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Form 3160-3
(March 2012)

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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. NMNM114991
	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. GREEN WAVE 20-17 FED 1H (316127)
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP (6137)	9. API Well No. 30-025-44667
3a. Address 333 West Sheridan Avenue Oklahoma City OK	3b. Phone No. (include area code) (405)552-6571
	10. Field and Pool, or Exploratory WC-025 G-09 S253336D / UPPER WOL (98094)
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface SWNW / 2394 FNL / 269 FWL / LAT 32.0296198 / LONG -103.4995528 At proposed prod. zone NWNW / 330 FNL / 380 FWL / LAT 32.049792 / LONG -103.4992178	11. Sec., T. R. M. or Blk. and Survey or Area SEC 20 / T26S / R34E / 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) 269 feet	16. No. of acres in lease 1880	17. Spacing Unit dedicated to this well 240
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 650 feet	19. Proposed Depth 12850 feet / 19944 feet	20. BLM/BIA Bond No. on file FED: CO1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3356 feet	22. Approximate date work will start* 06/01/2018	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) Rebecca Deal / Ph: (405)228-8429	Date 10/12/2017
Title Regulatory Compliance Professional		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 02/27/2018
Title Supervisor Multiple Resources	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 04/05/18

*(Instructions on page 2)

APPROVED WITH CONDITIONS

KB 04/09/18

Approval Date: 02/27/2018

Double Sided

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)

Approval Date: 02/27/2018

Additional Operator Remarks

Location of Well

1. SHL: SWNW / 2394 FNL / 269 FWL / TWSP: 26S / RANGE: 34E / SECTION: 20 / LAT: 32.0296198 / LONG: -103.4995528 (TVD: 0 feet, MD: 0 feet)
   PPP: SWNW / 2640 FNL / 380 FWL / TWSP: 26S / RANGE: 34E / SECTION: 20 / LAT: 32.02891 / LONG: -103.499201 (TVD: 12805 feet, MD: 12950 feet)
   BHL: NWNW / 330 FNL / 380 FWL / TWSP: 26S / RANGE: 34E / SECTION: 17 / LAT: 32.049792 / LONG: -103.4992178 (TVD: 12850 feet, MD: 19944 feet)

BLM Point of Contact

Name: Judith Yeager

Title: Legal Instruments Examiner

Phone: 5752345936

Email: jyeager@blm.gov

Approval Date: 02/27/2018

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

03/09/2018

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: Rebecca Deal **Signed on:** 10/09/2017

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

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

Phone: (405)228-8429

Email address: Rebecca.Deal@dvn.com

Field Representative

Representative Name: TRAVIS PHIBBS

Street Address: 6488 Seven Rivers Hwy

City: ARTESIA **State:** NM **Zip:** 88210

Phone: (575)748-9929

Email address: TRAVIS.PHIBBS@DVN.COM

APD ID: 10400022721 **Submission Date:** 10/12/2017

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400022721 **Tie to previous NOS?** **Submission Date:** 10/12/2017

BLM Office: CARLSBAD **User:** Rebecca Deal **Title:** Regulatory Compliance Professional

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

Lease number: NMNM114991 **Lease Acres:** 1880

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: aletha.dewbre@dvn.com

Section 2 - Well Information

Well in Master Development Plan? NEW **Mater Development Plan name:** RATTLESNAKE 2 MDP

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

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

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-09 S253336D **Pool Name:** UPPER WOLFCAMP

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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

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:** RATTLESNAKE MDP PAD **Number:** 20-1

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: **Distance to nearest well:** 650 FT **Distance to lease line:** 269 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: GREEN_WAVE_20_17_FED_1H_C_102_Signed_20170927124319.pdf

Well work start Date: 06/01/2018 **Duration:** 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	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	2394	FNL	269	FWL	26S	34E	20	Aliquot SWNW	32.0296198	-103.4995528	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 114991	3356	0	0
KOP Leg #1	26402	FNL	380	FWL	26S	34E	20	Aliquot SWNW	32.028917	-103.499201	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 114991	-8921	12278	12277
PPP Leg #1	2640	FNL	380	FWL	26S	34E	20	Aliquot SWNW	32.028915	-103.499201	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 114991	-9449	12950	12805

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

	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
EXIT Leg #1	330	FNL	380	FWL	26S	34E	17	Aliquot NWNW	32.049792	-103.499178	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 114991	-9494	19944	12850
BHL Leg #1	330	FNL	380	FWL	26S	34E	17	Aliquot NWNW	32.049792	-103.499178	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 114991	-9494	19944	12850

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

Choke Diagram Attachment:

Green_Wave_20_17_Fed_1H_10M_BOPE_CK_20170927130256.pdf

BOP Diagram Attachment:

Green_Wave_20_17_Fed_1H_10M_BOPE_CK_20170927130330.pdf

Pressure Rating (PSI): 5M **Rating Depth:** 12805

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M 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:

GREEN_WAVE_20_17_FED_1H_5M_BOPE__CK_20170927130115.pdf

BOP Diagram Attachment:

GREEN_WAVE_20_17_FED_1H_5M_BOPE__CK_20170927130135.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	14.75	10.75	NEW	API	N	0	820	0	820			820	J-55	40.5	STC	1.125	1.25	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	9800	0	9798			9800	P-110	29.7	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6
3	INTERMEDIATE	8.75	7.625	NEW	API	N	9800	12950	9798	12805			3150	P-110	29.7	OTHER - FLUSHMAX	1.125	1.25	BUOY	1.6	BUOY	1.6
4	PRODUCTION	6.75	5.5	NEW	API	N	0	19944	0	12850			19944	P-110	20	OTHER - VAM SG	1.125	1.25	BUOY	1.6	BUOY	1.6

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

GREEN_WAVE_20_17_FED_1H_Surf_Csg_Ass_20170927130607.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

GREEN_WAVE_20_17_FED_1H_Int_Csg_Ass_20170927131527.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

GREEN_WAVE_20_17_FED_1H_Int_Csg_Ass_20170927131644.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

GREEN_WAVE_20_17_FED_1H_Prod_Csg_Ass_20170927131748.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	0	0	0	0	0		N/A - SEE ATTACHED DRILLING CONTINGENCY	0
SURFACE	Lead		0	875	511	1.34	14.8	684	50	C	1% Calcium Chloride
INTERMEDIATE	Lead		0	11450	890	3.27	9	2911	30	TUNED	TUNED LIGHT
INTERMEDIATE	Tail		11450	12950	163	1.2	14.5	196	30	H	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
PRODUCTION	Lead		12750	19944	593	1.33	14.8	789	25	C	0.125 lbs/sack Poly-E-Flake

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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
12950	19944	OIL-BASED MUD	11	13				12			
0	820	SPUD MUD	8.33	9.1				2			
820	12950	SALT SATURATED	8.6	10				2			
820	12950	SALT SATURATED	8.6	10				2			

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: GREEN WAVE 20-17 FED **Well Number:** 1H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7312 **Anticipated Surface Pressure:** 4485

Anticipated Bottom Hole Temperature(F): 165

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:

Green_Wave_20_17_Fed_1H_H2S_Plan_20170927132738.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Green_Wave_20_17_Fed_1H_Dir_Plan_20170927132754.pdf

Other proposed operations facets description:

DRILLING CONTINGENCY PLAN
MULTI-BOWL WELLHEAD
MULTI-BOWL VERBIAGE
GAS CAPTURE PLAN
CLOSED LOOP DESIGN - SEE RATTLESNAKE 2 MDP
CO-FLEX VARIANCE - SEE RATTLESNAKE 2 MDP
ANTI-COLLISION PLAN
SPUDDER RIG DOCUMENT

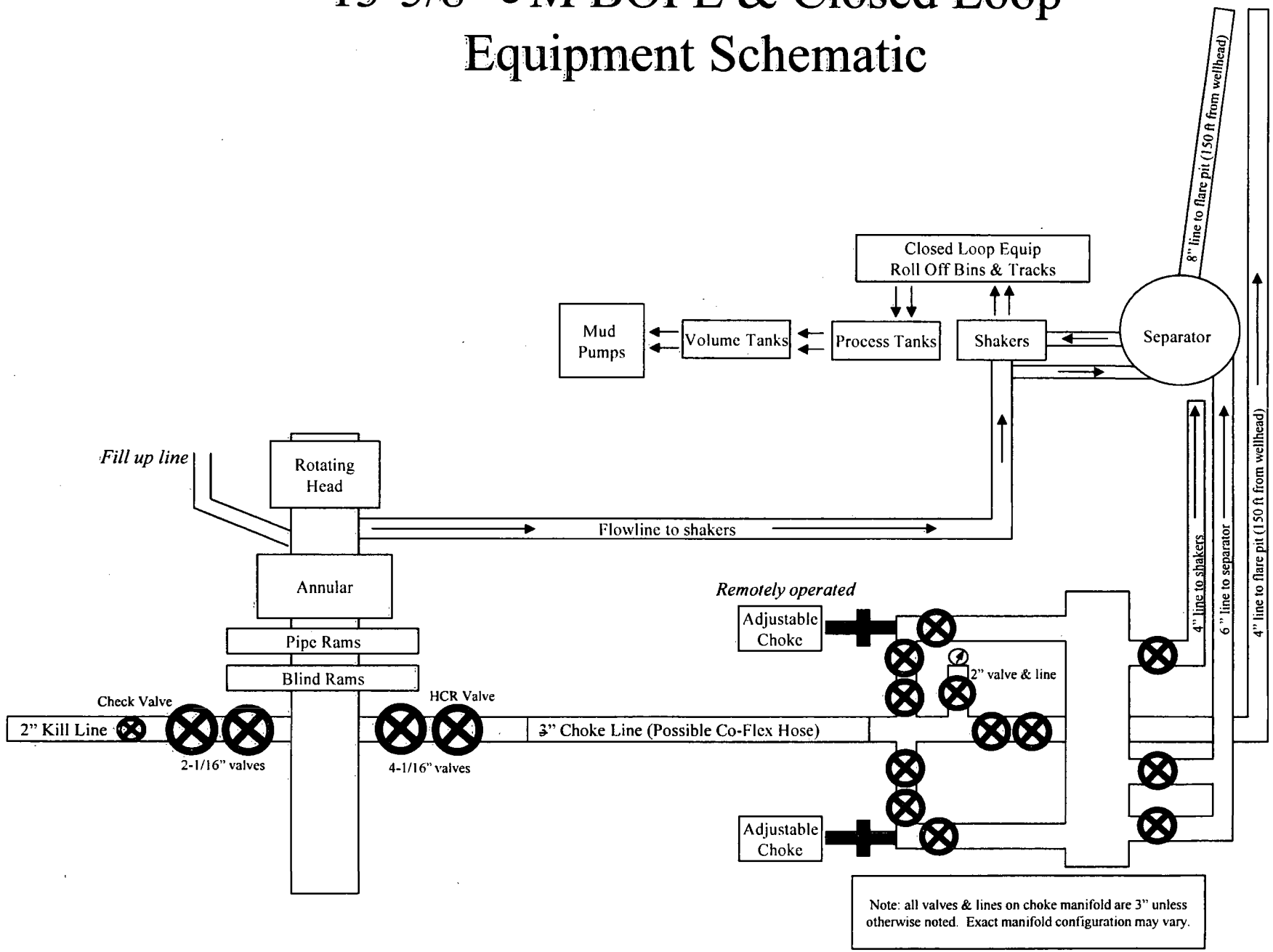
Other proposed operations facets attachment:

Green_Wave_20_17_Fed_1H_AC_Report_20170927133118.pdf
GREEN_WAVE_20_17_FED_1H_MB_Verb_20170927133118.pdf
GREEN_WAVE_20_17_FED_1H_MB_Wellhd_20170927133118.pdf
Green_Wave_20_17_Fed_1H_Drlg_Contingency_20170927133237.pdf
Green_Wave_20_17_FED_1H_GCP_20170928064709.pdf

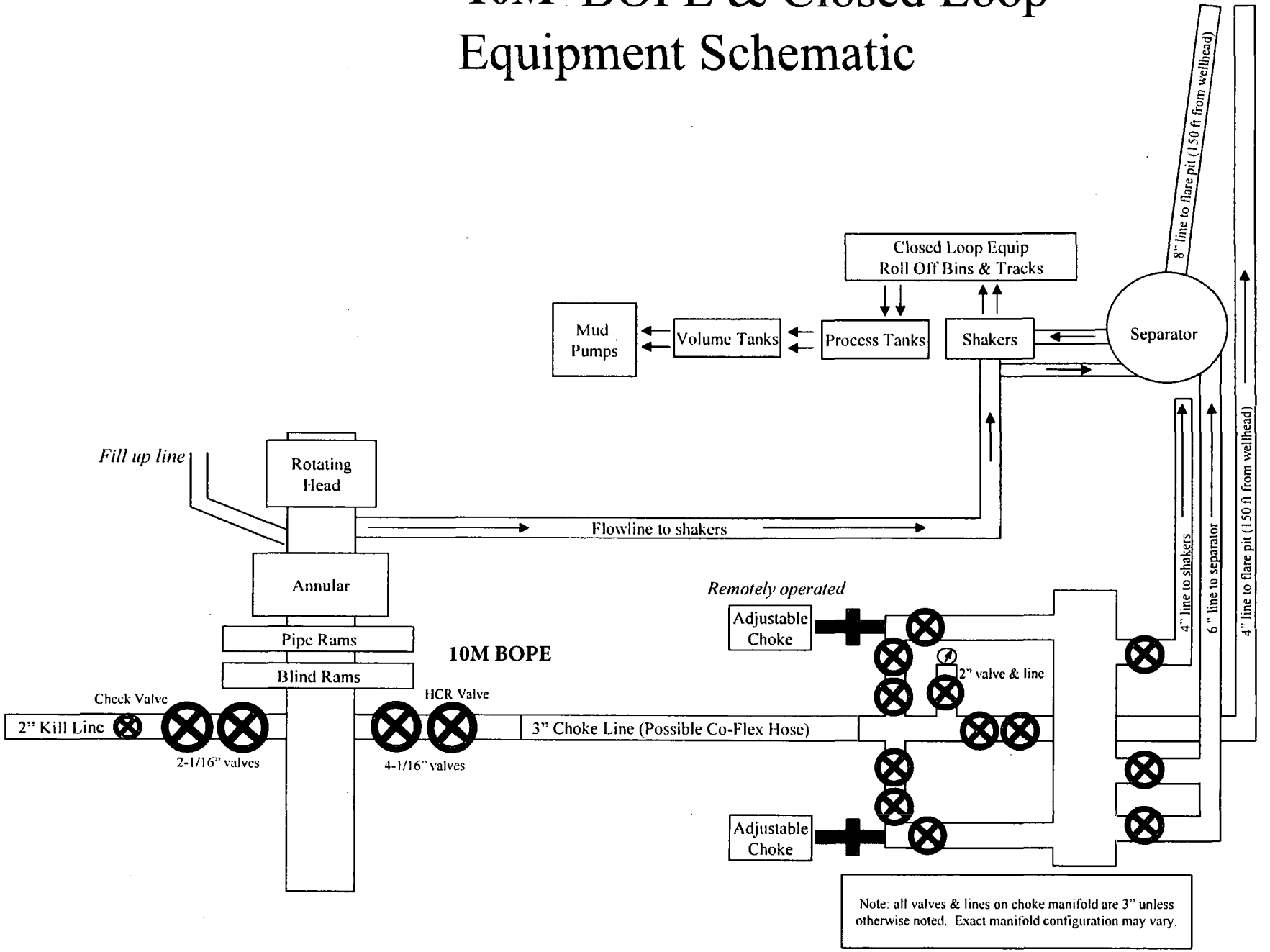
Other Variance attachment:

GREEN_WAVE_20_17_FED_1H_Rattlesnake_2_MDP_Ref_Pg_20170927133028.pdf
Green_Wave_20_17_FED_1H_Spudder_Rig_Info_20170927133135.pdf

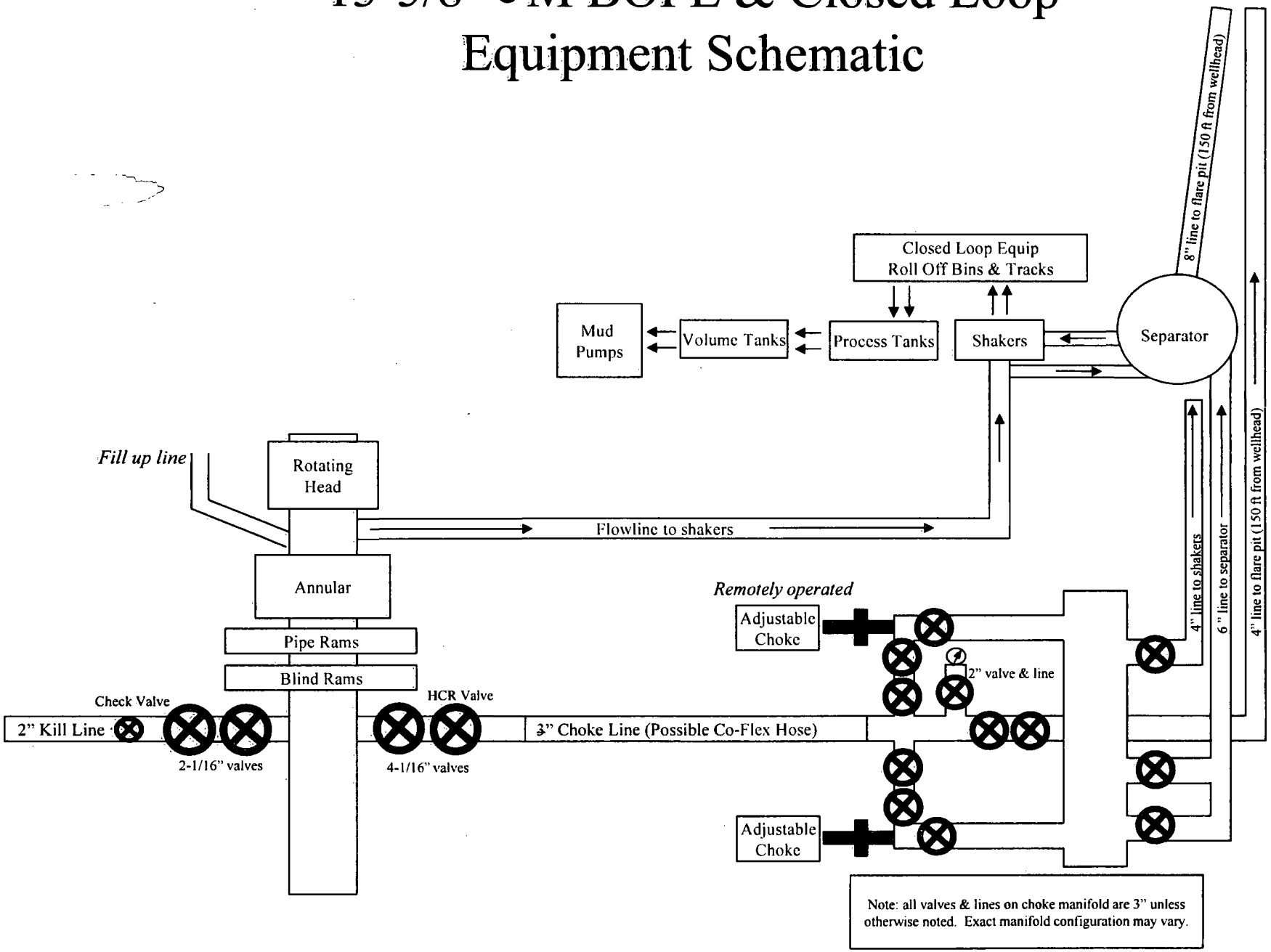
13-5/8" 5M BOPE & Closed Loop Equipment Schematic



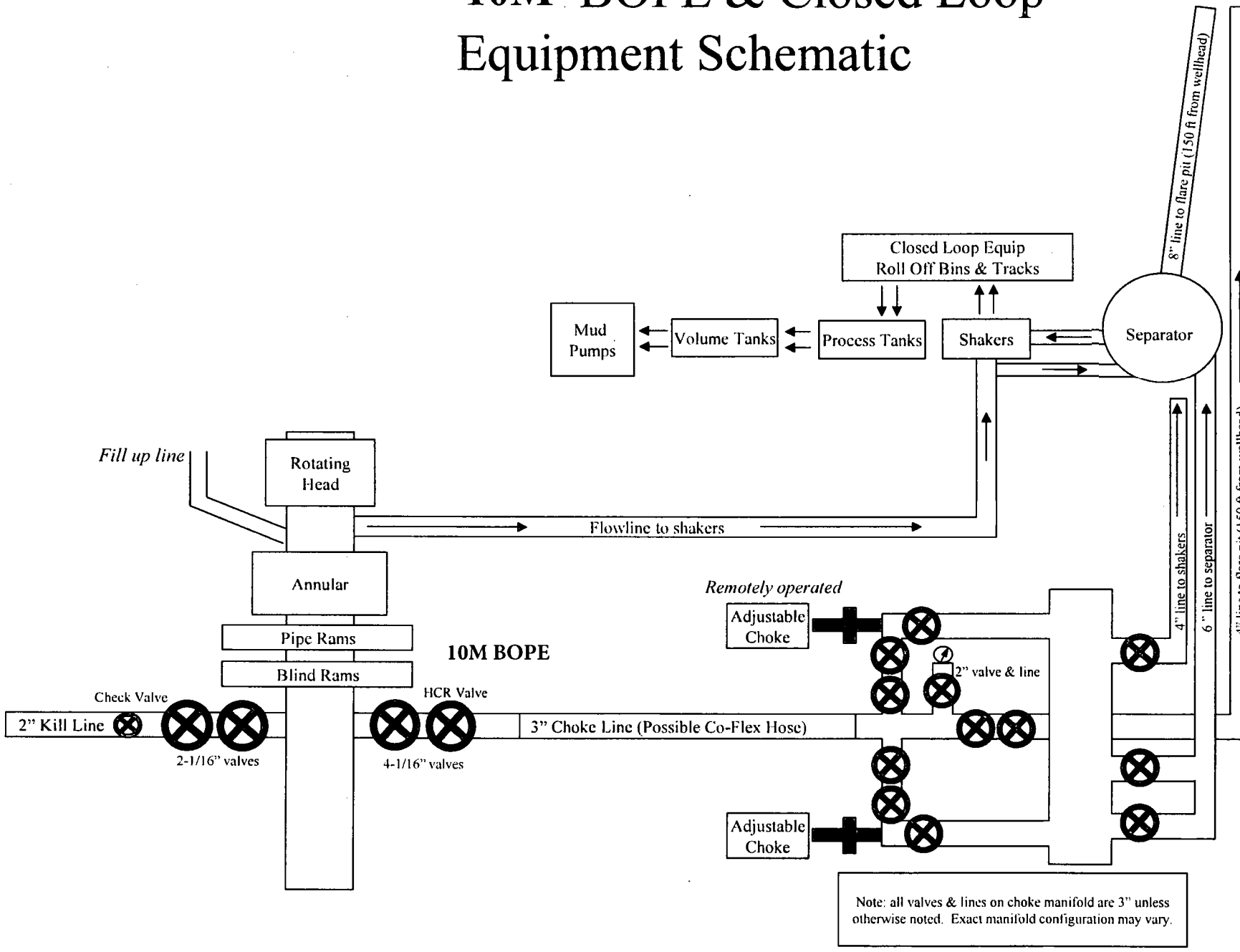
10M BOPE & Closed Loop Equipment Schematic



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



10M BOPE & Closed Loop Equipment Schematic



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

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

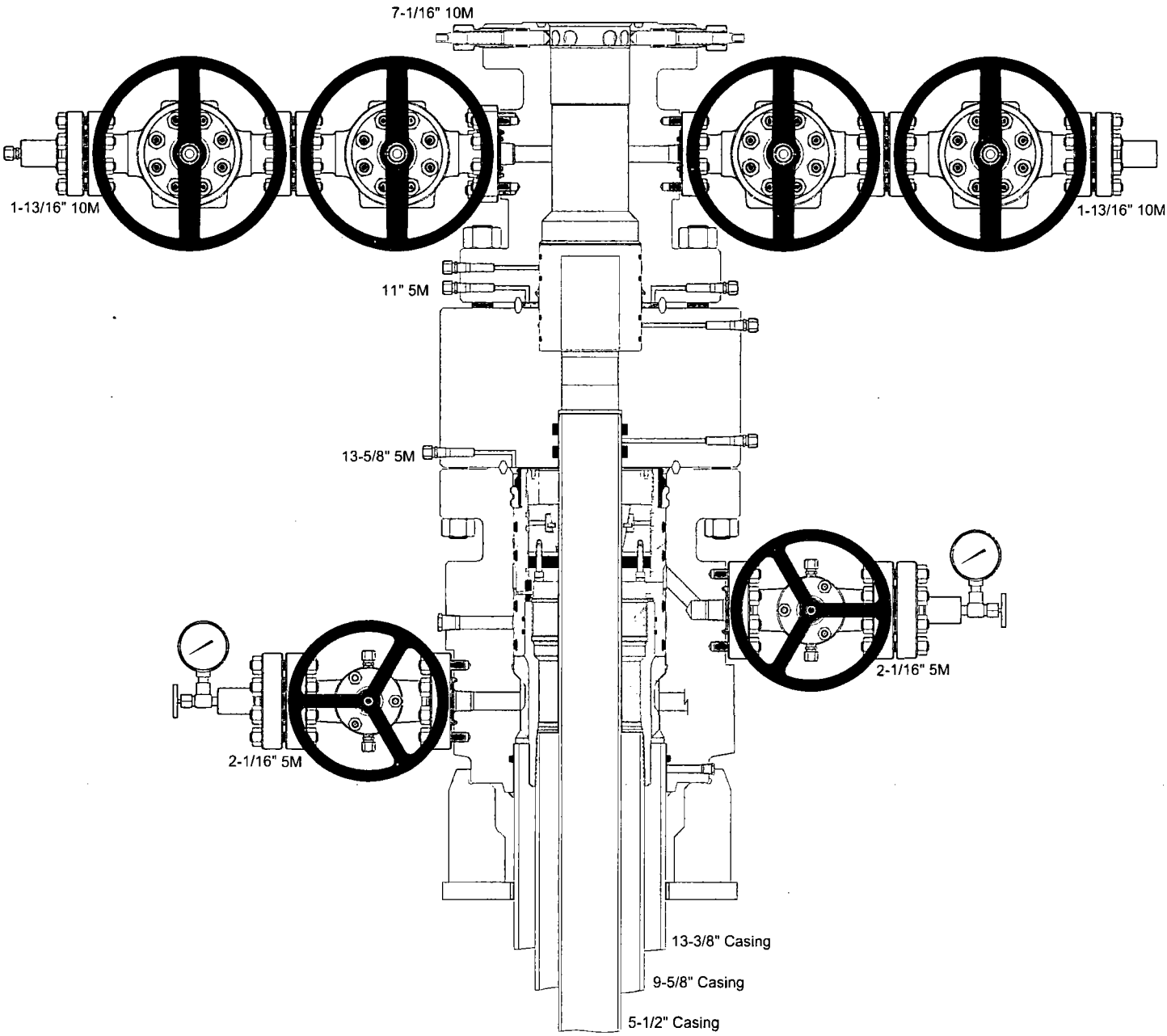
Production

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.

Production Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
Pressure Test	Formation Pore Pressure	Fluid in hole (water or produced water) + test psi
Tubing Leak	Formation Pore Pressure	Packer @ KOP, leak below surface 8.6 ppg packer fluid
Stimulation	Formation Pore Pressure	Max frac pressure with heaviest frac fluid

Production 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)

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


7-1/16" 10M
1-13/16" 10M
1-13/16" 10M
11" 5M
13-5/8" 5M
2-1/16" 5M
2-1/16" 5M
13-3/8" Casing
9-5/8" Casing
5-1/2" Casing

Contingency Intermediate Cement

Additional Info for String	3	Additional String Description	Intermediate squeeze cement
Stage Tool Depth			

Lead

Top MD of Segment	0	Btm MD of Segment	7000	Cement Type	Class C
Additives	0.125 lbs/sack Poly-E-Flake	Quanity (sks)	1155	Yield (cu.ft./sk)	1.3
Density (lbs/gal)	14.5	Volume (cu.ft.)	1502	Percent Excess	0

Tail

Top MD of Segment		Top MD of Segment		Cement Type	
Additives		Quanity (sks)		Yield (cu.ft./sk)	
Density (lbs/gal)		Volume (cu.ft.)		Percent Excess	

Contingency Production Cement

Additional Info for String		Additional String Description	
Stage Tool Depth			

Lead

Top MD of Segment		Btm MD of Segment		Cement Type	
Additives		Quanity (sks)		Yield (cu.ft./sk)	
Density (lbs/gal)		Volume (cu.ft.)		Percent Excess	

Tail

Top MD of Segment		Top MD of Segment		Cement Type	
Additives		Quanity (sks)		Yield (cu.ft./sk)	
Density (lbs/gal)		Volume (cu.ft.)		Percent Excess	

Devon Energy
APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
    a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
    a. The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

APD ID: 10400022721 **Submission Date:** 10/12/2017

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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:

GREEN_WAVE_20_17_FED_1H_Access_Rd_20170927151709.pdf

Existing Road Purpose: ACCESS **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:

GREEN_WAVE_20_17_FED_1H_New_Road_20170927151746.pdf
Green_Wave_20_17_Fed_1H_RS_MDP_CTB_RD_20170928064341.pdf

New road type: LOCAL

Length: 461.2 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? YES

New road access plan attachment:

Green_Wave_20_17_Fed_1H_RS_MDP_CTB_ACC_RD_20171009091520.pdf
GREEN_WAVE_20_17_FED_1H_New_Road_20171009091559.pdf

Access road engineering design? YES

Access road engineering design attachment:

GREEN_WAVE_20_17_FED_1H_New_Road_20170927151903.pdf

Green_Wave_20_17_Fed_1H_RS_MDP_CTB_ACC_RD_20171009091540.pdf

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: Attached road map for well pad and a plat with the overall proposed MDP road system.

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

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: N/A

Road Drainage Control Structures (DCS) description: N/A

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:

Green_Wave_20_17_Fed_1H_1mi_Radius_Map_20170927152059.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Part of Rattlesnake 2 MDP. Refer to attachments in Sec. 12 of SUPO for Flowline and MDP reference plats. All flowlines will be buried going to the Rattlesnake MDP 1 CTB 20-1, located in 20-26S-34E.
Production Facilities map:

GREEN_WAVE_20_17_FED_1H_Rattlesnake_2_MDP_Ref_Pg_20171009094941.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: STIMULATION **Water source type:** RECYCLED

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: OTHER

Source land ownership: FEDERAL

Water source transport method: PIPELINE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 350000 **Source volume (acre-feet):** 45.112583

Source volume (gal): 14700000

Water source and transportation map:

Green_Wave_20_17_FED_1H_Water_Map_20171009091639.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: GREEN WAVE 20-17 FED **Well Number:** 1H

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Part of Rattlesnake 2 MDP. Caliche Map & Grading Plats attached

Construction Materials source location attachment:

Green_Wave_20_17_FED_1H_Caliche_Map_20171009092111.pdf
Green_Wave_20_17_FED_1H_Caliche_Route_Map_20171009092111.pdf

Section 7 - Methods for Handling Waste

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: 3329 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 our Rattlesnake 16 SWD.

Waste type: PRODUCED WATER

Waste content description: Produced water during flowback will be disposed of at our Rattlesnake 16 SWD.

Amount of waste: 1462 barrels

Waste disposal frequency : Daily

Safe containment description: n/a

Safe containmant attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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

Disposal type description:

Disposal location description: Produced water will be primarily disposed of at our Rattlesnake 16 SWD. At certain times during the year, some of the water will be recycled and used for completions.

Waste type: DRILLING

Waste content description: Water Based and Oil Based Cuttings

Amount of waste: 1740 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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Green_Wave_20_17_Fed_1H_Well_Layout_20171009092926.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** RATTLESNAKE MDP PAD

Multiple Well Pad Number: 20-1

Recontouring attachment:

GREEN_WAVE_20_17_FED_1H_Interim_Recl_20171009093006.pdf

Drainage/Erosion control construction: n/a

Drainage/Erosion control reclamation: n/a

Wellpad long term disturbance (acres): 2.048 **Wellpad short term disturbance (acres):** 8.207

Access road long term disturbance (acres): 0.318 **Access road short term disturbance (acres):** 0.318

Pipeline long term disturbance (acres): 12.431405 **Pipeline short term disturbance (acres):** 12.43416

Other long term disturbance (acres): 0 **Other short term disturbance (acres):** 0

Total long term disturbance: 14.797405 **Total short term disturbance:** 20.95916

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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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:**

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:**

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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:**

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),Other

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: PART OF RATTLESNAKE MDP 2. FLOWLINE PLAT ATTACHED - FLOWLINES BURIED. Miscellaneous plats attached. 9 MDP PLATS ATTACHED FOR REFERENCE - Crude, Gas and Water Later Connects, CTB Battery Connect, Flowline Corridor, CTB Electric, CTB Pad Plat, Pad Electric, Pad Plat.

Other SUPO Attachment

Green_Wave_20_17_FED_1H_CRUDE_LATERAL_20171009093605.pdf

Green_Wave_20_17_FED_1H_GASWATER_LATERAL_20171009093608.pdf

Green_Wave_20_17_FED_1H_RS_MDP_CTB_BATCON_20171009093611.PDF

Green_Wave_20_17_FED_1H_RS_MDP_CTB_BATCON_20171009093614.PDF

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

Green_Wave_20_17_FED_1H_RS_MDP_FL_CORR_20171009093624.pdf
Green_Wave_20_17_FED_1H_RS_MDP_CTB_ELE_20171009093628.PDF
Green_Wave_20_17_FED_1H_RS_MDP_20_1_PAD_ELE_20171009093627.PDF
Green_Wave_20_17_FED_1H_RS_MDP_PAD_20_1_PLAT_20171009093635.pdf
Green_Wave_20_17_FED_1H_RS_MDP_CTB_PAD_PLAT_20171009093632.pdf
Green_Wave_20_17_FED_1H_Flowline_20171012094043.pdf
GREEN_WAVE_20_17_FED_1H_Misc_Plats_20171012155326.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?

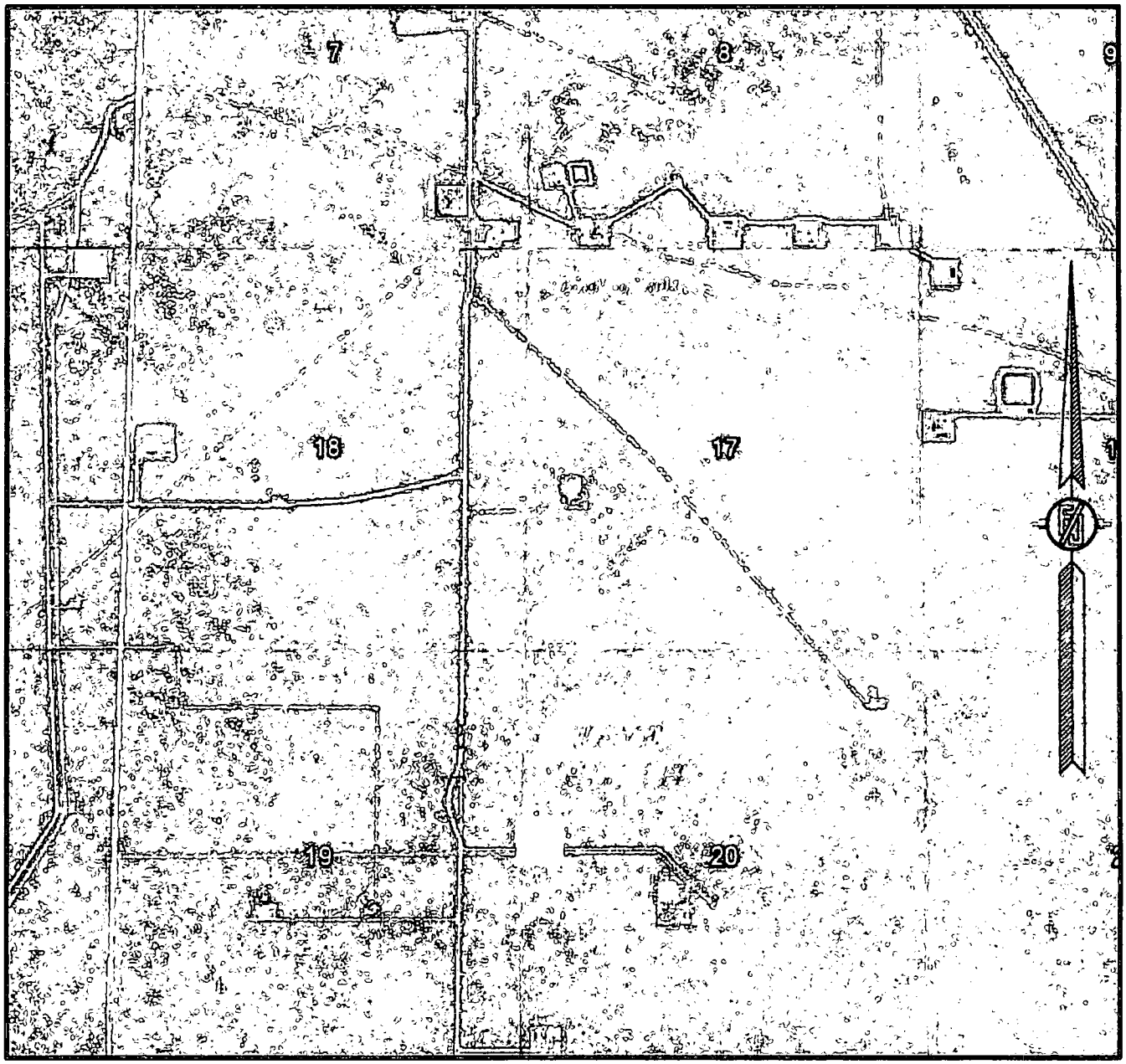
Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

SECTION 20, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2015

DEVON ENERGY PRODUCTION COMPANY, L.P.

GREEN WAVE 20–17 FED 1H

LOCATED 2394 FT. FROM THE NORTH LINE
AND 269 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 26 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2017

SURVEY NO. 5401

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

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

03/09/2018

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:

APD ID: 10400022721 **Submission Date:** 10/12/2017

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GREEN WAVE 20-17 FED **Well Number:** 1H

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	---	3356	0	0	SANDSTONE,OTHER : SURFACE	NONE	No
2	RUSTLER	2626	730	730	SANDSTONE	NONE	No
3	TOP SALT	2241	1115	1115	SALT	NONE	No
4	BASE OF SALT	-1714	5070	5070	OTHER	NONE	No
5	DELAWARE	-1964	5320	5320	SANDSTONE	NATURAL GAS,OIL	No
6	BONE SPRINGS	-6264	9620	9620	SANDSTONE	NATURAL GAS,OIL	No
7	BONE SPRING 2ND	-7764	11120	11120	SANDSTONE	NATURAL GAS,OIL	No
8	BONE SPRING 3RD	-8844	12200	12200	SANDSTONE	NATURAL GAS,OIL	No
9	WOLFCAMP	-9244	12600	12600	SHALE	NATURAL GAS,OIL	Yes
10	PENNSYLVANIAN	-11994	15350	15350	LIMESTONE	NATURAL GAS,OIL	No

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 12850

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 10M 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.