Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
OCD Artesia

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☐ Oil Well ☐ Gas Well ☒ Other: UNKNOWN OTH	5. Lease Serial No. NMNM130859 6. If Indian, Allottee or Tribe Name 7. If Unit or CA/Agreement, Name and/or No. 8. Well Name and No. HACKBERRY 26 FEDERAL COM 2H
2. Name of Operator CIMAREX ENERGY CO. Contact: AMITHY E CRAWFORD E-Mail: acrawford@cimarex.com	9. API Well No. 30-015-43857
3a. Address 600 N. MARIENFELD SUITE 600 MIDLAND, TX 79701 3b. Phone No. (include area code) Ph: 432-620-1909	10. Field and Pool or Exploratory Area HECKBERRY BONE SPRING
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)* Sec 26 T19S R30E 2022FNL 730FEL	11. County or Parish, State EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

GC 11-7-18
Accepted for record - NMOCD

Cimarex respectfully requests variance at the Hackberry 26 Federal 2 LACT unit.

In review of the data for this meter, temperature is the only factor I can attribute to the MF deviation. Between 8/02/2018 and 9/18/2018 we had a temperature change of -2.8 degrees which attributed for a MF deviation of -0.0014. Between 9/18/2018 and 10/22/2018 we had a temperature change -9.6 degrees which attributed for a MF deviation of -0.0043.
We generally see our meter factors begin to climb in the hotter Summer months and typically come back down in the cooler winter months. The factor for this location has followed that trend and actually proved with a perfect factor of 1.0000.

RECEIVED
NOV 06 2018
DISTRICT II-ARTESIA O.C.D.

- Operator must submit "Proving Data" for the next meter proving to BLM.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #440954 verified by the BLM Well Information System
For CIMAREX ENERGY CO., sent to the Carlsbad
Committed to AFMSS for processing by MUSTAFA HAQUE on 10/25/2018 ()

Name *(Printed/Typed)* AMITHY E CRAWFORD — Title REGULATORY ANALYST

Signature (Electronic Submission) — Date 10/24/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Mustafa Haque — Title Petroleum Engineer — Date 10-25-2018

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Carlsbad Field Office

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.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Customer: CIMAREX - cimarex
Operator: CIMAREX - cimarex
Location:
Federal ID: NMNM130059

Inspectorate Measurement Services
100 Park West Drive Scott, La 70583
Office: 337-443-6400
www.inspectorate.com

Meter Data

HACKBERRY_26_FED EDDY COUNTY

Factor Tracked	Meter Factor(MF)	
Temp Compensated	No	
NKF	8400.0000	N/bbl
Manufacturer	AO SMITH	
Size		in
Serial No.	1502E10058	
Model No.	F4 S1	

Prover Data

BPV	24.9752	gal
I.D.	17.402	in
W.T.	1.823	in
Manufacturer	Honeywell	
Type	Displacement-Piston	
Serial No.	PR35-0100-0872	
Elasticity	2.8E7	1/psi
Pipe Ga	1.92E-5	1/°F
External Shaft Gl	9.6E-6	1/°F
Certified	03/21/2017	

Product Data

Name	CRUDE 2004
Batch No.	
Obs. Gravity	41.6 °API
Obs. Temp	85.0 °F
Obs. Press	0.0 psi
API Table	Table A - Crude Oil (2004)
Base Density	39.5 °API HYC Y

Tolerances

Tolerance Type: Repeatability
Maximum Deviation: 0.050 %
Enabled? Y Passed? Y Min # of Runs: 5
Criteria: 5 out of 5 consecutive runs

Avg X Prev Meter Factor Deviation:
Enabled? N Passed? Y Prod Dep? N
Prev X Factor Count Sought: 1
Prev X Factor Count Used: 0
Cut Off History? N Cutoff Date:

Prev Meter Factor Deviation:
Enabled? N Passed? Y Prod Dep? N

Proving Mode:	Volumetric
Densily Mode:	Manual
Calc. Method:	Avg. Meter Factor
Proving Method:	PIU
Passes Per Run	1

Proving Data

	Previous	Current
Task ID	1637319597	1540251611
Date	09/18/2018	10/22/2018
Time	14:13	12:40
Product	CRUDE 2004	CRUDE 2004
Flowrate	423 bbl/hr	429 bbl/hr
Totalizer	256645	266893
Throughput	15233	10248
Base Density	39.0°API	39.5 °API
Switch Bar Temp	99.1	84.4
Avg Prvr Temp	87.9	78.3
Avg Prvr Press	35.1	56.9
Repeatability	0.029 %	0.020 %
MF	1.0043	1.0000
MF Variance	0.0038	-0.0043

Liquid Properties at Metering Conditions for CMF

Normal Op. Pressure psig
Eq. Vapor Pressure psig
CPL 1.0000

Run	TEMPERATURE Tp	Tm	PRESSURE Pp	Pm	PULSES Ni	Run Accepted ?		IMF	Flowrate bbl/hr
1	78.1	78.3	56.6	61.0	4998.077	1	Yes	1.00006	428.715
2	78.2	78.4	56.9	61.0	4997.755	2	Yes	1.00013	429.436
3	78.3	78.4	56.5	61.0	4998.845	3	Yes	0.99985	429.677
4	78.4	78.5	57.2	61.0	4998.492	4	Yes	0.99994	429.722
5	78.4	78.5	57.0	61.0	4997.767	5	Yes	1.00009	429.754
Average	78.3	78.4	56.9	61.0	4998.1872			1.00001	429.461

(1) GSVp: BPV * [CTSp * CPSp * CTLp * CPLp = CCFp]

BPV	CTSp	CPSp	CTLp	CPLp	CCFp	GSVp
24.9752	1.00059	1.00002	0.99084	1.00033	0.99177	0.589754

(2) ISVm: [Ni(avg) ÷ NKF = IVm] * [CTLm * CPLm = CCFm]

Ni(avg)	NKF	IVm	CTLm	CPLm	CCFm	ISVm
4998.1872	8400.0000	0.595022	0.99079	1.00035	0.99114	0.589750

(3) Proving Factors:

>>>>	(1)	GSVp ÷ ISVm =	1.0000	MF
	(2)	MF * CPL =	1.0000	CMF
	(3)	1 ÷ MF =	1.0000	MA
	(4)	NKF ÷ MF =	8400.0	KF
	(5)	KF ÷ CPL =	8400.0	CKF

Repeatability: 0.020 %
Uncertainty: 0.015 %

Notes
SEALS OFF METER 0066854, INLET 0066836, OUTLET 0066811, B.B. 8018378
SEALS ON METER 0058161, INLET3791306,OUTLET 3791303, B.B.0058174

Technician: AARON KETCHERSIDE
Witness:

PROVE

Customer: CIMAREX - cimarox
Operator: CIMAREX - cimarex
Location:
Federal ID: NMNM130859

Inspectorate Measurement Services
100 Park West Drive Scott, La 70583
Office: 337-443-6400
www.inspectorate.com

INSPECTORATE

Meter Data

HACKBERRY_LACT_2 EDDY COUNTY

Factor Tracked	Meter Factor(MF)
Temp Compensated	No
NKF	8400.0000 N/bbl
Manufacturer	AO SMITH
Size	in
Serial No.	1502E10068
Model No.	F4 S1

Prover Data

BPV	24.9752 gal
I.D.	17.402 in
W.T.	1.823 in
Manufacturer	Honeywell
Type	Displacement-Piston
Serial No.	PR35-0108-0872
Elasticity	2.8E7 1/psi
Pipe Ga	1.92E-5 1/°F
External Shaft Gl	9.6E-6 1/°F
Certified	03/21/2017

Product Data

Name	CRUDE 2004
Batch No.	
Obs. Gravity	42.4 °API
Obs. Temp	100.0 °F
Obs. Press	0.0 psi
API Table	Table A - Crude Oil (2004)
Base Density	39.0 °API HYC Y

Tolerances

Tolerance Type: Repeatability
Maximum Deviation: 0.050 %
Enabled? Y Passed? Y Min # of Runs: 5
Criteria: 5 out of 5 consecutive runs

Avg X Prev Meter Factor Deviation:
Enabled? N Passed? Y Prod Dep? N
Prev X Factor Count Sought: 1
Prev X Factor Count Used: 0
Cut Off History? N Cutoff Date:

Prev Meter Factor Deviation:
Enabled? N Passed? Y Prod Dep? N

Proving Mode:	Volumetric
Density Mode:	Manual
Calc. Method:	Avg. Meter Factor
Proving Method:	PIU
Passes Per Run	1

Proving Data

	Previous	Current
Task ID	1633262693	1537317349
Date	08/02/2018	09/18/2018
Time	12:29	14:13
Product	CRUDE 2004	CRUDE 2004
Flowrate	375 bbl/hr	423 bbl/hr
Totalizer	211916	225463
Throughput		13547
Base Density	39.5°API	39.0 °API
Switch Bar Temp	104.4	99.4
Avg Prvr Temp	90.7	87.9
Avg Prvr Press	32.5	35.1
Repeatability	0.032 %	0.029%
MF	1.0057	1.0043
MF Variance		0.0038

Liquid Properties at Metering Conditions for CMF

Normal Op. Pressure psig
Eq. Vapor Pressure psig
CPL 1.0000

Run	TEMPERATURE Tp	Tm	PRESSURE Pp	Pm	PULSES NI	Run	Accepted ?	IMF	Flowrate bbl/hr
1	87.9	88.2	35.0	38.0	4978.428	1	Yes	1.00440	423.624
2	87.9	88.2	35.2	38.0	4978.865	2	Yes	1.00441	424.248
3	87.9	88.2	35.2	38.0	4978.526	3	Yes	1.00437	423.768
4	87.9	88.2	35.0	38.0	4979.668	4	Yes	1.00414	421.484
5	87.9	88.2	34.9	38.0	4978.436	5	Yes	1.00439	419.894
Average	87.9	88.2	35.1	38.0	4978.9846			1.00428	422.602

(1) GSVp: BPV * [CTSp * CPSp * CTLp * CPLp = CCFp]

BPV	CTSp	CPSp	CTLp	CPLp	CCFp	GSVp
24.9752	1.00091	1.00001	0.98610	1.00021	0.98721	0.587042

(2) ISVm: [Ni(avg) ÷ NKF = IVm] * [CTLm * CPLm = CCFm]

Ni(avg)	NKF	IVm	CTLm	CPLm	CCFm	ISVm
4978.9846	8400.0000	0.592736	0.98595	1.00022	0.98617	0.584538

(3) Proving Factors:

>>>>	(1)	GSVp + ISVm =	1.0043	MF
	(2)	MF * CPL =	1.0043	CMF
	(3)	1 ÷ MF =	0.9957	MA
	(4)	NKF ÷ MF =	8364.0	KF
	(5)	KF ÷ CPL =	8364.0	CKF

Repeatability: 0.029 %
Uncertainty: 0.015 %

Technician: AARON KETCHERSIDE
Witness:

PROVEit