

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

Form C-101
August 1, 2011

Permit 319850

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address Tascosa Energy Partners, L.L.C 901 W. Missouri Ave Midland, TX 79701		2. OGRID Number 329748
		3. API Number 30-015-49671
4. Property Code 331801	5. Property Name Catalina 25 30 State Com	6. Well No. 301H

7. Surface Location

UL - Lot E	Section 25	Township 20S	Range 26E	Lot Idn	Feet From 1320	N/S Line N	Feet From 250	E/W Line W	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot A	Section 30	Township 20S	Range 27E	Lot Idn A	Feet From 400	N/S Line N	Feet From 100	E/W Line E	County Eddy
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9. Pool Information

AVALON; BONE SPRING	96381
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3332
16. Multiple N	17. Proposed Depth 17742	18. Formation 3rd Bone Spring Sand	19. Contractor	20. Spud Date 9/1/2022
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ 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
Surf	17.5	13.375	48	500	630	0
Int1	12.25	9.625	36	3000	1153	0
Prod	8.75	5.5	20	17742	3529	0

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	5000	CTI
Blind	5000	5000	CTI
Pipe	5000	5000	CTI

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

Signature:

Printed Name: Electronically filed by Kelly M Hardy

Title: Land Manager

Email Address: khardy@tascosaep.com

Date: 6/23/2022

Phone: 432-695-6970

OIL CONSERVATION DIVISION

Approved By: Katherine Pickford

Title: Geoscientist

Approved Date: 6/30/2022 Expiration Date: 6/30/2024

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 30-015-49671	² Pool Code 96381	³ Pool Name Avalon;Bone Spring
⁴ Property Code 331801	⁵ Property Name CATALINA 2530 STATE COM	
⁷ OGRID No. 329748	⁸ Operator Name TASCOSA ENERGY PARTNERS, LLC.	⁶ Well Number 301H
		⁹ Elevation 3332'

¹⁰Surface Location

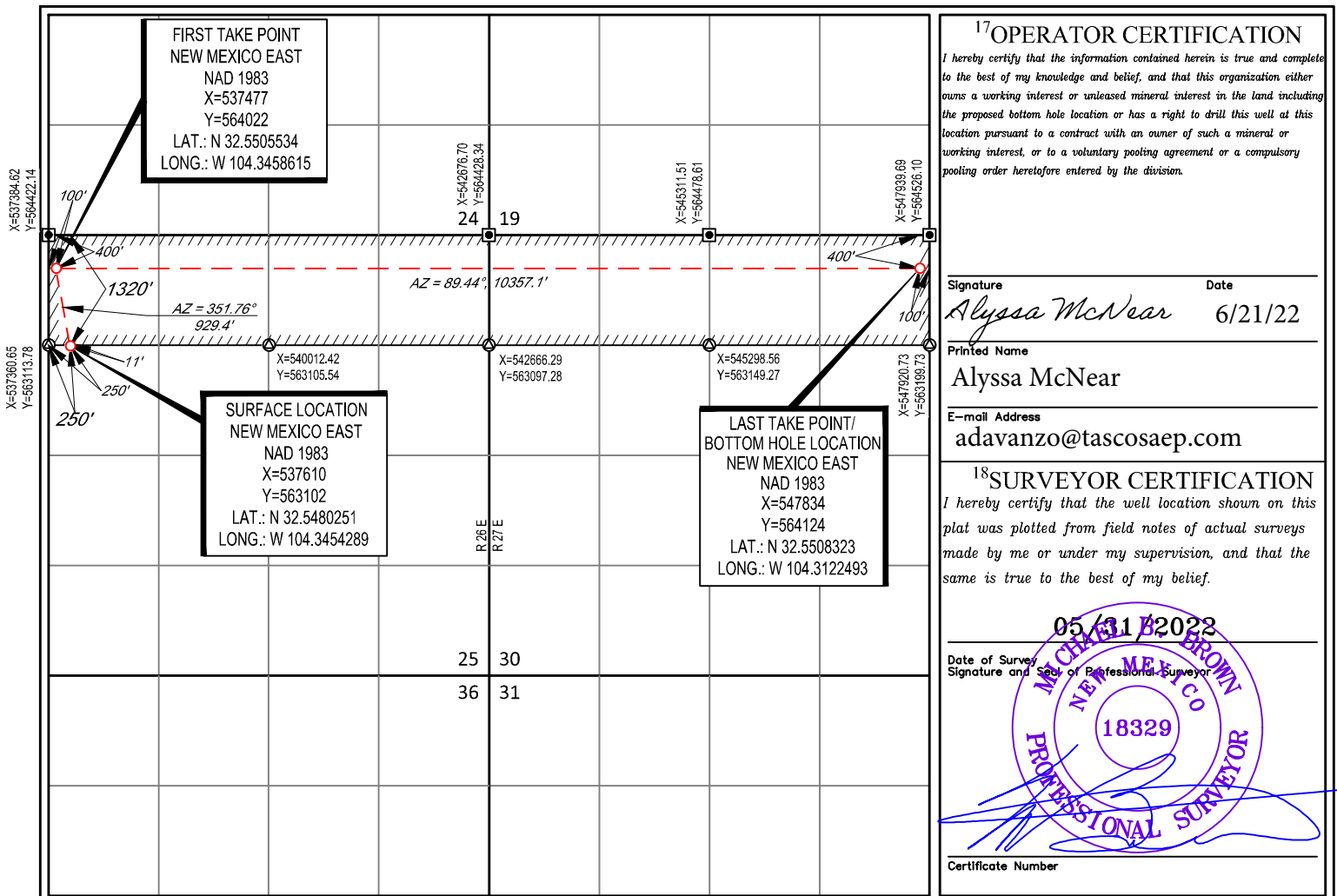
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	25	20-S	26-E	-	1320'	NORTH	250'	WEST	EDDY

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
A	30	20-S	27-E	-	400'	NORTH	100'	EAST	EDDY

¹² Dedicated Acres 317.55	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.



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Santa Fe, NM 87505

Form APD Conditions

Permit 319850

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Tascosa Energy Partners, L.L.C [329748] 901 W. Missouri Ave Midland, TX 79701	API Number: 30-015-49671
	Well: Catalina 25 30 State Com #301H

OCD Reviewer	Condition
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system

**Tascosa Energy Partners, LLC
Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

This well and its anticipated facility are not expected to have hydrogen sulfide releases. However, there may be H₂S production in the nearby area. There are no occupied dwellings in the area, but to comply with onshore order 6, if unexpected H₂S is detected, Tascosa will implement the H₂S plan shown below. Tascosa Energy Partners, LLC will have a company representative living on location throughout the drilling and completion of this well. If H₂S is detected or suspected, monitoring equipment will be available for monitoring and/or testing. An un-manned H₂S safety trailer and monitoring equipment will also be stationed on location during the drilling operations, below the surface casing depth of ± 500 ft. to total drilling depth of $\pm 11,243$ ft. It will have detection probes placed in the substructure, at the shale shaker and on the drill floor.

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Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

EMERGENCY CALL LIST: (Start and continue until ONE of these people have been contacted)

	OFFICE	MOBILE	HOME
Tascosa Energy, LLC.	432 695-6970		
Jeff Birkelbach	432 695-6970	432 288-5874	
Alyssa McNear		720 244 4417	
Richard Wright	432 695 6970	432 556 7595	
Brian Kirkland		432 770-2325	
Kevin Herrmann	432 695-6970	432 254-9106	

EMERGENCY RESPONSE NUMBERS:

State Police:	Eddy County		575 748 9718
State Police:	Lea County		575 392 5588
Sheriff	Eddy County		575 746 2701
Sheriff	Lea County		
Emergency Medical Ser	Eddy County		911 or 575 746 2701
(Ambulance)	Lea County	Eunice	911 or 575 394 3258
Emergency Response	Eddy County SERC		575 476 9620
Artesia Police Dept			575 746 5001
Artesia Fire Dept			575 746 5001
Carlsbad Police Dept			575 885 2111
Carlsbad Fire Dept			575 885 3125
Loco Hills Police Dept			575 677 2349
Jal Police Dept			575 395 2501
Jal Fire Dept			575 395 2221

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SEC 25, T20S, R26E, Eddy County, New Mexico

Jal ambulance		575 395 2221
Eunice Police Dept		575 394 0112
Eunice Fire Dept		575 394 3258
Eunice Ambulance		575 394 3258
Hobbs Police Dept		
NMOCD	District 1 (Lea, Roosevelt, Curry)	575 393 6161
	District 2 (Eddy Chavez)	575 748 1283
BLM Carlsbad		575 234 5972
BLM Hobbs		575 393 3612
Lea County Information		575 393 8203
Midland Safety	Lea/Eddy County	432 520 3838
		888 262 4964
American Safety	Lea/Eddy County	575 746 1096
		575 393 3093
Halliburton	Artesia	800 844 8451
	Hobbs	800 844 8451
	Midland	800 844 8451
Halliburton Services		800 844 8451
Wild Well Control	Midland	281 784 4700
		281 443 4873

**Tascosa Energy Partners, LLC
Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

General H2S Emergency Actions:

1. All personnel will immediately evacuate to an up-wind and if possible, up-hill "safe area"
2. If for any reason a person must enter the hazardous area, they must wear a SCBA (Self Contained Breathing Apparatus)
3. Always use the "buddy system"
4. Isolate the well/problem if possible
5. Account for all personnel
6. Display the proper colors warning all unsuspecting personnel of the danger at hand.
7. Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as instructed

At this point the company representative will evaluate the situation and coordinate the necessary duties to bring the situation under control, and if necessary, the notification of the emergency response agencies and nearby residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H2S

1. All personnel will wear the self-contained breathing apparatus.
2. Remove all personnel to the "safe area". (Always use the buddy system).
3. Contact company personnel if not on location.
4. Set in motion the steps to protect and or remove the "general public" to an upwind "safe area". Maintain strict security & safety procedures while dealing with the source.
5. No entry to any unauthorized personnel.
6. Notify the appropriate agencies: City Police-City Street (s)
State Police- State Rd
County Sheriff – County Rd.
7. Call the BLM &/or NMOCD

**Tascosa Energy Partners, LLC
Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

PROTECTION OF THE GENERAL PUBLIC (Radius of Exposure):

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the “general public” may travel)
- 100 ppm radius of ¼ mile in New Mexico will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H₂S could be present in concentrations greater than 100 ppm in the gas mixture

CALCULATIONS FOR THE 100 PPM (ROE) “Pasquill-Gifford equation”

X = [(1.589) (mole fraction) (Q- volume in std cu ft)] to the power of (0.6258)

CALCULATION FOR THE 500 PPM ROE:

X = [(.4546) (mole fraction) (Q- volume in std cu ft)] to the power of (0.6258)

Example:

If a well/facility has been determined to have 150 / 500 ppm H₂S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

150 ppm X= [(1.589) (.00015) (100,000 cfd)] to the power of (.6258)
X= 7 ft

500 ppm X= [(.4546) (.0005) (100,000 cfd)] to the power of (.6258)
X = 3.3 ft.

(These calculations will be forwarded to the appropriate District NMOCD office when Applicable)

PUBLIC EVACUATION PLAN:

- 1. Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- A trained person in H₂S safety, shall monitor with detection equipment the H₂S concentration, wind and area exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. **(All monitoring equipment shall be UL approved, for use in class 1 groups A, B, C & D, Division 1, hazardous locations. All monitor will have a minimum capability of measuring H₂S, oxygen, and flammable values).**

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Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

- Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- The company supervising personnel shall stay in communication with all agencies throughout the duration of the situation and inform such agencies when the situation has been contained and the affected area(s) is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:

- 1. Human life and/or property are in danger
- 2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTION FOR IGNITION:

- 1. Two people are required. They must be equipped with positive pressure, "self-contained breathing apparatus" and a "D" ring style full body, OSHA approved safety harness. Nonflammable rope will be attached.
- 2. One of the people will be qualified safety person who will test the atmosphere for H₂S, Oxygen & LFL. The other person will be the company supervisor; he is responsible for igniting the well.
- 3. Ignite up wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25 mm flare gun shall be used, with a ± 500 ft. range to ignite the gas.
- 4. Prior to ignition, make a final check for combustible gases.
- 5. Following ignition, continue with the emergency actions & procedures as before.

A. All personnel shall receive proper H₂S training in accordance with Onshore Order III.C.3.a.

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment:

- Well control equipment

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For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

- a. Flare line 100' from wellhead to be ignited by flare gun or automatic striker.
- b. Choke manifold with a remotely operated choke.
- c. Mud/gas separator

■ Protective equipment for essential personnel.

Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor the sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

■ H2S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
(Gas sample tubes will be stored in the safety trailer)

■ Visual warning systems.

- a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
- b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
- c. Two wind socks will be placed in strategic locations, visible from all angles.

■ Mud program: **Only utilized if H2S has been detected**

The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

■ Metallurgy: **Only utilized if H2S has been detected**

- a. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- b. All elastomers used for packing and seals shall be H2S trim.

■ Communication: **Only utilized if H2S has been detected**

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Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

Communication will be via two way radio in emergency and company vehicles. Cell phones and land lines where available.

USING SELF CONTAINED BREATHING AIR EQUIPMENT (SCBA):

- (SCBA) SHOULD BE WORN WHEN ANY OF THE FOLLOWING ARE PERFORMED:
Only utilized if H2S has been detected
 - Working near the top or on top of a tank
 - Disconnecting any line where H2S can reasonably be expected
 - Sampling air in the area to determine if toxic concentrations of H2S exist.
 - Working in areas where over 10 ppm on H2S has been detected.
 - At any time there is a doubt as the level of H2S in the area.
- All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.
- Facial hair and standard eyeglasses are not allowed with SCBA.
- Contact lenses are never allowed with SCBA.
- Air quality shall continuously be checked during the entire operation.
- After each use, the SCBA unit shall be cleaned, disinfected, serviced and inspected
- All SCBA shall be inspected monthly.

**Tascosa Energy Partners, LLC
Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility**

SEC 25, T20S, R26E, Eddy County, New Mexico

RESCUE AND FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE (H₂S) POISONING:

- Do not panic
- Remain Calm & think
- Get on the breathing apparatus
- Remove the victim to the safe breathing area as quickly as possible. Up wind an uphill from source or cross wind to achieve upwind.
- Notify emergency response personnel.
- Provide artificial respiration and or CPR, as necessary
- Remove all contaminated clothing to avoid further exposure.
- A minimum of two personnel on location shall be trained in CPR and First Aid.

Hydrogen Sulfide (H₂S) Toxic Effects

H₂S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% by volume. H₂S is approximately 20% heavier than air (Sp. Gr= 1.19)(Air = 1) and H₂S is colorless. It forms an explosive mixture with air between 4.3% and 46%. By volume hydrogen sulfide is almost as toxic as hydrogen cyanide and 5-6 times more toxic than carbon monoxide.

Various Gases

COMMON NAME	CHEMICAL ABBREV.	SPECIFIC GRVTY.	THRESHOLD LIMITS	HAZARDOUS LIMITS	LETHAL CONCENTRATIONS
Hydrogen Sulfide	H ₂ S	1.19	10ppm 15 ppm	100 ppm/hr	600 ppm
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO ₂	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL ₂	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	1.52	5000 ppm	5%	10%
Methane	CH ₄	0.55	90,000	Combustible@ 5%	N/A

Threshold Limit: Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.

Hazardous Limit: Concentrations that may cause death.

Lethal Concentrations: Concentrations that will cause death with short term exposure.

Threshold Limit- 10 ppm: NIOSH guide to chemical hazards.

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Catalina 25 30 State Com # 301H
Hydrogen Sulfide Contingency Plan
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SEC 25, T20S, R26E, Eddy County, New Mexico

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATION		PHYSICAL EFFECTS
.001%	10 PPM	Obvious and unpleasant odor. Safe for 8 hour exposure
.005%	50 ppm	Can cause some flu like symptoms and can cause pneumonia
.01%	100 ppm	Kills the sense of smell in 3-15 minutes. May irritate the eyes and throat.
.02%	200 ppm	Kills the sense of smell rapidly. Severely irritates the eyes and throat. Severe flu like symptoms after 4 or more hours. May cause lung damage and or death.
.06%	600 ppm	Loss of consciousness quickly, death will result if not rescued promptly.

Well name:

Catalina 2530 State Com # 301HOperator: **Tascosa Energy Partners, LLC**String type: **Surface Casing (500)**Location: **Eddy County, New Mexico. 1320 FNL & 250 FWL, Sec 25, T20S, R26E**BHL Planned: **400 FNL & 100 FEL, Sec 30, T20S, R27E****Design parameters:****Collapse**Mud weight: 9.00 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 79 °F
Temp gradient: 0.80 °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 = 310.00 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)

Non-directional string.

No backup mud specified.**Re subsequent strings:**Next setting depth: 3,000.00 ft
Next mud weight: 10.00 ppg
Next setting BHP: 1,482.00 psi
Fracture mud wt: 11.00 ppg
Safety Factor Injection 1.00 ppg
Fracture depth: 500.00 ft
Injection pressure 312.00 psi

Tension is based on buoyed wgt.

Neutral pt: 453.00 ft

**Maximum Lift using 14.8 ppg cmt to surface with 8.5 ppg mud filled csg=
23,014 lbs lift. String wgt = 24,600 lbs. Chain down casing prior to cmt job
for Safety.**

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)	Internal Capacity (bbls)
1	45	13.375	48.00	H-40	ST&C	500	500	12.59	440.9	78.54
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	234	740	3.16	312	1730	5.54	24	322	13.417	

Prepared

by: Richard Wright

Phone: (432) 695 6970

FAX: (432) 695 6973

Date: 01/30/22

Midland, Texas

Remarks:Collapse is based on a vertical depth of 500 ft, a mud weight of 9.0 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 2530 State Com # 301H**

Operator: **Tascosa Energy Partners, LLC**

String type: **Intermediate Casing (3,000)**

Location: **Eddy County, New Mexico. 1320 FNL & 250 FWL, Sec 25, T20S, R26E**

BHL Planned: **400 FNL & 100 FEL, 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 1.15

Environment:

H2S considered? No
Surface temperature: 75.00 °F
BH Temp 99 °F
Temp Gradient 0.80 °F/100ft
Minimum Sec Length 1500 ft
Minimum Drift: 8.75 in
Cement top: Surface

Burst

Max anticipated surface pressure: 1,902.00 psi

Internal gradient: 0.12 psi/ft
Calculated BHP 2,262.00 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.

Re subsequent strings:

Next setting depth: 12,818 ft MD
Next setting depth: 7,880 ft TVD
Next mud weight: 9.5 ppg
Next setting BHP: 3,893 psi
Fracture mud wt: 13.5 ppg
Safety Factor-Injection 1 ppg
Fracture depth: 3000 ft
Injection pressure 2,262 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)	ID Diameter (in)	Internal Capacity (bbls)
1	3000	9.625	36	J-55	LT&C	3000	3000	8.796	8.921	232

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	1482	2020	1.36	1902	3520	1.85	108	453	4.19 J

Prepared by: Richard Wright

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

Date: 01/30/22
Midland, Texas

Remarks:

Collapse is based on a vertical depth of 3,000 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 2530 State Com # 301HOperator: **Tascosa Energy Partners, LLC**String type: **Production Casing (± 17,742 ft MD) "FRAC"**Location: **Eddy County, New Mexico. 1320 FNL & 250 FWL, Sec 25, T20S, R26E**BHL Planned **400 FNL & 100 FEL, Sec 30, T20S, R27E****Design parameters:****Collapse**

Mud weight:

Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

DF 1.125

Burst:

DF 1.12

Environment:

H₂S considered? No
 Surface temperature: 75.00 °F
 Bottom hole temp: 138 °F
 Temperature gradient: 0.80 °F/100ft
 Minimum section lgth: 1,500 ft
 Minimum Drift: 4.653 in
 Cement top: Surface ft

Burst

Max anticipated surface

pressure FRAC @ RATE: 10,000.00 psi

Internal gradient: 0.434 psi/ft

Calculated BHP 13,368.00 psi

backup mud specified. 0.434 psi/ft

Net Injection Pressure Surface 10,000.00 psi

Net Injection Pressure TVD 4,956.00 psi

Annular surface PSI 0 psi

Frac Gradient 12.50 ppg

Frac Gradient 0.65 psi/ft

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

KOP #1 ± 1,500 ft

KOP #2 ± 6,986 ft

Departure at shoe: 10,250 ft

Maximum dogleg: 10 °/100ft

Inclination at shoe: 88.7 °

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

Neutral pt: **± 6,622 ft assumes no friction**

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 (bbls)
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1	17,742	5.5	20	CYP-110	TCBC-HT	7,760	17,742	4.653	4.778	394.0
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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	3,833	12200	3.18	10000	12360	1.236	454.8	667	1.5J

80% jt strgth over pull

Prepared
by: Richard Wright

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

Date: 01/30/22
Midland, Texas

Remarks:

Collapse is based on a vertical depth of 7,760 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

LONG's METHOD OF SURVEY COMPUTATION

OBLIQUE CIRCULAR ARC INTERPOLATION

	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)

DISTANCE TABLE

STATION A	STATION B
0.00	ft

3 D DISTANCE BETWEEN STATION A AND STATION B

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	1500.00	1500.00	0.00	0.00	-
2	100	3	328.78	1600.00	1599.95	2.24	-1.36	3.00
3	100	5.28	328.78	1700.00	1699.69	8.41	-5.10	2.28
4	100	5.28	328.78	1800.00	1799.26	16.28	-9.87	0.00
5	100	5.28	328.78	1900.00	1898.84	24.15	-14.64	0.00
6	100	5.28	328.78	2000.00	1998.41	32.02	-19.41	0.00
7	100	5.28	328.78	2100.00	2097.99	39.89	-24.18	0.00
8	100	5.28	328.78	2200.00	2197.57	47.76	-28.95	0.00
9	100	5.28	328.78	2300.00	2297.14	55.63	-33.72	0.00
10	100	5.28	328.78	2400.00	2396.72	63.50	-38.49	0.00
11	2686	5.28	328.78	5086.00	5071.32	274.88	-166.60	0.00
12	100	5.28	328.78	5186.00	5170.90	282.75	-171.37	0.00
13	100	5.28	328.78	5286.00	5270.47	290.62	-176.14	0.00
14	100	5.28	328.78	5386.00	5370.05	298.49	-180.91	0.00
15	100	5.28	328.78	5486.00	5469.62	306.36	-185.68	0.00
16	100	5.28	328.78	5586.00	5569.20	314.23	-190.45	0.00
17	100	5.28	328.78	5686.00	5668.77	322.10	-195.22	0.00
18	100	3	328.78	5786.00	5768.51	328.27	-198.96	2.28
19	100	0	0	5886.00	5868.46	330.51	-200.32	3.00
20	100	0	0	5986.00	5968.46	330.51	-200.32	0.00
21	1000	0	0	6986.00	6968.46	330.51	-200.32	0.00
22	100	10	86.756	7086.00	7067.95	331.00	-191.63	10.00
23	100	20	86.756	7186.00	7164.42	332.46	-165.82	10.00
24	100	30	86.756	7286.00	7254.94	334.85	-123.68	10.00
25	100	40	86.756	7386.00	7336.75	338.09	-66.49	10.00
26	100	50	86.756	7486.00	7407.37	342.09	4.02	10.00
27	100	60	86.756	7586.00	7464.66	346.72	85.70	10.00
28	100	70	86.756	7686.00	7506.86	351.84	176.07	10.00
29	100	80	86.756	7786.00	7532.71	357.30	272.39	10.00
30	80	88.73	86.756	7866.00	7540.56	361.80	351.79	10.91
31	100	88.73	86.756	7966.00	7542.78	367.46	451.61	0.00
32	9700	88.73	86.756	17666.00	7757.77	916.23	10133.69	0.00
33	76	88.73	86.756	17742.00	7759.45	920.53	10209.55	0.00

API #

Operator Name:	Property Name:	Well Number
----------------	----------------	-------------

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well an infill well? ☐

API #

Operator Name:	Property Name:	Well Number:
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[illegible]



Catalina 25 30 State Com #301H – Natural Gas Management Plan

VI. Separation Equipment:

Tascosa has sized a FWKO and a high pressure, 3-phase separator to allow for complete separation at our anticipated rates, with adequate retention times. Tank vapors will also be captured through a vapor recovery unit and sent to the Enterprise sales line through a compressor on location.

VII. Operational Practices:

- a. Drilling Operations – Tascosa will ensure that a flare stack is set at least 100' from the wellbore during drilling operations. This flare stack will be properly sized to handle the maximum expected release, ensuring that all natural gas produced during drilling operations can be flared (unless there is an equipment malfunction or if venting is necessary for safety reasons).
- b. Completion Operations – Prior to flowback, Tascosa will ensure that the well is connected to a gathering system that can handle the expected gas volumes. During flowback, natural gas will be separated and flared until it is within the specs of the contracted gathering system (Enterprise).
- c. Production Operations – Tascosa will conduct weekly AVO inspections and tackle equipment failures with haste. The emergency flare on location will be equipped with an auto-ignition, capable of handling the maximum expected release. Sight glasses will be installed on all tanks to eliminate gas releases due to gauging through thief hatches. A VRU will also be installed to capture tank vapors and reduce waste. In preparation of a VRU failure or planned maintenance, a backup combustor will be placed at the facility.
- d. Performance Standards –
 - a. Tascosa will design completion and production equipment for maximum expected output and pressure to eliminate venting.
 - b. A properly sized flare stack will be placed at the facility with an automatic ignitor.
 - c. AVO inspections will be conducted at least once a week to prevent releases due to equipment failure. These inspections will be recorded for future review.
 - d. Tascosa is obligated to eliminate waste and will repair equipment failures as soon as possible.
- e. Measurement and Estimation – A meter will be placed on the combustor and the flare stack to ensure combusted gas readings are accurate during a release event. If for any reason a meter reading is unavailable, released volumes will be estimated and reported.



VIII. Best Management Practices:

Tascosa will aim to conduct surface maintenance without venting or flaring as much as possible. If planned maintenance is prolonged due to wait times for labor and equipment, Tascosa will shut in the producing well to prevent excess emissions. Tascosa will also minimized venting during downhole operations.

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

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Tascosa Energy Partners, LLC. **OGRID:** 329748 **Date:** 06/ 21 /2022

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Catalina 25 30 St Com #301H		E-25-20S-26E	1320 FNL,250 FWL	1400	5700	2000
Catalina 25 30 St Com #202H		E-25-20S-26E	1350 FNL,250 FWL	1200	4900	1600

IV. Central Delivery Point Name: Tascosa Section 30 [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Catalina 25 30 St Com #301H		9/1/2022	9/30/22	11/15/2022	12/1/2022	12/1/2022
Catalina 25 30 St Com #202H		9/2/2022	10/31/22	11/15/2022	12/1/2022	12/1/2022

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: <i>Alyssa McNear</i>
Printed Name: Alyssa McNear
Title: Engineering Manger
E-mail Address: adavanzo@tascosaep.com
Date: 06/21/2022
Phone: 720-244-4417
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval: