89.00	0.70
18	100	4	250	4650.00	4646.76	2.42	-95.55	0.00
19	100	4	250	4750.00	4746.51	0.04	-102.11	0.00
20	100	4	240	4850.00	4846.27	-2.90	-108.41	0.70
21	100	4	240	4950.00	4946.03	-6.39	-114.45	0.00
22	100	4	230	5050.00	5045.78	-10.37	-120.14	0.70
23	100	4	230	5150.00	5145.54	-14.86	-125.49	0.00
24	100	4	230	5250.00	5245.30	-19.34	-130.83	0.00
25	100	4	230	5350.00	5345.05	-23.82	-136.17	0.00
26	100	3	220	5450.00	5444.87	-28.07	-140.53	1.17
27	100	3	220	5550.00	5544.73	-32.08	-143.89	0.00
28	100	2	210	5650.00	5644.63	-35.60	-146.45	1.09
29	100	2	210	5750.00	5744.57	-38.62	-148.19	0.00
30	100	1	200	5850.00	5844.54	-40.95	-149.36	1.03
31	100	1	180	5950.00	5944.52	-42.64	-149.66	0.35
32	100	0	0	6050.00	6044.52	-43.51	-149.66	1.00
33	100	0	0	6150.00	6144.52	-43.51	-149.66	0.00
34	100	0	0	6250.00	6244.52	-43.51	-149.66	0.00
35	100	0	0	6350.00	6344.52	-43.51	-149.66	0.00
36	100	0	0	6450.00	6444.52	-43.51	-149.66	0.00
37	100	0	0	6550.00	6544.52	-43.51	-149.66	0.00

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38	100	0	0	6650.00	6644.52	-43.51	-149.66	0.00
39	100	0	0	6750.00	6744.52	-43.51	-149.66	0.00
40	100	0	0	6850.00	6844.52	-43.51	-149.66	0.00
41	100	0	0	6950.00	6944.52	-43.51	-149.66	0.00
42	100	0	0	7050.00	7044.52	-43.51	-149.66	0.00
43	88	0	0	7138.00	7132.52	-43.51	-149.66	0.00
44	50	4	89.2	7188.00	7182.48	-43.49	-147.92	8.00
45	50	8	89.2	7238.00	7232.19	-43.42	-142.69	8.00
46	25	10	89.2	7263.00	7256.88	-43.36	-138.78	8.00
47	100	20	89.2	7363.00	7353.35	-43.00	-112.93	10.00
48	100	30	89.2	7463.00	7443.87	-42.41	-70.73	10.00
49	100	40	89.2	7563.00	7525.68	-41.61	-13.45	10.00
50	100	50	89.2	7663.00	7596.30	-40.63	57.16	10.00
51	100	60	89.2	7763.00	7653.59	-39.48	138.97	10.00
52	100	70	89.2	7863.00	7695.80	-38.22	229.47	10.00
53	100	80	89.2	7963.00	7721.64	-36.87	325.93	10.00
54	90	88.68	89.2	8053.00	7730.51	-35.62	415.40	9.64
55	100	88.68	89.2	8153.00	7732.82	-34.23	515.37	0.00
56	100	88.68	89.2	8253.00	7735.12	-32.83	615.33	0.00
57	100	88.68	89.2	8353.00	7737.42	-31.44	715.29	0.00
58	100	88.68	89.2	8453.00	7739.73	-30.04	815.26	0.00
59	100	88.68	89.2	8553.00	7742.03	-28.64	915.22	0.00
60	100	88.68	89.2	8653.00	7744.33	-27.25	1015.18	0.00
61	100	88.68	89.2	8753.00	7746.64	-25.85	1115.15	0.00
62	100	88.68	89.2	8853.00	7748.94	-24.46	1215.11	0.00
63	100	88.68	89.2	8953.00	7751.24	-23.06	1315.08	0.00
64	100	88.68	89.2	9053.00	7753.55	-21.67	1415.04	0.00
65	100	88.68	89.2	9153.00	7755.85	-20.27	1515.00	0.00
66	100	88.68	89.2	9253.00	7758.16	-18.87	1614.97	0.00
67	100	88.68	89.2	9353.00	7760.46	-17.48	1714.93	0.00
68	100	88.68	89.2	9453.00	7762.76	-16.08	1814.89	0.00
69	100	88.68	89.2	9553.00	7765.07	-14.69	1914.86	0.00
70	100	88.68	89.2	9653.00	7767.37	-13.29	2014.82	0.00
71	100	88.68	89.2	9753.00	7769.67	-11.89	2114.79	0.00
72	100	88.68	89.2	9853.00	7771.98	-10.50	2214.75	0.00
73	100	88.68	89.2	9953.00	7774.28	-9.10	2314.71	0.00
74	100	88.68	89.2	10053.00	7776.58	-7.71	2414.68	0.00
75	100	88.68	89.4	10153.00	7778.89	-6.49	2514.64	0.20
76	100	88.68	89.6	10253.00	7781.19	-5.61	2614.61	0.20
77	100	88.68	89.8	10353.00	7783.50	-5.09	2714.58	0.20
78	100	88.68	89.8	10453.00	7785.80	-4.74	2814.56	0.00
79	100	88.68	89.8	10553.00	7788.10	-4.39	2914.53	0.00
80	100	88.68	89.8	10653.00	7790.41	-4.04	3014.50	0.00
81	100	88.68	89.8	10753.00	7792.71	-3.69	3114.48	0.00
82	100	88.68	89.8	10853.00	7795.01	-3.34	3214.45	0.00
83	100	88.68	89.8	10953.00	7797.32	-3.00	3314.42	0.00
84	100	88.68	89.8	11053.00	7799.62	-2.65	3414.39	0.00
85	100	88.68	89.8	11153.00	7801.92	-2.30	3514.37	0.00
86	100	88.68	89.8	11253.00	7804.23	-1.95	3614.34	0.00
87	100	88.68	89.8	11353.00	7806.53	-1.60	3714.31	0.00
88	100	88.68	89.8	11453.00	7808.84	-1.25	3814.29	0.00

Catalina 30 EH State # 1H
Sec 30, T20S, R27E, Eddy NM

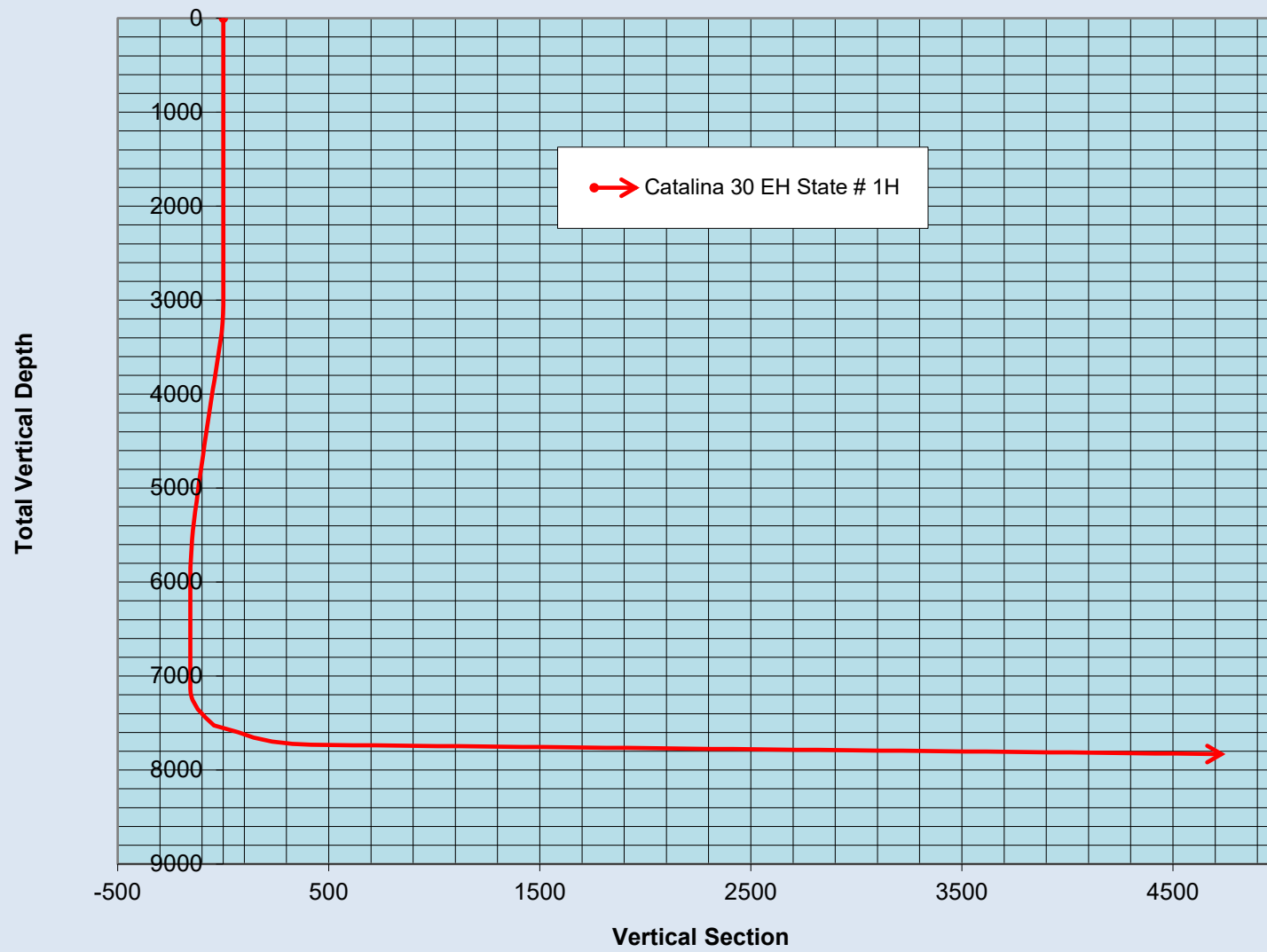
89	100	88.68	89.8	11553.00	7811.14	-0.90	3914.26	0.00
90	100	88.68	89.8	11653.00	7813.44	-0.55	4014.23	0.00
91	100	88.68	89.8	11753.00	7815.75	-0.20	4114.20	0.00
92	100	88.68	90	11853.00	7818.05	-0.03	4214.18	0.20
93	100	88.68	90	11953.00	7820.35	-0.03	4314.15	0.00
94	100	88.68	90	12053.00	7822.66	-0.03	4414.12	0.00
95	100	88.68	90	12153.00	7824.96	-0.03	4514.10	0.00
96	100	88.68	90	12253.00	7827.26	-0.03	4614.07	0.00
97	100	88.68	90	12353.00	7829.57	-0.03	4714.04	0.00

Catalina 30 EH State # 1H				
TVD	N/S		E/W	
0	0.00	0.00	0	0
500	0.00	0.00	0	0
1500	0.00	0.00	0	0
2500	0.00	0.00	0	0
2950.00	0.00	0.00	0	0
3050.00	0.00	0.00	0	0
3149.99	0.30	-0.82	0.761505	-0.87264
3249.96	1.19	-3.28	12.18222	-3.4903
3349.86	2.69	-7.38	61.65685	-7.85219
3449.68	4.19	-13.27	193.6889	-13.9172
3549.43	5.40	-20.14	434.8481	-20.853
3649.19	6.61	-27.01	773.3267	-27.8088
3748.95	7.82	-33.88	1209.125	-34.7725
3848.70	9.03	-40.75	1742.242	-41.7402
3948.46	9.64	-47.67	2365.695	-48.6384
4048.22	9.64	-54.65	3079.471	-55.493
4147.97	9.64	-61.63	3890.565	-62.3744
4247.73	9.03	-68.55	4780.416	-69.1406
4347.49	7.82	-75.42	5749.002	-75.8222
4447.24	6.61	-82.29	6814.908	-82.5525
4547.00	4.81	-89.00	7944.119	-89.1298
4646.76	2.42	-95.55	9136.607	-95.5856
4746.51	0.04	-102.11	10426.42	-102.11
4846.27	-2.90	-108.41	11760.68	-108.447
4946.03	-6.39	-114.45	13139.35	-114.627
5045.78	-10.37	-120.14	14541.54	-120.588
5145.54	-14.86	-125.49	15967.2	-126.361
5245.30	-19.34	-130.83	17490.18	-132.25
5345.05	-23.82	-136.17	19110.48	-138.241
5444.87	-28.07	-140.53	20535.61	-143.303
5544.73	-32.08	-143.89	21733.56	-147.423
5644.63	-35.60	-146.45	22713.19	-150.709
5744.57	-38.62	-148.19	23451.62	-153.139
5844.54	-40.95	-149.36	23985.54	-154.873
5944.52	-42.64	-149.66	24216.27	-155.616
6044.52	-43.51	-149.66	24291.45	-155.857
6144.52	-43.51	-149.66	24291.45	-155.857
6244.52	-43.51	-149.66	24291.45	-155.857
6344.52	-43.51	-149.66	24291.45	-155.857
6444.52	-43.51	-149.66	24291.45	-155.857
6544.52	-43.51	-149.66	24291.45	-155.857
6644.52	-43.51	-149.66	24291.45	-155.857
6744.52	-43.51	-149.66	24291.45	-155.857
6844.52	-43.51	-149.66	24291.45	-155.857
6944.52	-43.51	-149.66	24291.45	-155.857
7044.52	-43.51	-149.66	24291.45	-155.857

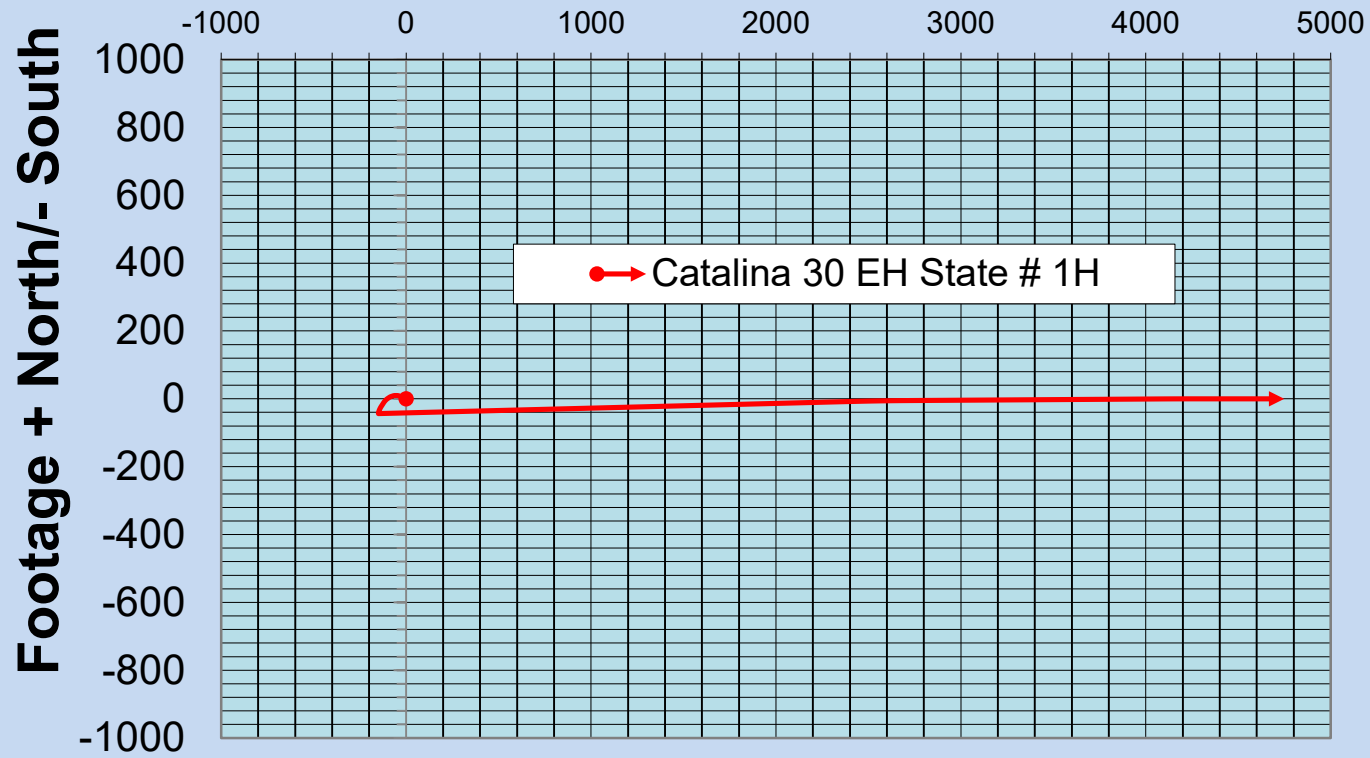
7132.52	-43.51	-149.66	24291.45	-155.857
7182.48	-43.49	-147.92	23770.23	-154.176
7232.19	-43.42	-142.69	22245.51	-149.149
7256.88	-43.36	-138.78	21140.15	-145.397
7353.35	-43.00	-112.93	14603.06	-120.843
7443.87	-42.41	-70.73	6801.404	-82.4706
7525.68	-41.61	-13.45	1912.467	-43.7318
7596.30	-40.63	57.16	4918.204	70.12991
7653.59	-39.48	138.97	20870.89	144.4676
7695.80	-38.22	229.47	54119.23	232.6354
7721.64	-36.87	325.93	107593.2	328.014
7730.51	-35.62	415.40	173827.7	416.9265
7732.82	-34.23	515.37	266773.2	516.5009
7735.12	-32.83	615.33	379708	616.2045
7737.42	-31.44	715.29	512632.3	715.9834
7739.73	-30.04	815.26	665545.9	815.81
7742.03	-28.64	915.22	838448.9	915.6686
7744.33	-27.25	1015.18	1031341	1015.55
7746.64	-25.85	1115.15	1244223	1115.447
7748.94	-24.46	1215.11	1477094	1215.358
7751.24	-23.06	1315.08	1729955	1315.277
7753.55	-21.67	1415.04	2002805	1415.205
7755.85	-20.27	1515.00	2295644	1515.138
7758.16	-18.87	1614.97	2608473	1615.077
7760.46	-17.48	1714.93	2941291	1715.019
7762.76	-16.08	1814.89	3294098	1814.965
7765.07	-14.69	1914.86	3666895	1914.914
7767.37	-13.29	2014.82	4059682	2014.865
7769.67	-11.89	2114.79	4472457	2114.818
7771.98	-10.50	2214.75	4905222	2214.774
7774.28	-9.10	2314.71	5357977	2314.73
7776.58	-7.71	2414.68	5830720	2414.688
7778.89	-6.49	2514.64	6323467	2514.65
7781.19	-5.61	2614.61	6836226	2614.618
7783.50	-5.09	2714.58	7368991	2714.589
7785.80	-4.74	2814.56	7921752	2814.561
7788.10	-4.39	2914.53	8494501	2914.533
7790.41	-4.04	3014.50	9087241	3014.505
7792.71	-3.69	3114.48	9699969	3114.477
7795.01	-3.34	3214.45	10332687	3214.45
7797.32	-3.00	3314.42	10985395	3314.422
7799.62	-2.65	3414.39	11658092	3414.395
7801.92	-2.30	3514.37	12350778	3514.367
7804.23	-1.95	3614.34	13063454	3614.34
7806.53	-1.60	3714.31	13796119	3714.313
7808.84	-1.25	3814.29	14548773	3814.285
7811.14	-0.90	3914.26	15321417	3914.258
7813.44	-0.55	4014.23	16114050	4014.231
7815.75	-0.20	4114.20	16926672	4114.204

7818.05	-0.03	4214.18	17759288	4214.177
7820.35	-0.03	4314.15	18611894	4314.15
7822.66	-0.03	4414.12	19484490	4414.124
7824.96	-0.03	4514.10	20377075	4514.097
7827.26	-0.03	4614.07	21289650	4614.071
7829.57	-0.03	4714.04	22222214	4714.044
7830.37	-0.03	4749.04	22553334	4749.035

Catalina 30 EH State # 1_Sec 30,T20S, R27E, Eddy



Horizontal Plane Footage +East/-West



Lat = 32°32.771' N
Long = 104°19.705' W
Operator: **Tasco Energy Partners**
Location: SHL: 1980 FNL & 200 FWL Sec 30,T20S,R27E
BHL: 1980 FNL & 330' FEL, Sec 30,T20S, R16E
Elev GR 3,244 KB 16 ft
Eddy County, New Mexico
API #: **30-015-?????**
TD: 12,388
PBSD: FC 12,335
Versa Stim NA
AVG TVD: 7,732
KOP: 7,138
Casing: 13-3/8" 48# H-40, STC @ 450' _1570 BPF
9-5/8" 36# J-55 LTC @ 2,500 _ .0773 BPF
5-1/2" 20# P-110 LTC/BTC csg 12,385 _ .0221 BPF
Liner Hanger NA

Hole Sizes: 17-1/2" @ 450'
12-1/4" @ 2,500'
8-3/4" @ 8,050'
7-7/8" @ 12,388'

Directional Summary:
KOP 1 ± 3,050
KOP 2 ± 7,138
 10° curve
EOC ± 8,053' (88.68°)
 TVD = 7,730-7,830
 Lateral TD = 12,388 ft
 Shoe @ ± 12,385ft
 FC @ ± 12,313 ft
 PBTD Ldg Clr_ NA
 VS=4750
Effective lat 4,327'

AVG Perf Cluster Spacing = 25 ft

AVG. Calculated Ft/Stage: 200 ft/stg
48 holes per stage (9,8,7,6,6,6,6)

Catalina 30 State EH # 1																															
		Cluster 1 (9h)		Cluster 2 (8h)		Cluster 3 (7h)		Cluster 4 (6h)		Cluster 5 (6h)		Cluster 6 (6h)		Cluster 7 (6h)		1		2		3		4		5		6		7			
Stage	Plug @	Top	Btm	Top	Btm	Top	Btm	Top	Btm	Top	Btm	Top	Btm	Top	Btm	perf	perf	perf	perf	perf	perf	perf	perf	plug	Incl						
1	12,335	12,325	12,327	12,300	12,302	12,275	12,277	12,250	12,251	12,225	12,226	12,200	12,201	12,175	12,176	8	23	23	24	24	24	24	25			88.68					
2	12,150	12,125	12,127	12,100	12,102	12,075	12,077	12,050	12,051	12,025	12,026	12,000	12,001	11,975	11,976	23	23	23	24	24	24	24	25	185		88.68					
3	11,950	11,925	11,927	11,900	11,902	11,875	11,877	11,850	11,851	11,825	11,826	11,800	11,801	11,775	11,776	23	23	23	24	24	24	24	25	200		88.68					
4	11,750	11,725	11,727	11,700	11,702	11,675	11,677	11,650	11,651	11,625	11,626	11,600	11,601	11,575	11,576	23	23	23	24	24	24	24	25	200		88.68					
5	11,550	11,525	11,527	11,500	11,502	11,475	11,477	11,450	11,451	11,425	11,426	11,400	11,401	11,375	11,376	23	23	23	24	24	24	24	25	200		88.68					
6	11,350	11,325	11,327	11,300	11,302	11,275	11,277	11,250	11,251	11,225	11,226	11,200	11,201	11,175	11,176	23	23	23	24	24	24	24	25	200		88.68					
7	11,150	11,125	11,127	11,100	11,102	11,075	11,077	11,050	11,051	11,025	11,026	11,000	11,001	10,975	10,976	23	23	23	24	24	24	24	25	200		88.68					
8	10,950	10,925	10,927	10,900	10,902	10,875	10,877	10,850	10,851	10,825	10,826	10,800	10,801	10,775	10,776	23	23	23	24	24	24	24	25	200		88.68					
9	10,750	10,725	10,727	10,700	10,702	10,675	10,677	10,650	10,651	10,625	10,626	10,600	10,601	10,575	10,576	23	23	23	24	24	24	24	25	200		88.68					
10	10,550	10,525	10,527	10,500	10,502	10,475	10,477	10,450	10,451	10,425	10,426	10,400	10,401	10,375	10,376	23	23	23	24	24	24	24	25	200		88.68					
11	10,350	10,325	10,327	10,300	10,302	10,275	10,277	10,250	10,251	10,225	10,226	10,200	10,201	10,175	10,176	23	23	23	24	24	24	24	25	200		88.68					
12	10,150	10,125	10,127	10,100	10,102	10,075	10,077	10,050	10,051	10,025	10,026	10,000	10,001	9,975	9,976	23	23	23	24	24	24	24	25	200		88.68					
13	9,950	9,925	9,927	9,900	9,902	9,875	9,877	9,850	9,851	9,825	9,826	9,800	9,801	9,775	9,776	23	23	23	24	24	24	24	25	200		88.68					
14	9,750	9,725	9,727	9,700	9,702	9,675	9,677	9,650	9,651	9,625	9,626	9,600	9,601	9,575	9,576	23	23	23	24	24	24	24	25	200		88.68					
15	9,550	9,525	9,527	9,500	9,502	9,475	9,477	9,450	9,451	9,425	9,426	9,400	9,401	9,375	9,376	23	23	23	24	24	24	24	25	200		88.68					
16	9,350	9,325	9,327	9,300	9,302	9,275	9,277	9,250	9,251	9,225	9,226	9,200	9,201	9,175	9,176	23	23	23	24	24	24	24	25	200		88.68					
17	9,150	9,125	9,127	9,100	9,102	9,075	9,077	9,050	9,051	9,025	9,026	9,000	9,001	8,975	8,976	23	23	23	24	24	24	24	25	200		88.68					
18	8,950	8,925	8,927	8,900	8,902	8,875	8,877	8,850	8,851	8,825	8,826	8,800	8,801	8,775	8,776	23	23	23	24	24	24	24	25	200		88.68					
19	8,750	8,725	8,727	8,700	8,702	8,675	8,677	8,650	8,651	8,625	8,626	8,600	8,601	8,575	8,576	23	23	23	24	24	24	24	25	200		88.68					
20	8,550	8,525	8,527	8,500	8,502	8,475	8,477	8,450	8,451	8,425	8,426	8,400	8,401	8,375	8,376	23	23	23	24	24	24	24	25	200		88.68					
21	8,350	8,325	8,327	8,300	8,302	8,275	8,277	8,250	8,251	8,225	8,226	8,200	8,201	8,175	8,176	23	23	23	24	24	24	24	25	200		88.68					
22	8,150	8,125	8,127	8,100	8,102	8,075	8,077	8,050	8,051	8,025	8,026	8,000	8,001			23	23	23	24	24	24	24	8,000	200		88.68					

PBTD:	12,335
TD:	12,388

Average Lateral TVD @
Fracable Lateral MD Begins @ +/-8000'Md ($\pm 84.34^\circ$)

Perf	Plug @	8,150	8,350	8,550	8,750	8,950	9,150	9,350	9,550	9,750	9,950	10,150	10,350	10,550	10,750	10,950	11,150	11,350	11,550	11,750	11,950	12,150	12,335
	Btm @	8,127	8,327	8,527	8,727	8,927	9,127	9,327	9,527	9,727	9,927	10,127	10,327	10,527	10,727	10,927	11,127	11,327	11,527	11,727	11,927	12,127	12,327
Perf	Top @	8,000	8,175	8,375	8,575	8,775	8,975	9,175	9,375	9,575	9,775	9,975	10,175	10,375	10,575	10,775	10,975	11,175	11,375	11,575	11,775	11,975	12,175

STG 1:22	Catalina 30EH St #1H		Gals	Frac fluid bbls	pump down	Total fluid per stg				
Objective:	Avg Fluid per Stg_gal/bbls		360,893	8,593	150	8,743				
3rd Bone Spring	AVG. Proppant/Stage		312,500							
	Plug depth:	12,355	SPF:	6						
	Top perf:	8,060	Btm perf:	12,212	TVD:	7,700	Sand Type:	Local		
Expected	Frac Grad.	0.73	Closure Pressure			3,524				
Sub-Stages	Fluid Type	Volume (gal)	Prop Conc (ppg)	Stage Type	Prop (lbs)	Prop Cum (lbs)	Rate (bpm)	Est Avg STP (psi)	Slurry Vol	Stg Time (Minutes)
1	Treated Water	500	0.00	Load Hole	0	0	10.0	3551	12	1.19
2	15% HCl	1,000	0.00	Acid	0	0	10.0	4588	24	2.38
3	Slickwater	20,000	0.00	Pad	0	0	40.0	4692	476	11.90
4	Slickwater	15,000	0.25	100 Mesh	3,750	3,750	70.0	4671	361	5.16
5	Slickwater	15,000	0.50	100 Mesh	7,500	11,250	70.0	4878	365	5.22
6	Slickwater	20,000	1.00	100 Mesh	20,000	31,250	70.0	8000	498	7.12
7	Slickwater	25,000	1.25	100 Mesh	31,250	62,500	80.0	8000	630	7.87
8	Slickwater	45,000	2.00	100 Mesh	90,000	152,500	80.0	8000	1171	14.64
9	HVFR	20,000	0.00	Flush	0	152,500	70.0	8000	476	6.80
10	Slickwater	2,000	0.00	Cycle	0	152,500	10.0	8000	48	4.76
11	Slickwater	4,000	0.00	Spacer	0	152,500	70.0	8000	95	1.36
12	Slickwater	15,000	0.50	40/70	7,500	160,000	80.0	8000	365	4.57
13	HVFR	20,000	1.00	40/70	20,000	180,000	80.0	8000	498	6.23
14	HVFR	10,000	2.00	40/70	20,000	200,000	80.0	8000	260	3.25
15	Slickwater	20,000	0.00	Flush	0	200,000	80.0	8000	476	5.95
16	Slickwater	2,000	0.00	Cycle	0	200,000	10.0	8000	48	4.76
17	Slickwater	4,000	0.00	Spacer	0	200,000	70.0	8000	95	1.36
18	Slickwater	15,000	0.50	40/70	7,500	207,500	80.0	8000	365	4.57
19	HVFR	20,000	1.00	40/70	20,000	227,500	80.0	8000	498	6.23
20	HVFR	10,000	2.00	40/70	20,000	247,500	80.0	8000	260	3.25
21	Slickwater	16,973	0.00	Flush	0	247,500	80.0	7900	404	5.05
22	Slickwater	420	0.00	Cycle	0	247,500	10.0	7900	10	1.00
23	Slickwater	4,000	0.00	Spacer	0	247,500	90.0	7900	95	1.06
24	Slickwater	15,000	1.00	40/70	15,000	262,500	90.0	7900	374	4.15
25	HVFR	20,000	1.50	40/70	30,000	292,500	90.0	7900	509	5.66
26	HVFR	10,000	2.00	40/70	20,000	312,500	90.0	7900	260	2.89
27	Slickwater	12,000	0.00	Flush	0	312,500	90.0	7900	286	3.17
					0	312,500				131.57
Totals:		360,893	8,592.7		312,500					
Est BHP	5500	psi	Max rate	90	bpm	Avg rate	65.2	bpm		1 hr 47 min
Est ISIP	4800	psi	Max press	8500	psi	Avg press	7702	psi		
Actual FG:	0.73						8,593	BLWTR		

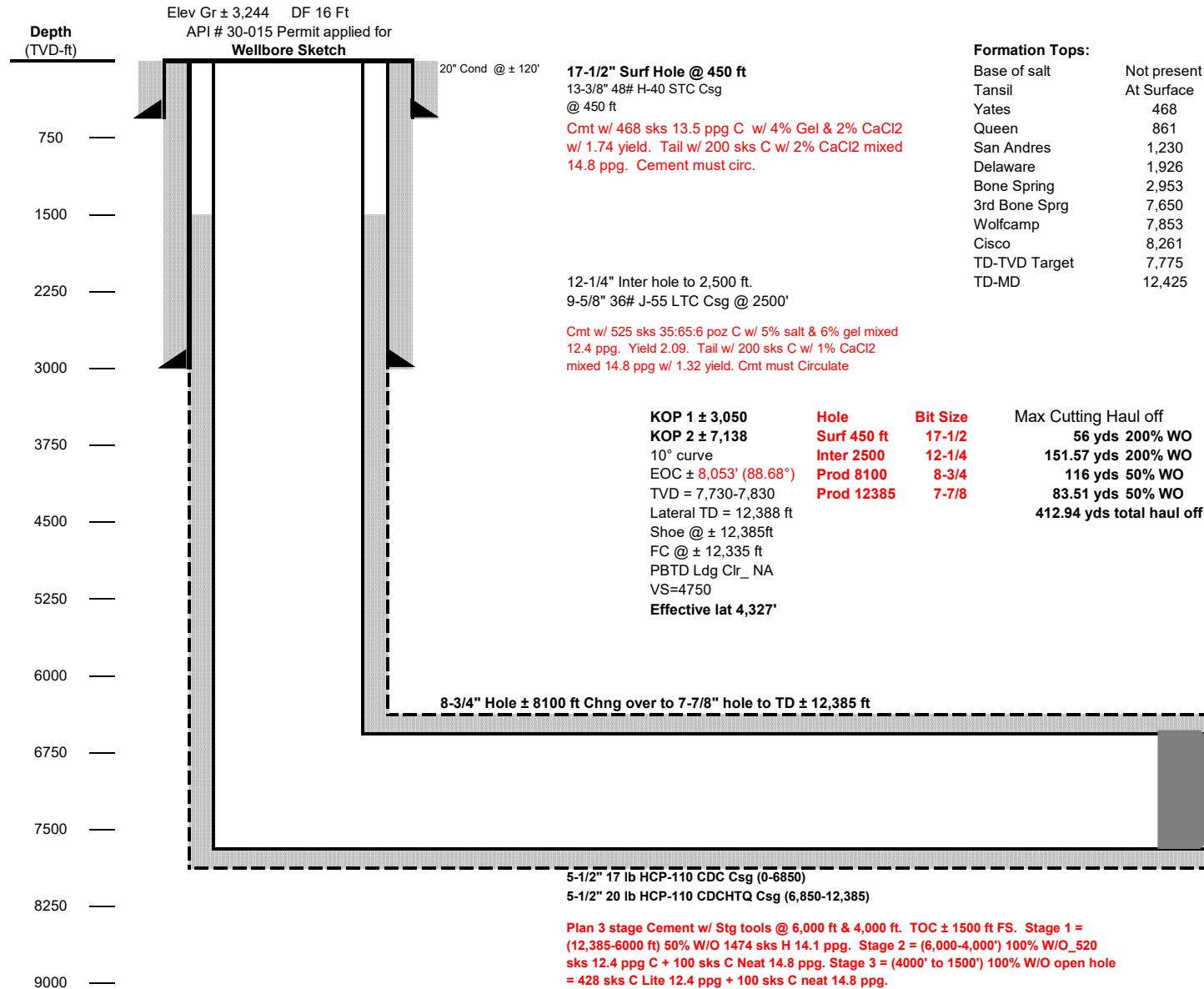
152,500	Lbs 100 msh	3,202,500	lbs 100 mesh	total 21 stages
160,000	lbs 40/70 Brwn	3,360,000	lbs 40/70 white	total 21 stages
312,500	21	6,562,500	lbs sand	total 21 stages
8,569	21	179,947	bbls water	total 21 stages
150	pmp dwn wtr avg	3,150	bbls water PD	
		183,097	total water needed Job (stg 1-20)	

Job total 1,580 lbs per ft (4352') PLANNED
 1686 gals per ft.
 48.8% 100 mesh per stage
 51.2% 40/70 mesh

Catalina 30 EH State # 1H

= 1980 FNL & 200 FWL, Sec 30, T-20-S, R-27-W, Eddy County, NM
 = 1980 FNL & 330 FEL, Sec 30, T-20-S, R-27-W, Eddy County, NM

Lat = 32°32.771'N
 Long = 104°19.705'W



Formation Tops:

Base of salt	Not present
Tansil	At Surface
Yates	468
Queen	861
San Andres	1,230
Delaware	1,926
Bone Spring	2,953
3rd Bone Sprg	7,650
Wolfcamp	7,853
Cisco	8,261
TD-TVD Target	7,775
TD-MD	12,425