ETB

PMAM1422655457

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

TH	IIS CHECKLIST IS M			ATIONS FOR EXCEPTIONS T		ES AND REGULA	TIONS
Applica	[DHC-Dow	: ndard Location] nhole Commingli	[NSP-Non-Standard ing] [CTB-Lease 0 [OLS - Off-Lease	Proration Unit] [SD-Si	imultaneous ool/Lease Co .ease Measu	ommingling] rement]	
	[EOR-Qua	-		PI-Injection Pressure la cation] [PPR-Positive		Response]	
[1]	TYPE OF AF		Check Those Which cing Unit - Simultane NSP SD		De 0	7	
	Check [B]] or [C] Storage - Measurem CTB PLC	nent PC OLS	<u> </u>	ThisHell 30-025 ThisHell 30-025 ThisHell 30-025	UNI+17H 5-31843
	[C]		oosal - Pressure Incre PMX SWD	ease - Enhanced Oil Rec	covery PPR	30-020	4ni+324 5-40016
	[D]	Other: Specify				30-025	= Unit
[2]	NOTIFICAT [A]	ION REQUIRE	D TO: - Check Thos Royalty or Overridin	e Which Apply, or 🔲 l g Royalty Interest Own	ere	Pools	•
	[B]	Offset Ope	erators, Leaseholders	or Surface Owner		Brinnin Delawa 9619	stool;
	[C]			uires Published Legal N	Notice	96193	3
	[D]	Notification	on and/or Concurrent Land Management - Commission	Approval by BLM or Soner of Public Lands, State Land Office Notification or Publication	SLO	Triple	PRING
	[E]	For all of	the above, Proof of N	Notification or Publication	on is Attache	d, and/or,55	100
	[F]	☐ Waivers a	re attached				
[3]		CURATE AND ATION INDICA		ORMATION REQUIR	ED TO PRO	OCESS THE	ТҮРЕ
	al is accurate a	nd complete to th	he best of my knowle	nation submitted with the dge. I also understand re submitted to the Divi	that no actio		
	Note	: Statement must be	e completed by an indivi	dual with managerial and/or	r supervisory ca	apacity.	
	Erin Workman		0:	Regulatory	Compliance	Professional	08.13.14
P	rint or Type Nai	ne	Signature		Title		Date
				-	Erin.Workma	an@dvn.com Address	-



RECEIVED COD

7814 Nº 14 P 1: 34

Devon Energy Production Company 333 W. Sheridan Avenue Oklahoma City, Oklahoma 73102 Phone: (405)-552-7970 Erin.Workman@dvn.com

August 13, 2014

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Interest Owners

Re: Central Tank Battery, Pool Commingle

Thistle Unit 17H, 32H &43H

Sec 33, T23S, R33E

NMNM 088526X & ST NM V-2797

API: #30-025-39893, 30-025-4001, 30-025-40898

Pool: 96193 Brinninstool, Delaware, 59900 Triple X; Bone Spring

To Whom It May Concern:

This is to advise you that Devon Energy Production Company, LP, is filing an amended application with the New Mexico Oil Conservation Division ("NMOCD") seeking approval for a Central Tank Battery, Pool Commingle for the above mentioned wells.

A copy of our application submitted to the Division & to the BLM

Any objections or requests that a hearing should be held regarding this application must be submitted to the New Mexico Oil Conservation Division Santa Fe office within 20 days from the date of this letter.

Please contact the undersigned at (405) 552-7970 should you have any questions or need anything further.

Sincerely,

Devon Energy Production Company, L.P.

rin Workman

Regulatory Compliance Professional

Enclosure

<u>District I</u>
1625 N. French Drive, Hobbs, NM 88240
<u>District II</u>
1301 W. Grand Ave, Artesia, NM 88210
<u>District III</u>
1000 Rio Brazos Road, Aztec, NM 87410
<u>District IV</u>

1220 S. St Francis Dr, Santa Fe, NM

State of New Mexico Energy, Minerals and Natural Resources Department

Form C-107-B Revised June 10, 2003

OIL CONSERVATION DIVISION

1220 S. St Francis Drive Santa Fe, New Mexico 87505 Submit the original application to the Santa Fe office with one copy to the appropriate District Office.

APPLICATION	FOR SURFACE (COMMINGLING	DIVERSE	OWNERSHIP)						
	nergy Production Co.,		(21,12122	O ((1)(2)(1)(1)						
	heridan Avenue, Oklah									
APPLICATION TYPE:										
☐ Pool Commingling ☐ Lease Commingling	ng Pool and Lease Co	mmingling	Storage and Measu	rement (Only if not Surface	e Commingled)					
LEASE TYPE:	State	ral								
Is this an Amendment to existing Order										
Have the Bureau of Land Management	(BLM) and State Land	d office (SLO) been not	tified in writing	of the proposed comm	ingling					
⊠Yes □No	· · · · · · · · · · · · · · · · · · ·		~							
		OL COMMINGLINGS with the following in								
Gravities / BTU of Calculated Gravities / Calculated Value of Commingled Production Production Calculated Value of Commingled Production Production Production Production										
Brinninstool, Delaware (17H)	38/1277.4									
Brinninstool, Delaware (32H)	38/1297.7	1								
Triple X; Bone Spring (43H)	37/1271.3			1						
				1						
(3) Has all interest owners been notified I(4) Measurement type: Metering	(4) Measurement type: Metering Other (Coriolis Test & tank gauging Method)									
		SE COMMINGLIN s with the following in								
(1) Pool Name and Code.	10 Dv D v									
(2) Is all production from same source of(3) Has all interest owners been notified			⊠Yes □	No						
	=	Coriolis 43H & Tank Stra								
	(C) POOL and	LEASE COMMIN	GLING							
		s with the following in								
(1) Complete Sections A and E.										
()	D) OFF-LEASE ST	ORAGE and MEA	SUREMENT	·						
		ets with the following								
(1) Is all production from same source of(2) Include proof of notice to all interest		o (Each well has a de	esignated tank, n	o commingle of oil prod	uction)					
(2) Include proof of notice to all interest	JWHEIS.			· · · · · · · · · · · · · · · · · · ·						
(E) A		RMATION (for all		ypes)						
(1) A solvenotic discreme of facility inch		ts with the following in	nformation							
(1) A schematic diagram of facility, inclu(2) A plat with lease boundaries showing		ions. Include lease numbe	ers if Federal or St	tate lands are involved.						
(3) Lease Names, Lease and Well Number										
I hereby certify that the information above i	s true and complete to the	e best of my knowledge ar	nd belief.							
SIGNATURE:	T	пть: <u>Regulatory C</u>	ompliance Pr	of. date: 08.13	.14					

E-MAIL ADDRESS: Erin. workman@dvn.com

TYPE OR PRINT NAME: Erin Workman TELEPHONE NUMBER: (405) 552-7970

APPLICATION FOR A CENTRAL TANK BATTERY, POOL COMMINGLE

State of New Mexico – Santa Fe Oil Conservation Division 1220 S. St Francis Drive Santa Fe, New Mexico 87505

rev

Proposal for an Off Lease Measurement for the Thistle Unit 17H, 32H, & 43H Wells:

Devon Energy Production Company, LP is requesting approval for a Central Tank Battery, Pool Commingle to amend the approved Administrative Order PLC 396 for the following wells:

Federal Lease: NMNM 088526X Oil												
Well Name	Location	API#	Pool 96193	BOPD	Gravities	MCFPD	<u>BTU</u>					
Thistle Unit #17H	SWSE Sec. 33-T23S-R33E	30-025-39893	Brinninstool, Delaware	79.14	38	103.14	1294.4					
Federal Lease: ST	NM V 2797				Oil							
Well Name	Location	API#	Pool 96193	BOPD	Gravities	MCFPD	BTU					
Thistle Unit #32H	SESE Sec. 33-T23S-R33E	30-025-40016	Brinninstool, Delaware	21.50	38	13.00	1297.8					
Federal Lease: NM	INM 088526X				Oil							
Well Name	Location	API#	Pool 59900	BOPD	Gravities	MCFPD	BTU					
Thistle Unit #43H	SWSW Sec. 33-T23S-R33F	30-025-40898	Triple Y: Bone Spring	250	37	240	1271 3					

Attached is a map which displays the federal leases and well locations in Section 33 -T23S-R31E.

Oil & Gas metering:

The central tank battery is located on the Thistle Unit #17 located in SWSE, Sec. 33-T23S-R33E. The production from the Thistle Unit 17H & 32H will each have its own three phase separator, heater/treater and designated oil tank that will be strapped and measured daily by tank gauge, a flow meter to meter the water, and gas allocation meter to meter the gas. The Thistle Unit 43H production will flow through a three phase separator with coriolis to meter the oil, flow meter to meter the water, and gas allocation meter to meter the gas and it's production will flow into a tank located at the Thistle Unit 44H battery located in Sec. 33, 23S, 33E in Lea County, NM. VRU will be allocated back to each well utilizing a percentage of each wells monthly oil production.

The Thistle Unit #17H battery will have four oil tanks, two to be utilized by the Thistle Unit #17 and two designated to the Thistle Unit #32. The oil production from the 43H will utilize a tank located at the Thistle Unit 44H battery in Sec. 33, 23S, 33E. The Thistle Unit #17H, 32H, & 43H wells will have a common Duke Energy Central Delivery Point #725077-00 which is on location at the Thistle Unit #17 battery in Sec. 33, T23S, R33E. Oil, gas, and water volumes from the 17H & 32H wells producing to this battery will be determined by using a test separator/heater treater and tank gauging of a 500 bbl. tank. Oil, gas, and water volumes from the Thistle Unit 43H will be determined by using its own test separator/heater treater located at the Thistle Unit 44H battery in Sec. 33, 23S, 33E in Lea County.

The Thistle Unit #17 production flows into its own three phase test separator, where after separation gas is routed to the gas test meter #390-49-125, and then flows to Duke Energy CDP #725077-00. Produced water and oil are separated, the oil will then flow to the designated 500 bbl. utilizing the tank gauging method and water is metered using a mag meter and then flows to the 500 bbl. produced water tank, along with the water from the other wells.

The Thistle Unit #32 production flows into its own three phase test separator, where after separation gas is routed to the gas test meter #390-49-279, then flows to the Duke Energy CDP #725077-00. Produced water and oil are separated, the oil will then flow to the designated 500 bbl. utilizing the tank gauging method and water is metered using a mag meter and then flows to the 500 bbl. produced water tank, along with the water from the other wells.

The Thistle Unit #43 production flows into its own three phase test separator at the Thistle Unit 44H Battery located in Sec. 33, T23S, R33E, in Lea County, NM. After separation, gas is routed to the gas test meter #390-49-280, then flows to the DCP low pressure CDP #725077-00 on location at the Thistle Unit 17H in Sec. 33, T23S, R33E. Produced water and oil are separated, the oil is then metered with a Micro Motion Coriolis Meter S/N 14416285, and then flow to the 500 bbl. tank. The water is metered with a mag meter then flows to the 500 bbl. produced water tank, along with the water from the other wells.

Oil production from the 17H & 32H will be allocated on a daily basis based on the tank strap method. Oil production from the 43H will be allocated on a daily basis based on the Coriolis Test Meter S/N 144165285. The Coriolis meter will be proven, as per API, NMOCD, and BLM specifications, when installed, once per month for the first 3 months (to establish a consistent repeatability factor), and then quarterly thereafter, the factor obtained will be used to allocate the production volumes. Gas production from all three wells will be allocated on a daily basis using the gas allocation meters for each well. The gas production from the production equipment, VRU allocation meter #390-00-262, and from each gas test meter will combine and flow through the Duke Energy Gas Sales meter #725077-00. These meters will be calibrated on a regular basis per API, NMOCD, and BLM specifications. The BLM & OCD will

be notified of any future changes in the facilities.

Process and Flow Descriptions:

The flow of produced fluids is shown in detail on the enclosed facility diagram, along with a description of each vessel and map which shows the lease boundaries, unit agreement boundaries, and location of wells, facility, and gas sales meter. The proposed off lease measurement is appropriate based on the BLM's guidance in IM 2013-152. This proposal will maximize the ultimate recovery of oil and/or gas from the federal lease and will reduce environmental impacts by minimizing surface disturbance and emissions. The proposed commingling will reduce operating expenses, as well as, not adversely affect federal royalty income, production accountability, or the distribution of royalty.

Working, royalty, and	d overriding interest	owners have	been notified of this	proposal v	ia certified mail	(see attached).
01111116, 10 1 11111, 11111		O TIME	ceem mounted or dino	proposer .	id outtimed indi	(see accounting).

Signed: ______ Printed Name: Erin Workman

Title: Regulatory Compliance Professional

Date: 08.13.14

1625 N. French Dr District II 1301 W. Grand Av				OIL (inerals & Natur CONSERVA	ral Resources Depa ATION DIVISIO	rtment N	t Re Subn	nit one cop	tober 15,2009 py to appropriate			
	District 111 District Office 1000 Rio Brazzos Rd., Aziec, NNI 87418 AUG 27 2010 1220 South St. Francis Dr.												
District IV 1220 S. St. Francis	d., Aztec, ma s Dr., Santa	Fe, NM 69	BBSO(CD	Santa Fe, 1	NM 87505			AMEND	DED REPORT			
	District IV 1220 S. St. Francis Dr., Santa Fe, Nil STOD WELL LOCATION AND ACREAGE DEDICATION PLAT API Number Pool Code Pool Code AMENDED REPORT AMENDED REPORT Pool Name Pool Name												
30.07	API Numbe		13 9	Pool Cod	73	cB)		³ Pool Name	BY.	Delaware			
Property 9	ર્રે પ					LE "33" Uni	+			*Well Number 17H			
1	OGRID No. Operator Name Elevation												
013/	6137 DEVON ENERGY PRODUCTION COMPANY, L.P. 3654.0 10 Surface Location												
UL or lot no.	Section	Township	p Range	Lot Idn	Feet from the	North/South line	Feet	from the	East/West li	ine County			
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	L	L	11 Bc	ottom H	ole Location	If Different From	m Su	face					
UL or lot no.	Section	Township		Lot ldn	Feet from the	North/South line	Feet	from the	·East/West li	1 1			
В	33	23 S			150	NORTH	2	2490	EAST	LEA			
"Dedicated Acres	s l'iJodnto	r Infili	14 Consolidation	Code 13 (Order No.								
100													
division.	VIII DC as:		CORNER SEC.	1	-11 -1	ve been consolidated	Oran			CERTIFICATION			
		LAT.	= 32'16'06.43 = 103'34'38.24 NMSP EAST (1	3"N 1 4"W 2 (FT) 22	BOTTOM OF HOLE	2#90' NE CORNER SEC LAT. = 32'16'06,	.39"N	l hereby cerufy the to the best of my kn	n the information washedge and hel	n contained herein is true and complete hef, and that this veganization either d annexed interest in the land instituting			
			N = 462168. E = 775041.	BOTTO LAT. = LONG.	OM OF HOLE: 32'16'04.94"N = 103'34'36.54"W EAST (FT)	LONG, = 103'34'07. NMSP EAST N = 46218 E = 7776	(FT) 83.62	handon parmont b	to a centruit with history pooling a	or has a right to drill his well at this h un enemer of such a meneral or working government or a compulsory funding runs.			
				N = 40	620 (9.02 75188.35	*			4 /	. 1			
		 - 						Signature	14	8/24/10			
 	-	·		7	· -	4				E LAIRD			
		 		1		 		I hereby certif	fy that the w	ERTIFICATION rell location shown on this			
	•	 			STLE "33"			made by me o	or under my s	d notes of actual surveys supervision, and that the			
				LAT.	'. = 3654.0 = 32*15 ['] 15 G. = 103*3	5¦549"N (NAD8	(3)	AUGUST 13	100 j	o the best of my belief.			
		! !		NMSP IN = 1	EAST (FT) 457033.82 776246.46	SE CORNER SEC		Date of Surely	12	797			
SW CORNER SE LAT. = 32'15'1 LONG. = 103'35	14.11"N 5'08.94"W	 			ORFACE , S	LAT. = 32'15'14. LONG. = 103'34'07. NMSP EAST	.06 N .52 W (FT)	Signature and S	a graniessu	onal Surveyors			
NMSP EAST (FI N = 456861.33	Λ	i		- '/ .SU	REALP/ /			Certificate Numb					

State of New Mexico

District (

Form C-102

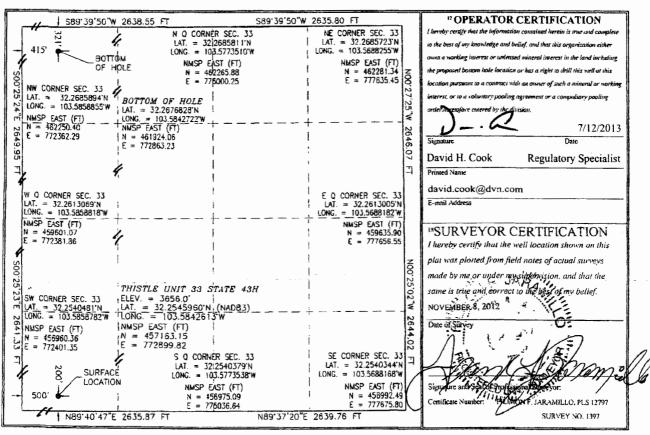
District I		HOBBS	ÓCÐ			State	f N'on	: Mavios			Fo	orm C-10)?
1625 N. French Dr.				State of New Mexico Minerals & Natural Resources Department Submit						Revised October 15,2009			
District II	IAN 2	4 2012E	nergy	. Mir	nerals & l	Naturai	Resources Depar	rtment	9,			appropriate	
1301 W. Grand Ave	enue, Artesi			O	IL C	ONSER	RVAT	ION DIVISIO	N	30		strict Off	• • •
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1000 Rio Brazos Rá District IV	I., AZICC, AN	RECE	EIAED			Santa	Fe. Ni	M 87505		-	☐ AME	ENDED I	REPORT
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1.4	Pl Numbe				oi Cod		T			Pool Na			
30-0	025-400	16						BRI	NNIN	STOOL;	DELAW	ARE	
Property C	.ode					, b	roperty ?	Name				۸.	W eli Number
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						™ Su	rface l	ocation					
U1. or lot no.	Section	Township	Range	1.0	Idn	Feet fro	m the	North/South line		from the	East/W		County
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			11 Bc	otton	n Ho	le Loca	tion If	Different From	n Sur	face			
UL or lot na.	Section	Township	Range	Lo	Éldn	Feet fro		North/South line		from the	East/W		County
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12 Dedicated Acres 160	Joint o	r Infili 14 C	onsolidation	Code	. 0	order No.	71.43						
No allowable v division.	vill be ass	signed to th	is comple	tion (ntil a	ill interest	ts have	been consolidated	or a n	on-standa	rd unit ha	s been a	pproved by the
	vill be ass	N. Q. COR LAT = 3 LONG. = 10	NER SEC. 12:16'06.36' 03:33'36.80' SP EAST (F = 462199. = 780317')	33 N W T) ;	BOTT LAT LONG. NMSP N = 4	**TOM OF H = 32 16 04 = 103 34 2 EAST (FT) 182026.76	92"N 21.17"	NE CORNER SEC.	33 9"N	17 O Literaty certificative desired to the best of a control of the proposed likewatten pursuitation, or as an anterest, or as an	PERATO to that the inform ny krient ledge to genterest or uni bottom hole local must in a contra	OR CER manin civileur and belief, and ficused mineria attion or has a	TIFICATION TIFICATION THE CATION That this organization either it micross in the hand including right to draft this well at this or on the hand including right to draft this well at this or of such a mineral or sending it or a compution, positing
	vill be ass	N. Q. COR LAT = 3 LONG. = 10	NER SEC. : 32 16 06 36 03 33 36.80 SP EAST (F = 462199.4	33 N W T) ;	BOTT LAT. = LONG. NMSP N = 4 E = 7	**COM OF F - 32 16'04 = 103'34'2 EAST (FT) 162026.76	HOLE 92'N 21.17'N	BOTTOM OF HOLI	33 9"N 5"W (FT)	17 O I hereby ceruly to the best of a must a wirkin the proposed l location pures nuterest, or as order heretight	PERATO To that the inform my knew ledge as my interest or inco- man in occurrin a voluntary per me emeral by th	DR CER mation criticus and belief, and lected materia attion or fair a l with an energy and any concerna-	TIFICATION red increments from and complete that this organization either to incress in the kind including right so drift this well at this er of such a momenal or sewking

HOB3S OCD

Lessicis I 1623 N. French Dr., Hobbs, NN SSALO L 1 5 2013 Phone: (375) 393-6161 French Dr. District I Form C-102 State of New Mexico Revised August 1, 2011 Energy, Minerals & Natural Resources Department District II Phone: (375) 748-1253 Fax: (375) 748-97 RECEIVED

Obusic: IIII Submit one copy to appropriate OIL CONSERVATION DIVISION District Office 1220 South St. Francis Dr. 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 □ AMENDED REPORT Santa Fe, NM 87505 1220 S. St. Francis Dr., Santa Fe. NM 37505 Phone: (505) 476-3460 Fax: (505) 476-3462 WELL LOCATION AND ACREAGE DEDICATION PLAT API Number Pool Code 30-025-40898 59900 TRIPLE X; BONE SPRING Property Code Well Number Property Name 30884 THISTLE UNIT 43H OCRID No. Operator Name Elevation 6137 DEVON ENERGY PRODUCTION COMPANY, L.P. 3656.0 No Surface Location UL or lot no. Section Township Lot Idn Feet from the North/South line Feet from the East/West line County Range M WEST 33 23 S 33 E 200 SOUTH 500 LEA " Bottom Hole Location If Different From Surface UL or lot no. Section Township Lot Ida Feet from the North/South line East/West line County Range NORTH < 33 WEST 23 S 33 E LEA Dedicated Acre Joint or Infill Consolidation Code 160

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





August 13, 2014

Mr. Richard Ezeanyim State of New Mexico Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

Re: Central Tank Battery, Pool Commingle

Thistle Unit 17H, 32H &43H

Sec 33, T23S, R33E

NMNM 088526X & ST NM V-2797

API: #30-025-39893, 30-025-4001, 30-025-40898

Pool: 96193 Brinninstool, Delaware, 59900 Triple X; Bone Spring

Dear Mr. Ezeanyim:

Please find attached the OCD Form C-107B sundry notice of intent for a Central Tank Battery, Pool Commingle for the aforementioned wells. This is an amended application for the approved PLC 396.

A copy of our application has been submitted to the Division & to the BLM.

The working interest, royalty interest and overriding royalty interest owners are not identical; notification has been sent via certified mail (see attached).

Should you have any questions or need further assistance, please do not hesitate to contact me at (405) 552-7970.

Sincerely,

Erm Workman

Regulatory Compliance Professional

Enclosures



E-CERTIFIED MAILING LIST

Commingle Mailing Reference: Thistle Unit 17H, 32H & 43H

Repondent Name/Address:	E-Certified Mailing Number:
EOG Resources, Inc. P.O. Box 2267 Midland, TX 79702-2267	9171999991703295695295
ConocoPhillips Company P.O. Box 2197 To: WL -15058 Houston TX 77252-2197	9171999991703295695301
Performance Oil & Gas Company 5400 Lyndon B. Johnson Freeway, Suite 1500 Dallas, TX 75240-1017	9171999991703295695318
Angelo Holdings LLC. P.O.Box 50086 Midland, TX 79710	9171999991703295695325
Lucille H. Pipkin Trust P.O. Box 1174 Roswell, NM 88202-1174	9171999991703295695332
Mr. Pete Martinez	9171999991703295695349

Mr. Pete Martinez State and Land Office Oil and Gas Division 310 Old Sante Fe Trail Santa Fe, New Mexico 87501



Thistle Unit 17H **Process Flow Diagram** Sec. 33, T23S, R33E API # 30-025-38393 30-025-39893 Lea County, NM Thistle Unit 43H Production system Open Valves will be closed 30 Minutes prior to sales **VRU Check Meter** Thistle Unit 17H 390-00-262 Sec. 33, T238, R33E API # 30-025-36393 Note: 30-025-39893 Devon Energy Site Security Thistle32 Gas Meter Lea County, NM Thistle 17 Gas Meter Plan located in the Artesia 390-49-279 390-49-125 Main Office DCP Low PSI sales meter #725077-00 Water Transfer Pump ннннн VRU 390-00-262 Thistle Unit #32 Water transfer line to Rio Blanco 4-3 SWD

WC Name	Month	Year	Oil DN ID	Oil DN Name	Prod	Sales	Sales Den	Wtr Prod
THISTLE UN 17H	01	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	2,082.49	1,907.15	42.0	0.00
THISTLE UN 17H	02	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	1,367.81	1,423.21	41.3	0.00
THISTLE UN 17H	03	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	1,461.84	1,512.35	40.5	0.00
THISTLE UN 17H	04	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	1,079.77	1,100.46	41.5	0.00
THISTLE UN 17H	05	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	1,881.43	1,110.86	40.9	0.00
THISTLE UN 17H	06	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	679.27	561.19	40.3	0.00
					8,552.61			
THISTLE UN 32H	01	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	561.06	506.31	42.0	0.00
THISTLE UN 32H	02	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	335.20	357.54	41.3	0.00
THISTLE UN 32H	03	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	405.81	409.93	40.5	0.00
THISTLE UN 32H	04	2014	0000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	526.09	482.95	41.4	0.00
THISTLE UN 32H	05	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	555.12	463.68	40.8	0.00
THISTLE UN 32H	06	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	229.68	374.46	40.7	0.00
					2,612.96			
THISTLE UNIT 43H	01	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	857.10	1,749.49	42.5	0.00
THISTLE UNIT 43H	02	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	7,778.80	6,195.84	41.1	0.00
THISTLE UNIT 43H	03	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	7,011.18	7,524.71	40.6	0.00
THISTLE UNIT 43H	04	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	4,289.03	4,580.40	41.5	0.00
THISTLE UNIT 43H	05	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	2,802.57	3,262.72	41.4	0.00
THISTLE UNIT 43H	06	2014	00000000000000022839	THISTLE UN 43H OIL (OLD THISTLE 17)	370.32	931.09	41.2	0.00
					23,109.00			

34,274.57

Year	Month	Gas DOI/Unit Name	Prod Days	Prod	Prod HV	Prod EN	Sales	Sales HV	Sales EN
2014	01	THISTLE UN 17H	29	46	1,283	59	42	1,303	55
2014	02	THISTLE UN 17H	28	1,197	1,299	1,555	1,181	1,303	1,539
2014	03	THISTLE UN 17H	29	1,420	1,299	1,845	1,402	1,303	1,827
2014	04	THISTLE UN 17H	24	1,128	1,298	1,464	1,110	1,303	1,446
2014	05	THISTLE UN 17H	31	1,553	1,290	2,004	1,515	1,298	1,966
2014	06	THISTLE UN 17H	29	739	1,317	973	699	1,334	933
				6,083					
2014	01	THISTLE UN 32H	28	123	1,276	157	113	1,303	147
2014	02	THISTLE UN 32H	21	169	1,302	220	167	1,303	218
2014	03	THISTLE UN 32H	27	207	1,300	269	205	1,303	267
2014	04	THISTLE UN 32H	30	332	1,298	431	326	1,303	425
2014	05	THISTLE UN 32H	31	299	1,291	386	291	1,298	378
2014	06	THISTLE UN 32H	25	175	1,314	230	165	1,334	220
				1,305					
2014	01	THISTLE UN 43H-TEMP	6	632	1,278	808	580	1,303	756
2014	02	THISTLE UN 43H-TEMP	24	6,180	1,299	8,027	6,096	1,303	7,943
2014	03	THISTLE UN 43H-TEMP	31	7,429	1,299	9,652	7,337	1,303	9,560
2014	04	THISTLE UN 43H-TEMP	28	6,041	1,285	7,761	5,675	1,303	7,395
2014	05	THISTLE UN 43H-TEMP	29	3,738	1,249	4,668	3,120	1,298	4,050
2014	06	THISTLE UN 43H-TEMP	28	1,638	1,216	1,992	1,060	1,334	1,414
				25,658					
	2014 2014 2014 2014 2014 2014 2014 2014	2014 01 2014 02 2014 03 2014 04 2014 05 2014 06 2014 01 2014 02 2014 03 2014 04 2014 05 2014 06 2014 01 2014 05 2014 06	2014 01 THISTLE UN 17H 2014 02 THISTLE UN 17H 2014 03 THISTLE UN 17H 2014 04 THISTLE UN 17H 2014 05 THISTLE UN 17H 2014 06 THISTLE UN 32H 2014 01 THISTLE UN 32H 2014 03 THISTLE UN 32H 2014 04 THISTLE UN 32H 2014 05 THISTLE UN 32H 2014 06 THISTLE UN 32H 2014 06 THISTLE UN 43H-TEMP 2014 02 THISTLE UN 43H-TEMP 2014 03 THISTLE UN 43H-TEMP 2014 04 THISTLE UN 43H-TEMP 2014 04 THISTLE UN 43H-TEMP 2014 05 THISTLE UN 43H-TEMP 2014 05 THISTLE UN 43H-TEMP 2014 05 THISTLE UN 43H-TEMP	2014 01 THISTLE UN 17H 29 2014 02 THISTLE UN 17H 28 2014 03 THISTLE UN 17H 29 2014 04 THISTLE UN 17H 24 2014 05 THISTLE UN 17H 31 2014 06 THISTLE UN 17H 29 2014 01 THISTLE UN 32H 28 2014 02 THISTLE UN 32H 21 2014 03 THISTLE UN 32H 27 2014 04 THISTLE UN 32H 30 2014 05 THISTLE UN 32H 30 2014 05 THISTLE UN 32H 31 2014 06 THISTLE UN 32H 31 2014 06 THISTLE UN 32H 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33,046

State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez Governor

David Martin Cabinet Secretary

Brett F. Woods, Ph.D. Deputy Cabinet Secretary Jami Balley, Division Director Oil Conservation Division



May 15, 2014

ADMINISTRATIVE POOL/LEASE COMMINGLING ORDER

Administrative Order PLC-396 Administrative Application Reference No. pMAM1408343869

DEVON ENERGY PRODUCTION COMPANY, LP

Attn: Ms. Erin Workman

Pursuant to your application received on March 20, 2014, Devon Energy Production Company, LP (OGRID 6137) is hereby authorized to surface commingle gas production from the following pools located in Section 33, Township 23 South, Range 33 East, NMPM, Lea County, New Mexico;

Triple X; Bone Spring Brinninstool; Delaware

(59900)

(96193)

and from the following diversely owned wells located on state and federal leases in said Section, Township, and Range in Lea County, New Mexico:

Thistle Unit Well No. 17H API No. 30-025-39893 150 FSL & 1470 FEL

Thistle Unit Well No. 32H API No. 30-025-40016 150 FSL & 150 FEL

Thistle Unit Well No. 43H API No. 30-025-40898 200 FSL & 500 FWL

The commingled gas production shall be measured and sold at the Thistle Well No. 17H Central Tank Battery (CTB) located in Unit O, Section 33, Township 23 South, Range 33 East, Lea County, New Mexico.

May 15, 2014 Page 2

Gas production from each well shall be separately metered before commingling with production from other wells. The allocation meters shall be calibrated quarterly in accordance with Rule 19.15.12.10.C (2) NMAC.

The operator shall notify the transporter of this commingling authority.

The operator shall notify the Hobbs district office of the Division upon commencement of commingling operations.

DONE at Santa Fe, New Mexico, on May 15, 2014.

Jami Bailey

Division Director

JB/mam

cc: Oil Conservation Division District Office - Hobbs

New Mexico State Land Office - Oil, Gas and Minerals

Bureau of Land Management - Carlsbad

OIL MEASUREMENT BY TANK GAUGING

Part 1 - INTRODUCTION

I. PURPOSE

Instruction on the measurement of oil by tank gauging will provide the Bureau of Land Management inspection personnel with a general knowledge and understanding of the Federal requirements for the measure of oil by tank gauging, the proper setting and equipping of tanks, and determination of sales volumes subject to Federal and Indian royalties.

After the completion of the course, the student will be able to determine if a sales tank is properly installed and equipped for sales by tank gauge; determine if gauging and sampling equipment meet BLM standards; and perform independent measurements needed to complete the oil accounting process.

The BLM's responsibility in the measurement of oil is to ensure that the product is properly handled, measures, and reported for royalty purposes. To accomplish this, the BLM has certain equipment and procedural requirements for sales of oil by tank gauging, including requirements for inspecting equipment and witnessing measurements. This requirement applies to all operators of onshore Federal and Indian (except Osage) oil and gas leases, units, and communitized areas where the Federal government has delegated responsibility.

If a discrepancy which affects production volume determinations is detected, the student will learn the procedures required to properly document the findings, resolve the discrepancies with the operator, and then notify the Minerals Management Service of the findings.

II. DEFINITION OF OIL

Crude oil and condensate produced fields will generally be sold or transferred to the purchaser via tank gauging procedures. Crude oil or unrefined oil is found in a fluid state within the reservoir rock, while condensate in found in a gaseous state within the reservoir rock. While crude oil is maintained in its liquid state from the reservoir to the storage tank, condensate, through the reduction of pressure and temperature, changes from the gaseous state to the liquid state, or condenses.

Crude oil generally has a low specific gravity or an API gravity in the range of less than 10 degree API gravity to 55 degree API gravity. Condensate production generally has a high specific gravity with the API gravity range above 40 degree API gravity. It is generally light in color to clear and is very volatile.

All oils produced and sold for royalty purposes have some impurities, hence the term crude oil. Impurities such as sediment and water are produced with the oil and can not be totally removed from field equipment. The percentage of the impurities is determined and deducted from the total volume sold to the purchaser. Other deductions the purchaser applies to the product they buy are sulfur content and gravity adjustments. Gravity adjustments will commonly be made on oil with an API gravity below 40 degrees and above 45 degrees.

Oil is sold based on standard temperature and pressure. Since oil volumes are affected by temperature and pressure, the volumes are corrected to a standard temperature, 60° F (15°C), and an equilibrium pressure, usually 0 psig.

III. GOVERNMENT REQUIREMENTS FOR OIL MEASUREMENT

A. <u>Federal Regulations</u>

- 1. Title 43 CFR 3162.7-2, <u>Measurements of Oil</u>, requires in part; "All oil production to be measured on the lease by tank gauging, positive displacement metering system, or other methods acceptable to the authorized officer, pursuant to methods and procedures prescribed in applicable orders and notices."
- 2. Title 43 CFR 3162.7-5 (b-1), Site Security on Federal and Indian (except Osage) oil and gas leases, requires: "All lines entering or leaving oil storage tanks shall have valves capable of being effectively sealed during the production and sales operations unless otherwise modified by other subparagraphs of this paragraph, and any equipment needed for effective sealing, excluding the seals, shall be located at the site. For a minimum of 6 years the operator shall maintain a record of seal numbers used and shall document on which valves or connections they were used as well as when they were installed and removed. The site facility diagram(s) shall show which valves will be sealed in which position during both the production and sales phase of operation."
- 3. Title 43 CFR 3162.4-1, <u>Well Records and Reports</u>, requires in part: "The operator shall keep accurate and complete records with respect to all lease operations including, but not limited to, production facilities and equipment, drilling, production, re-drilling, deepening, repairing, plugging back, and abandonment operations, and other matters pertaining to operations."

"Upon request, the operator shall transmit to the authorized officer copies of such records maintained in compliance of this section."

Further "All records and reports required by this section shall be maintained for 6 years from the date they were generated."

4. Title 43 3162.1, <u>General Requirements</u>, requires in part: "The operating rights owner or operator, as appropriate, shall comply with applicable laws and regulations; with the lease terms; Onshore Oil and Gas Orders; NTL's; and with orders and instruction of the authorized officer. These include but are not limited to conducting all operations in a manner

which ensures the proper handling, measurement, disposition, and site security of the leasehold production;..."

B. Onshore Orders

1. Onshore Oil and Gas Order Number 4, Oil Measurement, became effective August 23, 1989. The Order was established pursuant to the authority granted to the Secretary of the Interior under various Federal and Indian mineral leasing statutes and the Federal Oil and Gas Royalty Management Act of 1982. The order in implemented in accordance with 43 CFR 3164.1.

One purpose of the order is to establish requirements and minimum standards for the measurement of oil. This includes tank gauging, positive displacement metering systems, and other methods found acceptable to the authorized officer. Proper measurement of oil ensures that the Federal Government and Indian mineral owners receive the royalties due, as specified in the governing oil and gas leases. Another purpose of the Order is to establish abatement periods for corrective action when a violation with the minimum standards is detected.

2. Onshore Oil and Gas Order Number 3, <u>Site Security</u>, requires all lines entering or leaving all oil storage tanks shall have valves capable of being effectively sealed during the production and sales operations unless otherwise provided under the provisions of the Order. During the production phase, all valves that provide access to production shall be effectively sealed in the closed position. During the sales phase, and prior to taking the top gauge, all valves that would allow unmeasured product to enter or leave the sales tank shall be effectively sealed in the closed position. Any equipment needed for effectively sealing, excluding the seals, shall be located at the site. If the sealing equipment is in the possession of the operator's representative or at a centralized field location, it shall be considered to be at the site. Each ineffectively sealed valve or appropriate valve not sealed shall be considered a separate violation.

C. Policies

1. See the latest Fiscal Year version of the Washington Office Inspection and Enforcement Strategy to obtain the Bureau's policy and procedures for conducting Production Inspections by field inspectors.

D. Enforcement Procedures

1. Failure to comply with the minimum standards of Onshore Oil and Gas Order Number 4 is considered a violation and subjects the operator to the issuance of a violation or incidence of noncompliance (INC) in accordance with 43 CFR 3163, Noncompliance, Assessments and Penalties.

However, operators who discover noncompliance with the minimum standards and take immediate corrective action will not be issued an INC, or if the inspector is present when an operator discovers a malfunction or uses incorrect procedures as specified in the Order and

immediate corrective action is taken, an INC will not be issued, however, it will be necessary to document the incident in the file.

Where abatement is required as "prior to sales or removal", this means that the necessary action must be taken to ensure that no oil is transferred until the violation is corrected.

OIL MEASUREMENT BY TANK GAUGING

Part 2 – SALES TANK EQUIPMENT AND CALIBRATION

I. Sales Tank Equipment

A. General.

Proper measurement and handling of oil begins with the proper installation and maintenance of the production storage facilities. If the tank storage facility is improperly installed, equipped, and calibrated, even proper measurement techniques will result in inaccurate measurement. For this reason, minimum standards are to be followed by the operator to ensure there will be no loss or gain in federal and Indian royalty accountability and to promote operating safety and spill prevention while minimizing the possibility of accidents.

B. Tank Equipment.

Tank equipment will vary based on the type of product stored in the tanks and based on the preference to different types of equipment due to geographic areas. Most equipment that is installed on tanks used for oil production storage and sales will be installed based on an agreement between the producer and the purchaser.

Oil that is stored in tanks and maintained at atmospheric pressure due to the lack of proper equipment may adversely affect production quality and quantity. An operator is responsible to conduct operations in a manner as to prevent the avoidable loss of oil. Therefore, it is the responsibility of the operator to ensure oil storage tanks be equipped properly to minimize the shrinkage and gravity loss that can occur due to the evaporation of the lighter hydrocarbons in some oils.

In accordance with the Onshore Number 4.III.C.1.a., the operator is required to install a pressure-vacuum thief hatch and/or vent line valve. The intent of the requirement is to prevent the unnecessary evaporative loss of the product and degradation of the quality of the product. To accomplish the objective of the requirement, the operator is required to store oil in a tank that is property equipped with a pressure-vacuum hatch and a vent line valve. Obviously, if the equipment is installed correctly but the tank has holes in the top, the objective is not being met.

Most pressure-vacuum thief hatches are manufactured to withhold up to 4 ounces of pressure on the tank. Requirements do not dictate the pressure that must be maintained on the oil in the storage tank, therefore it is up to the operator to design the system that maintains a back pressure on the tank contents but causes no damage to the vessel. Reference should be made to API RP 12 R1 and API 2000 for further understanding of breathing and evaporative losses from storage tanks.

C. <u>Installation of Storage Tanks</u>

Sales tanks shall be set and maintained level and free of distortion so as to not adversely affect the proper measurement of the product. When sales tanks are tilted or distorted, the strapping tables that were developed for the tank will no longer be accurate for the purpose of custody transfer and production accountability. When these conditions occur, corrective action should be taken to ensure proper measurement of the product will result.

Various actions can be taken to ensure Federal and Indian royalties will not be affected. If the tank is damaged significantly in which it is determined that measurement cannot be conducted without resulting in a gross error in true volumes, the tank should be repaired or replaced and not be used until such time the corrective action is taken. Of course, if the tank is full when and is tilted and distorted, the tank will have to be drained prior to the tank being repaired. This should be done by negotiating a method of proper measurement to drain the tank for repair. This should be done on a case by case basis, depending on the availability of alternate measurement methods such as tank truck gauging, weight measurement, or other methods acceptable to the Authorized Officer.

Any slight dent in the side of the sales tank may be negotiated with the operator and a variance granted to continue to sale from the tank without adversely affecting royalty income of production accountability. The intent of this procedure is not to receive royalties that are not due to the government, but to allow the operator to temporarily use the tank without the immediate expense of replacing the tanks.

If a tank is tilted due to settling of the tank, the amount of tilt should be calculated to determine the significance of the tilt. Calculate the amount of tilt by determining the amount of vertical tilt that has occurred and compare it to the vertical gauge table for the tank. If the amount of the tilt is determined to be less than 1 part on 70 parts, the error in than gauge table will be less than 0.01 percent by volume and the effect may be considered negligible. If the amount of tilt in 1 in 70 or more, the gauge table should be adjusted by using the following equation or if very significant, the tank should be replaced or repaired.

Volume Correction, percent = $100 [(Sq.Rt 1 + m^2) - 1]$

where: m = amount of tilt per foot of shell height in feet

For example:

If a 16 foot tank was tilted with a vertical displacement of 2 inches, the amount of tilt per foot of shell height would be:

m = (2 inches/12 inches per foot) / 16 feetThis would result in m = 0.0104

Amount of tilt is: 1 part in 96.15 (1/0.0104)

Volume correction = $100[(f1+(0.0104)^2)-1$

Volume correction = 0.00521%

Therefore, on a 300 bbl tank that makes a 120 bbl sale, the volume correction would be (120 bbls * 0.0000541) or 0.00649 bbls.

The above example shows that when making a inspection on a tank and it is determined that it is slightly tilted, it should be considered as to the significance of the problem prior to issuing a notice of incident of violation. The minimum standard, as written, is to enforce significant problems that would adversely affect royalty income and production accountability.

II. Tank Calibration.

A. Each oil storage tank to be used for oil sales by tank gauging shall be accurately calibrated for gauging. There does exist what is referred to as "standard tank tables" that give a barrels per inch factor that is used for temporary tanks. The standard tables are not accurate for the purposes of oil sales and custody transfer. Therefore, a sales tank must be physically measured once set to determine the capacity at the different height intervals. API Standard 2550, Method of Measurement and Calibration of Upright Cylindrical Tanks, provides an acceptable method of calibrating a tank. From the calibration procedure, calibration charts or tank tables are made for the tank (see Illustration 1). Remember, one tank table for one tank. The tank table will identify a unique tank number and therefore the tank shall have the assigned unique tank number stenciled onto it for reference.

From the tank calibration procedure and subsequent development to the tank table, the referenced height is determined and a referenced height and gauging reference point is identified on the inside of the thief hatch. The referenced point may either be a chisel mark on the lip of the thief hatch seal seat or may be a metal tab located on the inside of the thief hatch opening. This height from the bottom of the tank or from the striking plate to the referenced mark is identified on the tank table and shall be stenciled on the tank near the gauging hatch or stamped on a fixed bench mark plate. Fore reference purposes, Illustration 2 is a method determining a volume of an upright tank. Illustration 2A shows samples of referenced marking on the thief hatch.