Form 3160-3
(June 2015)

OCD – HOBBS
11/17/2020
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.
NMNM131588

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.
NMNM138602

8. Lease Name and Well No.
CHEDDAR FEDERAL COM
301H [326046]

2. Name of Operator
CENTENNIAL RESOURCE PRODUCTION LLC [372165]

9. API Well No.
30-025-48099

3a. Address
1001 17th Street, Suite 1800 Denver CO 80202

3b. Phone No. *(include area code)*
(720)499-1400

10. Field and Pool, or Exploratory [5695]
2ND BONESPRING SAND / RED HILLS;

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWSW / 454 FSL / 410 FWL / LAT 32.414594 / LONG -103.704053

At proposed prod. zone NWNW / 100 FNL / 330 FWL / LAT 32.442092 / LONG -103.704343

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 5 / T22S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*
43.2 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)
410 feet

16. No of acres in lease
886.41

17. Spacing Unit dedicated to this well
319.68

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

19. Proposed Depth
9680 feet / 19565 feet

20. BLM/BIA Bond No. in file
FED: NMB001841

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3665 feet

22. Approximate date work will start*
06/03/2021

23. Estimated duration
45 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
(Electronic Submission)

Name *(Printed/Typed)*

Date
12/13/2019

Title

Approved by *(Signature)*
(Electronic Submission)

Name *(Printed/Typed)*
Cody Layton / Ph: (575)234-5959

Date
11/13/2020

Title
Assistant Field Manager Lands & Minerals

Office
CARLSBAD

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 11/17/2020

SL

APPROVED WITH CONDITIONS

KZ 12/04/2020

Approval Date: 11/13/2020

(Continued on page 2)

*(Instructions on page 2)

APD ID: 10400040433 **Submission Date:** 12/13/2019

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400040433 **Tie to previous NOS?** N **Submission Date:** 12/13/2019

BLM Office: CARLSBAD **User:** Kanicia Schlichting **Title:** Sr. Regulatory Analyst

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

Lease number: NMNM131588 **Lease Acres:** 886.41

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

Agreement in place? YES **Federal or Indian agreement:** FEDERAL

Agreement number: NMNM138602

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** CENTENNIAL RESOURCE PRODUCTION LLC

Operator letter of designation:

Operator Info

Operator Organization Name: CENTENNIAL RESOURCE PRODUCTION LLC

Operator Address: 1001 17th Street, Suite 1800

Zip: 80202

Operator PO Box:

Operator City: Denver **State:** CO

Operator Phone: (720)499-1400

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: CHEDDAR FEDERAL COM **Well Number:** 301H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** 2ND BONESPRING SAND **Pool Name:** RED HILLS; BONE SPRING, NORTH

Is the proposed well in an area containing other mineral resources? POTASH

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

Is the proposed well in an area containing other mineral resources? POTASH

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** CHEDDAR DRILL ISLAND **Number:** 1

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 43.2 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 410 FT

Reservoir well spacing assigned acres Measurement: 319.68 Acres

Well plat: CHEDDAR_FED_COM_301H___C102_20190329131149.pdf

CHEDDAR_FED_COM_301H___Lease_C102_20190329131150.pdf

Well work start Date: 06/03/2021 **Duration:** 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 23782 **Reference Datum:**

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	454	FSL	410	FWL	22S	32E	5	Aliquot SWSW	32.414594	-103.704053	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 131588	3665	0	0	
KOP Leg #1	454	FSL	410	FWL	22S	32E	5	Aliquot SWSW	32.414594	-103.704053	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 131588	-5442	9111	9107	

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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 #1-1	330	FSL	330	FWL	22S	32E	5	Aliquot SWSW	32.414252	-103.704312	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 131588	-6015	10011	9680	
EXIT Leg #1	100	FNL	330	FWL	21S	32E	32	Aliquot NWNW	32.442092	-103.704343	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6015	19565	9680	
BHL Leg #1	100	FNL	330	FWL	21S	32E	32	Aliquot NWNW	32.442092	-103.704343	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6015	19565	9680	

Drilling Plan Data Report

11/16/2020

APD ID: 10400040433 **Submission Date:** 12/13/2019

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
429819	RUSTLER	3665	624	624	SANDSTONE	NONE	N
429821	CAPITAN REEF	-957	4622	4622	OTHER : Carbonate	USEABLE WATER	N
429822	BELL CANYON	-1365	4730	4730	SANDSTONE	NATURAL GAS, OIL	N
429823	CHERRY CANYON	-2162	5527	5527	SANDSTONE	NATURAL GAS, OIL	N
429826	BRUSHY CANYON	-3492	6857	6857	SANDSTONE	NATURAL GAS, OIL	N
429827	BONE SPRING LIME	-5219	8584	8584	OTHER : Carbonate	NATURAL GAS, OIL	N
429829	AVALON SAND	-5371	8736	8736	SHALE	CO2, NATURAL GAS, OIL	N
429824	BONE SPRING 1ST	-6258	9623	9623	SANDSTONE	NATURAL GAS, OIL	Y
429825	BONE SPRING 2ND	-6522	9887	9887	OTHER, SHALE : Carbonate	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 9680

Equipment: The BOP and related equipment will meet or exceed the requirements of a 5M-psi system as set forth in On Shore Order No. 2. See attached BOP Schematic. A. Casinghead: 13 5/8” – 5,000 psi SOW x 13” – 5,000 psi WP Intermediate Spool: 13” – 5,000 psi WP x 11” – 5,000 psi WP Tubinghead: 11” – 5,000 psi WP x 7 1/16" – 15,000 psi WP B. Minimum Specified Pressure Control Equipment • Annular preventer • One Pipe ram, One blind ram • Drilling spool, or blowout preventer with 2 side outlets. Choke side will be a 3-inch minimum diameter, kill line shall be at least 2-inch diameter • 3 inch diameter choke line • 2 – 3 inch choke line valves • 2 inch kill line • 2 chokes with 1 remotely controlled from rig floor (see Figure 2) • 2 – 2 inch kill line valves and a check valve • Upper kelly cock valve with handle available • When the expected pressures approach working pressure of the system, 1 remote kill line tested to stack pressure (which shall run to the outer edge of the substructure and be unobstructed) • Lower kelly cock valve with handle available • Safety valve(s) and subs to fit all drill string connections in use • Inside BOP or float sub available • Pressure gauge on choke manifold • All BOPE connections subjected to well pressure shall be flanged, welded, or clamped • Fill-up line above the uppermost preventer. C. Auxiliary Equipment • Audio and visual mud monitoring equipment shall be placed to detect volume changes indicating loss or gain of circulating fluid volume. (OOS 1, III.C.2) • Gas Buster will be used below intermediate casing setting depth. • Upper and lower kelly cocks with handles, safety valve and subs to fit all drill string connections and a pressure gauge installed on choke manifold.

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

Requesting Variance? YES

Variance request: Centennial is requesting to use a flex hose on the choke manifold. Please see section 8 for hose specs attachment. We would also like to request a variance to use a 5M Annular Preventer. Please see attached multi-bowl procedure.
Testing Procedure: The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed b. whenever any seal subject to test pressure is broken c. following related repairs d. at 30 day intervals e. checked daily as to mechanical operating conditions. The ram type preventer(s) will be tested using a test plug to 250 psi (low) and 5,000 psi (high) (casinghead WP) with a test plug upon its installation onto the 13” surface casing. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing. The annular type preventer(s) shall be tested to 50% of its working pressure. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer. • A Sundry Notice (Form 3160 5), along with a copy of the BOP test report, shall be submitted to the local BLM office within 5 working days following the test. • If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure. • The BLM office will be provided with a minimum of four (4) hours’ notice of BOP testing to allow witnessing. The BOP Configuration, choke manifold layout, and accumulator system, will be in compliance with Onshore Order 2 for a 5,000 psi system. A remote accumulator will be used. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM 'witnessed BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible.
Choke Diagram Attachment:

HP650_10M_Choke_Manifold_20190329140051.pdf

BOP Diagram Attachment:

CRD__Well_Control_Plan_v2_20181107133139.pdf

HP650_BOP_Schematic_CoFlex_Choke_10K_2019_1_29_20190325122316.pdf

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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	3665	3545	120	H-40	94	OTHER - Weld						
2	SURFACE	17.5	13.375	NEW	API	N	0	750	0	750	3665	2915	750	J-55	54.5	OTHER - BTC	3.05	7.38	DRY	20.87	DRY	20.87
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4600	0	4600	3665	-935	4600	J-55	40	LT&C	1.52	1.65	DRY	2.83	DRY	3.42
4	PRODUCTION	8.75	5.5	NEW	API	N	0	9111	0	9107	3665	-5442	9111	P-110	20	OTHER - TMK UP DQX	2.35	2.67	DRY	3.52	DRY	3.52
5	PRODUCTION	8.5	5.5	NEW	API	N	9111	19565	9107	9680	-5442	-6015	10454	P-110	20	OTHER - TMK UP DQX	2.21	2.51	DRY	55.9	DRY	55.9

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181031160011.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181031160036.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

TMK_UP_DQX_5.5_x_20_P110_HC_20181031161313.pdf

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181107142525.pdf

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

TMK_UP_DQX_5_x_18_P110_HC_20181031161259.pdf

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181107142600.pdf

Technical_Data_Sheet_TMK_UP_DQX_5.5_x_20_P110_CY_20191212111404.pdf

Casing ID: 5 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CASING_ASSUMPTIONS_WORKSHEET_20181107142618.pdf

Technical_Data_Sheet_TMK_UP_DQX_5.5_x_20_P110_CY_20191212111456.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
PRODUCTION	Lead		0	0	0	0	0	0		0	0
CONDUCTOR	Lead		0	120	121	1.49	12.9	181		Grout	Bentonite 4% BWOC, Cellophane 0.25 pps CACL2 2% BWOC

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1300	1038	1.74	13.5	1806	100	Class C Premium	Premium Gel Bentonite 4%, C-45 Econolite 0.25%, Phenoseal 0.25#/sk, CaCl 1%, Defoamer C-41P 0.75%
SURFACE	Tail		1300	1800	518	1.34	14.8	695	100	Class C Premium	C-45 Econolite 0.10%, CaCl 1.0%
INTERMEDIATE	Lead		0	4100	998	3.44	10.7	3433	150	TXI Lightweight	Salt 1.77/sk, C-45 Econolite 2.25%, STE 6.00%, Citric Acid 0.18%, C-19 0.10%, CSA-1000 0.20%, C-530P 0.30%, CTB-15 LCM 7#/sk, Gyp Seal 8#/sk
INTERMEDIATE	Tail		4100	4600	141	1.33	14.8	188	20	Class C Premium	C-45 Econolite 0.10%, Citric acid 0.05%, C503P 0.25%
PRODUCTION	Lead		0	9111	892	3.41	10.6	3040	30	TXI Lightweight	Salt 8.98#/sk, STE 6.00%, Citric acid 0.20%, CSA-1000 0.23%, C47B 0.10%, C-503P 0.30%
PRODUCTION	Tail		9111	19565	2414	1.24	14.2	2994	25	50:25:25 Class H: Poz: CPO18	Citric acid 0.03%, CSA-1000 0.05%, C47B 0.25%, C-503P 0.30%

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 quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a diesel emulsified brine fluid to inhibit salt washout and prevent severe fluid losses. The production hole will employ oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

Circulating Medium Table

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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
1800	4600	OTHER : Brine	9	10							
0	19565	OTHER : Brine/OBM	8.8	10							
0	19565	OIL-BASED MUD	8.8	10							

Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma ray logging) from intermediate hole to TD of the well.

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

DS,GR

Coring operation description for the well:

Will not be coring this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5034 **Anticipated Surface Pressure:** 2904.4

Anticipated Bottom Hole Temperature(F): 170

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:

H2S_Plan_Chedder_Fed_Com_301H_20190528105406.pdf

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Chedder_FC_301H_Plan_Report_20190329142604.pdf

Other proposed operations facets description:

We are planning to use spudder rig to preset surface casing.
Gas Caputre Plan is attached. Geoprog attached.

Other proposed operations facets attachment:

CRD_Batch_Setting_Procedures_20191212112515.pdf

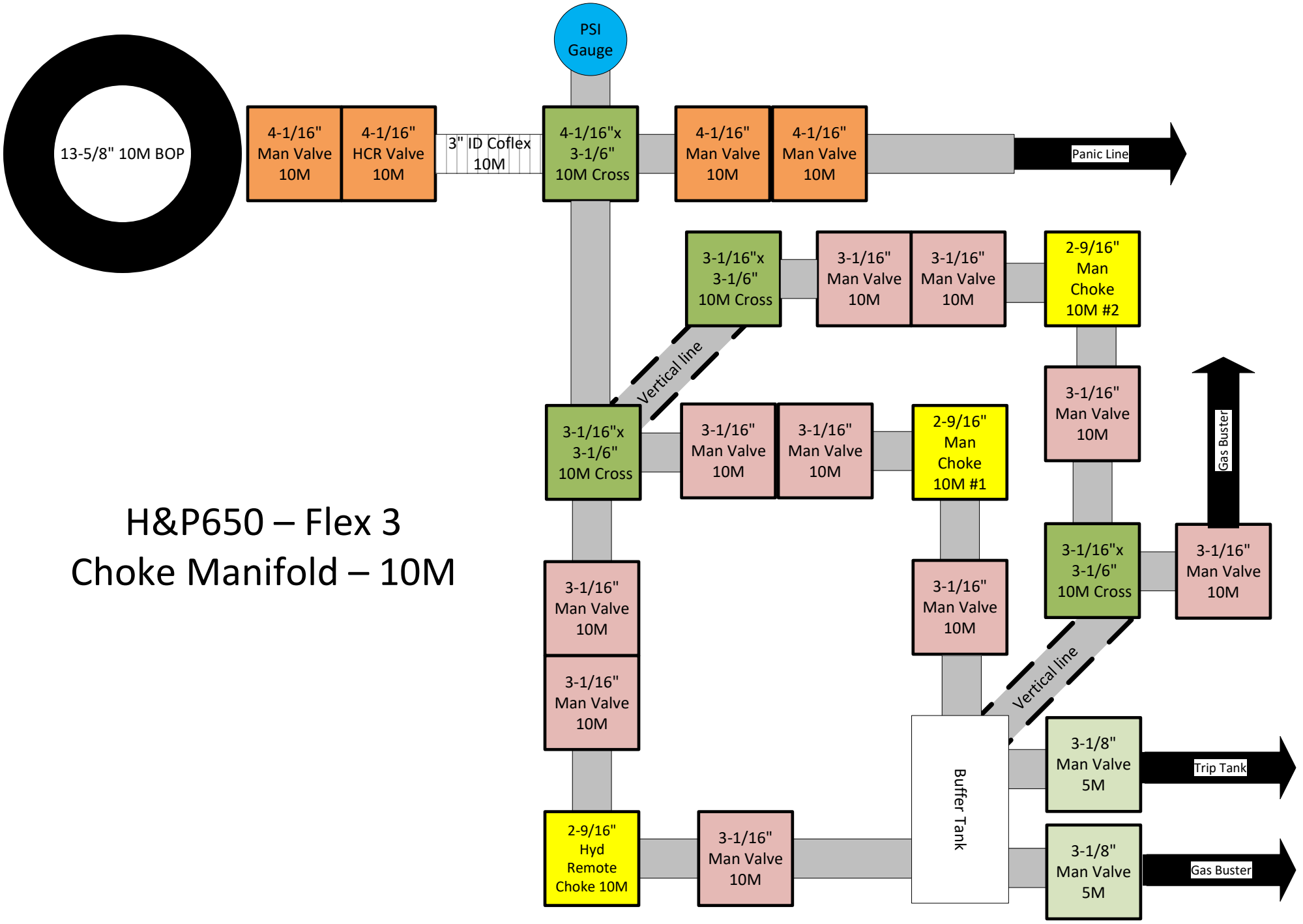
Gas_Capture_Plan_Cheddar_301H_20191213122151.docx

CDEV_Multi_Bowl_Procedure_Cheddar_Fed_Com_301H_20191213122918.pdf

GEOPROG_Cheddar_Federal_Com_301H_PRELIM_20200828124831.pdf

Other Variance attachment:

H_P_650_Flex_Hose_Specs_Continental_Hose_SN_67255_20191212112427.pdf



H&P650 – Flex 3
Choke Manifold – 10M

Centennial Resource Development - Well Control Plan

A. Component and Preventer Compatibility Table

Component	OD (inches)	Preventer	RWP
Drillpipe	4	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Heavyweight Drillpipe	4	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Drill collars and MWD tools	4 ¾	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Mud Motor	4 ¾	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
Production Casing	5.5 & 5	Upper VBR: 3.5 – 5.5 Lower VBR: 3.5 – 5.5	10M
All	0 – 13 5/8	Annular	5M
Open-hole	-	Blind rams	10M

VBR = Variable Bore Rams

RWP = Rated Working Pressure

MWD = Measurement While Drilling (directional tools)

B. Well Control Procedures

I. General Procedures While Drilling:

1. Sound alarm (alert crew).
2. Space out drill-string.
3. Shut down pumps and stop rotary.
4. Open HCR
5. Shut-in well – utilizing upper VBRs.
6. Close choke
7. Confirm shut-in.
8. Notify rig manager and Centennial company representative.
9. Call Centennial drilling engineer
10. Read and record
    - I. Shut-in drillpipe pressure (SIDPP) and shut-in casing pressure (SCIP).
    - II. Pit gain
    - III. Time
11. Regroup, identify forward plan

II. General Procedure While Tripping

1. Sound alarm (alert crew).
2. Stab full opening safety valve and close
3. Space out drillstring.
4. Open HCR
5. Shut-in well – utilizing upper VBRs
6. Close choke
7. Confirm shut-in.
8. Notify rig manager and Centennial company representative.
9. Call Centennial drilling engineer
10. Read and record:
    I. SIDPP AND SICP
    II. Pit gain
    III. Time
11. Regroup and identify forward plan.

III. General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out string.
4. Open HCR
5. Shut-in well – utilizing upper VBRs.
6. Close choke
7. Confirm shut-in.
8. Notify rig manager and Centennial company representative.
9. Call Centennial drilling engineer
10. Read and record:
    I. SIDPP AND SICP
    II. Pit gain
    III. Time
11. Regroup and identify forward plan.

IV. General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Open HCR
3. Shut-in with blind rams
4. Close choke
5. Confirm shut-in
6. Notify rig manager and Centennial company representative.
7. Call Centennial drilling engineer
8. Read and record:
    I. SIDPP AND SICP
    II. Pit gain
    III. Time
9. Regroup and identify forward plan.

V. General Procedures While Pulling BHA Thru BOP Stack

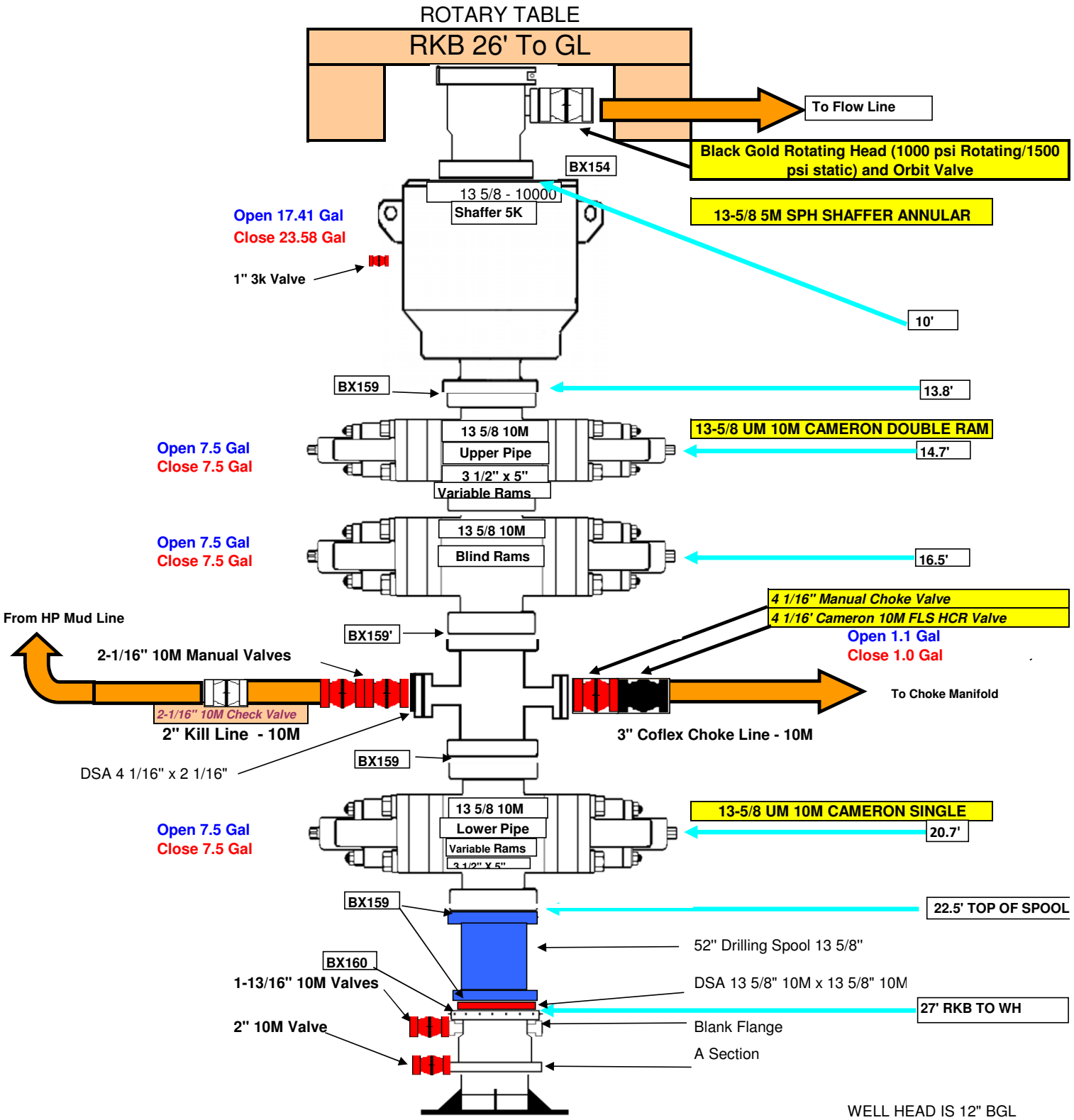
1. **Prior to pulling last joint of drillpipe thru stack**:
   - I. Perform flow check, if flowing
     - a. Sound alarm, alert crew
     - b. Stab full opening safety valve and close
     - c. Space out drillstring with tool joint just beneath the upper pipe ram.
     - d. Open HCR
     - e. Shut-in utilizing upper VBRs
     - f. Close choke
     - g. Confirm shut-in
     - h. Notify rig manager and Centennial company representative.
     - i. Call Centennial drilling engineer
     - j. Read and record:
       - i. SIDPP and SICP
       - ii. Pit gain
       - iii. Time
   - II. Regroup and identify forward plan

2. **With BHA in the BOP stack and compatible ram preventer and pipe combo immediately available**:
   - a. Sound alarm, alert crew
   - b. Stab full opening safety valve and close
   - c. Space out drillstring with tool joint just beneath the upper pipe ram.
   - d. Open HCR
   - e. Shut-in utilizing upper VBRs
   - f. Close choke
   - g. Confirm shut-in
   - h. Notify rig manager and Centennial company representative.
   - i. Call Centennial drilling engineer
   - j. Read and record:
     - i. SIDPP and SICP
     - ii. Pit gain
     - iii. Time
   - II. Regroup and identify forward plan

3. **With BHA in the BOP stack and no compatible ram preventer and pipe combo immediately availiable**:
    I. Sound alarm, alert crew.
    II. If possible to pick up high enough, pull string clear of the stack and follow Open Hole (III) scenario.
    III. If impossible to pick up high enough to pull the string clear of the stack:
        a. Stab crossover, make up one joint/stand of drill pipe and full opening safety valve and close.
        b. Space out drillstring with tool joint just beneath the upper pipe ram.
        c. Open HCR
        d. Shut-in utilizing upper VBRs.
        e. Close choke
        f. Confirm shut-in
        g. Notify rig manager and Centennial company representative.
        h. Call Centennial drilling engineer
        i. Read and record:
            i. SIDPP and SICP
            ii. Pit gain
            iii. Time
    IV. Regroup and identify forward plan.

** **If annular is used to shut-in well and pressure builds to OR is expected to get to 50% of RWP, confirm space-out and swap to upper VBRs for shut-in.**

H&P 650

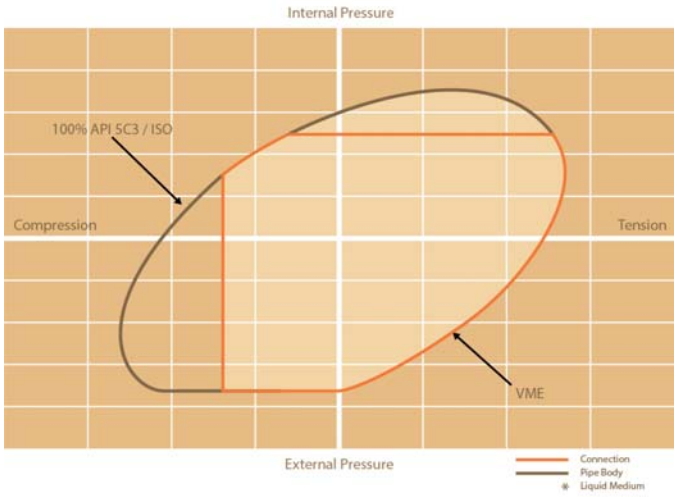

ROTARY TABLE
RKB 26' To GL
To Flow Line
Black Gold Rotating Head (1000 psi Rotating/1500 psi static) and Orbit Valve
BX154
13 5/8 - 10000
Shaffer 5K
13-5/8 5M SPH SHAFFER ANNULAR
Open 17.41 Gal
Close 23.58 Gal
1" 3k Valve
10'
BX159
13.8'
13 5/8 10M
Upper Pipe
3 1/2" x 5"
Variable Rams
13-5/8 UM 10M CAMERON DOUBLE RAM
14.7'
Open 7.5 Gal
Close 7.5 Gal
13 5/8 10M
Blind Rams
Open 7.5 Gal
Close 7.5 Gal
16.5'
4 1/16" Manual Choke Valve
4 1/16' Cameron 10M FLS HCR Valve
Open 1.1 Gal
Close 1.0 Gal
From HP Mud Line
BX159'
2-1/16" 10M Manual Valves
To Choke Manifold
2-1/16" 10M Check Valve
2" Kill Line - 10M
3" Coflex Choke Line - 10M
DSA 4 1/16" x 2 1/16"
BX159
13 5/8 10M
Lower Pipe
Variable Rams
13-5/8 UM 10M CAMERON SINGLE
20.7'
Open 7.5 Gal
Close 7.5 Gal
BX159
22.5' TOP OF SPOOL
52" Drilling Spool 13 5/8"
BX160
1-13/16" 10M Valves
DSA 13 5/8" 10M x 13 5/8" 10M
27' RKB TO WH
2" 10M Valve
Blank Flange
A Section
WELL HEAD IS 12" BGL

TECHNICAL DATA SHEET TMK UP DQX 5.5 X 20 P110 HC

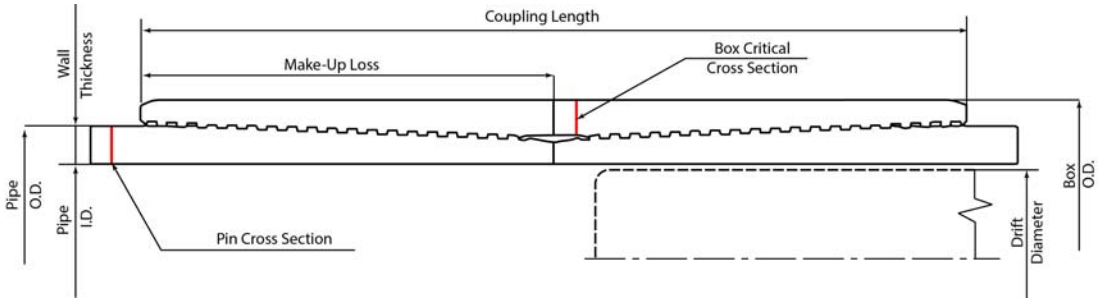
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.500
Wall Thickness, (inch)	0.361
Pipe Grade	P110 HC
Coupling	Regular
Coupling Grade	P110 HC
Drift	Standard

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	19.81
Nominal Weight, (lbs/ft)	20.00
Nominal ID, (inch)	4.778
Drift Diameter, (inch)	4.653
Nominal Pipe Body Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	12 780

CONNECTION PARAMETERS	
Connection OD (inch)	6.05
Connection ID, (inch)	4.778
Make-Up Loss, (inch)	4.122
Connection Critical Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Yeld Strength in Compression, (klbs)	641
Tension Efficiency	100%
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	12 780
Uniaxial Bending (deg/100ft)	91.7



MAKE-UP TORQUES	
Yield Torque, (ft-lb)	20 600
Minimum Make-Up Torque, (ft-lb)	11 600
Optimum Make-Up Torque, (ft-lb)	12 900
Maximum Make-Up Torque, (ft-lb)	14 100



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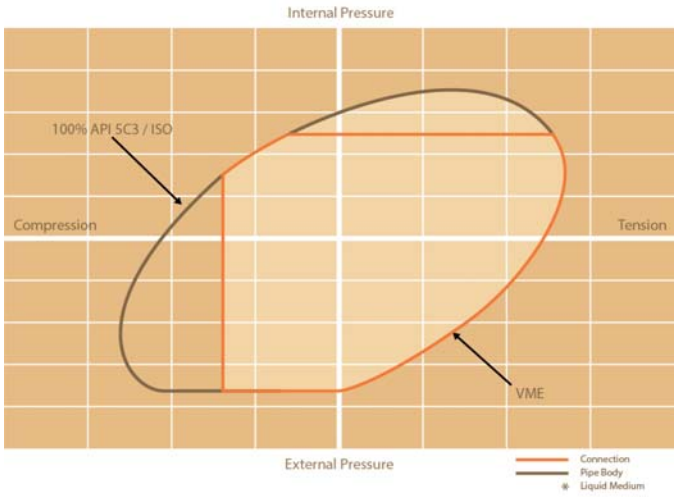
TECHNICAL DATA SHEET TMK UP DQX 5 X 18 P110 HC

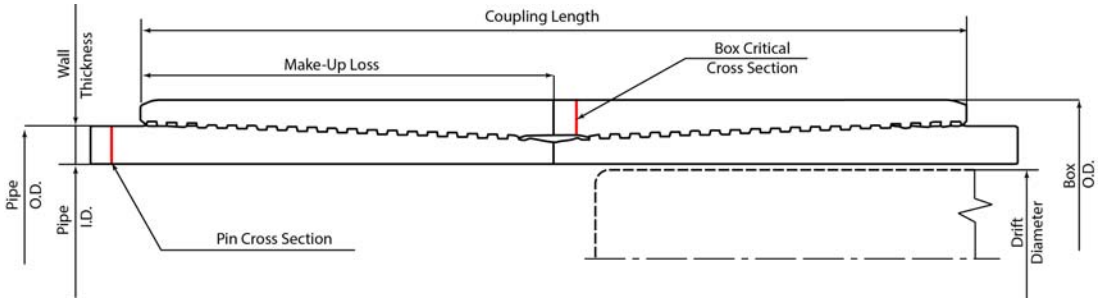
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.000
Wall Thickness, (inch)	0.362
Pipe Grade	P110 HC
Coupling	Regular
Coupling Grade	P110 HC
Drift	Standard

CONNECTION PARAMETERS	
Connection OD (inch)	5.56
Connection ID, (inch)	4.276
Make-Up Loss, (inch)	4.097
Connection Critical Area, (sq inch)	5.275
Yield Strength in Tension, (klbs)	580
Yeld Strength in Compression, (klbs)	580
Tension Efficiency	100%
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	13 940
Collapse Pressure, (psi)	14 820
Uniaxial Bending (deg/100ft)	100.9

MAKE-UP TORQUES	
Yield Torque, (ft-lb)	17 500
Minimum Make-Up Torque, (ft-lb)	9 800
Optimum Make-Up Torque, (ft-lb)	10 900
Maximum Make-Up Torque, (ft-lb)	11 900

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	17.93
Nominal Weight, (lbs/ft)	18.00
Nominal ID, (inch)	4.276
Drift Diameter, (inch)	4.151
Nominal Pipe Body Area, (sq inch)	5.275
Yield Strength in Tension, (klbs)	580
Min. Internal Yield Pressure, (psi)	13 940
Collapse Pressure, (psi)	14 820





NOTE: The content of this Technical Data Sheet is for general information only and does not guarantee performance or imply fitness for a particular purpose, which only a competent drilling professional can determine considering the specific installation and operation parameters. This information supersede all prior versions for this connection. Information that is printed or downloaded is no longer controlled by TMK and might not be the latest information. Anyone using the information herein does so at their own risk. To verify that you have the latest technical information, please contact PAO "TMK" Technical Sales in Russia (Tel: +7 (495) 775-76-00, Email: techsales@tmk-group.com) and TMK IPSCO in North America (Tel: +1 (281)949-1044, Email: techsales@tmk-ipsco.com).

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CASING ASSUMPTIONS WORKSHEET:

Centralizer Program:

Surface: - 3 welded bow spring centralizers, one on each of the bottom 3 joints, plus one on the shoe joint (4 minimum)
- No Cement baskets will be run

Production: - 1 welded bow spring centralizer on a stop ring 6' above float shoe
- 1 centralizer every other joint to the top of the tail cement
- 1 centralizer every 4 joints to 500' below the top of the lead cement
- The actual number and placement of centralizers will be determined from hole deviation and potential production zones. Centralizers will be run for maximum practical standoff and through all potential productive zones.

- All casing strings below the conductor shall be tested, prior to drilling out the casing shoe, to 0.22 psi/ft of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the internal yield pressure of the casing. If pressure declines more than 10 percent in 30 minutes, corrective action will be taken.

  No freshly hard banded pipe will be rotated in the surface casing

  - CENTENNIAL RESOURCE DEVELOPOMENT will not employ an air-drill rig for the surface casing. The casing shoe will be tested by drilling 5'-10' out from under the shoe and pressure testing to the maximum expected mud weight equivalent as shown in the mud program listed in the drilling plan.

TECHNICAL DATA SHEET TMK UP DQX 5.5 X 20 P110 CY

TUBULAR PARAMETERS	
Nominal OD, (inch)	5.500
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Pipe Grade	P110 CY
Coupling	Regular
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Drift	Standard

CONNECTION PARAMETERS	
Connection OD (inch)	6.05
Connection ID, (inch)	4.778
Make-Up Loss, (inch)	4.122
Connection Critical Area, (sq inch)	5.828
Yield Strength in Tension, (klbs)	641
Yeld Strength in Compression, (klbs)	641
Tension Efficiency	100%
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	11 110
Uniaxial Bending (deg/100ft)	92.0

MAKE-UP TORQUES	
Yield Torque, (ft-lb)	20 600
Minimum Make-Up Torque, (ft-lb)	11 600
Optimum Make-Up Torque, (ft-lb)	12 900
Maximum Make-Up Torque, (ft-lb)	14 100
Operating Torque, (ft-lb)	17 500

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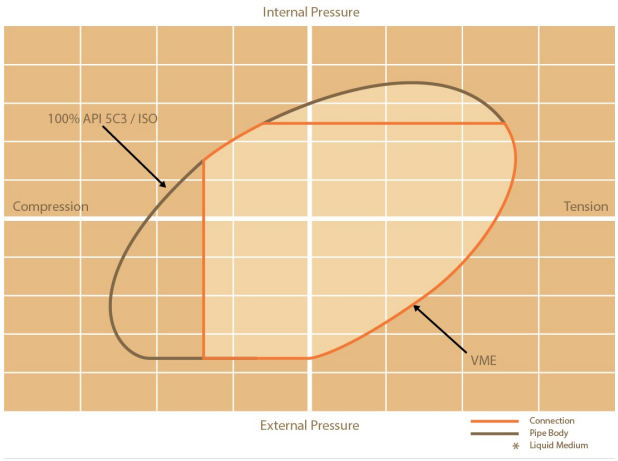

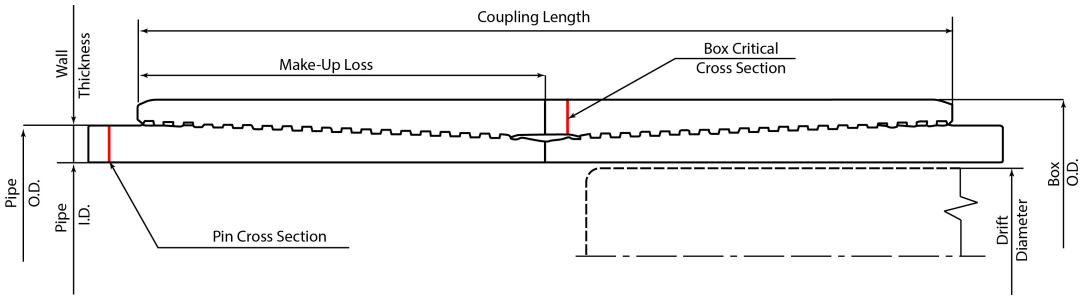

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CASING ASSUMPTIONS WORKSHEET:

Centralizer Program:

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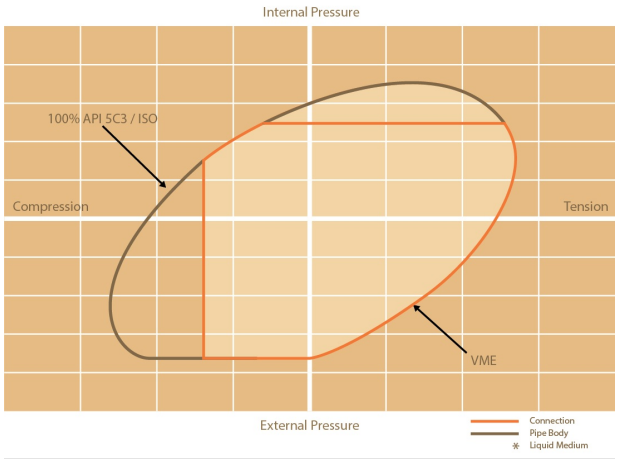
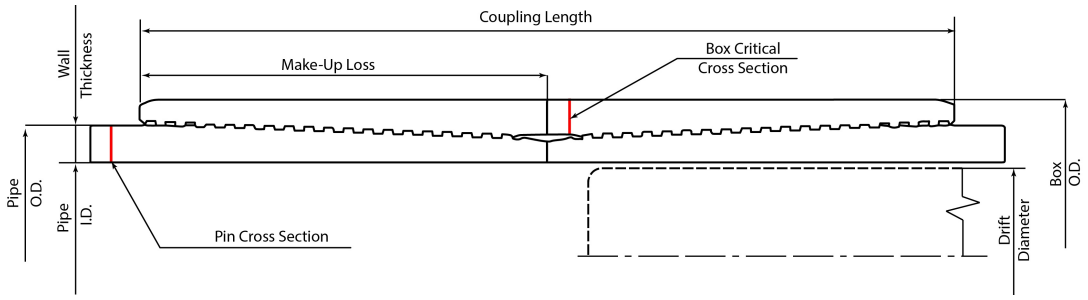
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	12 640
Collapse Pressure, (psi)	11 110
Uniaxial Bending (deg/100ft)	92.0



MAKE-UP TORQUES	
Yield Torque, (ft-lb)	20 600
Minimum Make-Up Torque, (ft-lb)	11 600
Optimum Make-Up Torque, (ft-lb)	12 900
Maximum Make-Up Torque, (ft-lb)	14 100
Operating Torque, (ft-lb)	17 500



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CENTENNIAL
RESOURCE DEVELOPMENT, INC

HYDROGEN SULFIDE CONTINGENCY PLAN

Chedder Fed Com 301H

Section 5

T 22S R 32E

Lea County, NM

Initial Date: 3/4/18

Revision Date:

Table of Contents

INTRODUCTION

This plan specifies precautionary measures, safety equipment, emergency procedures, responsibilities, duties, and the compliance status pertaining to the production operations of Hydrogen Sulfide producing wells on:

Centennial Resource Development, Inc.

This plan will be in full effect prior to and continuing with all drilling operations for all wells producing potential Hydrogen Sulfide on the

Chedder Fed Com 301H

This plan was developed in response to the potential hazards involved when producing formations that may contain Hydrogen Sulfide (H_2S) It has been written in compliance with current New Mexico Oil Conservation Division Rule 118 and Bureau of Land Management 43 CFR 3160 Onshore Order No. 6.

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

This plan shall require the full cooperation and efforts of all individuals participating in the production of potential H_2S wells.

Each individual is required to know their assigned responsibilities and duties in regard to normal production operations and emergency procedures.

Each person should thoroughly understand and be able to use all safety related equipment on the production facility.

Each person should become familiar with the location of all safety equipment and become involved in ensuring that all equipment is properly stored, easily accessible, and routinely maintained.

An ongoing training program will remain in effect with regular training, equipment inspections, and annual certifications for all personnel.

Centennial Resource Development, Inc. shall make every reasonable effort to provide all possible safeguards to protect all personnel, both on this location and in the immediate vicinity, from the harmful effects of H_2S exposure, if a release to the atmosphere should occur.

DIRECTIONS TO LOCATION

Chedder Fed Com 301H

Section 5

T 22S R 32E

Lea County, NM

PROCEED IN A NORTHEASTLY, THEN EASTERLY DIRECTION FROM CARLSBAD, NEW MEXICO ALONG U.S. HIGHWAY 62 APPROXIMATELY 31.1 MILES TO THE JUNCTION OF THIS ROAD AND CAMPBELL ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY, THEN SOUTHERLY DIRECTION APPROXIMATELY 9.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN NORTHERLY, THEN EASTERLY DIRECTION APPROXIMATELY 1.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.3 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE SOUTHWEST; FOLLOW ROAD FLAGS IN AN SOUTHWESTERLY, THEN SOUTHERLY, THEN EASTERLY DIRECTION APPROXIMATELY 1,101' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM CARLSBAD, NEW MEXICO TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 43.2 MILES.TOTAL DISTANCE FROM JAL, NEW MEXICO TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 29.0 MILES.

SAFE BRIEFING AREAS

Two areas will be designated as “SAFE BRIEFING AREAS”.

The Primary Safe Briefing Area

If the Primary Safe Briefing Area cannot be used due to wind conditions; the designated secondary safe briefing area will be used.

These two areas are so designated for accessibility reasons related to self-contained safe breathing air device locations, evacuation muster point utility, and for ease of overall communication, organizational support, as well as the all-important prevailing wind directions. Drawings of the facility denoting these locations are included on Page 15.

If H_2S is detected in concentrations equal to or in excess of 15 PPM, all personnel not assigned emergency duties are to assemble in the appropriate “SAFE BRIEFING AREA” for instructions.

Wind Direction Indicators: A windsock, shall be positioned, allowing the wind direction to be observed from anywhere on the charted facility location.

Warning-DANGER SIGNS for Approaching Traffic: All signs shall also be illuminated under conditions of poor visibility.

DANGER
POISONOUS GAS
HYDROGEN SULFIDE
DO NOT APPROACH IF AMBER LIGHTS ARE FLASHING

An amber strobe light system will be activated for H_2S concentrations of 10 PPM or greater and an audible alarm will sound when H_2S exceeds 15 ppm, and. This condition will exist until the all clear is given.

DRILL SITE LOCATION:

1. The drilling rig should be situated on location such that the prevailing winds blow across the rig toward the reserve pit or at right angles to a line from the rig to the reserve pit.
2. The entrance to the location should be designated so that it can be barricaded if Hydrogen Sulfide emergency conditions arise. An auxiliary exit (or entrance) should be available in case of a catastrophe; a shift in wind direction would not preclude escape from the location. Appropriate warning signs and flags should be placed at all location entrances.
3. Once H2S safety procedures are established on location, no beards or facial hair, which will interfere with face seal or mask, will be allowed on location.
4. A minimum of two BRIEFING AREAS will be established, no less than 250 feet from the wellhead and in such location that at least one area will be up-wind from the well at all times. Upon recognition of an emergency situation, all personnel should assemble at the designated briefing areas for instructions.
5. A safety equipment trailer will be station at one of the briefing areas.
6. Windsocks will be installed and wind streamers (6 to 8 feet above ground level) placed at the location entrance. Windsocks shall be illuminated for nighttime operations. Personnel should develop wind direction consciousness.
7. The mud-logging trailer will be located so as to minimize the danger from the gas that breaks out of the drilling fluid.
8. Shale shaker mud tanks will be located so as to minimize the danger from gas that breaks out of the drilling fluid.
9. Electric power plant(s) will be located as far from the well bore as practical so that it may be used under conditions where it otherwise would have to be shut down.
10. When approaching depth where Hydrogen Sulfide may be encountered, appropriate warning signs will be posted on all access roads to the location and at the foot of all stairways to the derrick floor.
11. Appropriate smoking areas will be designated, and smoking will be prohibited elsewhere.

The table below lists various poisonous gases and the concentrations at which they become dangerous.

TOXICITY OF VARIOUS GASES

TOXICITY OF GASES (Taken from API RP-49 September 1974 – Re-issued August 1978)					
Common Name	**Chemical Formula**	**Gravity (Air = 1)**	**Threshold 1 Limit**	**Hazardous 2 Limit**	**Lethal 3 Limit**
Hydrogen Sulfide	H_2S	1.18	10 ppm	250 ppm/1hr	600 ppm
Sulfur Dioxide	SO_2	2.21	20 ppm	---	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/1hr	1000 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	5%	10%
Methane	CH_4	0.55	90000 ppm	Combustible Above 5% in Air	

1. Threshold concentration at which it is believed that all workers may repeatedly be exposed day after day, without adverse effect	2. Hazardous concentration that may cause death	3. Lethal concentration that will cause death with short-term exposure

Properties of Gases

The produced gas will probably be a mixture of Carbon Dioxide, Hydrogen Sulfide, and Methane.

Carbon Dioxide
Carbon Dioxide (CO_2) is usually considered inert and is commonly used to extinguish fires.

It is heavier than air (1.52 times) and it will concentrate in low areas of still air.

Humans cannot breathe air containing more than 10% CO_2 without losing consciousness. Air containing 5% CO_2 will cause disorientation in a few minutes.

Continued exposures to CO_2 after being affected will cause convulsions, coma, and respiratory failure.

The threshold limit of CO_2 is 5000 ppm.

Short-term exposure to 50,000 PPM (5%) is reasonable. This gas is colorless and odorless and can be tolerated in relatively high concentrations.

Hydrogen Sulfide

Hydrogen Sulfide (H_2S) itself is a colorless, transparent gas and is flammable. It is heavier than air and, hence, may accumulate in low places.

Although the slightest presence of H_2S in the air is normally detectable by its characteristic "rotten egg" odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost, allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of Hydrogen Sulfide.

HYDROGEN SULFIDE TOXICITY			
Concentration			Effects
$\%H_2S$	PPM	GR/100 SCF 1	
0.001	10	0.65	Safe for 8 hours without respirator. Obvious and unpleasant odor.
0.002	20	1.30	Burning in eyes and irritation of respiratory tract after on hour.
0.01	100	6.48	Kills smell in 3 to 15 minutes; may sting eyes and throat.
0.02	200	12.96	Kills smell shortly; stings eyes and throat.
0.05	500	32.96	Dizziness; breathing ceases in a few minutes; need prompt artificial respiration.
0.07	700	45.92	Unconscious quickly; death will result if not rescued promptly
0.10	1000	64.80	DEATH!
Note: 1 grain per 100 cubic feet			

Sulfur Dioxide

Sulfur Dioxide is a colorless, transparent gas and is non-flammable.

Sulfur Dioxide (SO_2) is produced during the burning of H_2S. Although SO_2 is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. Since Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect. The following table indicates the toxic nature of the gas.

SULFUR DIOXIDE TOXICITY		
Concentration		Effects
$\%SO_2$	PPM	
0.0005	3 to 5	Pungent odor-normally a person can detect SO_2 in this range.
0.0012	12	Throat irritation, coughing, and constriction of the chest tearing and smarting of eyes.
0.15	150	So irritating that it can only be endured for a few minutes.
0.05	500	Causes a sense of suffocation, even with first breath.

H_2S REQUIRED EQUIPMENT LIST

RESPIRATORY SAFETY SYSTEMS
- Working cascade system available on rig floor and pit system & 750' of air line hose
- Four (4) breathing air manifolds
- Four (4) 30-minute rescue packs
- Five (5) work/Escape units
- Five (5) escape units
- One (1) filler hose for the work/escape/rescue units

DETECTION AND ALARM SYSTEM
- 4 channel H2S monitor
- 4 wireless H2S monitors
- H2S alarm system (Audible/Red strobe)
- Personal gas monitor for each person on location
- Gas sample tubes

WELL CONTROL EQUIPMENT
- Flare line with remote ignitor and backup flare gun, placed 150' from wellhead
- Choke manifold with remotely operated choke
- Mud gas separator

VISUAL WARNING SYSTEMS
- One color code condition sign will be placed at each entrance reflecting possible conditions at the site
- A colored condition flag will be on display, reflecting current condition at the site at the time
- At least 4 wind socks placed on location, visible at all angles and locations

MUD PROGRAM
- Mud will contain sufficient weight and additives to control and minimize H2S

METALLURGY
- All drill strings, casing, tubing, wellhead, BOP, spools, kill lines, choke manifold and lines, and valves shall be suitable for anticipated H2S volume and pressure

COMMUNICATION
- Cell phones, intercoms, and satellite phones will be available on location

ADDITIONAL SAFETY RELATED ITEMS
- Stretcher
- 2 OSHA full body harness
- 20# class ABC fire extinguisher

DETERMINATION OF RADIUS OF EXPOSURE

Potentially hazardous volume means a volume of gas of such H2S concentration and flow rate that it may result in radius of exposure-calculated ambient concentrations of 100 ppm H2S at any occupied residence, school, church, park, school bus stop, place of business or other area where the public could reasonably be expected to frequent, or 500 ppm H2S at any Federal, State, County or municipal road or highway.

Currently there are no residence located within the ROE

Radius of exposure means the calculation resulting from using the Pasquill -Gifford derived equation, or by such other method(s) that may be approved by the authorized officer.
Advanced Fire and Safety has provided the Pasquill-Gifford formula in excel format for simple calculations.

NEW MEXICO OIL & GAS CONSERVATION DIVISION 118

Chedder Fed Com 301H

H2S Concentration- 250 PPM

Maximum Escape Volume- 5000 MCF/Day

100 PPM Radius of Exposure - 116
(Formula= 1.589 x (250/1000000) x (5000 x 1000) x .6258

500 PPM Radius of Exposure (Block 16)- 53
Formula= .4546 x (250/1000000) x (5000 x 1000) x .6258

EMERGENCY CONTACT LIST

911 is available in the area			
NAME	**POSITION**	**COMPANY**	**NUMBER**
Centennial Contacts			
Jeremy Ray	Drilling Engineer	CDEV	303-263-7872
Ricky Mills/John Helm	Superintendent	CDEV	432-305-1068
Mike Ponder/Wayne Miller	Field Superintendent	CDEV	432-287-3003
Brett Thompson	Drilling Manager	CDEV	720-656-7027
Reggie Phillips	HSE Manager	CDEV	432-638-3380
H&P 650 Drilling Office	Drilling Supervisor	CDEV	432-538-3343
Local Emergency Response			
Fire Department			575-395-2511
Jal Community Hospital			505-395-2511
State Police			505-827-9000
Lea County Sheriff			575-396-3611
Safety Contractor			
Advanced Safety	Office	Advanced Safety	833-296-3913
Joe Gadway	Permian Supervisor	Advanced Safety	318-446-3716
Clint Hudson	Operations Manager	Advanced Safety	337-552-8330
Well Control Company			
Wild Well Control			866-404-9564
Contractors			
Tommy E Lee	Pump Trucks		432-813-7140
Paul Smith	Drilling Fluids	Momentum	307-258-6254
Compass Coordinators	Cement	Compass	432-561-5970

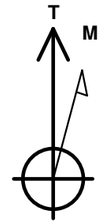
CENTENNIAL
RESOURCE DEVELOPMENT, INC

Project: CHEDDER FEDERAL
Site: CHEDDAR
Wells: CHEDDAR FED COM 301H, 401H, 502H
Design: APD PLAN
RKB: 3664.7

PROJECT DETAILS: LEA COUNTY

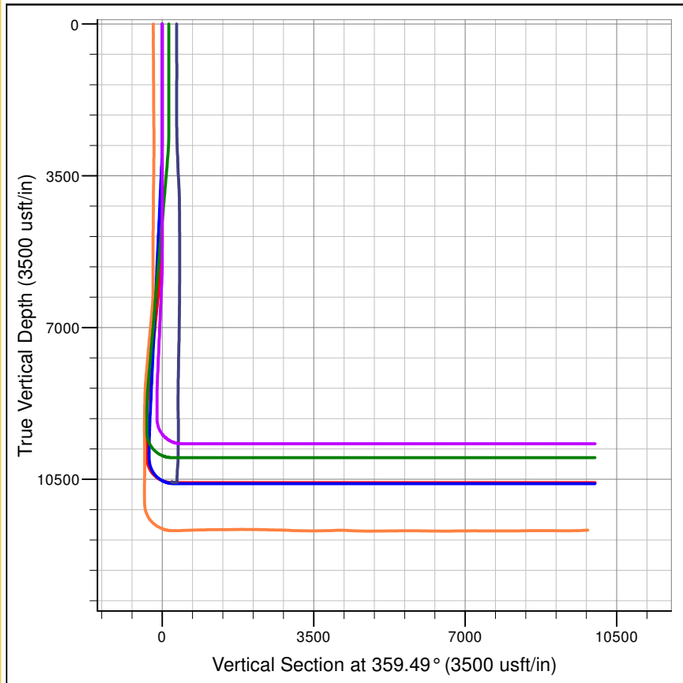
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)

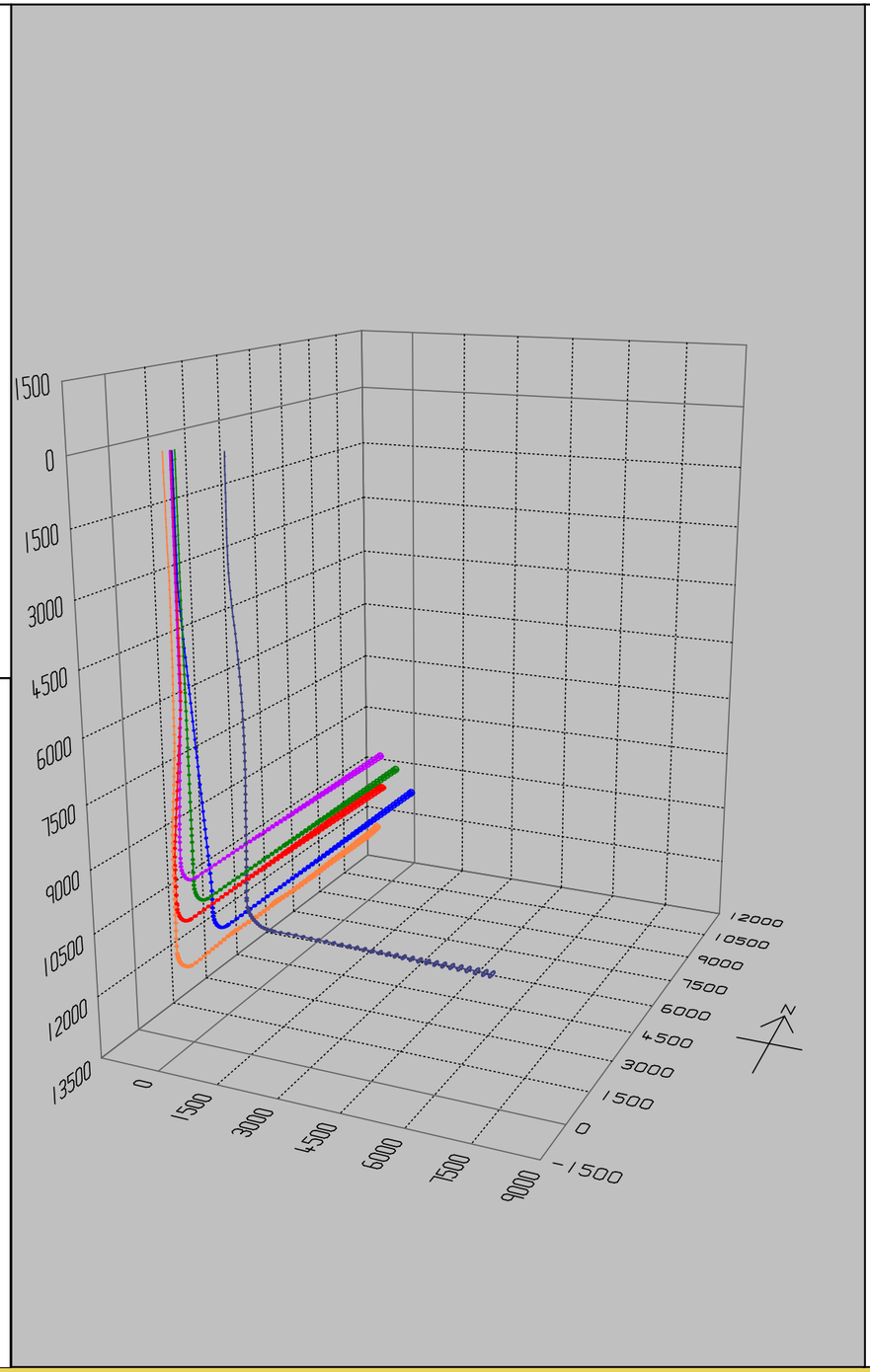
System Datum: Mean Sea Level

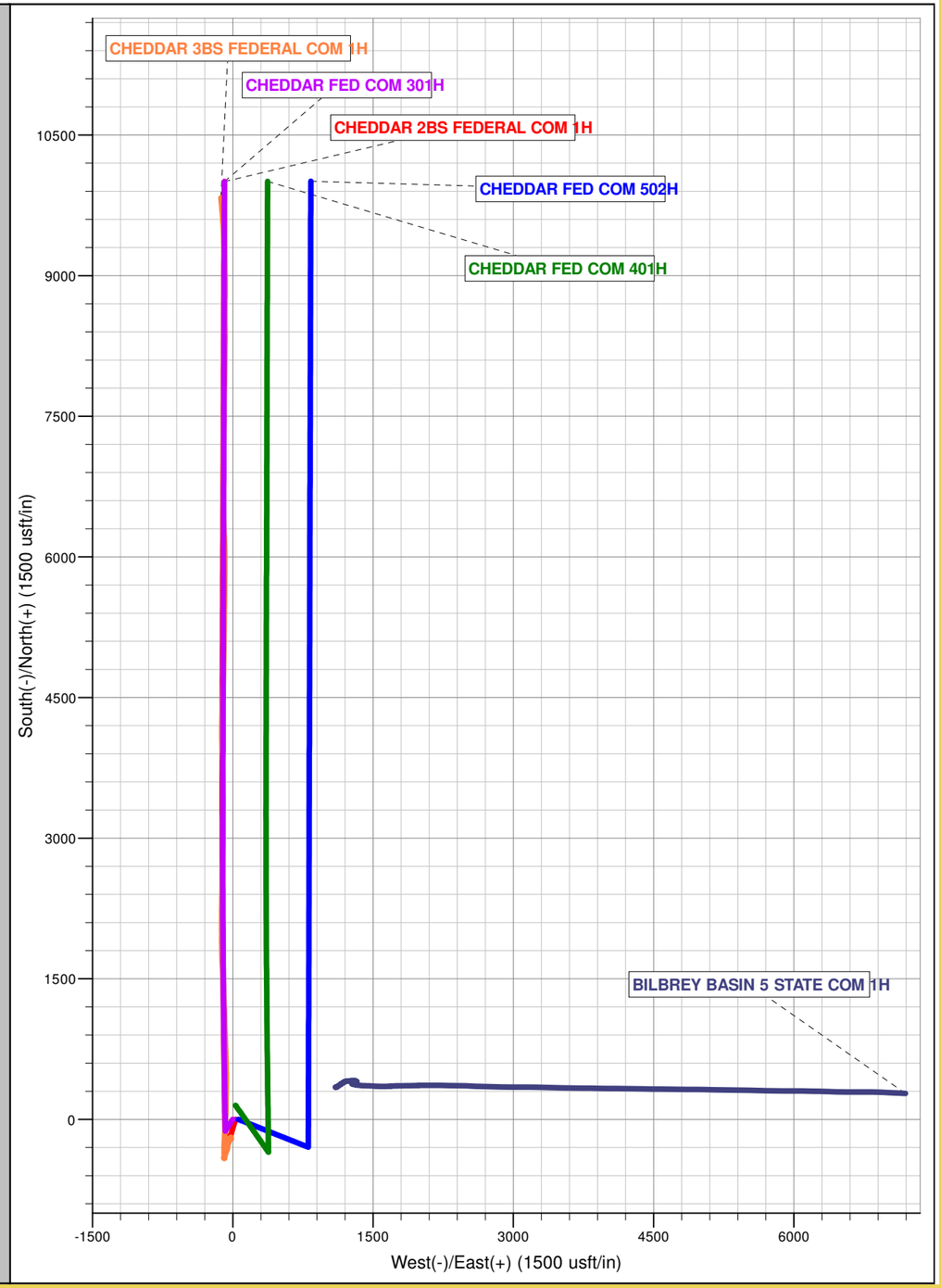


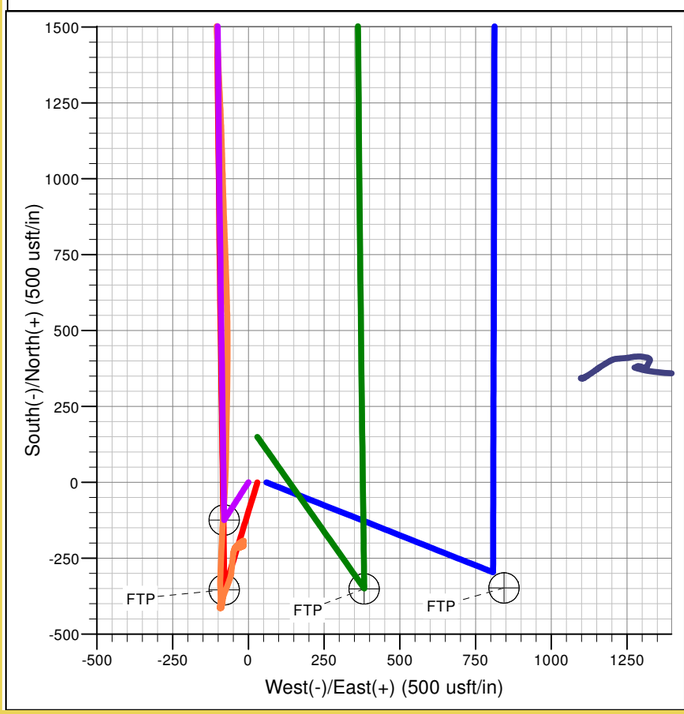
Azimuths to True North
Magnetic North: 7.82°

Magnetic Field
Strength: 48891.4snT
Dip Angle: 60.40°
Date: 11/6/2018
Model: IGRF200510









NEW MEXICO

LEA
CHEDDAR
CHEDDAR FED COM 301H

CHEDDAR FED COM 301H

Plan: PWP0

Survey Report - Geographic

04 March, 2019

LGC

Survey Report - Geographic

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well CHEDDAR FED COM 301H
Project:	LEA	**TVD Reference:**	RKB=3664.7+25 @ 3689.7usft
Site:	CHEDDAR	**MD Reference:**	RKB=3664.7+25 @ 3689.7usft
Well:	CHEDDAR FED COM 301H	**North Reference:**	True
Wellbore:	CHEDDAR FED COM 301H	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP0	**Database:**	Centennial EDM SQL Server

Project LEA

Map System:	Universal Transverse Mercator (US Survey Fee	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site CHEDDAR

Site Position:		**Northing:**	0.00 usft	**Latitude:**	0° 0' 0.000 N
From:	Map	**Easting:**	97,504,799.39 usft	**Longitude:**	152° 28' 52.124 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.00 °

Well CHEDDAR FED COM 301H

Well Position	**+N/-S**	0.0 usft	**Northing:**	11,768,777.60 usft	**Latitude:**	32° 24' 52.537 N
	+E/-W	0.0 usft	**Easting:**	2,040,217.58 usft	**Longitude:**	103° 42' 14.591 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,664.7 usft

Wellbore CHEDDAR FED COM 301H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.82	60.40	48,891.41192276

Design PWP0

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.49

Survey Tool Program **Date** 3/4/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	19,564.5	PWP0 (CHEDDAR FED COM 301H)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
100.0	0.00	0.00	100.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
200.0	0.00	0.00	200.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
300.0	0.00	0.00	300.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
400.0	0.00	0.00	400.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
500.0	0.00	0.00	500.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
600.0	0.00	0.00	600.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
700.0	0.00	0.00	700.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
800.0	0.00	0.00	800.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
900.0	0.00	0.00	900.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W

LGC

Survey Report - Geographic

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well CHEDDAR FED COM 301H
Project:	LEA	**TVD Reference:**	RKB=3664.7+25 @ 3689.7usft
Site:	CHEDDAR	**MD Reference:**	RKB=3664.7+25 @ 3689.7usft
Well:	CHEDDAR FED COM 301H	**North Reference:**	True
Wellbore:	CHEDDAR FED COM 301H	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP0	**Database:**	Centennial EDM SQL Server

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,200.0	0.00	0.00	1,200.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,300.0	0.00	0.00	5,300.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,500.0	0.00	0.00	5,500.0	0.0	0.0	11,768,777.60	2,040,217.58	32° 24' 52.537 N	103° 42' 14.591 W
5,600.0	1.00	212.66	5,600.0	-0.7	-0.5	11,768,776.86	2,040,217.11	32° 24' 52.530 N	103° 42' 14.596 W
5,700.0	2.00	212.66	5,700.0	-2.9	-1.9	11,768,774.64	2,040,215.73	32° 24' 52.508 N	103° 42' 14.613 W
5,800.0	3.00	212.66	5,799.9	-6.6	-4.2	11,768,770.94	2,040,213.42	32° 24' 52.471 N	103° 42' 14.640 W
5,900.0	3.00	212.66	5,899.7	-11.0	-7.1	11,768,766.50	2,040,210.65	32° 24' 52.428 N	103° 42' 14.673 W
6,000.0	3.00	212.66	5,999.6	-15.4	-9.9	11,768,762.06	2,040,207.88	32° 24' 52.384 N	103° 42' 14.706 W
6,100.0	3.00	212.66	6,099.5	-19.8	-12.7	11,768,757.62	2,040,205.11	32° 24' 52.341 N	103° 42' 14.739 W
6,200.0	3.00	212.66	6,199.3	-24.2	-15.5	11,768,753.18	2,040,202.34	32° 24' 52.297 N	103° 42' 14.772 W
6,300.0	3.00	212.66	6,299.2	-28.6	-18.4	11,768,748.74	2,040,199.57	32° 24' 52.253 N	103° 42' 14.805 W
6,400.0	3.00	212.66	6,399.0	-33.0	-21.2	11,768,744.30	2,040,196.79	32° 24' 52.210 N	103° 42' 14.838 W
6,500.0	3.00	212.66	6,498.9	-37.5	-24.0	11,768,739.86	2,040,194.02	32° 24' 52.166 N	103° 42' 14.871 W
6,600.0	3.00	212.66	6,598.8	-41.9	-26.8	11,768,735.42	2,040,191.25	32° 24' 52.123 N	103° 42' 14.904 W

LGC

Survey Report - Geographic

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well CHEDDAR FED COM 301H
Project:	LEA	**TVD Reference:**	RKB=3664.7+25 @ 3689.7usft
Site:	CHEDDAR	**MD Reference:**	RKB=3664.7+25 @ 3689.7usft
Well:	CHEDDAR FED COM 301H	**North Reference:**	True
Wellbore:	CHEDDAR FED COM 301H	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP0	**Database:**	Centennial EDM SQL Server

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,700.0	3.00	212.66	6,698.6	-46.3	-29.7	11,768,730.98	2,040,188.48	32° 24' 52.079 N	103° 42' 14.937 W
6,800.0	3.00	212.66	6,798.5	-50.7	-32.5	11,768,726.54	2,040,185.71	32° 24' 52.035 N	103° 42' 14.970 W
6,900.0	3.00	212.66	6,898.4	-55.1	-35.3	11,768,722.10	2,040,182.94	32° 24' 51.992 N	103° 42' 15.003 W
7,000.0	3.00	212.66	6,998.2	-59.5	-38.1	11,768,717.66	2,040,180.17	32° 24' 51.948 N	103° 42' 15.036 W
7,100.0	3.00	212.66	7,098.1	-63.9	-41.0	11,768,713.22	2,040,177.40	32° 24' 51.904 N	103° 42' 15.069 W
7,200.0	3.00	212.66	7,197.9	-68.3	-43.8	11,768,708.78	2,040,174.63	32° 24' 51.861 N	103° 42' 15.102 W
7,300.0	3.00	212.66	7,297.8	-72.7	-46.6	11,768,704.34	2,040,171.86	32° 24' 51.817 N	103° 42' 15.134 W
7,400.0	3.00	212.66	7,397.7	-77.1	-49.4	11,768,699.90	2,040,169.09	32° 24' 51.774 N	103° 42' 15.167 W
7,500.0	3.00	212.66	7,497.5	-81.5	-52.3	11,768,695.46	2,040,166.32	32° 24' 51.730 N	103° 42' 15.200 W
7,600.0	3.00	212.66	7,597.4	-85.9	-55.1	11,768,691.02	2,040,163.55	32° 24' 51.686 N	103° 42' 15.233 W
7,700.0	3.00	212.66	7,697.3	-90.3	-57.9	11,768,686.58	2,040,160.78	32° 24' 51.643 N	103° 42' 15.266 W
7,800.0	3.00	212.66	7,797.1	-94.7	-60.7	11,768,682.14	2,040,158.00	32° 24' 51.599 N	103° 42' 15.299 W
7,900.0	3.00	212.66	7,897.0	-99.1	-63.5	11,768,677.70	2,040,155.23	32° 24' 51.556 N	103° 42' 15.332 W
8,000.0	3.00	212.66	7,996.8	-103.5	-66.4	11,768,673.26	2,040,152.46	32° 24' 51.512 N	103° 42' 15.365 W
8,100.0	3.00	212.66	8,096.7	-108.0	-69.2	11,768,668.82	2,040,149.69	32° 24' 51.468 N	103° 42' 15.398 W
8,200.0	3.00	212.66	8,196.6	-112.4	-72.0	11,768,664.38	2,040,146.92	32° 24' 51.425 N	103° 42' 15.431 W
8,300.0	3.00	212.66	8,296.4	-116.8	-74.8	11,768,659.94	2,040,144.15	32° 24' 51.381 N	103° 42' 15.464 W
8,320.0	3.00	212.66	8,316.4	-117.6	-75.4	11,768,659.05	2,040,143.60	32° 24' 51.372 N	103° 42' 15.471 W
8,400.0	2.20	212.66	8,396.3	-120.7	-77.4	11,768,655.97	2,040,141.68	32° 24' 51.342 N	103° 42' 15.493 W
8,500.0	1.20	212.66	8,496.3	-123.2	-79.0	11,768,653.46	2,040,140.11	32° 24' 51.318 N	103° 42' 15.512 W
8,600.0	0.20	212.66	8,596.3	-124.2	-79.6	11,768,652.42	2,040,139.46	32° 24' 51.307 N	103° 42' 15.520 W
8,620.0	0.00	0.00	8,616.3	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
8,700.0	0.00	0.00	8,696.3	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
8,800.0	0.00	0.00	8,796.3	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
8,900.0	0.00	0.00	8,896.3	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
9,000.0	0.00	0.00	8,996.3	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
9,100.0	0.00	0.00	9,096.3	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
9,110.5	0.00	0.00	9,106.8	-124.3	-79.6	11,768,652.39	2,040,139.44	32° 24' 51.307 N	103° 42' 15.520 W
9,200.0	8.95	359.13	9,195.9	-117.3	-79.8	11,768,659.36	2,040,139.25	32° 24' 51.376 N	103° 42' 15.521 W
9,300.0	18.94	359.13	9,292.8	-93.2	-80.1	11,768,683.42	2,040,138.59	32° 24' 51.614 N	103° 42' 15.526 W
9,400.0	28.94	359.13	9,384.1	-52.7	-80.7	11,768,723.93	2,040,137.49	32° 24' 52.015 N	103° 42' 15.533 W
9,500.0	38.93	359.13	9,467.0	3.0	-81.6	11,768,779.66	2,040,135.96	32° 24' 52.567 N	103° 42' 15.543 W
9,600.0	48.93	359.13	9,538.9	72.3	-82.6	11,768,848.92	2,040,134.07	32° 24' 53.253 N	103° 42' 15.555 W
9,700.0	58.92	359.13	9,597.7	153.0	-83.9	11,768,929.61	2,040,131.87	32° 24' 54.051 N	103° 42' 15.569 W
9,800.0	68.92	359.13	9,641.6	242.7	-85.2	11,769,019.29	2,040,129.42	32° 24' 54.939 N	103° 42' 15.585 W
9,900.0	78.91	359.13	9,669.3	338.7	-86.7	11,769,115.21	2,040,126.80	32° 24' 55.889 N	103° 42' 15.602 W
10,000.0	88.91	359.13	9,679.9	438.0	-88.2	11,769,214.49	2,040,124.09	32° 24' 56.872 N	103° 42' 15.620 W
10,010.9	90.00	359.13	9,680.0	448.9	-88.4	11,769,225.41	2,040,123.79	32° 24' 56.980 N	103° 42' 15.622 W
10,100.0	90.00	359.16	9,680.0	538.0	-89.7	11,769,314.45	2,040,121.38	32° 24' 57.861 N	103° 42' 15.637 W
10,200.0	90.00	359.20	9,680.0	638.0	-91.1	11,769,414.41	2,040,118.73	32° 24' 58.851 N	103° 42' 15.654 W
10,300.0	90.00	359.23	9,680.0	738.0	-92.5	11,769,514.38	2,040,116.15	32° 24' 59.840 N	103° 42' 15.670 W
10,400.0	90.00	359.27	9,680.0	837.9	-93.8	11,769,614.35	2,040,113.63	32° 25' 0.830 N	103° 42' 15.685 W
10,500.0	90.00	359.30	9,680.0	937.9	-95.0	11,769,714.32	2,040,111.17	32° 25' 1.820 N	103° 42' 15.700 W
10,600.0	90.00	359.34	9,680.0	1,037.9	-96.2	11,769,814.29	2,040,108.78	32° 25' 2.809 N	103° 42' 15.713 W
10,700.0	90.00	359.38	9,680.0	1,137.9	-97.3	11,769,914.26	2,040,106.44	32° 25' 3.799 N	103° 42' 15.727 W
10,800.0	90.00	359.41	9,680.0	1,237.9	-98.4	11,770,014.24	2,040,104.17	32° 25' 4.788 N	103° 42' 15.739 W
10,900.0	90.00	359.45	9,680.0	1,337.9	-99.4	11,770,114.21	2,040,101.96	32° 25' 5.778 N	103° 42' 15.751 W
11,000.0	90.00	359.48	9,680.0	1,437.9	-100.3	11,770,214.19	2,040,099.81	32° 25' 6.768 N	103° 42' 15.761 W
11,100.0	90.00	359.52	9,680.0	1,537.9	-101.2	11,770,314.17	2,040,097.73	32° 25' 7.757 N	103° 42' 15.772 W
11,200.0	90.00	359.55	9,680.0	1,637.9	-102.0	11,770,414.15	2,040,095.70	32° 25' 8.747 N	103° 42' 15.781 W
11,300.0	90.00	359.59	9,680.0	1,737.9	-102.8	11,770,514.13	2,040,093.74	32° 25' 9.737 N	103° 42' 15.790 W
11,400.0	90.00	359.62	9,680.0	1,837.9	-103.5	11,770,614.11	2,040,091.84	32° 25' 10.726 N	103° 42' 15.798 W
11,500.0	90.00	359.66	9,680.0	1,937.9	-104.1	11,770,714.09	2,040,090.00	32° 25' 11.716 N	103° 42' 15.805 W
11,600.0	90.00	359.70	9,680.0	2,037.9	-104.6	11,770,814.08	2,040,088.23	32° 25' 12.706 N	103° 42' 15.812 W
11,700.0	90.00	359.73	9,680.0	2,137.9	-105.1	11,770,914.06	2,040,086.52	32° 25' 13.696 N	103° 42' 15.818 W

LGC

Survey Report - Geographic

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well CHEDDAR FED COM 301H
Project:	LEA	**TVD Reference:**	RKB=3664.7+25 @ 3689.7usft
Site:	CHEDDAR	**MD Reference:**	RKB=3664.7+25 @ 3689.7usft
Well:	CHEDDAR FED COM 301H	**North Reference:**	True
Wellbore:	CHEDDAR FED COM 301H	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP0	**Database:**	Centennial EDM SQL Server

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,800.0	90.00	359.77	9,680.0	2,237.9	-105.6	11,771,014.05	2,040,084.86	32° 25' 14.685 N	103° 42' 15.823 W
11,900.0	90.00	359.80	9,680.0	2,337.9	-106.0	11,771,114.04	2,040,083.27	32° 25' 15.675 N	103° 42' 15.827 W
12,000.0	90.00	359.84	9,680.0	2,437.9	-106.3	11,771,214.02	2,040,081.75	32° 25' 16.665 N	103° 42' 15.831 W
12,100.0	90.00	359.87	9,680.0	2,537.9	-106.5	11,771,314.01	2,040,080.28	32° 25' 17.654 N	103° 42' 15.834 W
12,200.0	90.00	359.91	9,680.0	2,637.9	-106.7	11,771,414.00	2,040,078.88	32° 25' 18.644 N	103° 42' 15.836 W
12,300.0	90.00	359.94	9,680.0	2,737.9	-106.8	11,771,513.99	2,040,077.54	32° 25' 19.634 N	103° 42' 15.837 W
12,400.0	90.00	359.98	9,680.0	2,837.9	-106.9	11,771,613.99	2,040,076.26	32° 25' 20.623 N	103° 42' 15.838 W
12,500.0	90.00	0.02	9,680.0	2,937.9	-106.9	11,771,713.98	2,040,075.04	32° 25' 21.613 N	103° 42' 15.838 W
12,600.0	90.00	0.05	9,680.0	3,037.9	-106.9	11,771,813.97	2,040,073.89	32° 25' 22.603 N	103° 42' 15.838 W
12,700.0	90.00	0.09	9,680.0	3,137.9	-106.7	11,771,913.97	2,040,072.79	32° 25' 23.592 N	103° 42' 15.836 W
12,800.0	90.00	0.12	9,680.0	3,237.9	-106.6	11,772,013.96	2,040,071.76	32° 25' 24.582 N	103° 42' 15.834 W
12,866.0	90.00	0.15	9,680.0	3,303.9	-106.4	11,772,079.98	2,040,071.12	32° 25' 25.236 N	103° 42' 15.832 W
12,900.0	90.00	0.15	9,680.0	3,337.9	-106.3	11,772,113.96	2,040,070.79	32° 25' 25.572 N	103° 42' 15.831 W
13,000.0	90.00	0.15	9,680.0	3,437.9	-106.1	11,772,213.95	2,040,069.83	32° 25' 26.562 N	103° 42' 15.828 W
13,100.0	90.00	0.15	9,680.0	3,537.9	-105.8	11,772,313.95	2,040,068.87	32° 25' 27.551 N	103° 42' 15.825 W
13,200.0	90.00	0.15	9,680.0	3,637.9	-105.6	11,772,413.94	2,040,067.92	32° 25' 28.541 N	103° 42' 15.822 W
13,300.0	90.00	0.15	9,680.0	3,737.9	-105.3	11,772,513.94	2,040,066.96	32° 25' 29.531 N	103° 42' 15.819 W
13,400.0	90.00	0.15	9,680.0	3,837.9	-105.0	11,772,613.93	2,040,066.00	32° 25' 30.520 N	103° 42' 15.816 W
13,500.0	90.00	0.15	9,680.0	3,937.9	-104.8	11,772,713.93	2,040,065.04	32° 25' 31.510 N	103° 42' 15.813 W
13,600.0	90.00	0.15	9,680.0	4,037.9	-104.5	11,772,813.92	2,040,064.08	32° 25' 32.500 N	103° 42' 15.811 W
13,700.0	90.00	0.15	9,680.0	4,137.9	-104.3	11,772,913.92	2,040,063.12	32° 25' 33.489 N	103° 42' 15.808 W
13,800.0	90.00	0.15	9,680.0	4,237.9	-104.0	11,773,013.92	2,040,062.16	32° 25' 34.479 N	103° 42' 15.805 W
13,900.0	90.00	0.15	9,680.0	4,337.9	-103.8	11,773,113.91	2,040,061.21	32° 25' 35.469 N	103° 42' 15.802 W
14,000.0	90.00	0.15	9,680.0	4,437.9	-103.5	11,773,213.91	2,040,060.25	32° 25' 36.459 N	103° 42' 15.799 W
14,100.0	90.00	0.15	9,680.0	4,537.9	-103.3	11,773,313.90	2,040,059.29	32° 25' 37.448 N	103° 42' 15.796 W
14,200.0	90.00	0.15	9,680.0	4,637.9	-103.0	11,773,413.90	2,040,058.33	32° 25' 38.438 N	103° 42' 15.793 W
14,300.0	90.00	0.15	9,680.0	4,737.9	-102.8	11,773,513.89	2,040,057.37	32° 25' 39.428 N	103° 42' 15.790 W
14,400.0	90.00	0.15	9,680.0	4,837.9	-102.5	11,773,613.89	2,040,056.41	32° 25' 40.417 N	103° 42' 15.787 W
14,500.0	90.00	0.15	9,680.0	4,937.9	-102.2	11,773,713.88	2,040,055.45	32° 25' 41.407 N	103° 42' 15.784 W
14,600.0	90.00	0.15	9,680.0	5,037.9	-102.0	11,773,813.88	2,040,054.50	32° 25' 42.397 N	103° 42' 15.781 W
14,700.0	90.00	0.15	9,680.0	5,137.9	-101.7	11,773,913.87	2,040,053.54	32° 25' 43.386 N	103° 42' 15.778 W
14,800.0	90.00	0.15	9,680.0	5,237.9	-101.5	11,774,013.87	2,040,052.58	32° 25' 44.376 N	103° 42' 15.775 W
14,900.0	90.00	0.15	9,680.0	5,337.9	-101.2	11,774,113.86	2,040,051.62	32° 25' 45.366 N	103° 42' 15.772 W
15,000.0	90.00	0.15	9,680.0	5,437.9	-101.0	11,774,213.86	2,040,050.66	32° 25' 46.356 N	103° 42' 15.769 W
15,100.0	90.00	0.15	9,680.0	5,537.9	-100.7	11,774,313.86	2,040,049.70	32° 25' 47.345 N	103° 42' 15.766 W
15,200.0	90.00	0.15	9,680.0	5,637.9	-100.5	11,774,413.85	2,040,048.74	32° 25' 48.335 N	103° 42' 15.763 W
15,300.0	90.00	0.15	9,680.0	5,737.9	-100.2	11,774,513.85	2,040,047.79	32° 25' 49.325 N	103° 42' 15.760 W
15,400.0	90.00	0.15	9,680.0	5,837.9	-100.0	11,774,613.84	2,040,046.83	32° 25' 50.314 N	103° 42' 15.757 W
15,500.0	90.00	0.15	9,680.0	5,937.9	-99.7	11,774,713.84	2,040,045.87	32° 25' 51.304 N	103° 42' 15.754 W
15,600.0	90.00	0.15	9,680.0	6,037.9	-99.5	11,774,813.83	2,040,044.91	32° 25' 52.294 N	103° 42' 15.751 W
15,700.0	90.00	0.15	9,680.0	6,137.9	-99.2	11,774,913.83	2,040,043.95	32° 25' 53.283 N	103° 42' 15.748 W
15,800.0	90.00	0.15	9,680.0	6,237.9	-98.9	11,775,013.82	2,040,042.99	32° 25' 54.273 N	103° 42' 15.745 W
15,900.0	90.00	0.15	9,680.0	6,337.9	-98.7	11,775,113.82	2,040,042.03	32° 25' 55.263 N	103° 42' 15.742 W
16,000.0	90.00	0.15	9,680.0	6,437.9	-98.4	11,775,213.81	2,040,041.08	32° 25' 56.252 N	103° 42' 15.739 W
16,100.0	90.00	0.15	9,680.0	6,537.9	-98.2	11,775,313.81	2,040,040.12	32° 25' 57.242 N	103° 42' 15.736 W
16,200.0	90.00	0.15	9,680.0	6,637.9	-97.9	11,775,413.80	2,040,039.16	32° 25' 58.232 N	103° 42' 15.733 W
16,300.0	90.00	0.15	9,680.0	6,737.9	-97.7	11,775,513.80	2,040,038.20	32° 25' 59.222 N	103° 42' 15.730 W
16,400.0	90.00	0.15	9,680.0	6,837.9	-97.4	11,775,613.80	2,040,037.24	32° 26' 0.211 N	103° 42' 15.727 W
16,500.0	90.00	0.15	9,680.0	6,937.9	-97.2	11,775,713.79	2,040,036.28	32° 26' 1.201 N	103° 42' 15.725 W
16,600.0	90.00	0.15	9,680.0	7,037.9	-96.9	11,775,813.79	2,040,035.32	32° 26' 2.191 N	103° 42' 15.722 W
16,700.0	90.00	0.15	9,680.0	7,137.9	-96.7	11,775,913.78	2,040,034.37	32° 26' 3.180 N	103° 42' 15.719 W
16,800.0	90.00	0.15	9,680.0	7,237.9	-96.4	11,776,013.78	2,040,033.41	32° 26' 4.170 N	103° 42' 15.716 W
16,900.0	90.00	0.15	9,680.0	7,337.9	-96.2	11,776,113.77	2,040,032.45	32° 26' 5.160 N	103° 42' 15.713 W
17,000.0	90.00	0.15	9,680.0	7,437.9	-95.9	11,776,213.77	2,040,031.49	32° 26' 6.149 N	103° 42' 15.710 W
17,100.0	90.00	0.15	9,680.0	7,537.9	-95.6	11,776,313.76	2,040,030.53	32° 26' 7.139 N	103° 42' 15.707 W

LGC

Survey Report - Geographic

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well CHEDDAR FED COM 301H
Project:	LEA	**TVD Reference:**	RKB=3664.7+25 @ 3689.7usft
Site:	CHEDDAR	**MD Reference:**	RKB=3664.7+25 @ 3689.7usft
Well:	CHEDDAR FED COM 301H	**North Reference:**	True
Wellbore:	CHEDDAR FED COM 301H	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP0	**Database:**	Centennial EDM SQL Server

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,200.0	90.00	0.15	9,680.0	7,637.9	-95.4	11,776,413.76	2,040,029.57	32° 26' 8.129 N	103° 42' 15.704 W
17,300.0	90.00	0.15	9,680.0	7,737.9	-95.1	11,776,513.75	2,040,028.61	32° 26' 9.119 N	103° 42' 15.701 W
17,400.0	90.00	0.15	9,680.0	7,837.9	-94.9	11,776,613.75	2,040,027.66	32° 26' 10.108 N	103° 42' 15.698 W
17,500.0	90.00	0.15	9,680.0	7,937.9	-94.6	11,776,713.75	2,040,026.70	32° 26' 11.098 N	103° 42' 15.695 W
17,600.0	90.00	0.15	9,680.0	8,037.9	-94.4	11,776,813.74	2,040,025.74	32° 26' 12.088 N	103° 42' 15.692 W
17,700.0	90.00	0.15	9,680.0	8,137.9	-94.1	11,776,913.74	2,040,024.78	32° 26' 13.077 N	103° 42' 15.689 W
17,800.0	90.00	0.15	9,680.0	8,237.9	-93.9	11,777,013.73	2,040,023.82	32° 26' 14.067 N	103° 42' 15.686 W
17,900.0	90.00	0.15	9,680.0	8,337.9	-93.6	11,777,113.73	2,040,022.86	32° 26' 15.057 N	103° 42' 15.683 W
18,000.0	90.00	0.15	9,680.0	8,437.9	-93.4	11,777,213.72	2,040,021.90	32° 26' 16.046 N	103° 42' 15.680 W
18,100.0	90.00	0.15	9,680.0	8,537.9	-93.1	11,777,313.72	2,040,020.95	32° 26' 17.036 N	103° 42' 15.677 W
18,200.0	90.00	0.15	9,680.0	8,637.9	-92.8	11,777,413.71	2,040,019.99	32° 26' 18.026 N	103° 42' 15.674 W
18,300.0	90.00	0.15	9,680.0	8,737.9	-92.6	11,777,513.71	2,040,019.03	32° 26' 19.015 N	103° 42' 15.671 W
18,400.0	90.00	0.15	9,680.0	8,837.9	-92.3	11,777,613.70	2,040,018.07	32° 26' 20.005 N	103° 42' 15.668 W
18,500.0	90.00	0.15	9,680.0	8,937.9	-92.1	11,777,713.70	2,040,017.11	32° 26' 20.995 N	103° 42' 15.665 W
18,600.0	90.00	0.15	9,680.0	9,037.9	-91.8	11,777,813.69	2,040,016.15	32° 26' 21.985 N	103° 42' 15.662 W
18,700.0	90.00	0.15	9,680.0	9,137.9	-91.6	11,777,913.69	2,040,015.19	32° 26' 22.974 N	103° 42' 15.659 W
18,800.0	90.00	0.15	9,680.0	9,237.9	-91.3	11,778,013.69	2,040,014.24	32° 26' 23.964 N	103° 42' 15.656 W
18,900.0	90.00	0.15	9,680.0	9,337.9	-91.1	11,778,113.68	2,040,013.28	32° 26' 24.954 N	103° 42' 15.653 W
19,000.0	90.00	0.15	9,680.0	9,437.9	-90.8	11,778,213.68	2,040,012.32	32° 26' 25.943 N	103° 42' 15.650 W
19,100.0	90.00	0.15	9,680.0	9,537.9	-90.6	11,778,313.67	2,040,011.36	32° 26' 26.933 N	103° 42' 15.647 W
19,200.0	90.00	0.15	9,680.0	9,637.9	-90.3	11,778,413.67	2,040,010.40	32° 26' 27.923 N	103° 42' 15.644 W
19,300.0	90.00	0.15	9,680.0	9,737.9	-90.1	11,778,513.66	2,040,009.44	32° 26' 28.912 N	103° 42' 15.641 W
19,400.0	90.00	0.15	9,680.0	9,837.9	-89.8	11,778,613.66	2,040,008.48	32° 26' 29.902 N	103° 42' 15.638 W
19,500.0	90.00	0.15	9,680.0	9,937.9	-89.5	11,778,713.65	2,040,007.53	32° 26' 30.892 N	103° 42' 15.635 W
19,564.7	90.00	0.15	9,680.0	10,002.5	-89.4	11,778,778.32	2,040,006.91	32° 26' 31.532 N	103° 42' 15.633 W

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP/BHL - CHEDDAF - plan hits target center - Point	0.00	0.00	9,680.0	10,002.5	-89.4	11,778,778.32	2,040,006.91	32° 26' 31.532 N	103° 42' 15.633 W
FTP - CHEDDAR FEI	0.00	0.00	9,680.0	-124.1	-79.9	11,768,652.53	2,040,139.22	32° 24' 51.308 N	103° 42' 15.523 W
- plan misses target center by 237.4usft at 9565.3usft MD (9515.3 TVD, 46.9 N, -82.2 E) - Circle (radius 50.0)									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,800.0	1,800.0	13 3/8"	13-3/8	17-1/2
5,600.0	5,600.0	9 5/8"	9-5/8	12-1/4
19,564.7	9,680.0	5 1/2"	5-1/2	8-1/2

Checked By: _____ Approved By: _____ Date: _____

Centennial Resource Development
New Mexico Multi-Well Pad Drilling
Batch Setting Procedures

➢ Avalon and Bone Springs Formations

13-3/8" Surface Casing - CRD intends to preset 13-3/8" casing to a depth approved in the APD. 17-1/2" Surface Holes will be batch drilled by a Surface Preset rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill 17-1/2" Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land 13-3/8" 54.5# J55 BTC casing to depth approved in APD.
3. Cement 13-3/8" casing with cement to surface and floats holding.
4. Cut / Dress 20" Conductor and 13-3/8" casing as needed, weld on Cameron Multi-bowl system with baseplate supported by 20" conductor (see Illustration 1-1 Below). Weld performed per Cameron weld procedure.
5. Test Weld to 70% of 13-3/8" casing collapse or ~ 790psi.
6. Install nightcap with Pressure Gauge on wellhead. Nightcap is shown on final wellhead Stack up Illustration #2-2 page 3.
7. Skid Rig to adjacent well to drill Surface hole.
8. Surface casing test will be performed by the Big Rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is greater - not to exceed 70% casing burst.

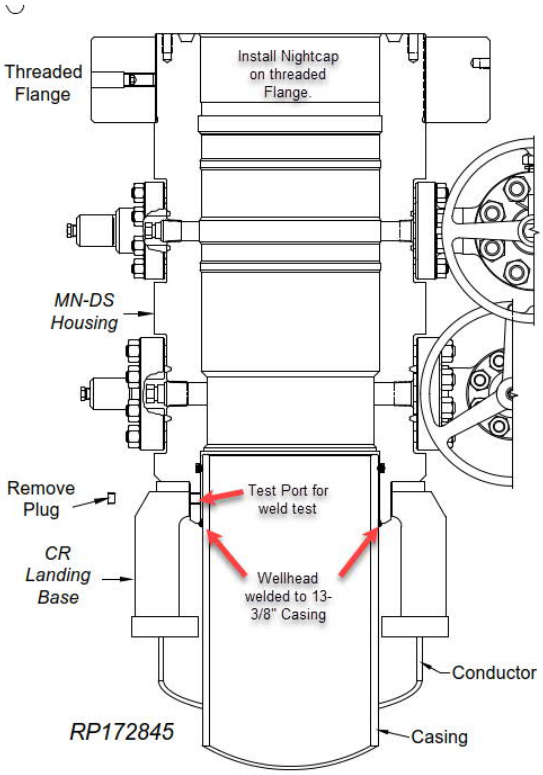


Illustration 1-1

- Intermediate and Production Casing – For all subsequent Intermediate and Production Casing Strings, the Big Rig will remove the nightcap and install and test BOPE. Prior to drill out the 13-3/8" Casing will be tested to 0.22psi/ft or 1500psi whichever is greater. The well will be drilled below 13-3/8" to its intended final TD in the Avalon or Bonesprings formations. Batch drilling will not be executed for casing strings below the 13-3/8". Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings. The

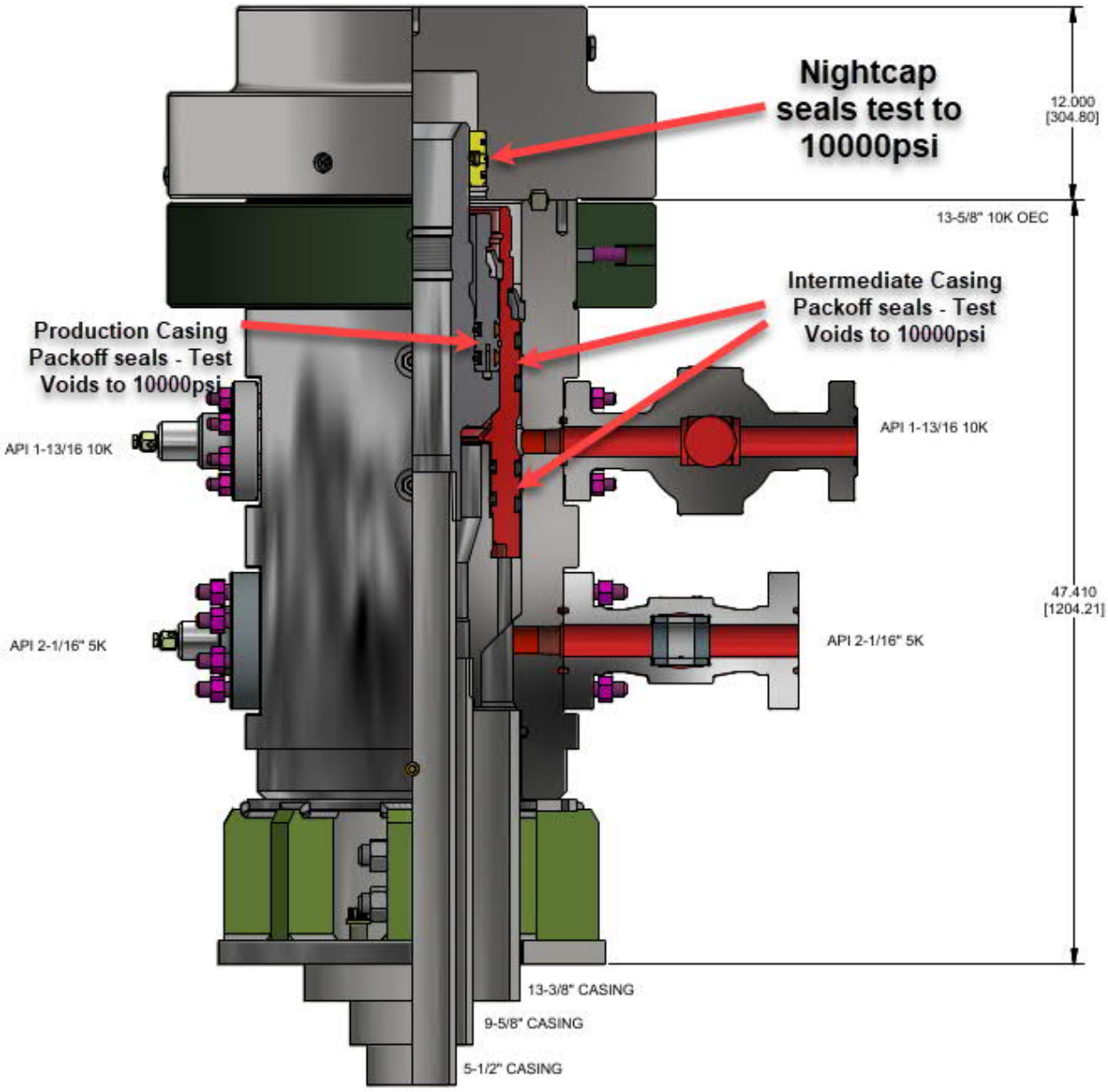
➢ Wolfcamp Formations

13-3/8" Surface Casing - CRD intends to preset 13-3/8" casing to a depth approved in the APD. Surface Holes will be batch set by a Surface Preset rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill 17-1/2" Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land 13-3/8" 54.5# J55 BTC casing to depth approved in APD.
3. Cement 13-3/8" casing with cement to surface and floats holding.
4. Cut / Dress 20" Conductor and 13-3/8" casing as needed, weld on Cameron Multi-bowl system with baseplate supported by 20" conductor (see Illustration 1-1). Weld performed per Cameron weld procedure.
5. Test Weld to 70% of 13-3/8" casing collapse or ~ 790psi.
6. Install nightcap with Pressure Gauge on wellhead. Nightcap is shown on final wellhead Stack up Illustration #2-2 on page 3.
7. Subsequent casing test will be performed by the Big Rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is greater - not to exceed 70% casing burst.

Intermediate Casing – CRD intends to Batch set all intermediate casing strings to a depth approved in the APD, typically set 100' above KOP in the 3rd Bonesprings Carbonate. For the last intermediate section drilled on pad, the associated production interval will immediately follow. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Big Rig will remove the nightcap and install and test BOPE.
2. Test Surface casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
3. Install wear bushing then drill out 13-3/8" shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
4. Drill Intermediate hole to approved casing point. Trip out of hole with BHA to run Casing.
5. Remove wear bushing then run and land Intermediate Casing with mandrel hanger in wellhead.
6. Cement casing to surface with floats holding.
7. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
8. Install pack-off and test void to 10000 psi for 15 minutes. Nightcap shown on final wellhead stack up illustration 2-2 on page 3.
9. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
10. Install nightcap – skid rig to adjacent well to drill Intermediate hole.



WITH CAP

Illustration 2-2

Production Casing – CRD intends to Batch set all Production casings, except for the last intermediate hole. In this case the production interval will immediately follow the intermediate section on that well. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Big Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.

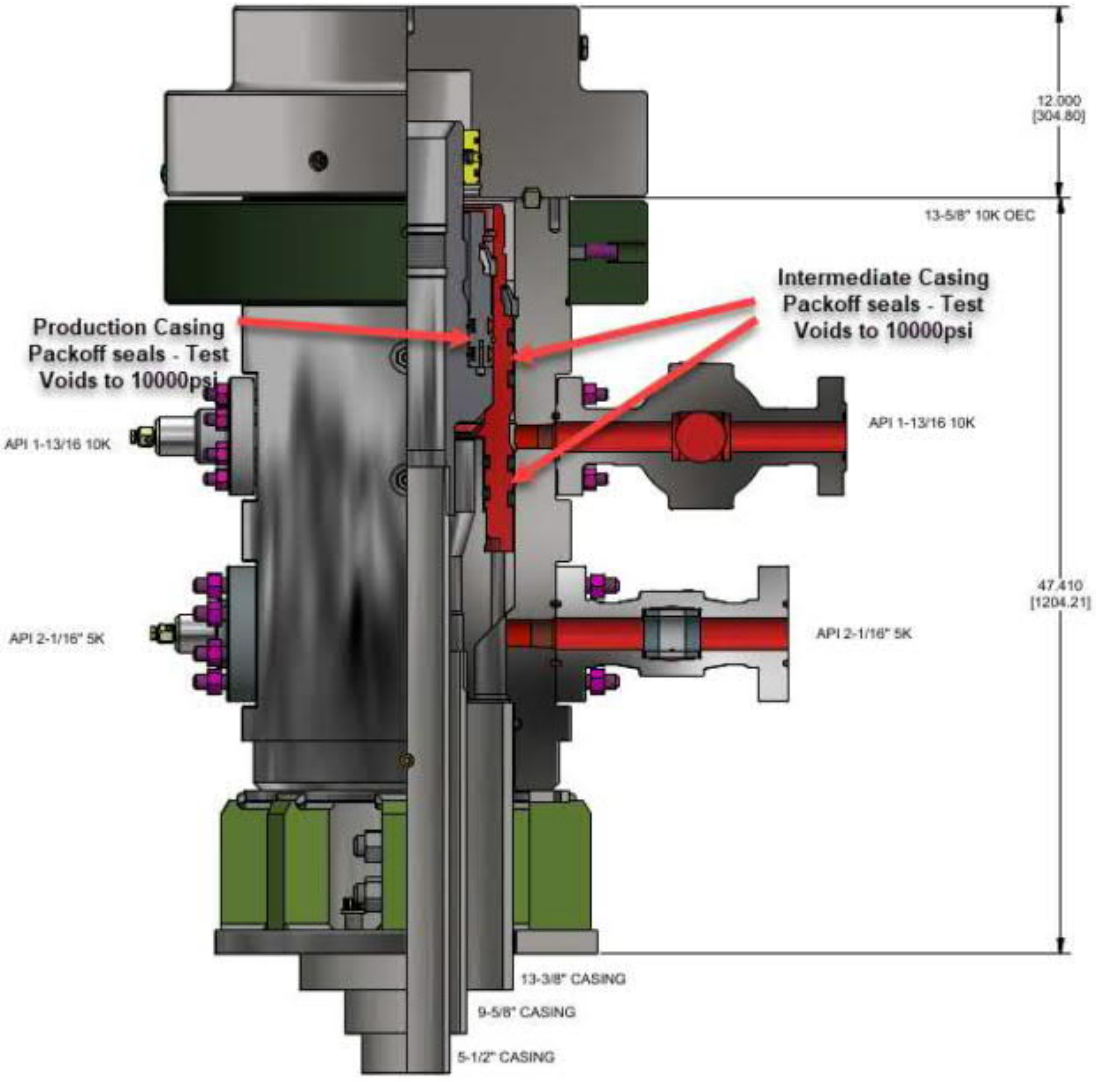
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run 5-1/2" Production Casing.
6. Remove wear bushing then run 5-1/2" production casing to TD landing casing mandrel in wellhead.
7. Cement 5-1/2" Production string to surface with floats holding.
8. Run in with wash tool and wash wellhead area – install pack-off and test void to 10000psi for 15 minutes.
9. Install BPV in 5-1/2" mandrel hanger – Nipple down BOPE and install nightcap.
10. Test nightcap void to 10000psi for 30 minutes per illustration 2-2 page 3.
11. Skid rig to adjacent well on pad to drill production hole.

Cheddar Fed Com 301H

Centennial Drilling Plan for 3-Casing String Bone Springs Formation

13-3/8" x 9-5/8" x 5-1/2" Casing Design

1. Drill 17-1/2" surface hole to Total Depth with Spudder Rig and perform wellbore cleanup cycles.
2. Run and land 13-3/8" casing to Depth.
3. Cement 13-3/8" casing – cement to surface.
4. Cut / Dress Conductor and 13-3/8" casing as needed, weld on Multi-bowl system with baseplate supported by 20" conductor.
5. Test Weld to 70% of 13-3/8" casing collapse. Place nightcap with Pressure Gauge on wellhead and test seals to 70% of Casing Collapse.
6. Bleed Pressure if necessary and remove nightcap. Nipple up and test BOPE with test plug per Onshore Order 2.
7. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
8. Install wear bushing then drill out 13-3/8" shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
9. Drill 12-1/4" Intermediate hole to 9-5/8" casing point. (Base Capitan Reef).
10. Remove wear bushing then run and land 9-5/8" Intermediate Casing with mandrel hanger in wellhead.
11. Cement 9-5/8 casing – cement to surface.
12. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
13. Install pack-off and test to 5000 psi for 15 minutes.
    a. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
14. Install wear bushing then drill out 9-5/8" shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
15. Drill 8-3/4" Vertical hole to KOP – Trip out for Curve BHA.
16. Drill 8-3/4" Curve, landing in production interval – Trip for Lateral BHA.
17. Drill 8-1/2" Lateral to Permitted BHL, perform cleanup cycles and trip out to run 5-1/2" Production Casing.
18. Remove wear bushing then run 5-1/2" production casing to TD landing casing mandrel in wellhead.
19. Cement 5-1/2" Production string to surface.
20. Run in with wash tool and wash wellhead area – install pack-off and test to 5000psi for 15 minutes.
21. Install BPV in 5-1/2" mandrel hanger – Nipple down BOPE and install nightcap.
22. Test nightcap void to 5000psi for 30 minutes.


12.000
[304.80]
13-5/8" 10K OEC
Intermediate Casing
Packoff seals - Test
Voids to 10000psi
Production Casing
Packoff seals - Test
Voids to 10000psi
API 1-13/16 10K
API 1-13/16 10K
47.410
[1204.21]
API 2-1/16" 5K
API 2-1/16" 5K
13-3/8" CASING
9-5/8" CASING
5-1/2" CASING

WITH CAP

GEOLOGIC PROG

CENTENNIAL RESOURCE DEVELOPMENT, LLC

			WELL NAME	Cheddar Federal Com 301H			8/28/2020	
			AREA	Burratta		API		
			HZ TARGET	FBSG Sand		WI %		
			LAT LENGTH	10,000		AFE#		
			TRRC PERMIT			COUNTY	Lea	
	TWNP	RNG	SECTION	FOOTAGE		COMMENT		
SHL	22S	32E	5	454' FSL, 410' FWL		On lease. Drill S to N.		
FTP/PP	22S	32E	5	330' FSL, 330' FWL				
LTP	21S	32E	32	100' FNL, 330' FWL				
BHL	21S	32E	32	100' FNL, 330' FWL				
			GROUND LEVEL	3,665'	RIG KB	26'	KB ELEV	3,691'
GEOLOGIST	Isabel Harper		isabel.harper@cdevinc.com			(303) 589-8841		
LOGGING	No open hole logging. MWD GR from drill out of surface casing to TD.							
MUDLOGGING	Standard mud logging and mud gas detection. Mud loggers on from drill out of surface casing to TD.							

FORMATION	TVD	SSTVD	THICKNESS	FINAL MD	FINAL TVD	DELTA
Rustler	743'	2,948'	3,900'			
Salado	916'	2,775'	3,811'			
BX BLM (Fletcher Anhydrite)	3,393'	298'	2,131'			
Lamar	4,643'	-952'	84'			
Bell Canyon	4,727'	-1,036'	797'			
Cherry Canyon	5,524'	-1,833'	230'			
Manzanita Lime	5,754'	-2,063'	1,100'			
Brushy Canyon	6,854'	-3,163'	1,727'			
Bone Spring Lime	8,581'	-4,890'	152'			
Avalon	8,733'	-5,042'	887'			
FBSG Sand	9,620'	-5,929'	264'			
SBSG Shale	9,884'	-6,193'	405'			
SBSG Sand	10,289'	-6,598'	454'			
TBSG Carb	10,743'	-7,052'	529'			
TBSG Sand	11,272'	-7,581'				
Target Top at 0'VS	9,650'	-5,959'	37'			
Target Base at 0' VS	9,687'	-5,996'				
HZ TARGET AT 0' VS	9,668'	-5,977'				

TARGET: KBTVD = 9668 at VS, INC = 90.0 deg
Target Window +10/-10'

COMMENT:

GEOLOGIC PROG

OFFSET TYPE WELLS

CENTENNIAL RESOURCE DEVELOPMENT, LLC

DRILLING WELL	Cheddar Federal Com 301H			8/28/2020		
HZ TARGET	FBSG Sand		AREA	Burratta		
PRIMARY TYPE LOG				SECONDARY TYPE LOG		
CHEDDAR 3BS FEDERAL 001H				FEDERAL 8 1		
30-025-44692				30-025-32709		
LOCATION	22S/32E/5; 244' FSL/370' FWL			22S/32E/8; 1980' FNL/1980' FEL		
DISTANCE	180' S of SHL			3250' SE of SHL		
DIRECTION SURVEY	Y			N		
KB ELEV	3,694'			3,748'		

FORMATION	TVD	SSTVD	DELTA		TVD	SSTVD	DELTA
Rustler	746'	2,948'			722'	3,026'	
Salado	919'	2,775'			894'	2,854'	
Lamar	4,646'	-952'			4,701'	-953'	
Bell Canyon	4,730'	-1,036'	797'		4,768'	-1,020'	836'
Cherry Canyon	5,527'	-1,833'	230'		5,604'	-1,856'	235'
Manzanita Lime	5,757'	-2,063'	1,100'		5,839'	-2,091'	1,105'
Brushy Canyon	6,857'	-3,163'	1,727'		6,944'	-3,196'	1,701'
Bone Spring Lime	8,584'	-4,890'	152'		8,645'	-4,897'	192'
Avalon	8,736'	-5,042'	887'		8,837'	-5,089'	914'
FBSG Sand	9,623'	-5,929'	264'		9,751'	-6,003'	255'
SBSG Shale	9,887'	-6,193'	405'		10,006'	-6,258'	324'
SBSG Sand	10,292'	-6,598'	454'		10,330'	-6,582'	488'
TBSG Carb	10,746'	-7,052'	529'		10,818'	-7,070'	591'
TBSG Sand	11,275'	-7,581'			11,409'	-7,661'	423'
WFMP					11,832'	-8,084'	
Casing Details							
13 3/8	728'			13 3/8	818'		
9 5/8	4,501'			9 5/8	4,560'		
5 1/2	21,661'			7	12,555'		
Reservoir Top	9,652'	-5,958'	37'		9,756'	-6,008'	32'
Reservoir Base	9,689'	-5,995'			9,788'	-6,040'	

Comments

GEOLOGIC PROG

OFFSET TYPE WELLS

CENTENNIAL RESOURCE DEVELOPMENT, LLC	DRILLING WELL	Cheddar Federal Com 301H		8/28/2020
	HZ TARGET	FBSG Sand	AREA	Burratta
	PRIMARY TYPE LOG		SECONDARY TYPE LOG	
	CHEDDAR 3BS FEDERAL 001H		FEDERAL 8 1	
	30-025-44692		30-025-32709	
LOCATION	22S/32E/5; 244' FSL/370' FWL		22S/32E/8; 1980' FNL/1980' FEL	
DISTANCE	180' S of SHL		3250' SE of SHL	
DIRECTION SURVEY	Y		N	
KB ELEV	3,694'		3,748'	

LOCATION & STRUCTURE MAP

WFMP SS Structure Map

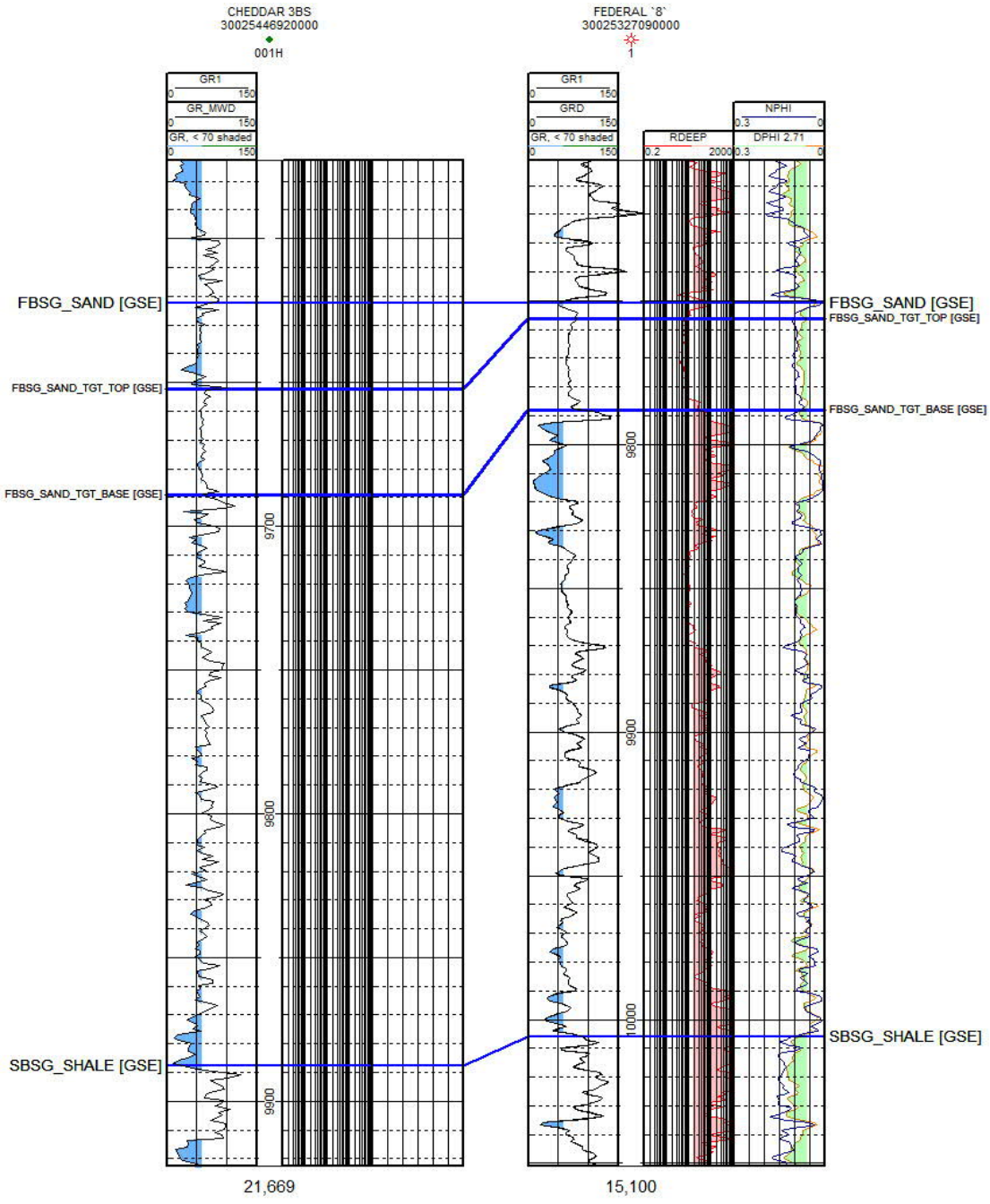
GEOLOGIC PROG

OFFSET TYPE SECTION

CENTENNIAL RESOURCE DEVELOPMENT, LLC

DRILLING WELL	Cheddar Federal Com 301H			8/28/2020
HZ TARGET	FBSG Sand		AREA	FBSG Sand
	PRIMARY TYPE LOG			SECONDARY TYPE LOG
	CHEDDAR 3BS FEDERAL 001H			FEDERAL 8 1
	30-025-44692			30-025-32709
LOCATION	22S/32E/5; 244' FSL/370' FWL			22S/32E/8; 1980' FNL/1980' FEL
DISTANCE	180' S of SHL			3250' SE of SHL
DIRECTION SURVEY	Y			N
KB ELEV	3,694'			3,748'

Type Log and Targer Zone



GEOLOGIC PROG

MUD LOG DISTRIBUTION DETAILS

CENTENNIAL RESOURCE DEVELOPMENT, LLC

WELL NAME	Cheddar Federal Com 301H			8/28/2020
AREA	Burratta		API	
HZ TARGET	FBSG Sand		WI %	
LAT LENGTH	10000		AFE#	
TRRC PERMIT			COUNTY	Lea

GEOLOGIST	Isabel Harper	isabel.harper@cdevinc.com	(303) 589-8841

Mud Logging Company		
TBD		
TBD	TBD	TBD
Contact 2	email	phone
Contact 3	email	phone

Daily distribution data requirements and protocol

geodata@cdevinc.com; joe.woodske@cdevinc.com; drilling@cdevinc.com; dawn.billesbach@cdevinc.com, Andrew.welshhans@cdevinc.com; nick.daniele@cdevinc.com;Isabel.Harper@cdevinc.com

Daily email distribution list

Final distribution data requirements

Final distribution list

Contact Information	Reports	Hard Copies	Digital data	Cuttings
Centennial Resource Development, c/o Joe Woodske, 1001 17th street, Suite 1800,	email final set	2 copies of 5" MD Vertical, 2 copies of 5" Horizontal and	email final set	
SCAL, Inc., 2613 South County Road 1257, Midland, TX 79706				No Dried Samples to be Collected
MWD Only: Centennial Resource Development, c/o Sarah Ferreyros, 1001 17th street, Suite	email final set	2 copies of the 5" MD vertical logs 2 copies of the 5"	email final set	

Project Geologist:	Isabel Harper	Production:	Brandon Morin
Operations Geologist:	Joe Woodske	Surface Land:	Bailey Joplim
Drilling:	Ronny Hise	Mineral Land:	Gavin Smith

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°:	504	
PURCHASER:	ContiTech Oil & Marine Corp.				P.O. N°:	4500409659	
CONTITECH RUBBER order N°:	538236		HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	67255		NOMINAL / ACTUAL LENGTH:		10,67 m / 10,77 m		
W.P. 68,9 MPa	10000 psi		T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at
ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	9251	9254	AISI 4130	A0579N
4 1/16" 10K API b.w. Flange end			AISI 4130	035608

Not Designed For Well Testing **API Spec 16 C**

Temperature rate:"B"

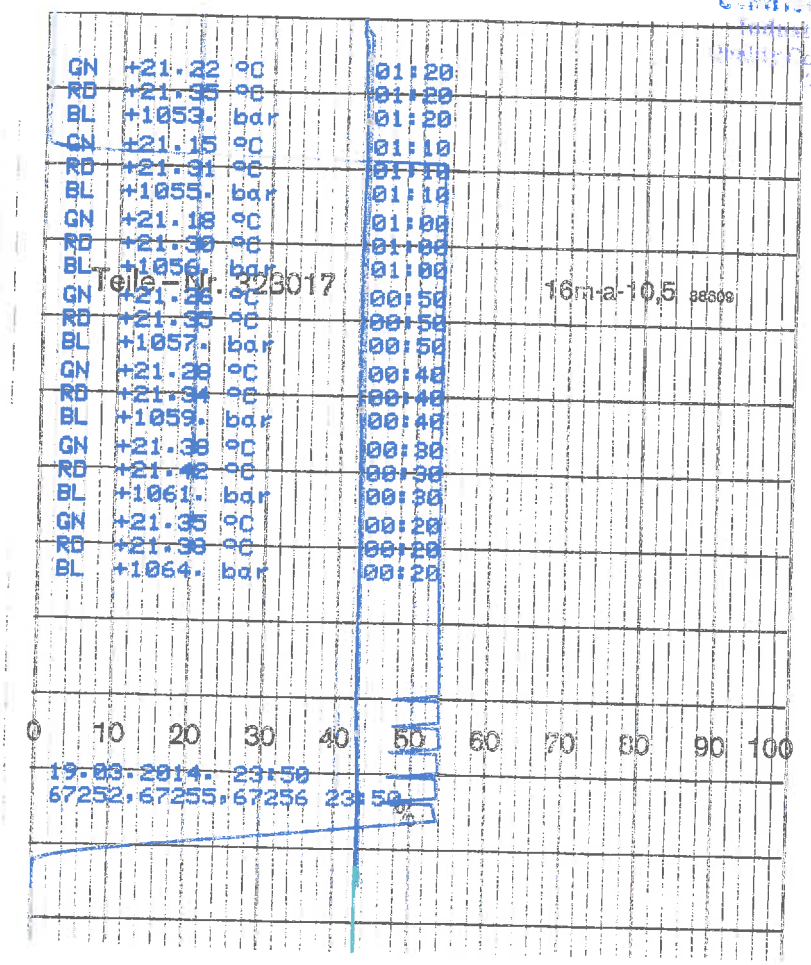
All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
20. March 2014.		ContiTech Rubber Industrial Kft. Quality Control Dept.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RD +21.35 °C 01:20
BL +1053. bar 01:20
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BL +1055. bar 01:10
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RD +21.30 °C 01:00
BL +1056. bar 01:00
Teile-Nr. 323017
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RD +21.38 °C 00:20
BL +1064. bar 00:20
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Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

APD ID: 10400040433 **Submission Date:** 12/13/2019

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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? NO

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: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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? NO

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: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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? NO

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? NO

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? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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

11/16/2020

APD ID: 10400040433 **Submission Date:** 12/13/2019

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC

Well Name: CHEDDAR FEDERAL COM **Well Number:** 301H

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: NMB001841

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:

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1625 N. French Dr., Hobbs, NM 88240
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Santa Fe, NM 87505

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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
30-025-48099	5695	Bilbrey Basin / Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
326046	CHEDDAR FED COM	#301H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372165	CENTENNIAL RESOURCE PRODUCTION, LLC	3665.1'

[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
M	5	22S	32E		454	SOUTH	410	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
D	32	21S	32E		100	NORTH	330	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
319.68			

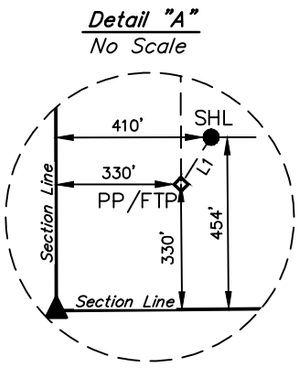
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

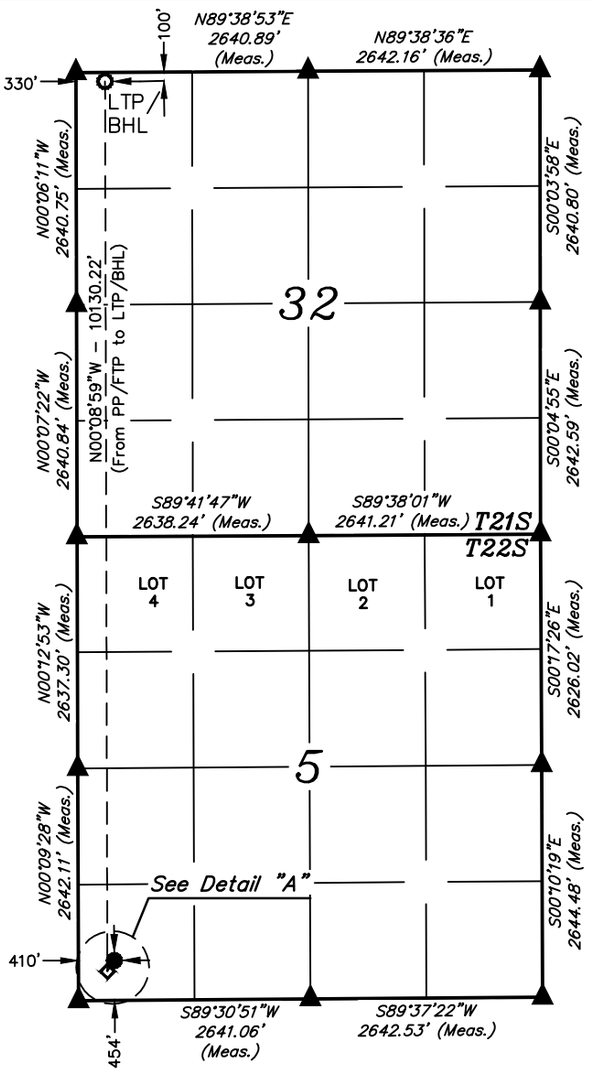
[16]

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°24'52.54" (32.414594°)
LONGITUDE = 103°42'14.59" (103.704053°)
STATE PLANE NAD 83 (N.M. EAST)
Y: 515132.01' X: 735525.70'
UTM, NAD 83 (ZONE 13)
Y: 11768777.60' X: 2040217.58'

NAD 83 (PP/FTP)
LATITUDE = 32°24'51.31" (32.414252°)
LONGITUDE = 103°42'15.52" (103.704312°)
STATE PLANE NAD 83 (N.M. EAST)
Y: 515007.42' X: 735446.55'
UTM, NAD 83 (ZONE 13)
Y: 11768652.53' X: 2040139.22'

NAD 83 (LTP/BHL)
LATITUDE = 32°26'31.53" (32.442092°)
LONGITUDE = 103°42'15.63" (103.704343°)
STATE PLANE NAD 83 (N.M. EAST)
Y: 525135.55' X: 735377.42'
UTM, NAD 83 (ZONE 13)
Y: 11778778.32' X: 2040006.91'





LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S32°40'04"W	147.64'

● = SURFACE HOLE LOCATION
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▲ = SECTION CORNER LOCATED

2000' 1000' 0' 2000'
SCALE

REV: 1 12-12-18 J.N. (SHL & PP/FTP CHANGE)

NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

[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.

K.C. 3/29/19
Signature Date

Kanicia Castillo
Printed Name

kanicia.castillo@cdevinc.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.

September 11, 2018
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
PROFESSIONAL SURVEYOR
12-12-18

Certificate Number:

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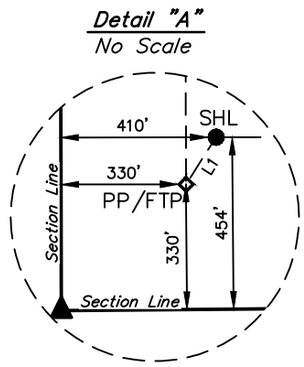

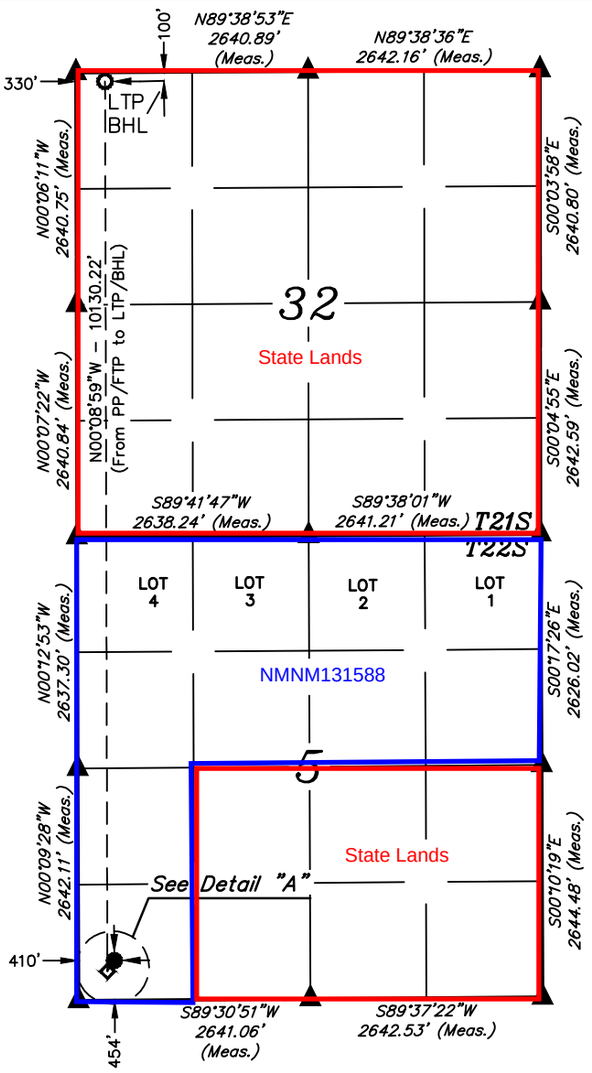

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Kanicia Castillo
Printed Name

kanicia.castillo@cdevinc.com
E-mail Address

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Santa Fe, NM 87505

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District Office

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GAS CAPTURE PLAN

Date: 12/12/2019

☒ Original Operator & OGRID No.: Centennial Resource Production, LLC 372165
☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, 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
Cheddar Fed Com 301H	Pending **30-025-48099**	M-5-22S-32E	454 FSL & 410 FWL	1500 MCFD Flowrate	Neither	New Well
Cheddar Fed Com 401H	Pending	M-5-22S-32E	603 FSL & 440 FWL	1500 MCFD Flowrate	Neither	New Well
Cheddar Fed Com 502H	Pending	M-5-22S-32E	453 FSL & 470 FWL	1500 MCFD Flowrate	Neither	New Well

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 Lucid Energy Group's Red Hills low/high pressure gathering system located in **Lea** County, New Mexico. Centennial Resource Production, LLC provides (periodically) to Centennial Resource Production, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Centennial Resource Production, LLC and Centennial Resource Production, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Lucid Red Hills Processing Plant located in Sec. 13, Twn. 24S, Rng. 33E, **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 Centennial Resource Production, LLC system at that time. Based on current information, it is Centennial Resource Production, LLC 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