Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL
TIGHT HOLE

RECEIVED
OCT 27 2015
Farmington Field Office
Bureau of Land Management

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*

5. Lease Serial No. Jicarilla Apache 183

6. If Indian, Allottee or Tribe Name: Jicarilla Apache

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No. Chacon Jicarilla 602H

2. Name of Operator: Energen Resources Corporation

9. API Well No. 30-043-21234

3a. Address: 2010 Afton Place, Farmington, NM 87401

3b. Phone No. *(include area code)*: (505) 325-6800

10. Field and Pool or Exploratory Area: West Lindrith Gallup-Dakota

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*: SHL-887' FSL 772' FWL Sec 23, BHL 498' FSL 100' FWL Sec 22 T23N R03W (M) SW/SW

11. Country or Parish, State: Sandoval 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 Liquids Measurement
	☐ 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 perfonned 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 detennined that the site is ready for final inspection.)

Please see the attached request regarding liquids measurement...

OIL CONS. DIV DIST. 3

OCT 23 2015

SEE ATTACHED FOR CONDITIONS OF APPROVAL

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*: Theresa McAndrews

Title: Production Supervisor

Signature: Theresa McAndrews

Date: 10/07/2015

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by: William Tambekou

Title: Petroleum Engineer

Date: 10/20/2015

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: FFO

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)

NMOCD

ENERGEN
RESOURCES

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Energen Resources
Chacon Jicarilla 602H
SWSW 23-23N-3W (SHL)
Jicarilla Apache 183

Background:
Energen Resources in cooperation with the Bureau of Land Management, Resources Automation Advanced Telemetrics and Oleum Technologies conducted a digital liquids measurement pilot. The objective of the pilot was to compare accuracy and reliability of digital measurement systems for both Advanced Telemetrics (AT) and Oleum Technologies (OT) float equipment against traditional hand gauge methods. An oil producing well site was chosen (Energen's Navajo D 1E, located in L, Section 1-27N-13W., 3004525404) and representatives of each organization were present to witness the equipment installation and to discuss objectives and data gathering parameters. Measured parameters were fluid level, fluid level interface between oil and water and oil temperature. If the electronic results showed good correlation against hand gauging techniques and were as good, or better than hand gauge measurements, than use of electronic measurement equipment would be considered by the BLM for use in lieu of hand gauge measurement procedures.

Field Data Results:
The attached spreadsheet provides the data that was gathered since the pilot was initiated on June 12th, 2015. The Oleum Technologies installation was delayed due to damage while shipping so the results are limited to a month's worth of data starting on August 3, 2015. The data presented indicates excellent correlation between the hand gauge values and both the AT and OT electronic device outputs. Correlation coefficients were calculated for both the AT and OT units against the hand gauge measurements. The calculated coefficients for both units were 0.9999. Temperature measurements were taken with both units and also showed excellent agreement between measured values. One tank sale was conducted during the pilot and excellent agreement between hand gauge and electronic output was accomplished. Previous work conducted by the BLM, Huntington and Western oil Refining also found good correlation between the Advanced Telemetrics electronic measurement system and hand gauge measurements. The Oleum Technologies system was not previously tested by the BLM or Western Refinery.

Variance Request:
Based on the above results, Energen Resources hereby requests a Variance from the measurement standards outlined in Onshore Order # 4 Part III C.. Energen is proposing to use only the **Advanced Telemetrics Float System.** This system has been proven to provide accurate and reliable measurement and has been previously approved by the BLM and Western Refining. Using electronic tank gauging equipment will allow Energen to install a vapor recovery system at our tank batteries while also allowing for accurate measurement of oil and water without having to open the thief hatch for standard gauging and sampling procedures. Load line sampling procedures will be used to

determine BS & W for quality control. Load line sampling procedures have also been previously approved by both the BLM and Western Refinery. Using this system of electronic measurement will also help reduce the risk for accident and injury by minimizing the need to climb stairs to access the tank thief hatches for hand gauging techniques. In addition, the Advanced Telemetrics system also has a tank level monitoring system and alarms that can be set to any predetermined high/low liquid level. If the liquid level reaches those set points, an alarm is sent to the RTU for appropriate action.

In conclusion, Energen is requesting a variance from the measurement requirements outlined in Onshore Order #4, Part III C., pursuant to the provision outlined in Onshore Order #4 Part IV. We believe there has been sufficient testing and satisfactory results of those tests to allow the use of the Advanced Telemetrics float level system for oil and gas operations in the San Juan Basin. If a basin wide provision cannot be rendered at this time we ask for your approval to allow this measurement system on the above referenced well, the Chacon Jicarilla 602H.

Electronic Tank Level Measurement System

- Performed a pilot study to compare:
  - Electronic gauge vs. Hand gauge (standard)
    - Compared accuracy and reliability of the electronic to hand gauge
  - Advanced Telemetrics vs. Oleum tank measurement systems
    - Compared the accuracy of each unit to the hand gauge measurements as well as product temperature

ADVANCED TELEMETRICS ™

- Electronic float systems measure:
  - Water level
  - Water temperature
  - Oil level
  - Oil temperature

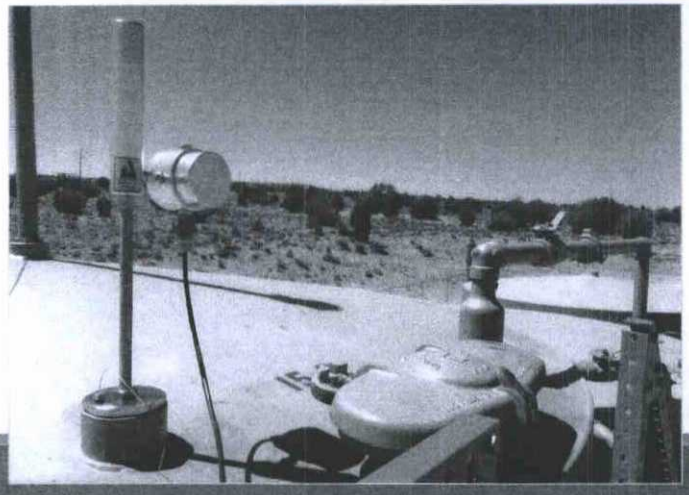
OleumTech

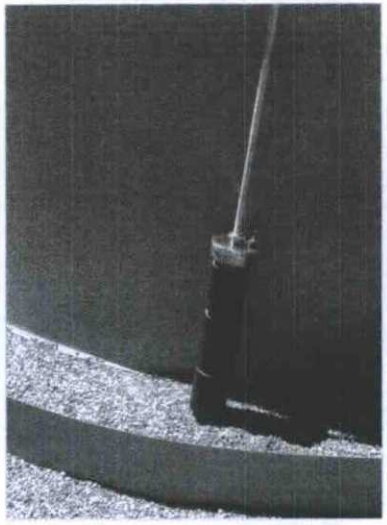
- Data is sent through RTU to the office

Electronic Tank Level Measurement System

Advanced Telemetrics Unit:

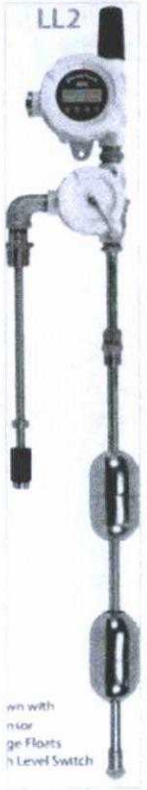
- Description:
  - Three float system
    - High Level ESD (Shuts down well when tank level reaches a predetermined height)
    - Oil Level/Temperature
    - Water Level/Temperature
    - Accuracy to 0.10 inches (minimum standard is 0.25 inches)
    - Temperature accuracy to 0.1 ± °F
  - Wired unit

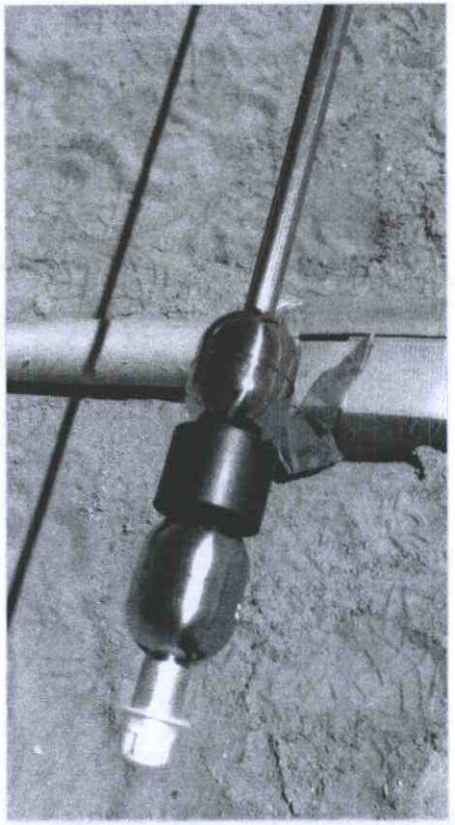


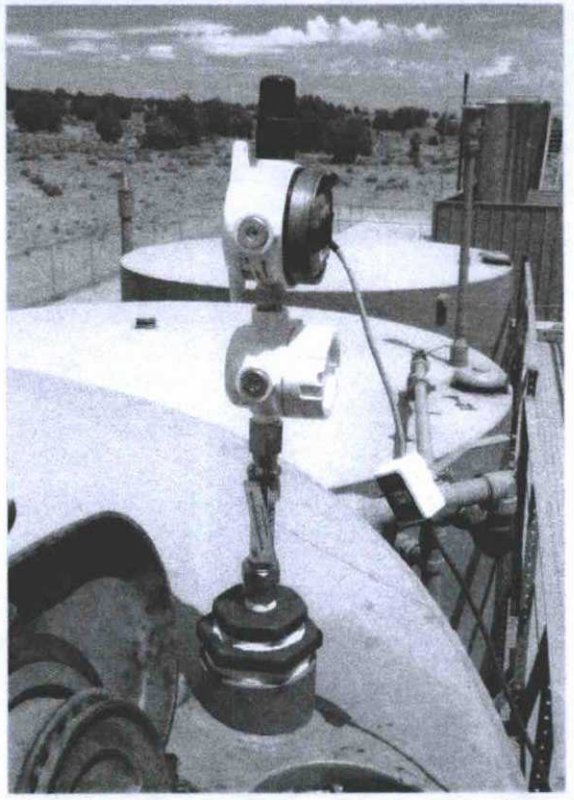


Electronic Tank Level Measurement System

- Oleum Unit:
  - Description:
    - Two float system
      - Oil Level/Temperature
      - Water Level/Temperature
    - Wireless Unit







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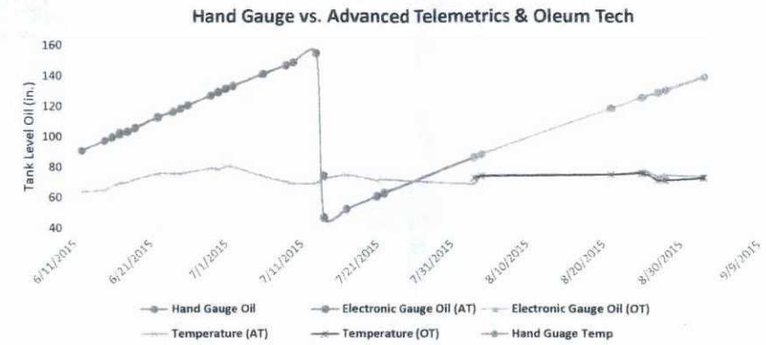
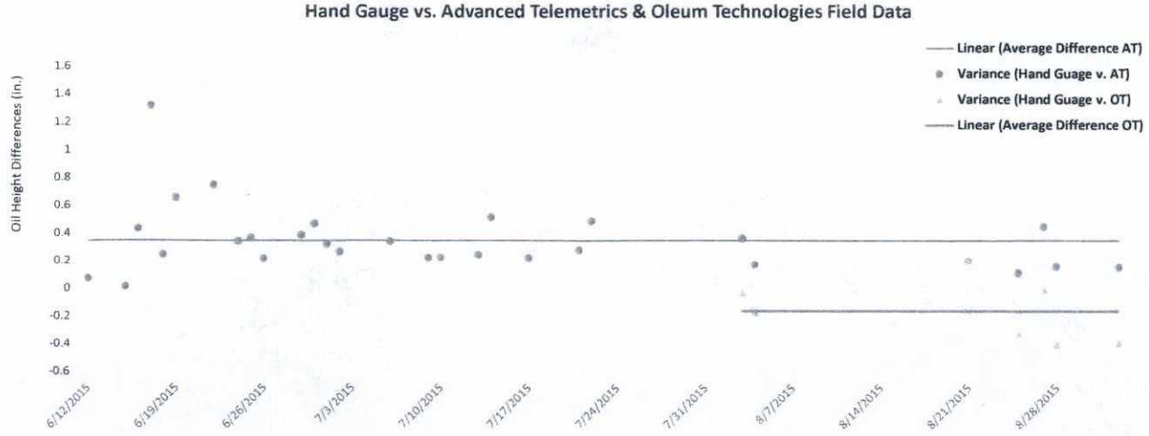
Digital Tank Measurment Pilot Field Data: Navajo D 1E (3004525404) UL, L Section 1-27N-13W

Date	Hand Gauge Oil	Electronic Gauge Oil (AT)	Difference (AT Oil)	Electronic Guage Oil (OT)	Difference (OT Oil)	Temp (AT)	Temp (OT)	Temp (HG)
6/12/2015	91	90.92659	0.07341			63.8		
6/15/2015	97.38	97.39452	0.01452			65.33		
6/16/2015	99.88	99.44376	0.43624			67.79		
6/17/2015	102.88	101.56	1.32			69.47		
6/18/2015	103.5	103.2525	0.2475			70.07		
6/19/2015	106.12	105.4614	0.6586			71.93		
6/22/2015	113.13	112.3795	0.7505			75.76		
6/24/2015	116.62	116.2769	0.3431			75.76		
6/25/2015	118.75	118.3824	0.3676			75.92		
6/26/2015	120.75	120.5311	0.2189			76.61		
6/29/2015	127.25	126.8594	0.3906			79.25		
6/30/2015	129.37	128.8988	0.4712			78.41		
7/1/2015	131.75	131.4245	0.3255			80.465		
7/2/2015	133.5	133.2306	0.2694			80.24		
7/6/2015	141.37	141.027	0.343			74.05		
7/9/2015	147	146.7754	0.2246			70.56		
7/10/2015	149	148.7732	0.2268			69.38		
7/13/2015	155	154.7546	0.2454			69.72		
7/14/2015	47.37	46.85371	0.51629			72.38		75
7/17/2015	53	52.777829	0.222171			75.15		
7/21/2015	61.5	61.2213	0.2787			71.83		
7/22/2015	63.75	63.26181	0.48819			72.36		
8/3/2015	86.75	86.38659	0.36341	86.78	-0.03	69.188	73.04	
8/4/2015	88.5	88.32784	0.17216	88.67	-0.17	74.57	74.11	
8/21/2015	118.75	118.55	0.2	118.55	0.2	75.406	75.38	
8/25/2015	126	125.8815	0.1185	126.33	-0.33	77.72	76.28	
8/27/2015	129.25	128.8063	0.4437	129.26	-0.01	74.57	71.78	
8/28/2015	130.75	130.5883	0.1617	131.16	-0.41	75.2675	71.78	
9/2/2015	139.5	139.3434	0.1566	139.89	-0.39	74.3225	73.4	

Statistics (Advanced Telemetrics)			Statistics (Oleum Technologies)	
Mean Difference (AT)	0.346493	inches	Mean Difference (OT)	-0.16286 inches
Standard Deviation	0.245213	inches	Standard Deviation	0.211573
Variance	0.060129	inches^2	Variance	0.044763
Correlation Coefficient (r)	0.999963		Correlation Coefficient (r)	0.999951
Coefficient of Determination (r^2)	0.999926		Coefficient of Determination (r^2)	0.999901





United States Department of the Interior

BUREAU OF LAND MANAGEMENT
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TAKE PRIDE IN AMERICA

CONDITIONS OF APPROVAL FOR VARIANCE FOR THE USE OF DIGITAL TANK MEASUREMENT

The Operator must provide the BLM with Digital Tank Measurement field data every six (6) months.