Form 3160-3
(March 2012)

Carlsbad Field Office
OCD Hobbs
AUG 06 2018
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMNM077063
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. 322236 ALLEY CAT 17-20 FED COM 216H
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP (6137)	9. API Well No. 30-025-45067
3a. Address 333 West Sheridan Avenue Oklahoma City OK	3b. Phone No. (include area code) (405)552-6571
	10. Field and Pool, or Exploratory (53800) SALT LAKE / BONE SPRING
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface SWSE / 602 FSL / 1959 FEL / LAT 32.3134681 / LONG -103.6945076 At proposed prod. zone SWSE / 330 FSL / 2240 FEL / LAT 32.2837034 / LONG -103.6911316	11. Sec., T. R. M. or Blk. and Survey or Area SEC 8 / T23S / R32E / NMP
14. Distance in miles and direction from nearest town or post office*	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) 602 feet	16. No. of acres in lease 880	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1400 feet	19. Proposed Depth 10640 feet / 20135 feet	20. BLM/BIA Bond No. on file FED: CO1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3607 feet	22. Approximate date work will start* 08/01/2018	23. Estimated duration 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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 required by the BLM.

25. Signature (Electronic Submission)	Name (Printed/Typed) Jenny Harms / Ph: (405)552-6560	Date 02/07/2018
Title Regulatory Compliance Professional		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 07/20/2018
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.

(Continued on page 2)

GCP Rec 08/06/18

*(Instructions on page 2)

APPROVED WITH CONDITIONS

KZ 08/10/18

Approval Date: 07/20/2018

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SWSE / 602 FSL / 1959 FEL / TWSP: 23S / RANGE: 32E / SECTION: 8 / LAT: 32.3134681 / LONG: -103.6945076 (TVD: 0 feet, MD: 0 feet)
   PPP: NWNE / 0 FNL / 2240 FEL / TWSP: 23S / RANGE: 32E / SECTION: 20 / LAT: 32.297428 / LONG: -103.708213 (TVD: 10600 feet, MD: 16266 feet)
   PPP: SWSE / 0 FSL / 2240 FEL / TWSP: 23S / RANGE: 32E / SECTION: 17 / LAT: 32.311941 / LONG: -103.708113 (TVD: 10600 feet, MD: 10986 feet)
   PPP: NWNE / 330 FNL / 2240 FEL / TWSP: 23S / RANGE: 32E / SECTION: 17 / LAT: 32.311056 / LONG: -103.708119 (TVD: 10598 feet, MD: 10700 feet)
   BHL: SWSE / 330 FSL / 2240 FEL / TWSP: 23S / RANGE: 32E / SECTION: 20 / LAT: 32.2837034 / LONG: -103.6911316 (TVD: 10640 feet, MD: 20135 feet)

BLM Point of Contact

Name: Judith Yeager
Title: Legal Instruments Examiner
Phone: 5752345936
Email: jyeager@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

AFMSS

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

Operator Certification Data Report

07/20/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Jenny Harms **Signed on:** 02/06/2018

Title: Regulatory Compliance Professional

Street Address: 333 W Sheridan Ave

City: Oklahoma City **State:** OK **Zip:** 73102

Phone: (405)552-6560

Email address: jenny.harms@dvn.com

Field Representative

Representative Name: Ray Vaz

Street Address: 6488 Seven Rivers Hwy

City: Artesia **State:** NM **Zip:** 88210

Phone: (575)748-1871

Email address: ray.vaz@dvn.com

AFMSS

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

Application Data Report

07/20/2018

APD ID: 10400027000 **Submission Date:** 02/07/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400027000 **Tie to previous NOS?** **Submission Date:** 02/07/2018

BLM Office: CARLSBAD **User:** Jenny Harms **Title:** Regulatory Compliance Professional

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

Lease number: NMNM077063 **Lease Acres:** 680

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

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

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue **Zip:** 73102

Operator PO Box:

Operator City: Oklahoma City **State:** OK

Operator Phone: (405)552-6571

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? EXISTING **Mater Development Plan name:** Todd/Apache MDP 2

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

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

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** SALT LAKE **Pool Name:** BONE SPRING

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: TODD-APACHE MDP 2 PAD **Number:** 8-5

Well Class: HORIZONTAL

Number of Legs:

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: **Distance to nearest well:** 1400 FT **Distance to lease line:** 602 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: ALLEY_CAT_17_20_FED_COM_216H_JH_signed_20180604101554.pdf

Well work start Date: 08/01/2018 **Duration:** 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 5576B

	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
SHL Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot SWSE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 098826	[redacted]	[redacted]	[redacted]
KOP Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot SWSE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 098826	[redacted]	[redacted]	[redacted]
PPP Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot NWNE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 062223	[redacted]	[redacted]	[redacted]

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

	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
PPP Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot SWSE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 097891	[redacted]	[redacted]	[redacted]
PPP Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot NWNE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 086153	[redacted]	[redacted]	[redacted]
EXIT Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot SWSE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 077063	[redacted]	[redacted]	[redacted]
BHL Leg #1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Aliquot SWSE	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NMNM 077063	[redacted]	[redacted]	[redacted]

APD ID: 10400027000 **Submission Date:** 02/07/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

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
1	UNKNOWN	3357.5	0	0	ALLUVIUM,OTHER : Surface	NONE	No
2	RUSTLER	2307.5	1050	1050	ANHYDRITE	NONE	No
3	SALADO	1927.5	1430	1430	SALT	NONE	No
4	DELAWARE	-1342.5	4700	4700	SANDSTONE	NATURAL GAS,OIL	No
5	BONE SPRING	-5307.5	8665	8665	SANDSTONE	NATURAL GAS,OIL	No
6	BONE SPRING 1ST	-6387.5	9745	9745	SANDSTONE	NATURAL GAS,OIL	No
7	BONE SPRING 2ND	-6996.5	10354	10354	SANDSTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 4650

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.
Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.
Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Choke Diagram Attachment:

Alley_Cat_17_20_Fed_Com_216H_3M_BOPE_CK_20180206124736.pdf

BOP Diagram Attachment:

Alley_Cat_17_20_Fed_Com_216H_3M_BOPE_CK_20180206124759.pdf

ACCESS ROAD PLAT

ACCESS ROAD FOR STRAY CAT 8-6 FED COM 213H & ALLEY CAT 17-20 FED COM 216H

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
JANUARY 8, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANGEMENT LAND IN SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SW/4 SE/4 OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S85°15'31"E, A DISTANCE OF 1563.15 FEET;
THENCE N00°04'19"E A DISTANCE OF 50.10 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N59°55'09"W A DISTANCE OF 190.57 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N89°59'23"W A DISTANCE OF 50.01 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S70°31'07"W, A DISTANCE OF 912.22 FEET;

SAID STRIP OF LAND BEING 290.67 FEET OR 17.62 RODS IN LENGTH, CONTAINING 0.200 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SE/4	290.68 L.F.	17.62 RODS	0.200 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 8TH DAY OF JANUARY 2018

FILIMON F. JARAMILLO, P.S. 12797

301 SOUTH CANAL
(575) 234-3341

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Pressure Rating (PSI): 3M **Rating Depth:** 10755

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.
Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.
Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Choke Diagram Attachment:

Alley_Cat_17_20_Fed_Com_216H_3M_BOPE_CK_20180206124824.pdf

BOP Diagram Attachment:

Alley_Cat_17_20_Fed_Com_216H_3M_BOPE_CK_20180206124918.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1148	0	1148	-6965	-8031	1148	H-40	48	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4650	0	4650			4650	J-55	40	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	6000	0	6000	-6965	-12965	6000	J-55	40	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6
4	PRODUCTION	8.75	5.5	NEW	API	N	0	21234	0	10750	-6965	-17514	21234	P-110	17	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6

Casing Attachments

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Alley_Cat_17_20_Fed_Com_216H_Surf_Csg_Ass_20180206125351.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Alley_Cat_17_20_Fed_Com_216H_Int_Csg_Ass_20180206125453.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Alley_Cat_17_20_Fed_Com_216H_Int_Csg_Ass_20180206125533.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Alley_Cat_17_20_Fed_Com_216H_Prod_Csg_Ass_20180206125623.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
INTERMEDIATE	Lead		0	550	790	3.63	10.3	2863	50	c	Tuned Light
INTERMEDIATE	Tail		5500	6000	235	20	14.8	315	50	Class C	Halcem
SURFACE	Lead		0	1148	899	1.33	14.8	1196	50	C	0.125 lbs/sack Poly-F-Flake
INTERMEDIATE	Lead		0	4150	913	1.85	12.9	1690	30	C	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sks Poly-E-Flake
INTERMEDIATE	Tail		4150	4650	153	1.33	14.8	204	30	C	0.125 lbs/sack Poly-F-Flake
PRODUCTION	Lead		4441	10178	554	3.27	9	1811	25	TUNED	Tuned
PRODUCTION	Tail		10178	21234	2374	1.47	13.2	3491	25	neocem	neocem

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1148	6000	SALT SATURATED	10	11				2			
0	1148	WATER-BASED MUD	8.5	9				2			
1124	6000	SALT SATURATED	10	11				2			
4650	21320	WATER-BASED MUD	8.5	9.3							

Section 6 - Test, Logging, Coring

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

Will run GRMWD from TD to from KOP. Cement bond logs will be run in vertical to determine top of cement. Stated logs run will be in the completion report and submitted to the BLM.

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

CALIPER,CBL,DS,GR,MUDLOG

Coring operation description for the well:

N/A

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5378 **Anticipated Surface Pressure:** 3037.2

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:

Alley_Cat_17_20_Fed_Com_216H_H2S_20180206141552.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Alley_Cat_17_20_Fed_Com_216H_Dir_Survey_20180207144020.pdf

Other proposed operations facets description:

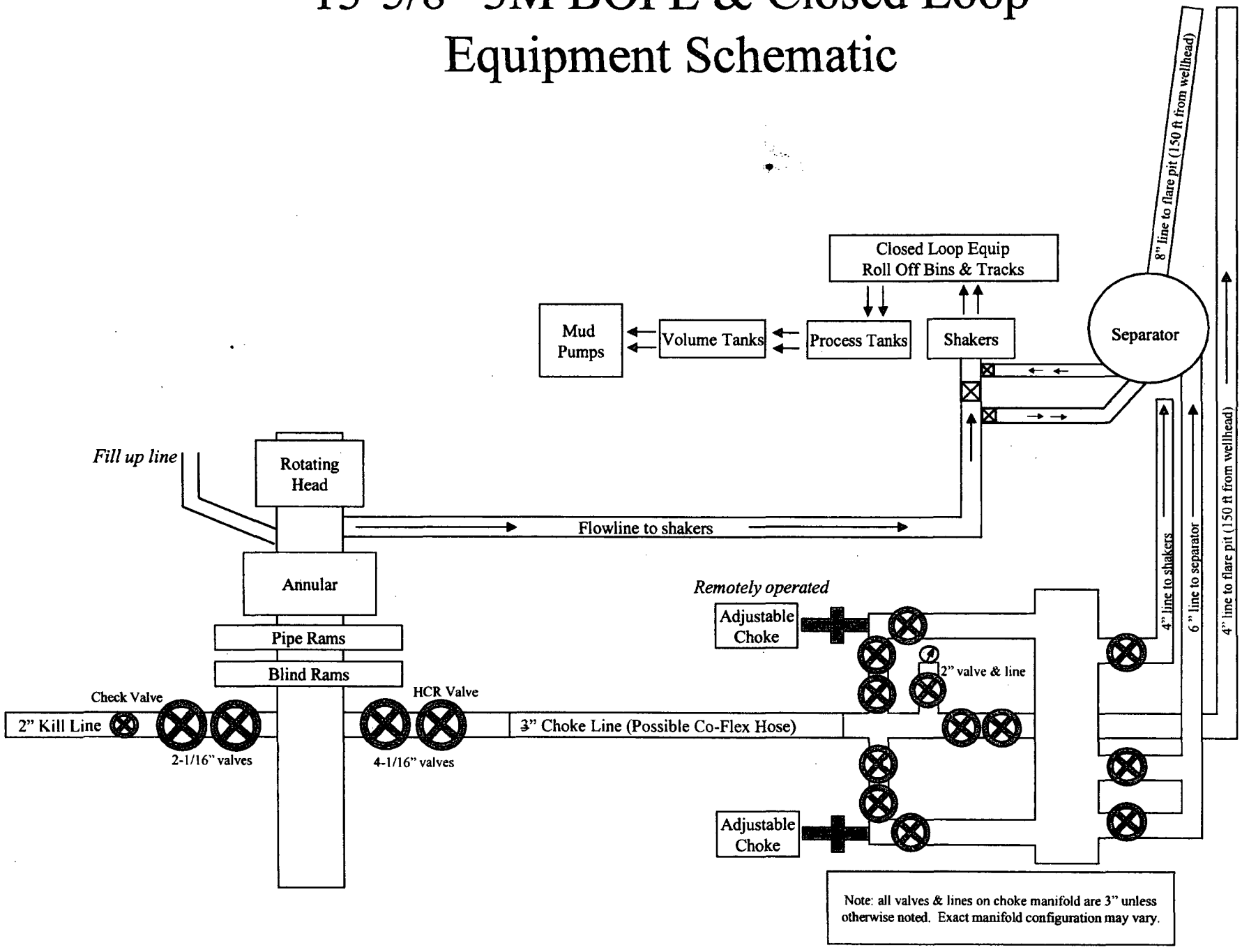
Multi-Bowl Verbiage
Multi-Bowl Wellhead
Closed-Loop Design Plan
Gas Capture Plan

Other proposed operations facets attachment:

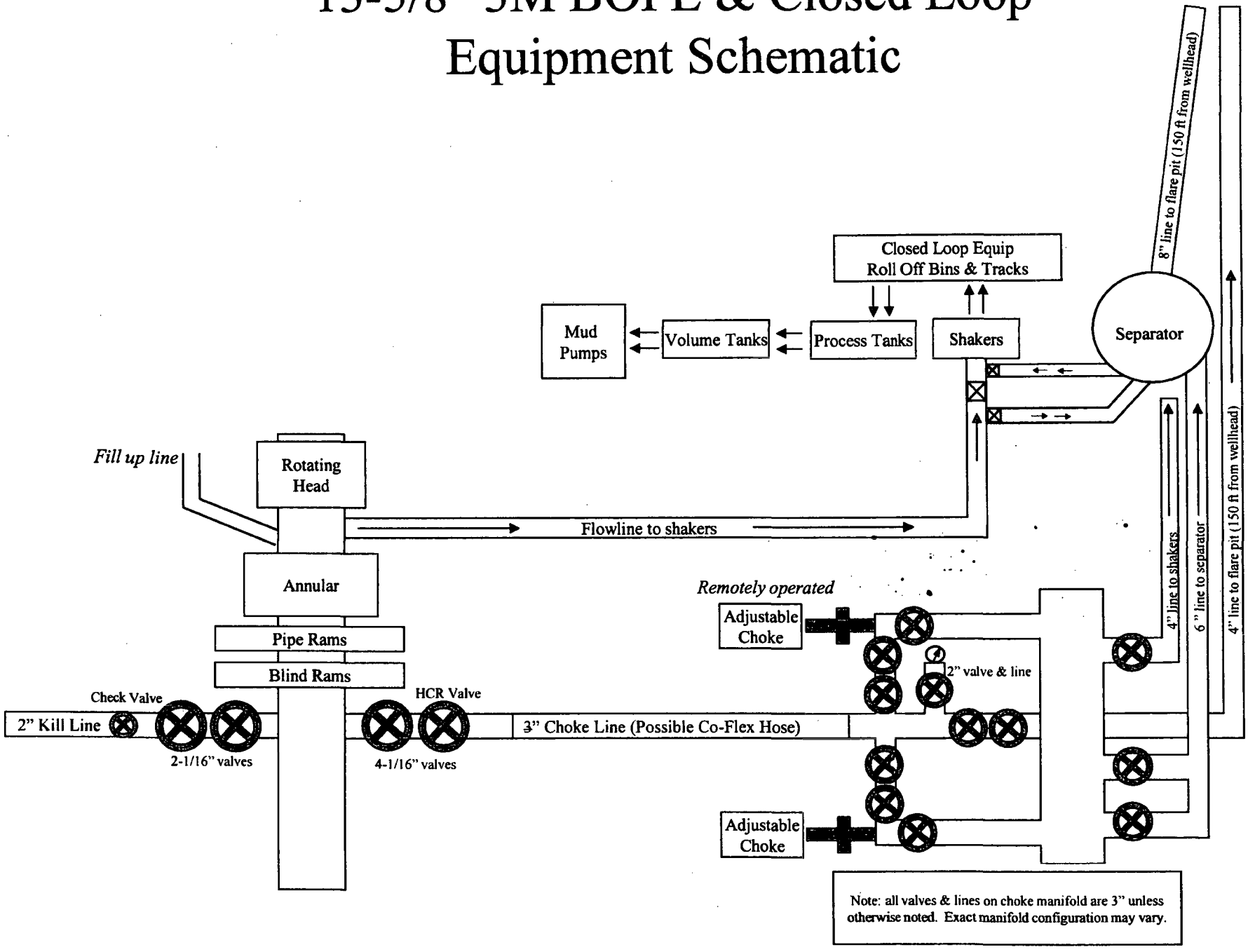
Alley_Cat_17_20_Fed_Com_216H_MB_Verb_20180206142122.pdf
Alley_Cat_17_20_Fed_Com_216H_MB_Wellhd_20180206142134.pdf
Alley_Cat_17_20_Fed_Com_216H_Clsd_Loop_20180206142145.pdf
Alley_Cat_17_20_Fed_Com_216H_Co_flex_20180206142152.pdf
Alley_Cat_17_20_Fed_Com_216H_GCP_20180206142200.pdf
Alley_Cat_17_20_Fed_Com_216H_Drilling_Plan_20180206142323.pdf

Other Variance attachment:

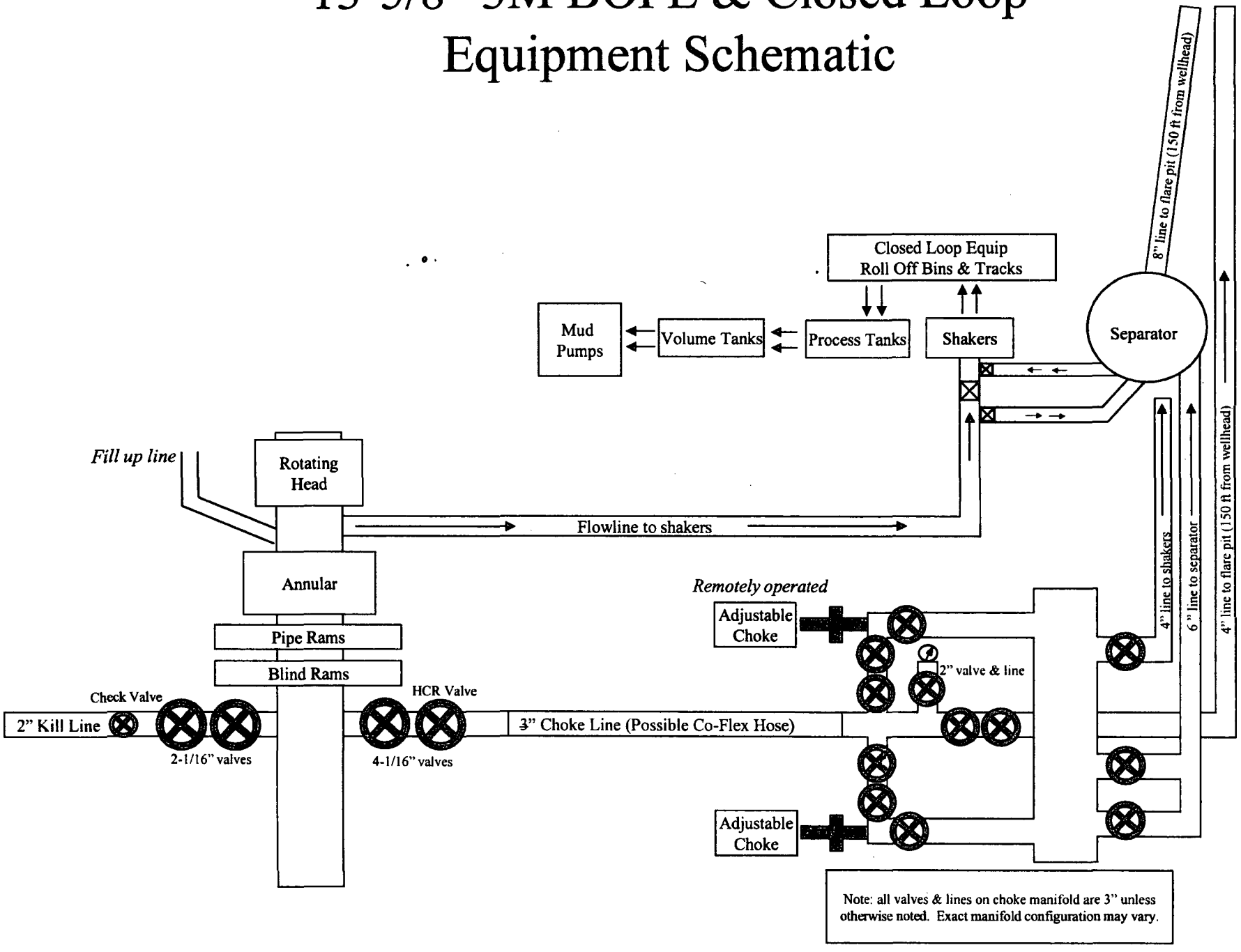
13-5/8" 3M BOPE & Closed Loop Equipment Schematic



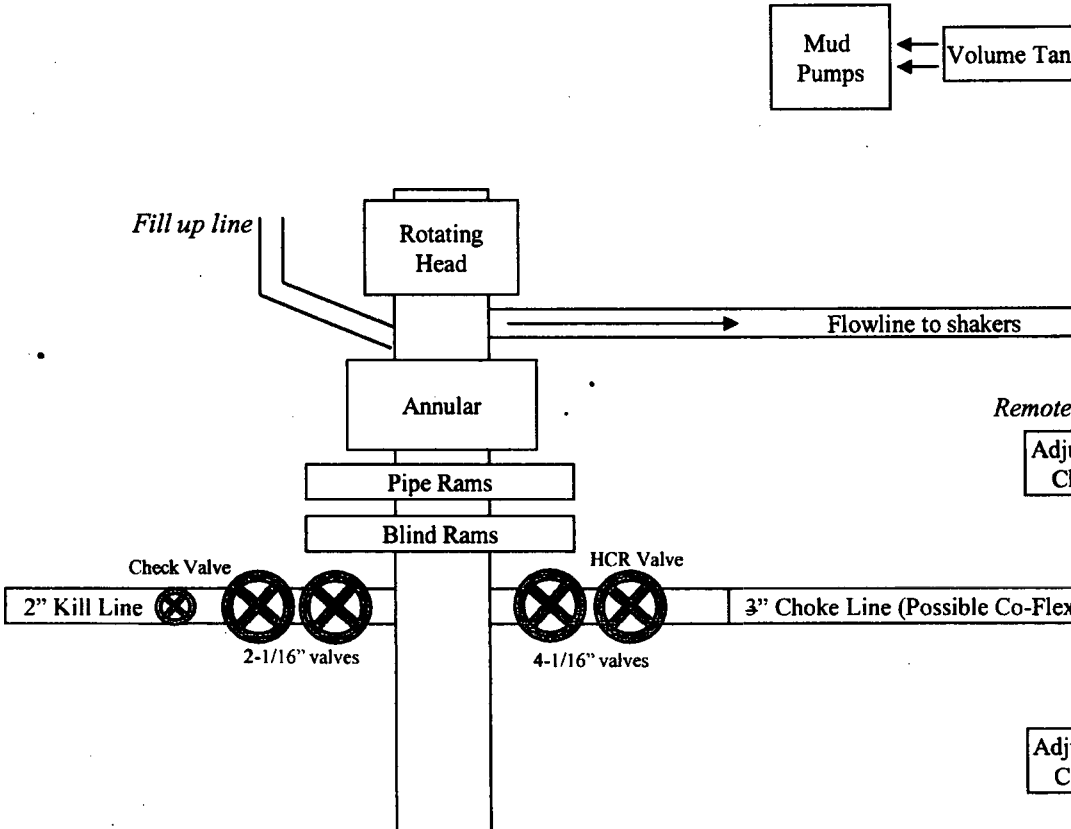
13-5/8" 3M BOPE & Closed Loop Equipment Schematic



13-5/8" 3M BOPE & Closed Loop Equipment Schematic



Equipment Sch



Casing Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Intermediate Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Fracture @ Shoe	Formation Pore Pressure	Dry gas

Intermediate Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Intermediate Casing Tension Design	
Load Case	**Assumptions**
Overpull	100kips
Runing in hole	2 ft/s
Service Loads	N/A

Casing Assumptions and Load Cases

Surface

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Surface Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Displace to Gas	Formation Pore Pressure	Dry gas from next casing point

Surface Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Surface Casing Tension Design	
Load Case	**Assumptions**
Overpull	100kips
Runing in hole	3 ft/s
Service Loads	N/A

Casing Assumptions and Load Cases

Intermediate

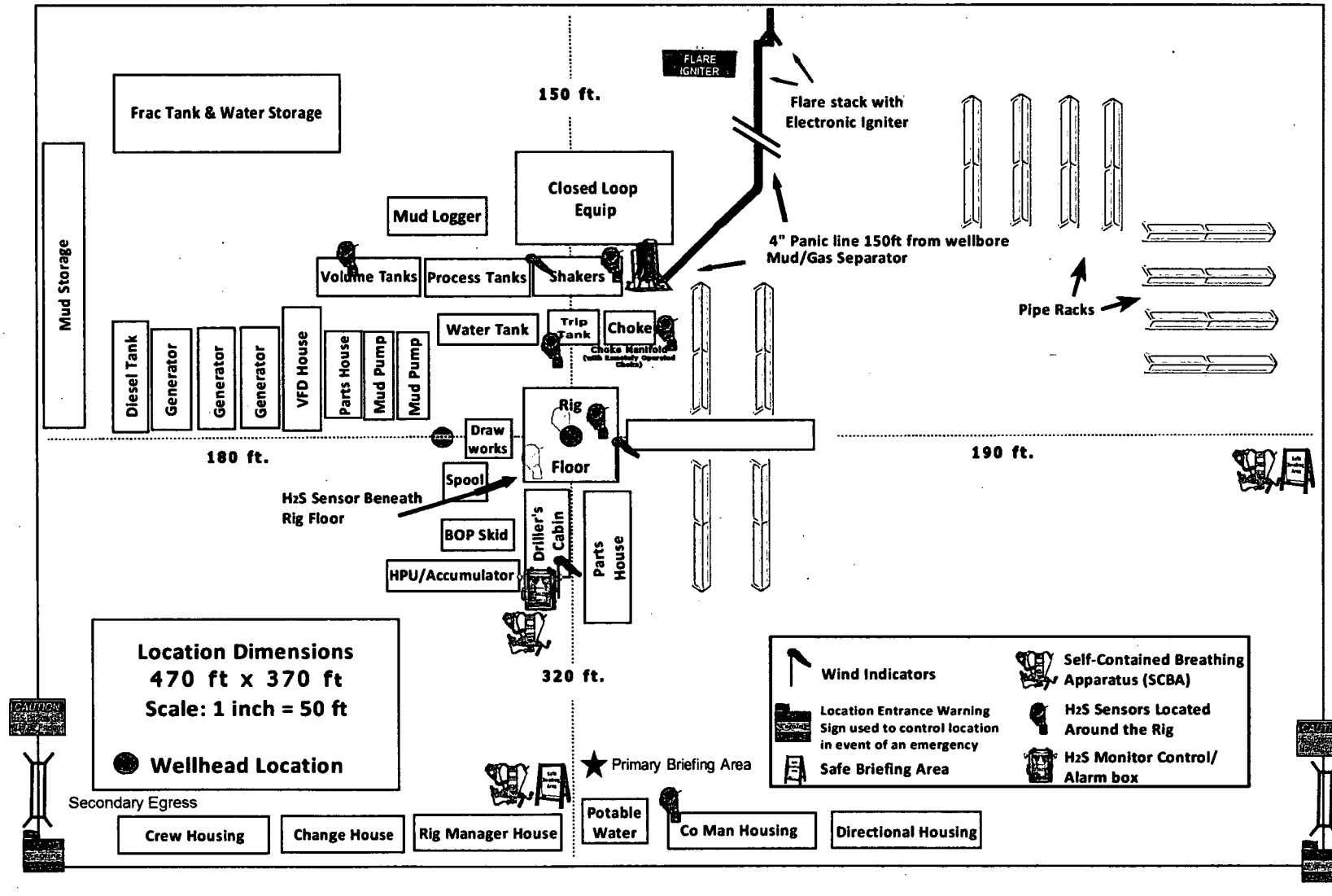
All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

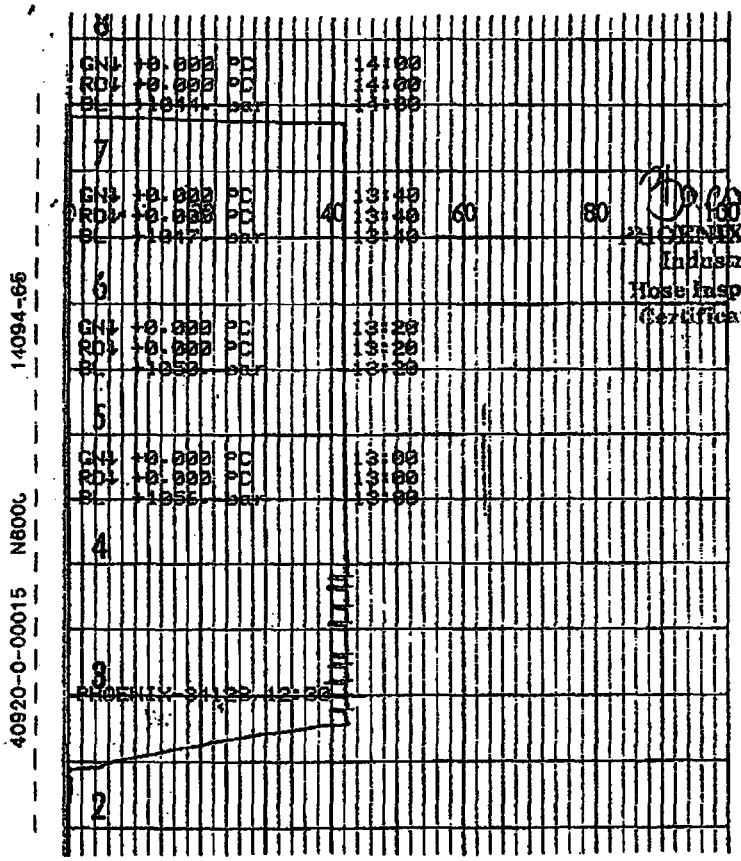
Intermediate Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Fracture @ Shoe	Formation Pore Pressure	Dry gas

Intermediate Casing Collapse Design		
Load Case	**External Pressure**	**Internal Pressure**
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Intermediate Casing Tension Design	
Load Case	**Assumptions**
Overpull	100kips
Runing in hole	2 ft/s
Service Loads	N/A

Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location





PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

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PHOENIX RUBBER C.C.

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 1/16/2018

☒ Original
☐ Amended - Reason for Amendment:

Devon & OGRID No.: Devon Energy Prod Co., LP (6137)

This Gas Capture Plan outlines actions to be taken by the Devon 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
Alley Cat 17-20 Fed Com 215H	N/A	Lot P, Sec 8, T23S, R 32E	598 FSL 994 FEL			Todd Apache MDP 2 8 CTB 2
Alley Cat 17-20 Fed Com 216H		Lot O, Sec 8, T23S, R 32E	602 FSL 1959 FEL			Todd Apache MDP 2 8 CTB 2

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if DCP system is in place. The gas produced from production facility is dedicated to DCP and will be connected to DCP low/high pressure gathering system located in Lea County, New Mexico. It will require 750' of pipeline to connect the facility to low/high pressure gathering system. Devon provides (periodically) to DCP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Devon and DCP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP Processing Plant located in Sec.19, Twn. 19S, Rng. 32E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

Devon Energy, Alley Cat 17-20 Fed Com 216H

1. Geologic Formations

TVD of target	10,755	Pilot hole depth	N/A
MD at TD:	21,320	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	1047		
Salado	1417		
Delaware	4692		
Brushy Canyon	8177		
1st Bone Spring Lime	8652		
1st Bone Spring Sandstone	9697		
2nd Bone Spring Lime	10032		
2nd Bone Spring Sandstone	10312		
2nd Bone Spring Sand Upper	10377		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	933	13.375"	48	H40	BTC	1.4	3.15	14.27
12.25"	0	4500	9.625"	40	J55	BTC	1.15	1.77	4.1
12.25"	4500	6000	9.625"	40	HCK55	BTC	1.18	1.32	3.75
8.75"	0	19800	5.5"	17	P110	BTC	1.45	2.07	2.48
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y

Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	730	14.8	1.33	6.32	6	Lead: Class C Cement + 0.125 lbs/sack Poly-F-Flake
Inter.	790	10.5	3.625	22	14	Tuned Light Weight
	235	14.8	1.33	6.32	6	Tail: Class C Cement + 0.125 lbs/sack Poly-F-Flake
Prod.	570	9	3.27	13.5	21	Lead: Tuned Light Cement
	1421	14.5	1.2	5.31	25	Tail: (50:50) Clas H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the

cement will be onsite for review.

Casing String	TOC	% Excess
13-3/8" Surface	0'	50%
9-5/8" Intermediate	0'	30%
5-1/2" Production	5800'	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. o Wellhead will be installed by wellhead representatives. o If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. o Wellhead representative will install the test plug for the initial BOP test. o Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the packoff, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. o If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. o Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. o Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi. Low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2.

	If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead. The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP. Devon's proposed wellhead manufactures will be EMC Technologies, Cactus Wellhead, or Cameron. The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP. See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	933	FW Gel	8.6-8.8	28-34	N/C
933	6000	Saturated Brine	10.0-11.0	28-34	N/C
6000	15,516	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	KOP to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5320 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No.
Will be pre-setting casing? No.

Attachments
_x_ Directional Plan
___ Other, describe

APD ID: 10400027000 **Submission Date:** 02/07/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Alley_Cat_17_20_Fed_Com_216H_Access_Rd_20180206142342.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Improve road to accommodate Drilling and Completion operations.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Alley_Cat_17_20_Fed_Com_216H_New_Access_Rds_20180206142441.pdf
Alley_Cat_17_20_Fed_Com_216H_New_Access_Rds1_20180206142451.pdf

New road type: LOCAL

Length: 256.8 Feet **Width (ft.):** 30

Max slope (%): 6 **Max grade (%):** 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Water Drainage Ditch

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: See attached Interim reclamation diagram.

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: na

Road Drainage Control Structures (DCS) description: na

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Alley_Cat_17_20_Fed_Com_216H_One_Mile_Map_20180206143003.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Please refer to CTB plat.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: STIMULATION **Water source type:** OTHER

Describe type: Fresh Water

Source latitude: **Source longitude:**

Source datum:

Water source permit type: OTHER

Source land ownership: FEDERAL

Water source transport method: PIPELINE

Source transportation land ownership: STATE

Water source volume (barrels): 135000 **Source volume (acre-feet):** 17.400568

Source volume (gal): 5670000

Water source and transportation map:

ALLEY_CAT_17_20_FED_COM_216H_Water_X_map_20180206143346.pdf

Water source comments: The attached Water Transfer Map is a proposal only and the final route and documentation will be provided by a Devon contractor prior to installation. When available Devon will always follow existing disturbance.
New water well? NO

New Water Well Info

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

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Dirt fill and caliche will be used to construct well pad. Map attached.

Construction Materials source location attachment:

Alley_Cat_17_20_Fed_Com_216H_Caliche_Map_20180206144311.pdf

Section 7 - Methods for Handling Waste

Waste type: PRODUCED WATER

Waste content description: Average produced BWPD over the first year of production

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: Multiple methods for handling waste will be utilized. Via trucking, Dvn owned disposal system and or third party pipeline take away.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flow back water during completion operations.

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N/A

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Various disposal locations in Lea and Eddy counties.

Waste type: FLOWBACK

Waste content description: Average produced BWPD over the flowback period (first 30 days of production).

Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** STATE

Disposal type description:

Disposal location description: Produced water during flowback will be disposed of at various disposals in Lea and Eddy County.

Waste type: DRILLING

Waste content description: Water Based Cuttings

Amount of waste: 1980 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

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

Disposal type description:

Disposal location description: All cuttings will disposed of at R360, Sundance, or equivalent.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Alley_Cat_17_20_Fed_Com_216H_Rig_layout_20180206144338.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** TODD- APACHE MDP 2 PAD

Multiple Well Pad Number: 8-5

Recontouring attachment:

Alley_Cat_17_20_Fed_Com_216H_Grading_X_Pln_20180206144349.pdf

Drainage/Erosion control construction: N/A

Drainage/Erosion control reclamation: N/A

Well pad proposed disturbance (acres): 8.27	**Well pad interim reclamation (acres):** 4.09	**Well pad long term disturbance (acres):** 8.207
Road proposed disturbance (acres): 0.177	**Road interim reclamation (acres):** 0.177	**Road long term disturbance (acres):** 0.177
Powerline proposed disturbance (acres): 0.055	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 13.044	**Pipeline interim reclamation (acres):** 13.04	**Pipeline long term disturbance (acres):** 13.04
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 21.546	**Total interim reclamation:** 17.307	**Total long term disturbance:** 21.424

Disturbance Comments:

Reconstruction method: Operator will use Best Management Practices"BMP" to mechanically recontour to obtain the desired outcome.
Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
Existing Vegetation at the well pad: Shinnery, yucca, grasses and mesquite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Operator Contact/Responsible Official Contact Info

First Name: JACOB **Last Name:** OCHOA

Phone: (575)748-9934 **Email:** JACOB.OCHOA@DVN.COM

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Maintain weeds on an as need basis.

Weed treatment plan attachment:

Monitoring plan description: Monitor as needed.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM **Well Number:** 216H

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

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

ROW Type(s): 281001 ROW - ROADS,288100 ROW – O&G Pipeline,FLPMA (Powerline)

ROW Applications

SUPO Additional Information: See attached. Flowline Plat, CTB Plat, Grading Plan, Elec Plats

Use a previously conducted onsite? YES

Previous Onsite information: 3/8/2016

Other SUPO Attachment

Alley_Cat_17_20_Fed_Com_216H_CTB_pad_Elc_Flowline_Rds_20180206144537.PDF
Alley_Cat_17_20_Fed_Com_216H_GCP_20180206144704.pdf
Alley_Cat_17_20_Fed_Com_216H_Grading_X_Pln_20180206144717.pdf
Alley_Cat_17_20_Fed_Com_216H_Int_Rec_20180206144740.pdf
Alley_Cat_17_20_Fed_Com_216H_Pad_Elec_Flow_Rd_20180206144805.pdf

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:

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:

ACCESS ROAD PLAT

ACCESS ROAD FOR STRAY CAT 8-5 FED COM 213H & ALLEY CAT 17-20 FED COM 216H

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
JANUARY 8, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANGEMENT LAND IN SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SW/4 SE/4 OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S85°15'31"E, A DISTANCE OF 1563.15 FEET;
THENCE N00°04'19"E A DISTANCE OF 50.10 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N59°55'09"W A DISTANCE OF 190.57 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N89°59'23"W A DISTANCE OF 50.01 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S70°31'07"W, A DISTANCE OF 912.22 FEET;

SAID STRIP OF LAND BEING 290.67 FEET OR 17.62 RODS IN LENGTH, CONTAINING 0.200 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SE/4	290.68 L.F.	17.62 RODS	0.200 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 8 DAY OF JANUARY 2018

FILIMON F. JARAMILLO, P.S. 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

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?

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):

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

07/20/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: CO1104

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: