Form 3160-3
(June 2015)

OCD – HOBBS
09/14/2020
RECEIVED

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.
NMNM086172

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.
DESERT ROSE 17-8 FEDERAL
[317383]
12H

2. Name of Operator
CAZA OPERATING LLC [249099]

9. API Well No.
30-025-47760

3a. Address
200 N. Loraine Street, Suite 1550, Midland , TX 79701

3b. Phone No. *(include area code)*
(432) 682-7424

10. Field and Pool, or Exploratory [24250]
WC-025 G-08 S203506D/1ST BONE SPR

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SESW / 190 FSL / 1960 FWL / LAT 32.5664366 / LONG -103.4816668
At proposed prod. zone NESW / 2622 FSL / 1750 FWL / LAT 32.5876507 / LONG -103.4823547

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 17/T20S/R35E/NMP

14. Distance in miles and direction from nearest town or post office*
26 miles

12. County or Parish
LEA

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
190 feet

16. No of acres in lease
360

17. Spacing Unit dedicated to this well
240.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1320 feet

19. Proposed Depth
9701 feet / 17490 feet

20. BLM/BIA Bond No. in file
FED: NMB000471

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3693 feet

22. Approximate date work will start*
05/27/2020

23. Estimated duration
30 days

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
(Electronic Submission)	TONY SAM / Ph: (432) 682-7424	11/22/2019

Title
VP Operations

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	07/29/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field 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.

GCP Rec 09/14/2020

SL

APPROVED WITH CONDITIONS

KZ
10/05/2020

Approval Date: 07/29/2020

(Continued on page 2)

*(Instructions on page 2)

APD ID: 10400050940 **Submission Date:** 11/22/2019

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400050940 **Tie to previous NOS?** N **Submission Date:** 11/22/2019

BLM Office: CARLSBAD **User:** Tony B Sam **Title:** VP Operations

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM086172 **Lease Acres:** 360

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO **APD Operator:** CAZA OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: CAZA OPERATING LLC

Operator Address: 200 N. Loraine Street, Suite 1550

Zip: 79701

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)682-7424

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-08 S203506D **Pool Name:** 1ST BONE SPRING

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Desert Rose 17-8 Federal **Number:** 11H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: 26 Miles **Distance to nearest well:** 1320 FT **Distance to lease line:** 190 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: Desert_Rose_17_8_Federal_12H___C_102_signed_20191113083250.pdf

Well work start Date: 05/27/2020 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: R4032-002B **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	190	FSL	1960	FWL	20S	35E	17	Aliquot SESW	32.5664366	-103.4816668	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 086172	3693	0	0	Y
KOP Leg #1	100	FSL	1750	FWL	20S	35E	17	Aliquot SESW	32.5661899	-103.4823486	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 086172	-6108	10110	9801	Y
PPP Leg #1-1	100	FSL	1750	FWL	20S	35E	17	Aliquot SESW	32.5661899	-103.4823486	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 086172	-6108	10110	9801	Y

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	0	FSL	1750	FWL	20S	35E	8	Aliquot SESW	32.580432	-103.482354	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 137464	-6044	14863	9737	Y
PPP Leg #1-3	1320	FSL	1750	FWL	20S	35E	8	Aliquot NESW	32.58406	-103.482355	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0004786	-6026	16183	9719	Y
EXIT Leg #1	2562	FSL	1750	FWL	20S	35E	8	Aliquot NESW	32.5874858	-103.4823548	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0004786	-6012	17430	9705	Y
BHL Leg #1	2622	FSL	1750	FWL	20S	35E	8	Aliquot NESW	32.5876507	-103.4823547	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0004786	-6008	17490	9701	Y

APD ID: 10400050940 **Submission Date:** 11/22/2019

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
586849	---	3715	0	0	ALLUVIUM	NONE	N
586850	RUSTLER	1787	1928	1928	DOLOMITE, LIMESTONE, SILTSTONE	USEABLE WATER	N
586851	TOP SALT	1442	2273	2273	SALT	NONE	N
586852	BASE OF SALT	112	3603	3603	SALT	NONE	N
706566	TANSILL	42	3673	3673	DOLOMITE	NONE	N
706567	YATES	-110	3825	3825	DOLOMITE, LIMESTONE, SILTSTONE	NONE	N
706568	SEVEN RIVERS	-310	4025	4025	DOLOMITE, LIMESTONE	NONE	N
586853	CAPITAN REEF	-428	4143	4143	LIMESTONE	USEABLE WATER	N
586854	DELAWARE	-1948	5663	5663	CONGLOMERATE, LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
586855	BONE SPRING	-4743	8458	8467	DOLOMITE, LIMESTONE, SANDSTONE	NONE	N
706569	BONE SPRING LIME	-4747	8462	8474	LIMESTONE	NONE	N
586856	BONE SPRING 1ST	-6018	9733	9838	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 15000

Equipment: Rotating head with a rating of 500psi will be used. A remote kill line and gas buster will be used

Requesting Variance? YES

Variance request: Variance is requested for the use of a coflex hose for the choke line to from the BOP to the choke manifold. A variance is requested to use 1502(15,000psi working pressure) hammer unions downstream of the Choke Manifold used to connect the mud/gas separator and panic line. See choke manifold diagram
Testing Procedure: Minimum Working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 inch casing shoe shall be 5000 (5M) psi. 5M 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. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests. 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 pug. BOP/BOPE testing can begin after cut-off or once cement reaches 500PSI 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). 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 (18 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). a. The results of the test shall be reported to the appropriate BLM office. b. 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. c. 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.

Choke Diagram Attachment:

Desert_Rose_17_8_Federal_12H___Coflex_Hyd_Test_Cert_20191113092520.pdf

Desert_Rose_17_8_Federal_12H___Coflex_Hose_Test_Chart_20191113092520.pdf

Desert_Rose_17_8_Federal_12H___Choke_Schematic_20191113092535.pdf

BOP Diagram Attachment:

Desert_Rose_17_8_Federal_12H___5M_BOP_Schematic_20191113092529.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	CONDUCTOR	26	20.0	NEW	API	N	0	120	0	120	3693	3573	120	H-40	94	SLIM LINE HIGH PERFORMANCE						
2	SURFACE	17.5	13.375	NEW	API	N	0	2150	0	2150	3693	1543	2150	J-55	54.5	ST&C	1.14	1.62	DRY	4.39	DRY	4.39
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5616	0	5616	3693	-1923	5616	HCL-80	47	BUTT	1.45	1.13	DRY	4.08	DRY	4.08
4	PRODUCTION	8.75	5.5	NEW	API	N	0	17490	0	9801	3693	-6108	17490	P-110	20	BUTT	2.18	2.48	DRY	3.27	DRY	3.27

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Casing Attachments

Casing ID: 1 **String Type:** CONDUCTOR

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing ID: 2 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Desert_Rose_17_8_Federal_12H___Casing_and_Cement_Design_20191113094406.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Desert_Rose_17_8_Federal_12H___Casing_and_Cement_Design_20191113094427.pdf

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Desert_Rose_17_8_Federal_12H___Casing_and_Cement_Design_20191113094500.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
CONDUCTOR	Lead		0	120	135	1.35	14.8	140	5	Class C	CaCl2
SURFACE	Lead		0	1850	1335	1.93	13.5	2576	100	Class C	4% bwoc Bentonite II + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.005% bwoc Static Free + 0.005 gps FP- 6L
SURFACE	Tail		1850	2150	309	1.35	14.8	417	100	Class C	CaCl2
INTERMEDIATE	Lead	3900	0	3800	1150	2.13	12.6	2449	100	Class C	(35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM- 1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
INTERMEDIATE	Tail		3800	3900	150	1.35	14.8	202	100	Class C	CaCl2

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead	3900	3900	5116	360	2.13	12.6	767	100	Class C	(35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM- 1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
INTERMEDIATE	Tail		5116	5616	232	1.35	14.8	313	100	Class C	CaCl2
PRODUCTION	Lead		0	9200	2050	2.38	11.6	4879	100	Class H	(50:50) + Poz (Fly Ash) + 10% bwoc Bentonite II + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 0.005 lbs/sack Static Free + 0.005 gps FP-6L
PRODUCTION	Tail		9200	17490	2505	1.62	13.2	4058	100	Class H	(15:61:11) Poz (Fly Ash):Class H Cement:CSE-2 + 4% Sodium Chloride + 3 lbs/sack LCM-1 + 0.6% bwoc FL-25 + FP-6L + 0.005% bwoc Static Free

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud will be on location to control any abnormal conditions encountered. Such as but not limited to a kick, lost circulation and hole sloughing

Describe the mud monitoring system utilized: A Pason PVT system will be rigged up prior to spudding the well. A volume monitoring system that measures, calculates, and displays readings from the mud system on the rig to alert the rig crew of impending gas kicks and lost circulation issues. Components a) PVT Pit Bull monitor: Acts as the heart of the system, containing all the controls, switches, and alarms. Typically, it is mounted near the driller's console. b) Junction box: Provides a safe, convenient place for making the wiring connections. c) Mud probes: Measure the volume of drilling fluid in each

individual tank. d) Flow sensor: Measures the relative amount of mud flowing in the return line

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	2150	SPUD MUD	8.4	8.9	62	0.1	9.5	2	0	0	
2150	5616	SALT SATURATED	9.2	10	75	0.1	9.5	2	150000	0	
5616	9801	OIL-BASED MUD	9.2	10	75	0.4	9.5	6	135000	18	

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

No production tests

List of open and cased hole logs run in the well:

GAMMA RAY LOG,DIRECTIONAL SURVEY,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No coring

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5091 **Anticipated Surface Pressure:** 2934

Anticipated Bottom Hole Temperature(F): 155

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Desert_Rose_17_8_Federal_12H___H2S_Plan_20191113094634.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Desert_Rose_17_8_Federal_12H___Directional_Plot_20191113094653.pdf

Desert_Rose_17_8_Federal_12H___Directional_Plans_20191113094654.pdf

Other proposed operations facets description:

Closed Loop Docs
Mutlibowl wellhead
Gas Capture Plan

Other proposed operations facets attachment:

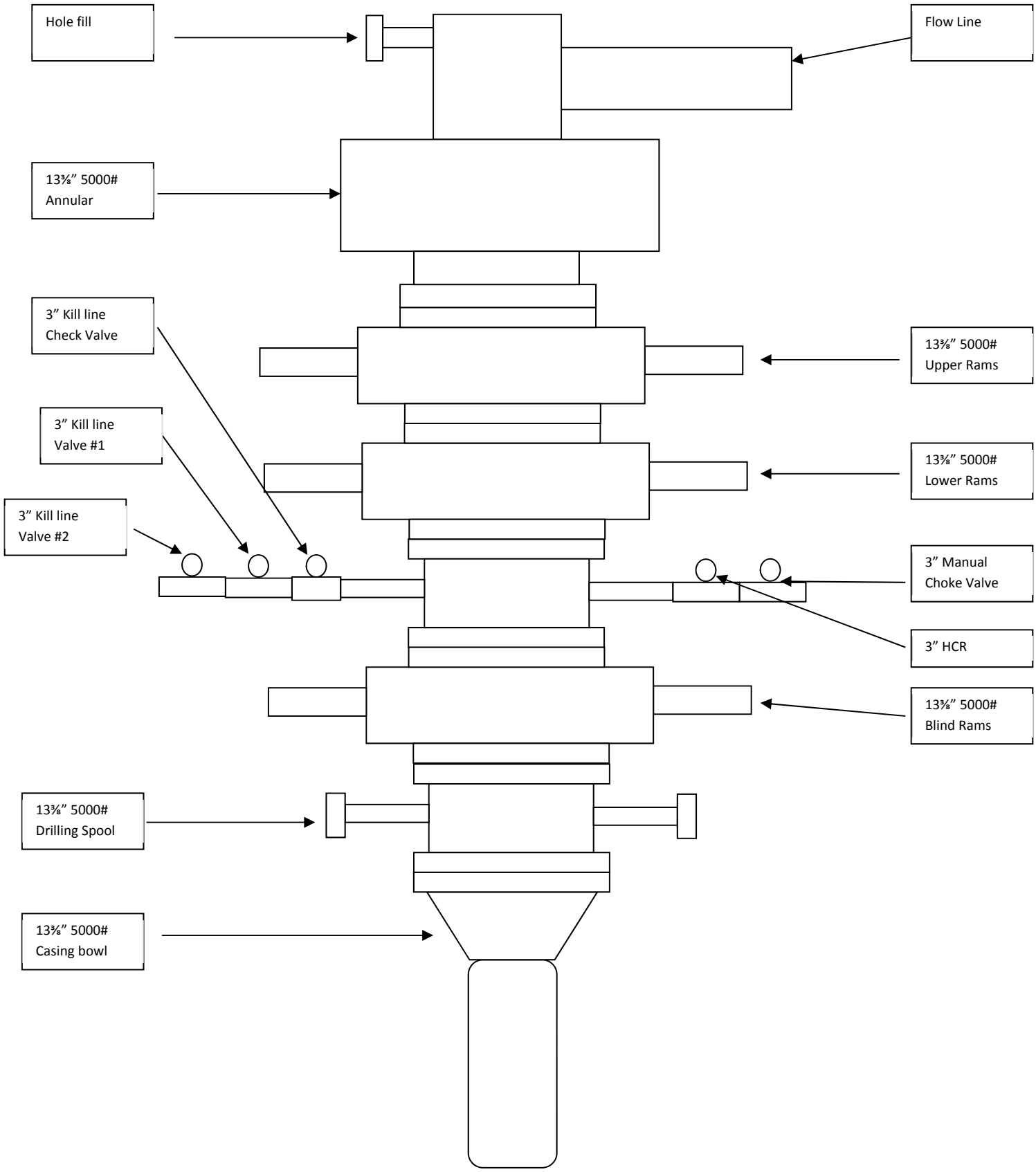
Desert_Rose_17_8_Federal_12H___Closed_Loop_Diagram_Design_Plan_20191113094730.pdf

Desert_Rose_17_8_Federal_12H___Gas_Capture_Plan_20191113094730.pdf

Desert_Rose_17_8_Federal_12H___Closed_Loop_Design_Operating_and_Closure_Plan_20191113094730.pdf

Other Variance attachment:

Desert_Rose_17_8_Federal_12H___Multibowl_Wellhead_20191113094710.pdf


Hole fill
Flow Line
13⅝" 5000#
Annular
3" Kill line
Check Valve
13⅝" 5000#
Upper Rams
3" Kill line
Valve #1
13⅝" 5000#
Lower Rams
3" Kill line
Valve #2
3" Manual
Choke Valve
3" HCR
13⅝" 5000#
Blind Rams
13⅝" 5000#
Drilling Spool
13⅝" 5000#
Casing bowl

Caza Oil and Gas, Inc

H2S Drilling Operations Plan

Prepared by: Steve Morris

Table of Contents

H2S Contingency Plan Section

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release, of following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H2S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H2S into the atmosphere.

Provide proper evacuation procedures to cope with emergencies.

Provide immediate and adequate medical attention should an injury occur.

Implementation: This plan, with all details, is to be fully implemented 1000’ before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000’ before drilling into the first sour zone.

Emergency Call Lists: Included are the telephone numbers of all persons that would need to be contacted, should an H2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public safety personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

Emergency Procedures Section

Emergency Procedures

I. **In the event of any evidence of H2S level above 10 ppm, take the following steps immediately:**
   A. Secure breathing apparatus.
   B. Order non-essential personnel out of the danger zone.
   C. Take steps to determine if the H2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. **If uncontrollable conditions occur, proceed with the following:**
   A. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel and the New Mexico Oil & Gas of the situation.
   B. Remove all personnel to the safe briefing area.
   C. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation.
   D. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. **Responsibility:**
   A. The company approved supervisor shall be responsible for the total implementation of the plan.
   B. The company approved supervisor shall be in complete command during any emergency.
   C. The company approved supervisor shall designate a backup supervisor in the event that he/she is not available.

Emergency Procedure Implementation

I. **Drilling or Tripping:**
   A. All Personnel
      1. When alarm sounds, don escape unit and report to upwind safe briefing area.
      2. Check status of other personnel (buddy system).
      3. Secure breathing apparatus.
      4. Wait for orders from supervisor.
   B. Drilling Foreman
      1. Report to the upwind safe briefing area.
      2. Don breathing apparatus and return to the point of release with the Tool pusher of Driller (buddy system).
      3. Determine the concentration of H2S.
      4. Address the situation and take appropriate control measures.
   C. Tool Pusher
      1. Report to the upwind safe briefing area.
      2. Don breathing apparatus and return to the point of release with the Drilling Foreman or the Driller (buddy system).

3. Determine the concentration.
4. Address the situation and take appropriate control measures.

D. Driller
   1. Check the status of other personnel (in a rescue attempt, always use the buddy system).
   2. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.
   3. Assume the responsibility of the Drilling Foreman and the Tool Pusher until they arrive, in the event of their absence.

E. Derrick Man and Floor Hands
   1. Remain in the upwind safe briefing area until otherwise instructed by a supervisor.

F. Mud Engineer
   1. Report to the upwind safe briefing area.
   2. When instructed, begin check of mud for PH level and H2S level.

G. Safety Personnel
   1. Don breathing apparatus.
   2. Check the status of all personnel.
   3. Wait for instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick:

A. All personnel report to the upwind safe briefing area.
B. Follow standard BOP procedures.

III. Open Hole Logging:

A. All unnecessary personnel should leave the rig floor.
B. Drilling Foreman and Safety personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging:

A. Follow “Drilling or Tripping” procedures.
B. Assure that all personnel have access to protective equipment.

Simulated Blowout Control Drills

All drills will be initiated by activating alarm devices (air horn). One long blast on the air horn for ACTUAL and SIMULATED blowout control drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

Drill #1	On-bottom Drilling
Drill #2	Tripping Drill Pipe

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire put drill assignment. The times must be recorded on the IADC Driller’s log as “Blowout Control Drill”.

Drill No.:		
Reaction Time to Shut-in:	minutes,	seconds.
Total Time to Complete Assignment:	minutes,	seconds.

I. Drill Overviews:
   A. Drill No. 1 – On-bottom Drilling
      1. Sound the alarm immediately.
      2. Stop the rotary and hoist the Kelly joint above the rotary table.
      3. Stop the circulatory pump.
      4. Close the drill pipe rams.
      5. Record casing and drill pipe shut-in pressures and pit volume increases.
   B. Drill No. 2 – Tripping Drill Pipe:
      1. Sound the alarm immediately.
      2. Position the upper tool joint just above the rotary table and set the slips.
      3. Install a full opening valve inside blowout preventer tool in order to close the drill pipe.
      4. Close the drill pipe rams.
      5. Record the shut-in annular pressure.

II. Crew Assignments
   A. Drill No. 1 – On-bottom Drilling:
      1. Driller
         a) Stop the rotary and hoist the Kelly joint above the rotary table.
         b) Stop the circulatory pump.
         c) Check flow.
         d) If flowing, sound the alarm immediately.
         e) Record the shut-in drill pipe pressure.
         f) Determine the mud weight increase needed or other courses of action.
      2. Derrick Man
         a) Open choke line valve at BOP.
         b) Signal Floor Man #1 at accumulator that choke line is open.
         c) Close choke upstream valve after pipe rams have been closed.
         d) Read the shut-in annular pressure and report readings to Driller.
      3. Floor Man #1
         a) Close the pipe rams after receiving the signal from the Derrick Man.
         b) Report to Driller for further instructions.
      4. Floor Man #2
         a) Notify the Tool Pusher and Operator Representative of the H2S alarms.
         b) Check for open fires and, if safe to do so, extinguish them.
         c) Stop all welding operations.
         d) Turn-off all non-explosive proof lights and instruments.

e) Report to Driller for further instructions.

5. Tool Pusher
   a) Report to the rig floor.
   b) Have a meeting with all crews.
   c) Compile and summarize all information.
   d) Calculate the proper kill weight.
   e) Ensure that proper well procedures are put into action.
6. Operator Representative
   a) Notify the Drilling Superintendent.
   b) Determine if an emergency exists and if so, activate the contingency plan.

B. Drill No. 2 – Tripping Pipe:
1. Driller
   a) Sound the alarm immediately when mud volume increase has been detected.
   b) Position the upper tool joint just above the rotary table and set slips.
   c) Install a full opening valve or inside blowout preventer tool to close the drill pipe.
   d) Check flow.
   e) Record all data reported by the crew.
   f) Determine the course of action.
2. Derrick Man
   a) Come down out of derrick.
   b) Notify Tool Pusher and Operator Representative.
   c) Check for open fires and, if safe to do so, extinguish them.
   d) Stop all welding operations.
   e) Report to Driller for further instructions.

3. Floor Man #1
   a) Pick up full opening valve or inside blowout preventer tool and slab into tool join above rotary table (with Floor Man #2)
   b) Tighten valve with back-up tongs.
   c) Close pipe rams after signal from Floor Man #2.
   d) Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.
   e) Report to Driller for further instructions.
4. Floor Man #2
   a) Pick-up full opening valve or inside blowout preventer tool and tab into tool joint above rotary table (with Floor Man #1)
   b) Position back-up tongs on drill pipe.
   c) Open choke line valve at BOP.
   d) Signal Floor Man #1 at accumulator that choke line is open.
   e) Close choke and upstream valve after pipe rams have been closed.
   f) Check for leaks on BOP stack and choke manifold.

g) Read annular pressure.
h) Report readings to the Driller.

5. Tool Pusher
   a) Report to the rig floor.
   b) Have a meeting with all of the crews.
   c) Compile and summarize all information.
   d) See that proper well kill procedures are put into action.
6. Operator Representative
   a) Notify Drilling Superintendent.
   b) Determine if an emergency exists, and if so, activate the contingency plan

Ignition Procedures

Responsibility:

The decision to ignite the well is responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. In the event of the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Foreman is responsible for igniting the well.
2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.
3. Ignite from upwind and do not approach any closer than is warranted.
4. Select the ignition site best suited for protection and which offers an easy escape route.
5. Before igniting, check for the presence of combustible gases.
6. After igniting, continue emergency actions and procedures as before.
7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

NOTE: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Do not assume the area is safe after the well is ignited.

Training Program

When working in an area where Hydrogen Sulfide (H2S) might be encountered, definite training requirements for all personnel must be carried out. The Company Supervisor will ensure that all personnel at the well site have had adequate training in the following:

1. Hazards and Characteristics of Hydrogen Sulfide.
2. Physicals effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H2S detection, emergency alarm and sensor location.
5. Emergency rescue.
6. Resuscitators.
7. First aid and artificial resuscitation.
8. The effects of Hydrogen Sulfide on metals.
9. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

Emergency Equipment Requirements

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION- POTENTIAL POISON GAS HYDROGEN SULFIDE

Well Control Equipment:

- A flare line will be located a minimum of 150' from the wellhead to be ignited by a flare gun.
- The choke manifold will include a remotely operated choke.
- A mud/gas separator will be installed to separate gas from the drilling mud.

Mud Program:

The drilling mud program has been designed to minimize the volume of hydrogen sulfide (H2S) circulated to surface. The operator will have the necessary mud products on location to minimize the hazards while drilling in H2S-bearing zones.

Metallurgy:

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

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following: Two SCBA's will be placed at each briefing area. A moveable breathing air trailer with 2 SCBA's, 5 work/escape units, ample breathing air hose and manifolds will be on location. The breathing air hose will be installed on the rig floor and derrick along with breathing air manifolds so that it will not restrict work activity. All employees that may wear respiratory will complete a MEQ and be quantitative fit tested 1000' prior to the 1st zone that may contain H2S.

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location. More will be used if necessary for wind consciousness.
- Wind streamers (if preferred) should be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H2S monitor with audible and visual alarms, strategically located to be seen and heard by all employees working on the well site. All sensors will be bump tested or calibrated if necessary on a weekly basis. The alarms will be set to visually alarm at 10 PPM and audible at 14 PPM.
- Four (4) sensors located as follows: #1 -Rig Floor, #2 & #3- Bell Nipple, #4- End of flow line where wellbore fluid is discharged.
- Portable color metric tube detector with tubes will be stored in the Tool Pusher trailer.

Well Condition Sign and Flags:

The Well Condition Sign with flags should be placed a minimum of 150' before entry to the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN - Normal Operating Conditions

YELLOW - Potential Danger

RED - Danger, H2S Gas Present

Auxiliary Rescue Equipment:

- Stretcher (drilling contractor)
- 2- 100' OSHA approved Rescue lines (drilling contractor)
- First Aid Kit properly stocked (drilling contractor)

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations (provided by drilling contractor)

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated BHP.
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (02, LEL & H2S). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided. (Supplied by Drilling Contractor)

Communication Equipment:

- Proper communication equipment such as cell phones or 2 -way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.
- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.
- BOP, Choke Manifold and Process Flow Diagrams (see the attached - previously submitted)
- Patriot Rig #5 SM Choke Manifold Equipment (see the attached - previously submitted)

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two safe briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.
- Personal protective equipment should be stored at both briefing areas or if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

NOTES:

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- Additional personal H2S monitors are available for all employees on location.
- Automatic Flare Igniters are recommended for installation on the rig.

CHECK LISTS

Status Check List

Note: Date each item as they are implemented.

1. Sign at location entrance.
2. Two (2) wind socks (in required locations).
3. Wind Streamers (if required).
4. SCBA's on location for all rig personnel and mud loggers.
5. Air packs, inspected and ready for use.
6. Spare bottles for each air pack (if required).
7. Cascade system for refilling air bottles.
8. Cascade system and hose line hook up.
9. Choke manifold hooked-up and tested. (Before drilling out surface casing.)
10. Remote Hydraulic BOP control (hooked-up and tested before drilling out surface casing).
11. BOP tested (before drilling out surface casing).
12. Mud engineer on location with equipment to test mud for H2S.
13. Safe Briefing Areas set-up.
14. Well Condition sign and flags on location and ready.
15. Hydrogen Sulfide detection system hooked-up & tested.
16. Hydrogen Sulfide alarm system hooked-up & tested.
17. Stretcher on location at Safe Briefing Area.
18. 2-100' OSHA Approved Life Lines on location.
19. 1-20# Fire Extinguisher in safety trailer.
20. Confined Space Monitor on location and tested.
21. All rig crews and supervisor trained (as required).
22. Access restricted for unauthorized personnel.
23. Drills on H2S and well control procedures.
24. All outside service contractors advised of potential H2S on the well.
25. NO SMOKING sign posted.
26. H2S Detector Pump w/tubes on location.
27. 25mm Flare Gun on location w/flares.
28. Automatic Flare Igniter installed on rig.

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to insure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all of the Hydrogen Sulfide detection systems are operative.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened and the mask assembly be put on and tested to make sure that the regulators and

masks are properly working. Negative and positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready to use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability:
    - Stretcher
    - Safety Belts and ropes.
    - Spare air bottles.
    - Spare oxygen bottles (if resuscitator required).
    - Gas Detector Pump and tubes.
    - Emergency telephone lists.
9. Test the Confined Space Monitor to verify the batteries are good and that the unit is in good working condition and has been properly calibrated according to manufacturer's recommendations.

Briefing Procedures

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance: Drilling Supervisor
Drilling Engineer
Drilling Foreman
Rig Tool Pushers
Mud Engineer
All Safety Personnel
Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to ensure complete understanding of assignments and responsibilities.

Evacuation Plan

General Plan

The direct lines of action prepared by Caza SAFETY, to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foremen, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the Area Map.
2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation needs to be implemented.
3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.
4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" safety personnel will determine when the area is safe for re-entry.

Emergency Assistance Telephone List

PUBLIC SAFETY: 911 or

Lea County Sheriff or Police..... (575) 396-3611

Fire Department .....(575) 397-9308

Hospital ..... (575) 492-5000

Ambulance 911

Department of Public Safety..... (392) 392-5588

Oil Conservation Division .....(575) 748-1823

New Mexico Energy, Minerals & Natural Resources Department .....(575) 748-1283

Caza Oil and Gas, Inc:

Office .....(423) 682-7424

VP Operations: Tony Sam

Office .....(423) 682-7424

Cell .....(432) 556-6708

The geologic zones that will be encountered during drilling may contain hazardous quantities of H2S. The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, and conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:

Residents: THERE ARE NO RESIDENTS WITHIN 3000' ROE.

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate laterally toward the wind direction.

Caza Oil and Gas, Inc. will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

MAPS AND PLATS

See the attached map showing the 3000' ROE clarification.

Project: Desert Rose 17-8 Federal 12H
Site: Desert Rose 17-8 Federal 12H
Well: Desert Rose 17-8 Federal 12H
Wellbore: Desert Rose 17-8 Federal 12H
Design: 191113 Desert Rose 17-8 Federal 12H

Caza Petroleum

Azimuths to Grid North
True North: -0.46°
Magnetic North: 6.06°

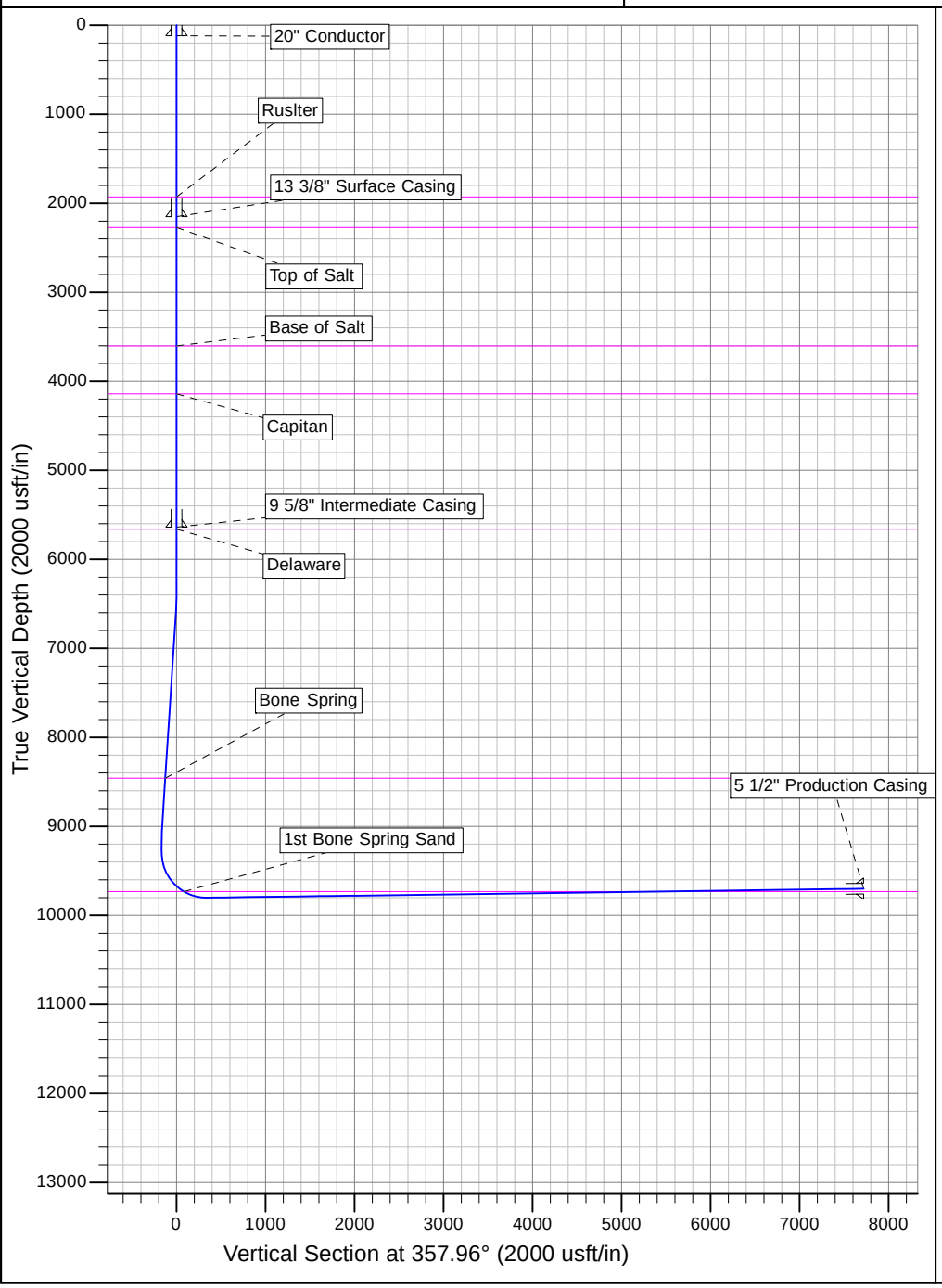
Magnetic Field
Strength: 47985.7snT
Dip Angle: 60.30°
Date: 11/13/2019
Model: IGRF2010

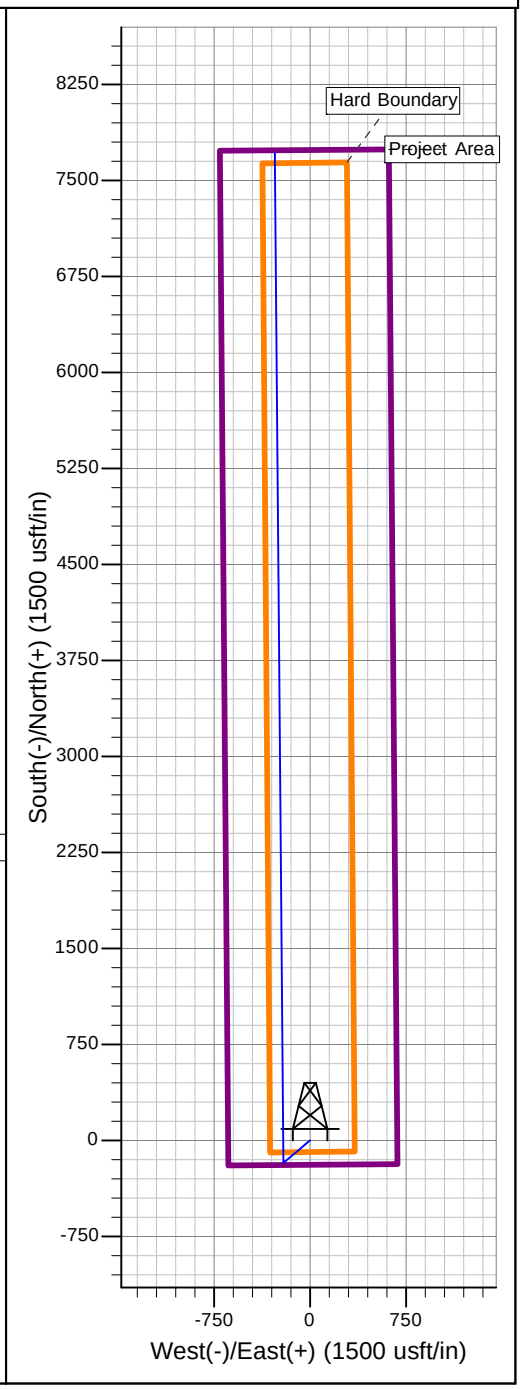
CASING DETAILS

TVD	MD	Name	Size
120.0	120.0	20" Conductor	20
2150.0	2150.0	13 3/8" Surface Casing	13-3/8
5638.0	5638.0	9 5/8" Intermediate Casing	9-5/8
9701.9	17490.0	5 1/2" Production Casing	5-1/2

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
1928.0	1928.0	Ruslter	0.00	
2273.0	2273.0	Top of Salt	0.00	
3603.0	3603.0	Base of Salt	0.00	
4143.0	4143.0	Capitan	0.00	
5663.0	5663.0	Delaware	0.00	
8458.0	8468.6	Bone Spring	0.00	
9733.0	9837.9	1st Bone Spring Sand	0.00	





Caza Operating LLC

Desert Rose 17-8 Federal 12H
Desert Rose 17-8 Federal 12H
Desert Rose 17-8 Federal 12H
Desert Rose 17-8 Federal 12H

Plan: 191113 Desert Rose 17-8 Federal 12H

Morcor Standard Plan

13 November, 2019

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Project Desert Rose 17-8 Federal 12H

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

Site Desert Rose 17-8 Federal 12H

Site Position:		**Northing:**	570,850.04 usft	**Latitude:**	32° 33' 59.172 N
From:	Map	**Easting:**	803,712.09 usft	**Longitude:**	103° 28' 54.001 W
Position Uncertainty:	1.0 usft	**Slot Radius:**	17-1/2 "	**Grid Convergence:**	0.46 °

Well Desert Rose 17-8 Federal 12H

Well Position	**+N/-S**	0.0 usft	**Northing:**	570,850.04 usft	**Latitude:**	32° 33' 59.172 N
	+E/-W	0.0 usft	**Easting:**	803,712.09 usft	**Longitude:**	103° 28' 54.001 W
Position Uncertainty		1.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,693.0 usft

Wellbore Desert Rose 17-8 Federal 12H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/13/2019	6.52	60.30	47,986

Design 191113 Desert Rose 17-8 Federal 12H

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	357.96

Survey Tool Program **Date** 11/13/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,490.0	191113 Desert Rose 17-8 Federal 12H (De	MWD	MWD - Standard

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
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Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	-3,715.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
100.0	0.00	0.00	100.0	-3,615.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
120.0	0.00	0.00	120.0	-3,595.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
20" Conductor										
200.0	0.00	0.00	200.0	-3,515.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
300.0	0.00	0.00	300.0	-3,415.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
400.0	0.00	0.00	400.0	-3,315.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
500.0	0.00	0.00	500.0	-3,215.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
600.0	0.00	0.00	600.0	-3,115.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
700.0	0.00	0.00	700.0	-3,015.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
800.0	0.00	0.00	800.0	-2,915.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
900.0	0.00	0.00	900.0	-2,815.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,000.0	0.00	0.00	1,000.0	-2,715.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,100.0	0.00	0.00	1,100.0	-2,615.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,200.0	0.00	0.00	1,200.0	-2,515.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,300.0	0.00	0.00	1,300.0	-2,415.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,400.0	0.00	0.00	1,400.0	-2,315.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,500.0	0.00	0.00	1,500.0	-2,215.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,600.0	0.00	0.00	1,600.0	-2,115.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,700.0	0.00	0.00	1,700.0	-2,015.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,800.0	0.00	0.00	1,800.0	-1,915.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,900.0	0.00	0.00	1,900.0	-1,815.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
1,928.0	0.00	0.00	1,928.0	-1,787.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
Rustler										
2,000.0	0.00	0.00	2,000.0	-1,715.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,100.0	0.00	0.00	2,100.0	-1,615.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,150.0	0.00	0.00	2,150.0	-1,565.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
13 3/8" Surface Casing										

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
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Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
2,200.0	0.00	0.00	2,200.0	-1,515.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,273.0	0.00	0.00	2,273.0	-1,442.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
Top of Salt										
2,300.0	0.00	0.00	2,300.0	-1,415.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,400.0	0.00	0.00	2,400.0	-1,315.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,500.0	0.00	0.00	2,500.0	-1,215.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,600.0	0.00	0.00	2,600.0	-1,115.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,700.0	0.00	0.00	2,700.0	-1,015.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,800.0	0.00	0.00	2,800.0	-915.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
2,900.0	0.00	0.00	2,900.0	-815.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,000.0	0.00	0.00	3,000.0	-715.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,100.0	0.00	0.00	3,100.0	-615.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,200.0	0.00	0.00	3,200.0	-515.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,300.0	0.00	0.00	3,300.0	-415.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,400.0	0.00	0.00	3,400.0	-315.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,500.0	0.00	0.00	3,500.0	-215.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,600.0	0.00	0.00	3,600.0	-115.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,603.0	0.00	0.00	3,603.0	-112.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
Base of Salt										
3,700.0	0.00	0.00	3,700.0	-15.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,800.0	0.00	0.00	3,800.0	85.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
3,900.0	0.00	0.00	3,900.0	185.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,000.0	0.00	0.00	4,000.0	285.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,100.0	0.00	0.00	4,100.0	385.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,143.0	0.00	0.00	4,143.0	428.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
Capitan										
4,200.0	0.00	0.00	4,200.0	485.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,300.0	0.00	0.00	4,300.0	585.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
4,400.0	0.00	0.00	4,400.0	685.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,500.0	0.00	0.00	4,500.0	785.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,600.0	0.00	0.00	4,600.0	885.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,700.0	0.00	0.00	4,700.0	985.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,800.0	0.00	0.00	4,800.0	1,085.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
4,900.0	0.00	0.00	4,900.0	1,185.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,000.0	0.00	0.00	5,000.0	1,285.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,100.0	0.00	0.00	5,100.0	1,385.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,200.0	0.00	0.00	5,200.0	1,485.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,300.0	0.00	0.00	5,300.0	1,585.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,400.0	0.00	0.00	5,400.0	1,685.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,500.0	0.00	0.00	5,500.0	1,785.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,600.0	0.00	0.00	5,600.0	1,885.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,638.0	0.00	0.00	5,638.0	1,923.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
9 5/8" Intermediate Casing										
5,663.0	0.00	0.00	5,663.0	1,948.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
Delaware										
5,700.0	0.00	0.00	5,700.0	1,985.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,800.0	0.00	0.00	5,800.0	2,085.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
5,900.0	0.00	0.00	5,900.0	2,185.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
6,000.0	0.00	0.00	6,000.0	2,285.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
6,100.0	0.00	0.00	6,100.0	2,385.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
6,200.0	0.00	0.00	6,200.0	2,485.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
6,300.0	0.00	0.00	6,300.0	2,585.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
6,400.0	0.00	0.00	6,400.0	2,685.0	0.0	0.0	803,712.09	570,850.04	0.00	0.00
Start Build 3.00										
6,500.0	3.00	230.00	6,500.0	2,785.0	-1.7	-2.0	803,710.08	570,848.36	-1.61	3.00

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
6,600.0	6.00	230.00	6,599.6	2,884.6	-6.7	-8.0	803,704.08	570,843.31	-6.44	3.00
Start 2400.0 hold at 6600.0 MD										
6,700.0	6.00	230.00	6,699.1	2,984.1	-13.4	-16.0	803,696.07	570,836.60	-12.87	0.00
6,800.0	6.00	230.00	6,798.5	3,083.5	-20.2	-24.0	803,688.06	570,829.88	-19.30	0.00
6,900.0	6.00	230.00	6,898.0	3,183.0	-26.9	-32.0	803,680.05	570,823.16	-25.73	0.00
7,000.0	6.00	230.00	6,997.4	3,282.4	-33.6	-40.0	803,672.05	570,816.44	-32.16	0.00
7,100.0	6.00	230.00	7,096.9	3,381.9	-40.3	-48.1	803,664.04	570,809.72	-38.59	0.00
7,200.0	6.00	230.00	7,196.3	3,481.3	-47.0	-56.1	803,656.03	570,803.00	-45.02	0.00
7,300.0	6.00	230.00	7,295.8	3,580.8	-53.8	-64.1	803,648.02	570,796.28	-51.45	0.00
7,400.0	6.00	230.00	7,395.3	3,680.3	-60.5	-72.1	803,640.02	570,789.56	-57.88	0.00
7,500.0	6.00	230.00	7,494.7	3,779.7	-67.2	-80.1	803,632.01	570,782.84	-64.31	0.00
7,600.0	6.00	230.00	7,594.2	3,879.2	-73.9	-88.1	803,624.00	570,776.13	-70.74	0.00
7,700.0	6.00	230.00	7,693.6	3,978.6	-80.6	-96.1	803,615.99	570,769.41	-77.17	0.00
7,800.0	6.00	230.00	7,793.1	4,078.1	-87.4	-104.1	803,607.99	570,762.69	-83.60	0.00
7,900.0	6.00	230.00	7,892.5	4,177.5	-94.1	-112.1	803,599.98	570,755.97	-90.03	0.00
8,000.0	6.00	230.00	7,992.0	4,277.0	-100.8	-120.1	803,591.97	570,749.25	-96.46	0.00
8,100.0	6.00	230.00	8,091.4	4,376.4	-107.5	-128.1	803,583.97	570,742.53	-102.89	0.00
8,200.0	6.00	230.00	8,190.9	4,475.9	-114.2	-136.1	803,575.96	570,735.81	-109.32	0.00
8,300.0	6.00	230.00	8,290.3	4,575.3	-120.9	-144.1	803,567.95	570,729.09	-115.75	0.00
8,400.0	6.00	230.00	8,389.8	4,674.8	-127.7	-152.1	803,559.94	570,722.37	-122.18	0.00
8,468.6	6.00	230.00	8,458.0	4,743.0	-132.3	-157.6	803,554.45	570,717.76	-126.59	0.00
Bone Spring										
8,500.0	6.00	230.00	8,489.2	4,774.2	-134.4	-160.2	803,551.94	570,715.65	-128.61	0.00
8,600.0	6.00	230.00	8,588.7	4,873.7	-141.1	-168.2	803,543.93	570,708.94	-135.04	0.00
8,700.0	6.00	230.00	8,688.1	4,973.1	-147.8	-176.2	803,535.92	570,702.22	-141.47	0.00
8,800.0	6.00	230.00	8,787.6	5,072.6	-154.5	-184.2	803,527.91	570,695.50	-147.90	0.00
8,900.0	6.00	230.00	8,887.0	5,172.0	-161.3	-192.2	803,519.91	570,688.78	-154.33	0.00

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
9,000.0	6.00	230.00	8,986.5	5,271.5	-168.0	-200.2	803,511.90	570,682.06	-160.76	0.00
Start Drop -3.00										
9,100.0	3.00	230.00	9,086.2	5,371.2	-173.0	-206.2	803,505.89	570,677.02	-165.59	3.00
9,200.0	0.00	0.00	9,186.1	5,471.1	-174.7	-208.2	803,503.88	570,675.33	-167.20	3.00
Start 110.0 hold at 9200.0 MD										
9,300.0	0.00	0.00	9,286.1	5,571.1	-174.7	-208.2	803,503.88	570,675.33	-167.20	0.00
9,310.0	0.00	0.00	9,296.1	5,581.1	-174.7	-208.2	803,503.88	570,675.33	-167.20	0.00
Start Build 11.35										
9,400.0	10.21	359.52	9,385.6	5,670.6	-166.7	-208.3	803,503.82	570,683.33	-159.20	11.35
9,500.0	21.56	359.52	9,481.7	5,766.7	-139.4	-208.5	803,503.59	570,710.66	-131.89	11.35
9,600.0	32.90	359.52	9,570.4	5,855.4	-93.7	-208.9	803,503.21	570,756.34	-86.22	11.35
9,700.0	44.25	359.52	9,648.5	5,933.5	-31.4	-209.4	803,502.68	570,818.59	-23.99	11.35
9,800.0	55.60	359.52	9,712.8	5,997.8	44.9	-210.0	803,502.04	570,894.98	52.38	11.35
9,837.9	59.90	359.52	9,733.0	6,018.0	77.0	-210.3	803,501.78	570,927.05	84.43	11.35
1st Bone Spring Sand										
9,900.0	66.94	359.52	9,760.8	6,045.8	132.5	-210.8	803,501.31	570,982.53	139.89	11.35
10,000.0	78.29	359.52	9,790.6	6,075.6	227.8	-211.6	803,500.51	571,077.80	235.13	11.35
10,100.0	89.64	359.52	9,801.1	6,086.1	327.0	-212.4	803,499.68	571,177.08	334.38	11.35
10,110.0	90.77	359.52	9,801.1	6,086.1	337.0	-212.5	803,499.60	571,187.08	344.38	11.35
Start 7380.0 hold at 10110.0 MD										
10,200.0	90.77	359.52	9,799.8	6,084.8	427.0	-213.2	803,498.84	571,277.07	434.33	0.00
10,300.0	90.77	359.52	9,798.5	6,083.5	527.0	-214.1	803,498.01	571,377.05	534.29	0.00
10,400.0	90.77	359.52	9,797.2	6,082.2	627.0	-214.9	803,497.17	571,477.04	634.24	0.00
10,500.0	90.77	359.52	9,795.8	6,080.8	727.0	-215.8	803,496.33	571,577.03	734.20	0.00
10,600.0	90.77	359.52	9,794.5	6,079.5	827.0	-216.6	803,495.49	571,677.02	834.15	0.00
10,700.0	90.77	359.52	9,793.1	6,078.1	927.0	-217.4	803,494.65	571,777.00	934.10	0.00
10,800.0	90.77	359.52	9,791.8	6,076.8	1,027.0	-218.3	803,493.82	571,876.99	1,034.06	0.00
10,900.0	90.77	359.52	9,790.4	6,075.4	1,126.9	-219.1	803,492.98	571,976.98	1,134.01	0.00

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
11,000.0	90.77	359.52	9,789.1	6,074.1	1,226.9	-219.9	803,492.14	572,076.97	1,233.97	0.00
11,100.0	90.77	359.52	9,787.7	6,072.7	1,326.9	-220.8	803,491.30	572,176.95	1,333.92	0.00
11,200.0	90.77	359.52	9,786.4	6,071.4	1,426.9	-221.6	803,490.47	572,276.94	1,433.87	0.00
11,300.0	90.77	359.52	9,785.1	6,070.1	1,526.9	-222.5	803,489.63	572,376.93	1,533.83	0.00
11,400.0	90.77	359.52	9,783.7	6,068.7	1,626.9	-223.3	803,488.79	572,476.92	1,633.78	0.00
11,500.0	90.77	359.52	9,782.4	6,067.4	1,726.9	-224.1	803,487.95	572,576.90	1,733.74	0.00
11,600.0	90.77	359.52	9,781.0	6,066.0	1,826.9	-225.0	803,487.12	572,676.89	1,833.69	0.00
11,700.0	90.77	359.52	9,779.7	6,064.7	1,926.8	-225.8	803,486.28	572,776.88	1,933.65	0.00
11,800.0	90.77	359.52	9,778.3	6,063.3	2,026.8	-226.6	803,485.44	572,876.87	2,033.60	0.00
11,900.0	90.77	359.52	9,777.0	6,062.0	2,126.8	-227.5	803,484.60	572,976.85	2,133.55	0.00
12,000.0	90.77	359.52	9,775.7	6,060.7	2,226.8	-228.3	803,483.77	573,076.84	2,233.51	0.00
12,100.0	90.77	359.52	9,774.3	6,059.3	2,326.8	-229.2	803,482.93	573,176.83	2,333.46	0.00
12,200.0	90.77	359.52	9,773.0	6,058.0	2,426.8	-230.0	803,482.09	573,276.82	2,433.42	0.00
12,300.0	90.77	359.52	9,771.6	6,056.6	2,526.8	-230.8	803,481.25	573,376.80	2,533.37	0.00
12,400.0	90.77	359.52	9,770.3	6,055.3	2,626.8	-231.7	803,480.41	573,476.79	2,633.32	0.00
12,500.0	90.77	359.52	9,768.9	6,053.9	2,726.7	-232.5	803,479.58	573,576.78	2,733.28	0.00
12,600.0	90.77	359.52	9,767.6	6,052.6	2,826.7	-233.4	803,478.74	573,676.77	2,833.23	0.00
12,700.0	90.77	359.52	9,766.2	6,051.2	2,926.7	-234.2	803,477.90	573,776.75	2,933.19	0.00
12,800.0	90.77	359.52	9,764.9	6,049.9	3,026.7	-235.0	803,477.06	573,876.74	3,033.14	0.00
12,900.0	90.77	359.52	9,763.6	6,048.6	3,126.7	-235.9	803,476.23	573,976.73	3,133.09	0.00
13,000.0	90.77	359.52	9,762.2	6,047.2	3,226.7	-236.7	803,475.39	574,076.72	3,233.05	0.00
13,100.0	90.77	359.52	9,760.9	6,045.9	3,326.7	-237.5	803,474.55	574,176.70	3,333.00	0.00
13,200.0	90.77	359.52	9,759.5	6,044.5	3,426.7	-238.4	803,473.71	574,276.69	3,432.96	0.00
13,300.0	90.77	359.52	9,758.2	6,043.2	3,526.6	-239.2	803,472.88	574,376.68	3,532.91	0.00
13,400.0	90.77	359.52	9,756.8	6,041.8	3,626.6	-240.1	803,472.04	574,476.67	3,632.86	0.00
13,500.0	90.77	359.52	9,755.5	6,040.5	3,726.6	-240.9	803,471.20	574,576.65	3,732.82	0.00
13,600.0	90.77	359.52	9,754.2	6,039.2	3,826.6	-241.7	803,470.36	574,676.64	3,832.77	0.00

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
13,700.0	90.77	359.52	9,752.8	6,037.8	3,926.6	-242.6	803,469.52	574,776.63	3,932.73	0.00
13,800.0	90.77	359.52	9,751.5	6,036.5	4,026.6	-243.4	803,468.69	574,876.62	4,032.68	0.00
13,900.0	90.77	359.52	9,750.1	6,035.1	4,126.6	-244.2	803,467.85	574,976.60	4,132.64	0.00
14,000.0	90.77	359.52	9,748.8	6,033.8	4,226.6	-245.1	803,467.01	575,076.59	4,232.59	0.00
14,100.0	90.77	359.52	9,747.4	6,032.4	4,326.5	-245.9	803,466.17	575,176.58	4,332.54	0.00
14,200.0	90.77	359.52	9,746.1	6,031.1	4,426.5	-246.8	803,465.34	575,276.57	4,432.50	0.00
14,300.0	90.77	359.52	9,744.7	6,029.7	4,526.5	-247.6	803,464.50	575,376.55	4,532.45	0.00
14,400.0	90.77	359.52	9,743.4	6,028.4	4,626.5	-248.4	803,463.66	575,476.54	4,632.41	0.00
14,500.0	90.77	359.52	9,742.1	6,027.1	4,726.5	-249.3	803,462.82	575,576.53	4,732.36	0.00
14,600.0	90.77	359.52	9,740.7	6,025.7	4,826.5	-250.1	803,461.99	575,676.52	4,832.31	0.00
14,700.0	90.77	359.52	9,739.4	6,024.4	4,926.5	-250.9	803,461.15	575,776.50	4,932.27	0.00
14,800.0	90.77	359.52	9,738.0	6,023.0	5,026.5	-251.8	803,460.31	575,876.49	5,032.22	0.00
14,900.0	90.77	359.52	9,736.7	6,021.7	5,126.4	-252.6	803,459.47	575,976.48	5,132.18	0.00
15,000.0	90.77	359.52	9,735.3	6,020.3	5,226.4	-253.5	803,458.63	576,076.47	5,232.13	0.00
15,100.0	90.77	359.52	9,734.0	6,019.0	5,326.4	-254.3	803,457.80	576,176.45	5,332.08	0.00
15,200.0	90.77	359.52	9,732.6	6,017.6	5,426.4	-255.1	803,456.96	576,276.44	5,432.04	0.00
15,300.0	90.77	359.52	9,731.3	6,016.3	5,526.4	-256.0	803,456.12	576,376.43	5,531.99	0.00
15,400.0	90.77	359.52	9,730.0	6,015.0	5,626.4	-256.8	803,455.28	576,476.42	5,631.95	0.00
15,500.0	90.77	359.52	9,728.6	6,013.6	5,726.4	-257.6	803,454.45	576,576.40	5,731.90	0.00
15,600.0	90.77	359.52	9,727.3	6,012.3	5,826.4	-258.5	803,453.61	576,676.39	5,831.86	0.00
15,700.0	90.77	359.52	9,725.9	6,010.9	5,926.3	-259.3	803,452.77	576,776.38	5,931.81	0.00
15,800.0	90.77	359.52	9,724.6	6,009.6	6,026.3	-260.2	803,451.93	576,876.36	6,031.76	0.00
15,900.0	90.77	359.52	9,723.2	6,008.2	6,126.3	-261.0	803,451.10	576,976.35	6,131.72	0.00
16,000.0	90.77	359.52	9,721.9	6,006.9	6,226.3	-261.8	803,450.26	577,076.34	6,231.67	0.00
16,100.0	90.77	359.52	9,720.6	6,005.6	6,326.3	-262.7	803,449.42	577,176.33	6,331.63	0.00
16,200.0	90.77	359.52	9,719.2	6,004.2	6,426.3	-263.5	803,448.58	577,276.31	6,431.58	0.00
16,300.0	90.77	359.52	9,717.9	6,002.9	6,526.3	-264.3	803,447.75	577,376.30	6,531.53	0.00

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
16,400.0	90.77	359.52	9,716.5	6,001.5	6,626.2	-265.2	803,446.91	577,476.29	6,631.49	0.00
16,500.0	90.77	359.52	9,715.2	6,000.2	6,726.2	-266.0	803,446.07	577,576.28	6,731.44	0.00
16,600.0	90.77	359.52	9,713.8	5,998.8	6,826.2	-266.9	803,445.23	577,676.26	6,831.40	0.00
16,700.0	90.77	359.52	9,712.5	5,997.5	6,926.2	-267.7	803,444.39	577,776.25	6,931.35	0.00
16,800.0	90.77	359.52	9,711.1	5,996.1	7,026.2	-268.5	803,443.56	577,876.24	7,031.30	0.00
16,900.0	90.77	359.52	9,709.8	5,994.8	7,126.2	-269.4	803,442.72	577,976.23	7,131.26	0.00
17,000.0	90.77	359.52	9,708.5	5,993.5	7,226.2	-270.2	803,441.88	578,076.21	7,231.21	0.00
17,100.0	90.77	359.52	9,707.1	5,992.1	7,326.2	-271.0	803,441.04	578,176.20	7,331.17	0.00
17,200.0	90.77	359.52	9,705.8	5,990.8	7,426.1	-271.9	803,440.21	578,276.19	7,431.12	0.00
17,300.0	90.77	359.52	9,704.4	5,989.4	7,526.1	-272.7	803,439.37	578,376.18	7,531.07	0.00
17,400.0	90.77	359.52	9,703.1	5,988.1	7,626.1	-273.6	803,438.53	578,476.16	7,631.03	0.00
17,490.0	90.77	359.52	9,701.9	5,986.9	7,716.1	-274.3	803,437.78	578,566.15	7,720.99	0.00
TD at 17490.0 - 5 1/2" Production Casing										

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
5,638.0	5,638.0	9 5/8" Intermediate Casing	9-5/8	12-1/4
120.0	120.0	20" Conductor	20	26
17,490.0	9,701.9	5 1/2" Production Casing	5-1/2	8-3/4
2,150.0	2,150.0	13 3/8" Surface Casing	13-3/8	17-1/2

Company:	Caza Operating LLC	**Local Co-ordinate Reference:**	Well Desert Rose 17-8 Federal 12H
Project:	Desert Rose 17-8 Federal 12H	**TVD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Site:	Desert Rose 17-8 Federal 12H	**MD Reference:**	WELL @ 3715.0usft (Original Well Elev)
Well:	Desert Rose 17-8 Federal 12H	**North Reference:**	Grid
Wellbore:	Desert Rose 17-8 Federal 12H	**Survey Calculation Method:**	Minimum Curvature
Design:	191113 Desert Rose 17-8 Federal 12H	**Database:**	EDM 5000.1 Single User Db

Formations

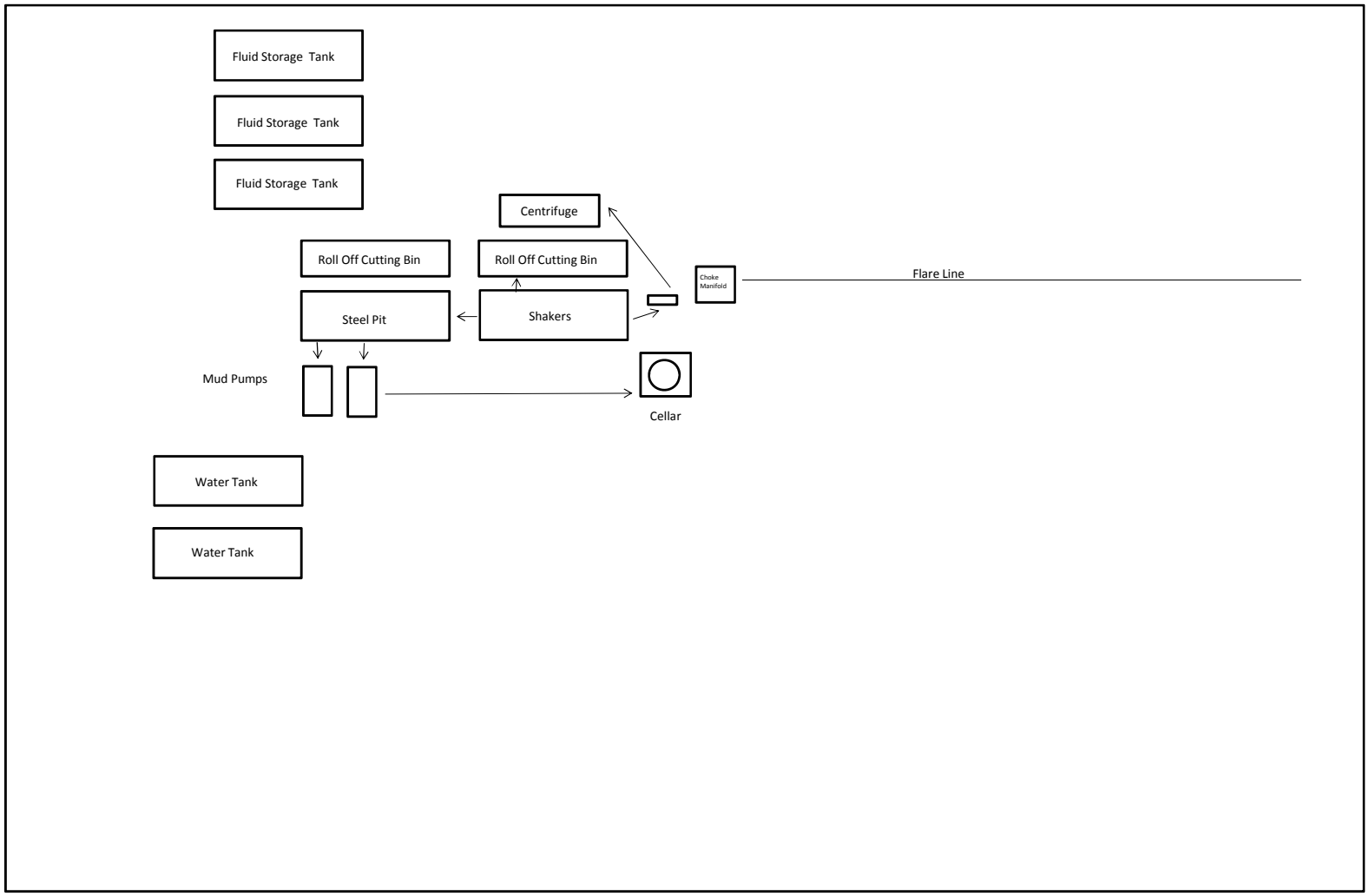
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,928.0	1,928.0	Rustler		0.00	
9,837.9	9,733.0	1st Bone Spring Sand		0.00	
4,143.0	4,143.0	Capitan		0.00	
3,603.0	3,603.0	Base of Salt		0.00	
2,273.0	2,273.0	Top of Salt		0.00	
5,663.0	5,663.0	Delaware		0.00	
8,468.6	8,458.0	Bone Spring		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,400.0	6,400.0	0.0	0.0	Start Build 3.00
6,600.0	6,599.6	-6.7	-8.0	Start 2400.0 hold at 6600.0 MD
9,000.0	8,986.5	-168.0	-200.2	Start Drop -3.00
9,200.0	9,186.1	-174.7	-208.2	Start 110.0 hold at 9200.0 MD
9,310.0	9,296.1	-174.7	-208.2	Start Build 11.35
10,110.0	9,801.1	337.0	-212.5	Start 7380.0 hold at 10110.0 MD
17,490.0	9,701.9	7,716.1	-274.3	TD at 17490.0

Checked By: _____ Approved By: _____ Date: _____

Closed Loop Diagram Design Plan



Design Plan, Operating Plan and Maintenance Plan, and Closure Plan for the OCD form C-144

Design Plan:

Fluid and cuttings coming from drilling operations will pass over the shale shaker with the cuttings going to the haul off bin and the cleaned fluid returning to the working steel pits.

Equipment Includes:

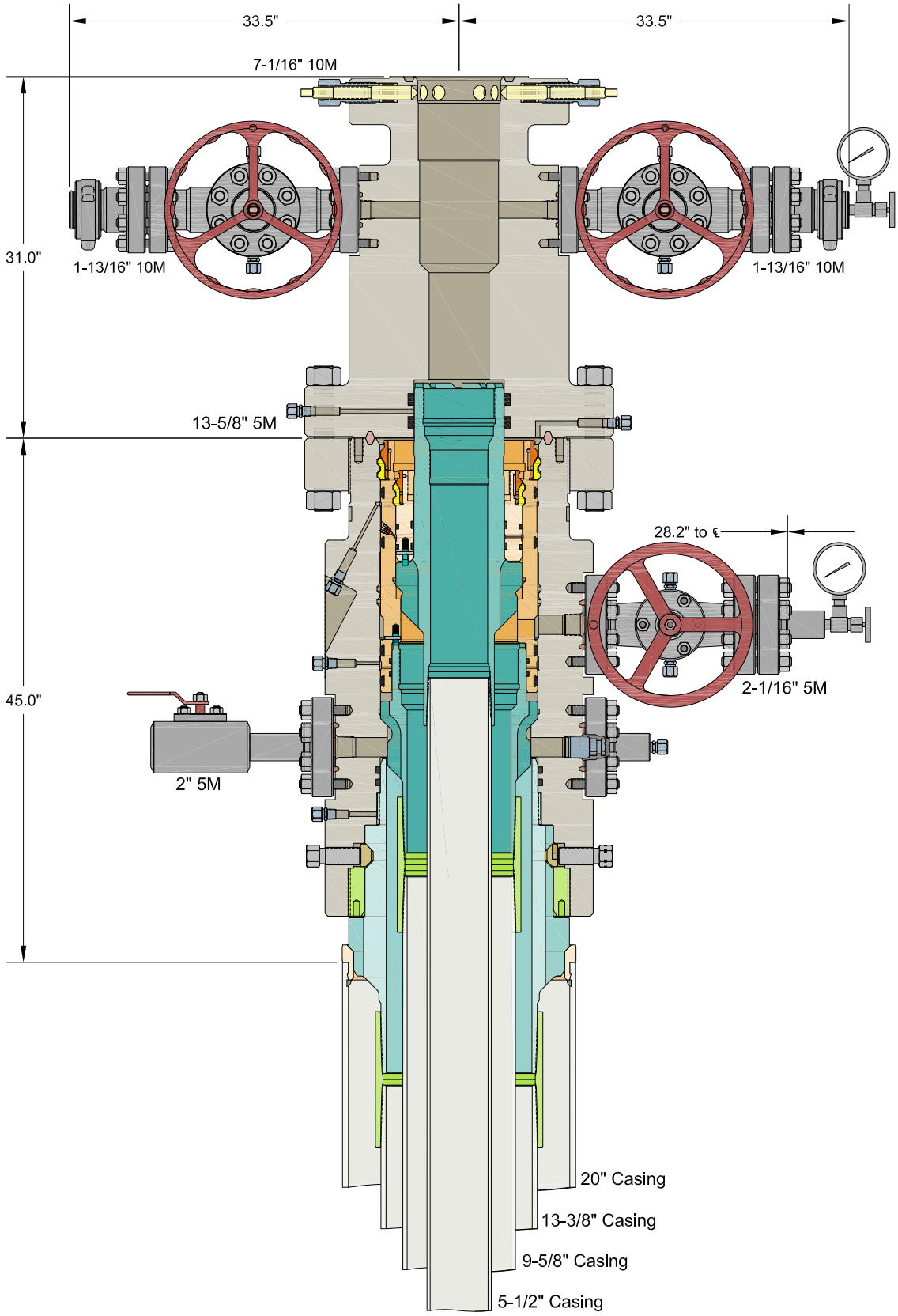
1-670bbl steel working pit
2-100bbl steel working suction pits
2-500bbl steel tanks
2-20yd^3 steel haul off bins
2-pumps (HHF-1600)
2-Shale shakers
1-Centrifuge
1-Desilter/Desander

Operating and Maintenance Plan:

Inspection to occur every tour for proper operation of system and individual components. If any problems are found they will be repaired and/or corrected immediately.

Closure Plan:

All haul off bins containing cuttings will be removed from location and hauled to R-360 (NM-01-0006) disposal site located 30 miles east of Carlsbad.



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

CAZA PETROLEUM
PERMIAN BASIN

13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO-SF Wellhead Sys.
With 13-5/8" 5M x 7-1/16" 10M CTH-DBLHPS Tubing Head, 31" Tall
And 9-5/8" & 5-1/2" Mandrel Casing Hangers

DRAWN	DLE	11OCT19
APPRV		

DRAWING NO. ODE0003162

APD ID: 10400050940

Submission Date: 11/22/2019

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL

Well Number: 12H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Desert_Rose_17_8_Federal_12H___Vicinity_and_Existing_Road_Map_20191113094753.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Desert_Rose_17_8_Federal_12H___1_Mile_Radius_Map_20191113094824.pdf

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: The existing production facility at the Desert Rose Federal 1H will be expanded and used. Each well will have its own FWKO, 3 phase metered separator and treater. 4 - 500bbl steel tanks will be added. Attached is the facility plat and plat with the pipeline.

Production Facilities map:

Desert_Rose_17_8_Federal_12H___Well_Location_Plat_20191113094917.pdf

Desert_Rose_17_8_Federal_12H___Production_Facility_Map_20191122094131.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type: SURFACE CASING

STIMULATION

INTERMEDIATE/PRODUCTION CASING

Source latitude: 32.520557 **Source longitude:** -103.53917

Source datum: NAD83

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 400000 **Source volume (acre-feet):** 51.55723853

Source volume (gal): 16800000

Water source and transportation map:

Desert_Rose_17_8_Federal_12H___Caliche_and_Water_Supply_Map_20191113095443.pdf

Water source comments: S1 T21S R33E NWNE

New water well? N

New Water Well Info

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

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: 6" of packed caliche will be used to build the well pad S17 T20S R35E SWSW

Construction Materials source location attachment:

Desert_Rose_17_8_Federal_12H___Caliche_and_Water_Supply_Map_20191113121422.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill cuttings

Amount of waste: 1063460 pounds

Waste disposal frequency : Daily

Safe containment description: 4 sided steel bins

Safe containmant attachment:

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

Disposal type description:

Disposal location description: R360 Commercial Disposal Facility

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Waste type: SEWAGE

Waste content description: Onsite housing sewage

Amount of waste: 300 gallons

Waste disposal frequency : Daily

Safe containment description: Above ground closed septic system

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Hobbs Waste Water Management

Waste type: GARBAGE

Waste content description: Onsite housing trash

Amount of waste: 100 pounds

Waste disposal frequency : Daily

Safe containment description: Steel trash trailer

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Lea County Landfill

Reserve Pit

Reserve Pit being used? N

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? N

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Description of cuttings location

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

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Desert_Rose_17_8_Federal_12H___Rig_Layout_20191113121743.pdf
Desert_Rose_17_8_Federal_12H___Well_Pad_Plat_20191113121745.pdf
Desert_Rose_17_8_Federal_12H___Well_Location_Plat_20191113121746.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** Desert Rose 17-8 Federal

Multiple Well Pad Number: 11H

Recontouring attachment:

Drainage/Erosion control construction: Ditching will be used for drainage and erosion control

Drainage/Erosion control reclamation: Ditching will be used for drainage and erosion control

Well pad proposed disturbance (acres): 4.93	**Well pad interim reclamation (acres):** 1.49	**Well pad long term disturbance (acres):** 3.44
Road proposed disturbance (acres):	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 0
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0.41	**Pipeline interim reclamation (acres):** 0.41	**Pipeline long term disturbance (acres):** 0
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Total proposed disturbance: 5.34 **Total interim reclamation:** 1.9 **Total long term disturbance:** 3.44

Disturbance Comments:

Reconstruction method: As per BLM as identified during onsite

Topsoil redistribution: As per BLM as identified during onsite

Soil treatment: As per BLM as identified during onsite

Existing Vegetation at the well pad: Sage brush and native grasses

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Sage brush and native grasses

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Sage brush and native grasses

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Sage brush and native grasses

Existing Vegetation Community at other disturbances attachment:

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: (985)415-9729 **Email:** steve.morris@morcorengineering.com

Seedbed prep: Harrow

Seed BMP: As per BLM instructions

Seed method: Broadcast followed by drag chain

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Spray for cheat grass

Weed treatment plan attachment:

Monitoring plan description: Visual inspection in spring and late fall

Monitoring plan attachment:

Success standards: 80% coverage in the first 2 years with less than 5% invasive species

Pit closure description: No pits

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

USFS Forest/Grassland: **USFS Ranger District:**

Fee Owner: NGL Partners **Fee Owner Address:** 6120 South Yale Ave #805

Phone: (918)481-1119 **Email:**

Surface use plan certification: YES

Surface use plan certification document:

Desert_Rose_17_8_Federal_12H___Surface_use_plan_of_operations_certification_signed_20191113122502.pdf

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: Fee per well drilled on well pad

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? N **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? N

Previous Onsite information:

Other SUPO Attachment

Desert_Rose_17_8_Federal_12H___Location_Verification_Plat_20191113122606.pdf

Desert_Rose_17_8_Federal_12H___Vicinity_Plat_20191113122606.pdf

Desert_Rose_17_8_Federal_12H___Interim_Reclamation_Plat_20191113122609.pdf

APD ID: 10400050940 **Submission Date:** 11/22/2019

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL **Well Number:** 12H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

09/14/2020

APD ID: 10400050940

Submission Date: 11/22/2019

Operator Name: CAZA OPERATING LLC

Well Name: DESERT ROSE 17-8 FEDERAL

Well Number: 12H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000471

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

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

OCD – HOBBS
09/14/2020
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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
30-025-47760	~~97983~~ 24250	~~WC-025 G-08 S203306D; BONE SPRING~~ FEATHERSTONE; BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
317383	DESERT ROSE 17-8 FEDERAL	12H

[7] OGRID No.	[8] Operator Name	[9] Elevation
249099	CAZA OPERATING, LLC	3693'

[10] Surface Location

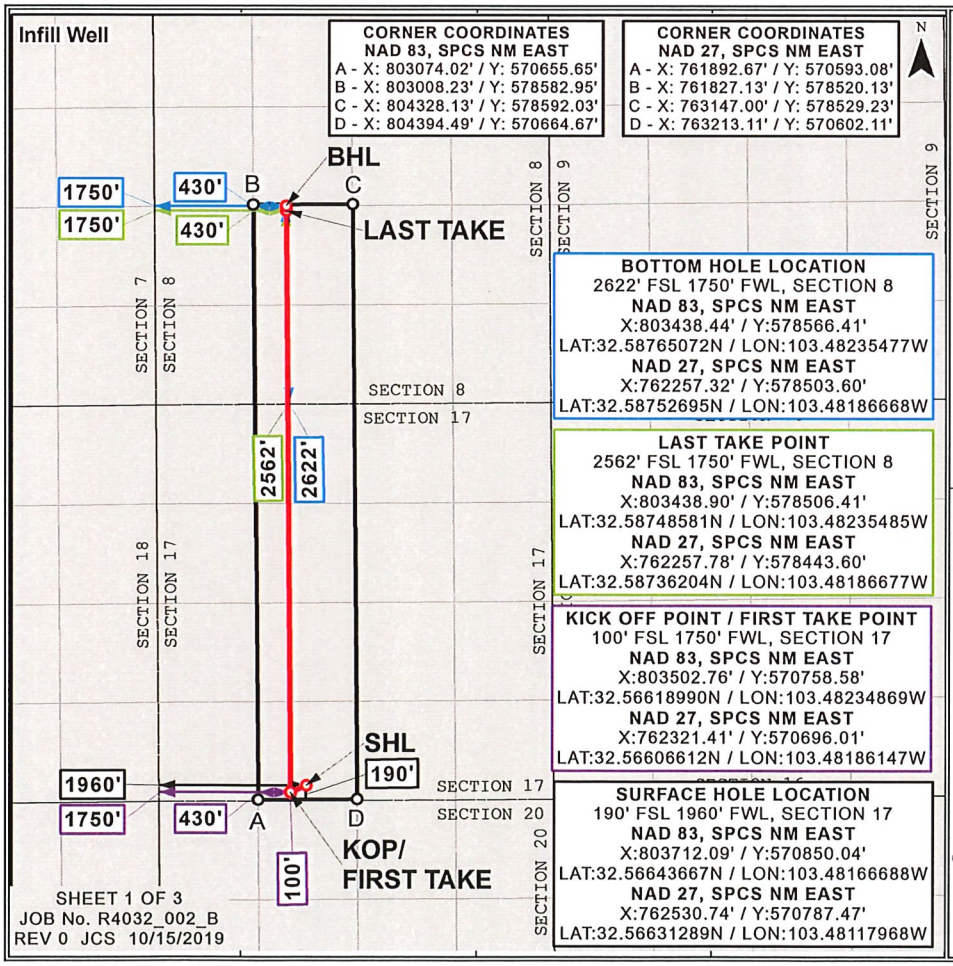
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	17	20S	35E		190	SOUTH	1960	WEST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	8	20S	35E		2622	SOUTH	1750	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
240.0			

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.



[17] 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.

Signature — Date: 11/11/2019

Steve Morris
Printed Name

steve.morris@morcorengineering.com
E-mail Address

[18] 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 supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 5, 2019
Date of Survey

Signature and Seal of Professional Surveyor

DAVID W. MYERS
NEW MEXICO
11403
PROFESSIONAL SURVEYOR

Certificate Number
DAVID W. MYERS 11403

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99981205 Convergence: 00°26'57.22001"

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District III
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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

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Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 11/11/2019

■ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: 249099

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete 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
DESERT ROSE 17-8 FEDERAL 12H	30-025-47760	N-17-20S-35E	190'FSL-1960'FWL	1000	flared	

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 Verdsado and will be connected to Versado low/high pressure gathering system located in Lea County, New Mexico. It will require 1000' of pipeline to connect the facility to low/high pressure gathering system. Caza provides (periodically) to Versado a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Caza and Versado have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Versado Processing Plant located in Sec.29, Twn.21S, Rng.37E, Lea 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 Versado system at that time. Based on current information, it is Caza'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