

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1326753
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1326753

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
----------------	-------	---------	------------	---

Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	Merit Energy Company, LLC
Well Name	LONGBOW 2-10
Doc ID	1326753

All Electric Logs Run

ANNULAR HOLE VOLUME
ARRAY COMPENSATED TRUE RESISTIVITY LOG
ARRAY COMPENSATED TRUE RESISTIVITY LOG 1
ARRAY COMPENSATED TRUE RESISTIVITY LOG 2
BOREHOLE COMPENSATED SONIC ARRAY LOG
DUAL NEUTRON SPECTRAL DENSITY LOG
MICROLOG

Form	ACO1 - Well Completion
Operator	Merit Energy Company, LLC
Well Name	LONGBOW 2-10
Doc ID	1326753

Tops

Name	Top	Datum
Heebner	3823	.
Toronto	3845	.
Lansing	3909	.
Kansas City	4379	.
Marmaton	4454	.
Pawnee	4619	.
Cherokee	4692	.
Atoka	4902	.
Morrow	5196	.
Chester	5561	.
St Genevieve	5597	.
St Louis	5627	.



Depend on US

Post Job Report

Merit Energy

Longbow 2-10

8/31/2016

8.625" Surface Casing

Grant County, KS





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4.0 Customer Satisfaction Survey.....7



1.0 Executive Summary

Allied Oil & Gas Services would like to thank you for the award of the provision of cementing products and services on the well Longbow 2-10.

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 2000 psi. After a successful test we began the job by pumping 10 bbls of Fresh Water spacer. We then mixed and pumped the following cements:

168.04 bbl	370 Sacks of 12.1 ppg
Class A Slurry -	2.55 Yield

- 2.0% Sodium Metasilicate
- 2.0% Gypsum
- 4.0% Gel
- 2.0% Sodium Chloride
- 3.0 % Calcium Chloride
- 0.25 lb Cellophane Flake

39.58 bbl	175 Sacks of 15.2 ppg
Class A Slurry -	1.27 Yield

- 2.0 % Calcium Chloride
- 0.25 lb Cellophane Flake

The top plug was then released and displaced with 93 Bbls of Fresh Water. The plug bumped and was pressured to 1500 psi. Upon release the floats held. 93 bbl cement returned to the pit.

All real time data can be view in the Job Summary section.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.



Cement Job Summary

Job Number: LIK1608311401		Job Purpose 01 Surface	
Customer: MERIT ENERGY COMPANY			Date: 8/31/2016
Well Name: Longbow		Number: 2-10	
County: Grant		City:	
Cust. Rep: Rodney Gonzales		Phone:	
Legal Desc:		Rig Name: Duke Drilling#9	
Distance 50 miles (one way)		Supervisor: Kenny Baeza	

Employees:	Emp. ID:	Employees:	Emp. ID:
Ayala, Alejandro	0		
Ball, Max	0		
Corona, Victor A.	0		
Equipment:			
903-541			
993-467			
774-1066			

Well Information						
Open Hole Section						
Description:	Size (in):	Excess	Top MD (ft)	Btm MD (ft)		
OPEN HOLE	12 1/4	110%	1270	1,505	TAIL CEMENT	
OPEN HOLE	12 1/4	110%	0	1,270	LEAD CEMENT	
OPEN HOLE	12 1/4			0		
OPEN HOLE	12 1/4					
Tubulars						
Description:	Size (in):	Wgt. (lb/ft)	ID (in)	Grade:	Top MD (ft)	Btm MD (ft)
TOTAL CASING	8 5/8	24	8.097	J-55	0	1,505
SHOE	8 5/8	24	8.097	J-55	1,463	1,505

Materials - Pumping Schedule						
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Spacer 1	Fresh Water	10	8.33	n/a	n/a	
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Lead 1	ALLIED MULTI-DENSITY CEMENT - CLASS A	370	12.10	2.55	14.86	
Addl. Additive	Description	Conc. (lb/sk)	Determined by	Load Volume	UOM	
CA-100	CALCIUM CHLORIDE, PELLETS OR FLAKE	2.82	% BWOC	1043.4	lbm	
CLC-CPF	CELLOPHANE FLAKES	0.5	lb/sk	185.0	lbm	
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Tail 1	CLASS A COMMON	175	15.20	1.27	5.74	
Addl. Additive	Description	Conc. (lb/sk)	Determined by	Load Volume	UOM	
CA-100	CALCIUM CHLORIDE, PELLETS OR FLAKE	1.88	% BWOC	329.0	lbm	
CLC-CPF	CELLOPHANE FLAKES	0.5	lb/sk	87.5	lbm	
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Disp. 1	Displacement	93.16904797	8.33	n/a	n/a	

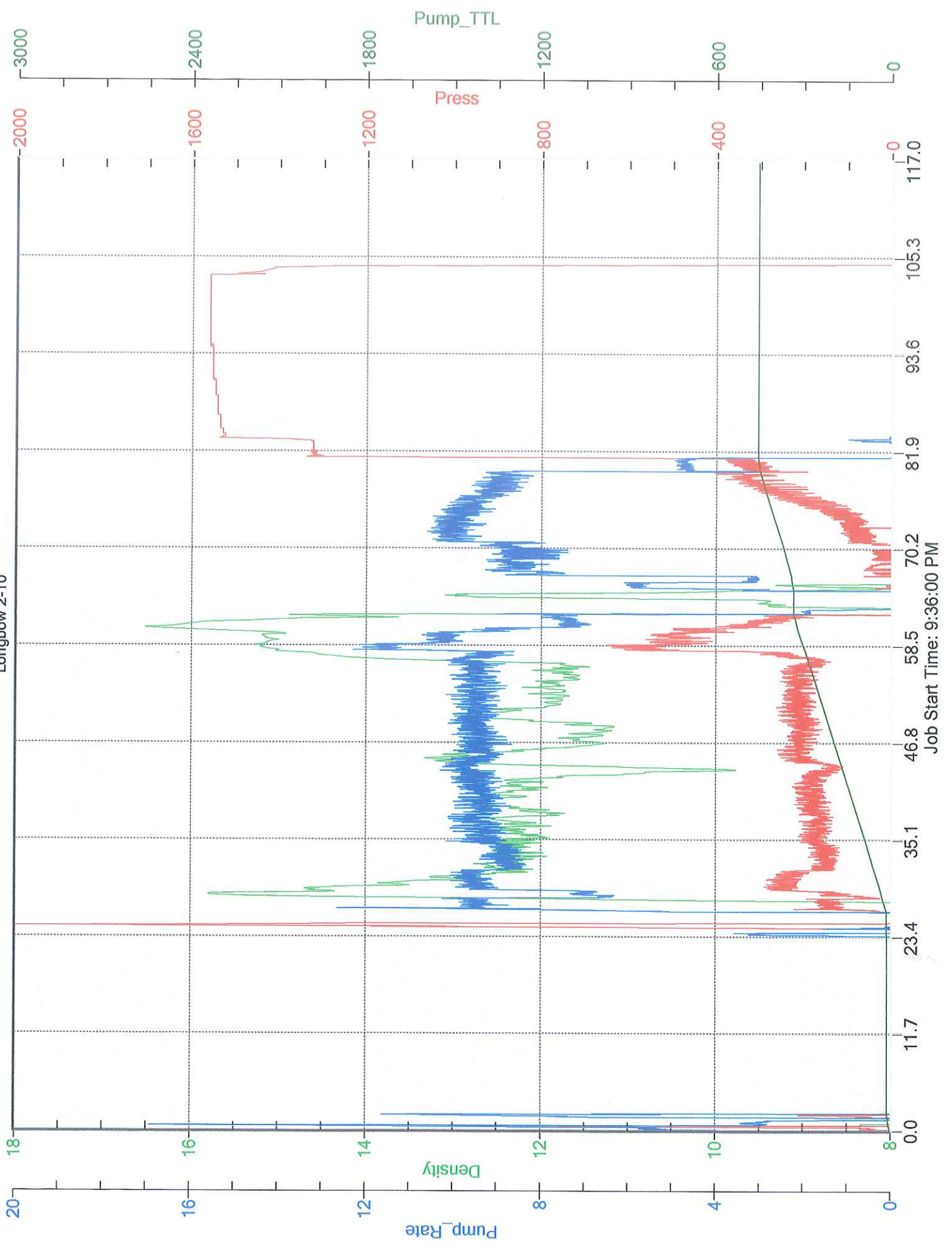
Job Number: LIK1608311401		Job Purpose 01 Surface	
Customer: MERIT ENERGY COMPANY			Date: 8/31/2016
Well Name: Longbow		Number: 2-10	
County: Grant		City:	
Cust. Rep: Rodney Gonzales		Phone:	
Distance 50 miles (one way)		Rig Phone: 0	
		Supervisor: Kenny Baeza	

Cement Job Summary

TIME AM/PM	PRESSURE - (PSI)		FLUID PUMPED DATA		COMMENTS
	CASING	ANNULUS	VOLUME	RATE (BPM)	
1200 pm					Arrived Location
1215 pm					Had Safety Meeting
1220 pm			.2	.2	Press Tested Lines To 2000 PSI
1222 pm	50		10.2	7	Pumped H2O Spacer
1223 pm	50		178.5	8	Mixed 370 Sacks Lead Cement
1240 pm	50		218	8	Mixed 170 Sacks Tail Cement
1254 pm					Shut Down And Dropped Plug
1255 pm	50			5	Start Disp
1258 pm	200			8	Cought Cement at 20 bbls gone
1300 pm	200		248	8	30 bbls Gone
1320 pm	270		278	8	60 bbls Gone
1340 pm	350		298	5	Slowed Rate Down On Last 10 bbls
1345 pm			308		Landed Plug
1400 pm	1500				Press Tested Casing 15 min
1401 pm	0				Released Press & Check Floats
1402 pm					Floats Held and Got
1405 pm					Rig Down & Relesed Crew
					Got 93 BBL's Back Cement



Merit Energy Longbow 2-10





CEMENT MIXING WATER GUIDELINES

Company Name: MERIT ENERGY COMPANY

Lease Name: Longbow # 2-10

County Grant State KS

Water Source: TANK

Submitted By: Kenny Baeza Date: 8/31/2016

pH Level 7 Must be less than 8.5

Sulfates 400 Must be less than 1,000 PPM

Chlorides 0 Must be less than 3,000 PPM

Temperature 64

COMMENTS

[Empty box for comments]

Thank You

Customer Signature *Kenny Baeza*



Customer: MERIT ENERGY COMPANY
Date: Wednesday, August 31, 2016
Well Name: Longbow # 2-10
Well Location: _____
Supervisor: Kenny Baeza

Equipment Operators: Ayala, Alejandro - Ball, Max - Corona, Victor A.

Performance	Customer	
Was the appearance of the personnel and equipment satisfactory?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Was the job performed in a professional manner?	<input type="radio"/> Yes	<input type="radio"/> No
Were the calculations prepared and explained properly?	<input type="radio"/> Yes	<input type="radio"/> No
Were the correct services dispatched to the job site?	<input type="radio"/> Yes	<input type="radio"/> No
Were the services performed as requested?	<input type="radio"/> Yes	<input type="radio"/> No
Did the job site environment remain unchanged?	<input type="radio"/> Yes	<input type="radio"/> No
Did the equipment perform in the manner expected?	<input type="radio"/> Yes	<input type="radio"/> No
Did the materials meet your expectations?	<input type="radio"/> Yes	<input type="radio"/> No
Was the crew prepared for the job?	<input type="radio"/> Yes	<input type="radio"/> No
Was the crew prompt in the rig-up and actual job?	<input type="radio"/> Yes	<input type="radio"/> No
Were reasonable recommendations given, as requested?	<input type="radio"/> Yes	<input type="radio"/> No
Did the crew perform safely?	<input type="radio"/> Yes	<input type="radio"/> No
Was the job performed to your satisfaction?	<input type="radio"/> Yes	<input type="radio"/> No

Customer Signature: *Rodney Gonzalez* Date: 8-30-16

Additional Comments:
Good Job!



Depend on US

Post Job Report

Merit Energy

Longbow 2-10

9/3/2016

5.5" 2-Stage Production Casing

Grant County, KS





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1.0 Executive Summary

Allied Oil & Gas Services would like to thank you for the award of the provision of cementing products and services on the well Longbow 2-10 intermediate casing.

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 3000 psi. After a successful test we began the job by plugging the rat hole and mouse hole with 85 sacks and then began pumping 12 bbls of HiVis Sweep spacer. We then mixed and pumped the following cements:

1st Stage:

21.77 bbl	75 Sacks of 13.6 ppg
50/50:Class H Slurry -	1.63 Yield
10.0% Salt	
5.0% Gypsum	
2.0% Gel	
0.5% CFL-210	
0.2% CD-100	
5.0 lb Kol-Seal	
0.25 lb Cellophane Flake	

2nd Stage:

82.07 bbl	240 Sacks of 13.6 ppg
Class A Slurry -	1.92 Yield
10.0% Salt	
6.0% Gypsum	
2.0% Gel	
0.5% CFL-210	
5.0 lb Kol-Seal	
0.25 lb Cellophane Flake	

The first stage was displaced with 136 bbl. The plug bumped and was pressured to 1200 psi. Upon release the floats held. The opening tool was dropped, and Allied waited 30 minutes before opening the tool. The second stage was displaced with 128.9 bbl.

All real time data can be view in the Job Summary section.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.



Cement Job Summary

Job Number: LIK1609040135	Job Purpose: 02 Production/Long String		
Customer: MERIT ENERGY COMPANY	Date: 9/3/2016		
Well Name: Longbow	Number: 2-10	API/UWI:	
County: Grant	City:	State: KS	
Cust. Rep:	Phone:	Rig Phone:	
Legal Desc:	Rig Name: DUKE DRILLING#9		
Distance: 50 miles (one way)	Supervisor: Lenny Baeza		

Employees:	Emp. ID:	Employees:	Emp. ID:
Lenny B.		Carlos I	
Victor G.		Hector E.	
Kenny B.	#N/A		
Equipment:			
903-541		1080-842	

Well Information						
Open Hole Section						
Description:	Size (in):	Excess	Top MD (ft)	Btm MD (ft)		
OPEN HOLE	7 7/8	30%	5416.8	5,909		
OPEN HOLE	7 7/8			5,417		
OPEN HOLE	7 7/8					
OPEN HOLE	7 7/8					
Tubulars						
Description:	Size (in):	Wgt. (lb/ft)	ID (in)	Grade:	Top MD (ft)	Btm MD (ft)
PREVIOUS CASING	8 5/8	24	8.097	J-55	0	1,480
TOTAL CASING	5 1/2	17	4.892	J55	0	5,909
STAGE TOOL	5 1/2	17	4.892	J55		5,417
SHOE	5 1/2	17	4.892	J55	5,865	5,909

Materials - Pumping Schedule						
STAGE #1						
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Spacer 1	HIVIS SWEEP	12	8.40	n/a	n/a	
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Tail 1	ALLIED 50/50 POZ BLEND - CLASS H	160	13.60	1.63	7.46	
Addl. Additive	Description	Conc. (lb/sk)	Determined by	Load Volume	UOM	
CFL-210	FLUID LOSS ADDITIVE - LOW TEMP	0.42	% BWOC	67.2	lbm	
CLC-KOL	KOL-SEAL	5	lb/sk	800.0	lbm	
CLC-CPF	CELLOPHANE FLAKES	0.25	lb/sk	40.0	lbm	
CA-500	GYP SUM	4.2	% BWOC	672.0	lbm	
CA-200	SODIUM CHLORIDE	6.21418	% BWOW	994.3	lbm	
CGEL	GEL - BENTONITE	1.68	% BWOC	268.8	lbm	
CD-100	CEMENT DISPERSANT	0.168	% BWOC	26.9	lbm	
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Disp. 3	Displacement	136.3422111	0.00	n/a	n/a	
STAGE #2						
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Stg 2 Spacer 1	HIVIS SWEEP	12	8.40	n/a	n/a	
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)	
Stg 2 Tail 1	ALLIED SPECIAL BLEND CEMENT - CLASS A	240	13.60	1.92	9.56	

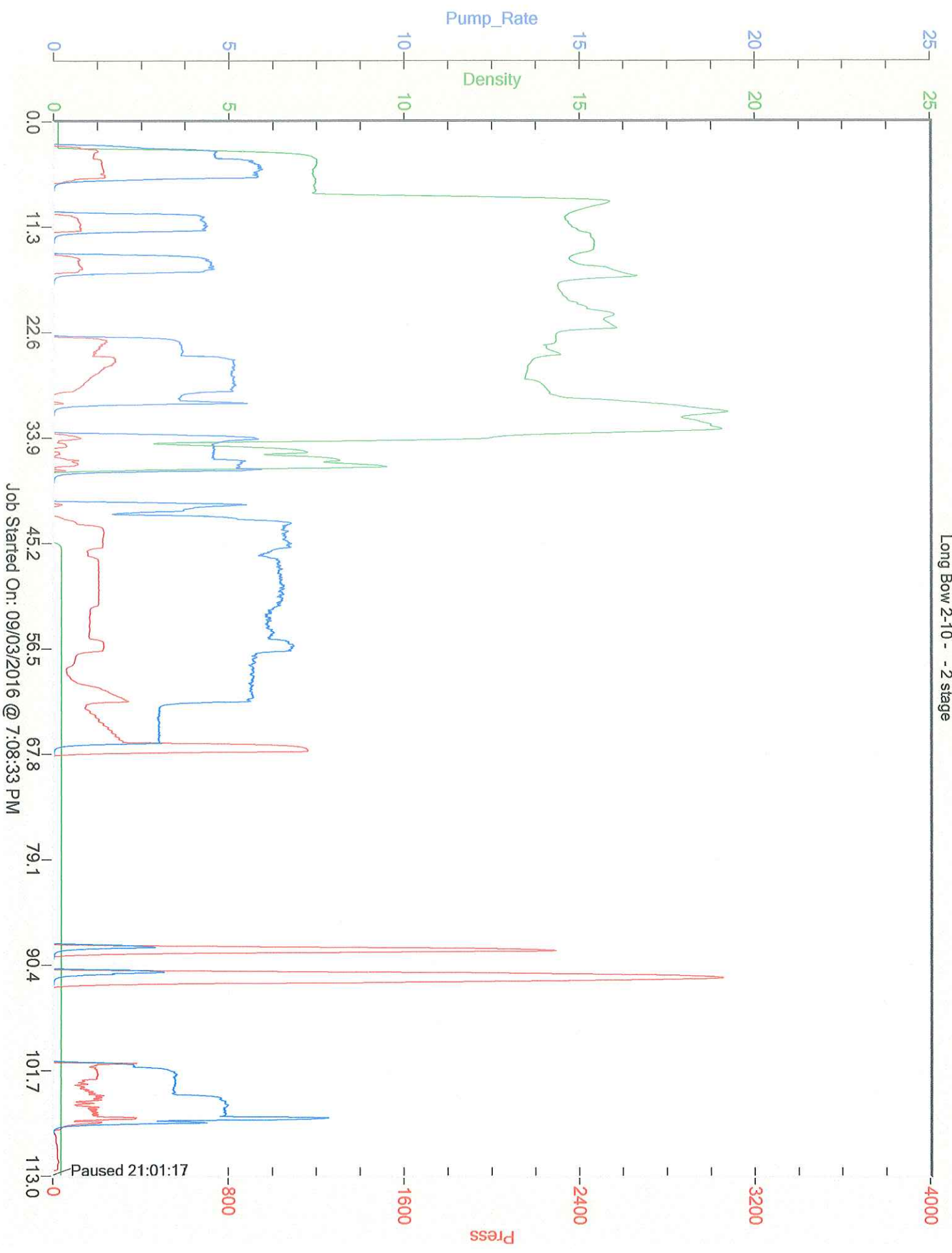


Cement Job Summary

Addl. Additive	Description	Conc. (lb/sk)	Determined by	Load Volume	UOM
CFL-210	FLUID LOSS ADDITIVE - LOW TEMP	0.47	% BWOC	112.8	lbm
CLC-KOL	KOL-SEAL	5	lb/sk	1200.0	lbm
CLC-CPF	CELLOPHANE FLAKES	0.25	lb/sk	60.0	lbm
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)
Stg 2 Disp. 1	Displacement	125.9200103	0.00	n/a	n/a

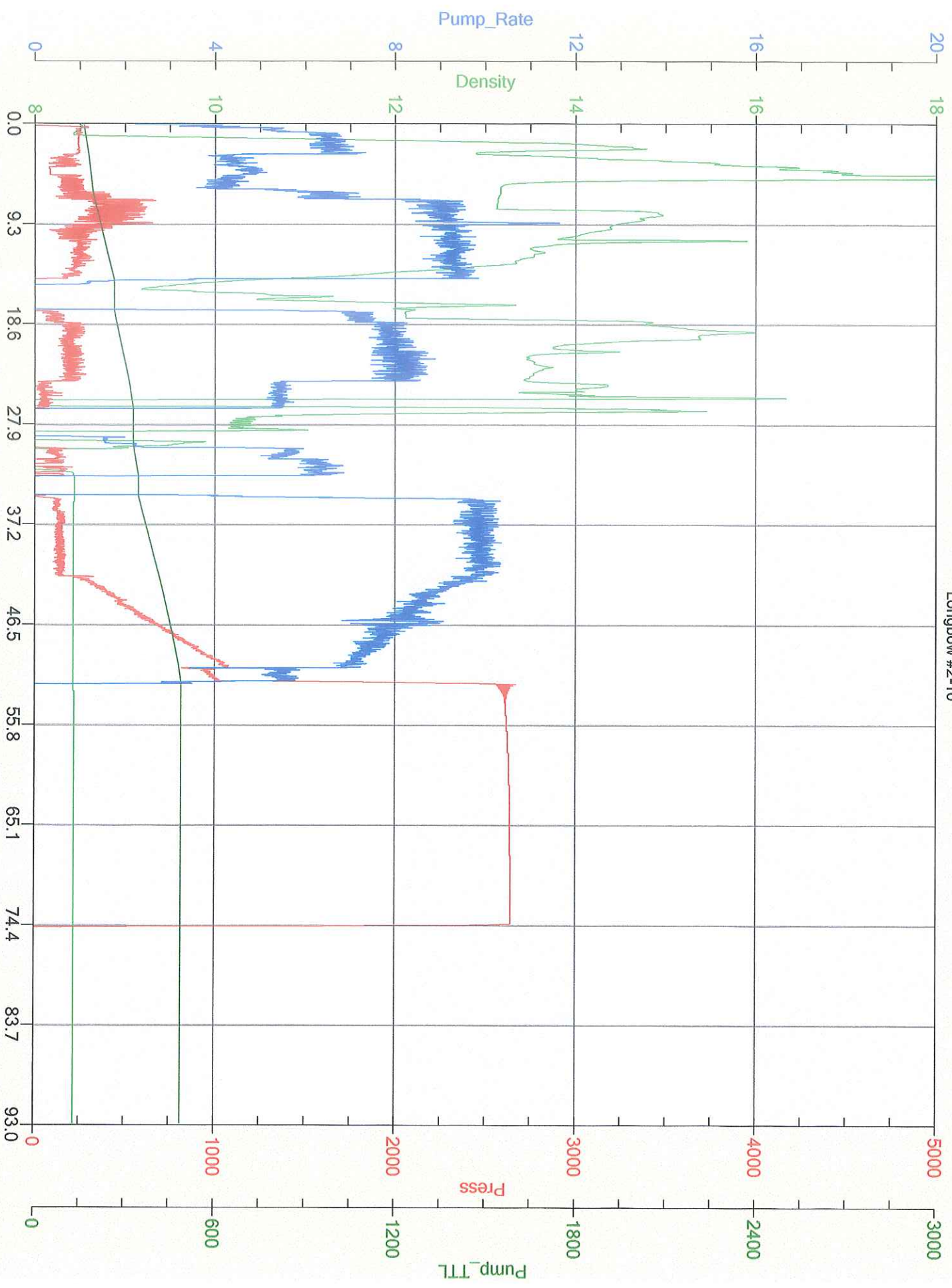
Job Number: LIK1609040135		Job Purpose: 02 Production/Long String			
Customer: MERIT ENERGY COMPANY			Date: 9/3/2016		
Well Name: Longbow		Number: 2-10			
County: Grant		City: _____ State: KS			
Cust. Rep: _____		Phone: _____ Rig Phone: 0			
Distance: 50 miles (one way)		Supervisor: Lenny Baeza			
TIME	PRESSURE - (PSI)		FLUID PUMPED DATA		COMMENTS
AM/PM	CASING	ANNULUS	VOLUME	RATE (BPM)	
9/3/2016					On location @5:00pm
5:30pm					Rigging up to well head
6:45pm					Safety meeting with crew/ company man
7:11pm	180		12	4	Pumping 12bbbls of super flush ahead
7:18pm	110		20	3	Swapping valves to plug mouse/ rat hole
			25	3	Plugged rat/mouse hole swapping valves to well head
7:31pm	230		46	5	Pumping 75sk (21.5 slurry)
7:49pm	80			5	Plug left head and doing displacement
7:41pm	210		76	6	30 bbbls gone
7:56pm	380		166	6	110bbbls gone
8:10pm	265		176	3	120bbbls gone slowing down for DV tool
8:15pm	1200		192	3	136bbbls gone and landed plug 1200psi
					Pressure holding and release and had 1bbbls to the truck going up stairs to drop opening tool and preload plug
0021	100		81.9	9	Pumping 240 sacks of tail ASC
0050	0		10	5	Shut Down wash pumping lines
0054	100		0	9	Drop plug start disp
0101	380		65	9	Cought Cement
0105	650		80	9	80 bbbls gone
0110	850		100	9	100 bbbls gone
0115	2500		128.9	6	Landed plug
0116	2500				Test casing for 15 min at 2500 PSI
0135	0				Released Press and check floats got 1/2 bbl
0136					Crew rig down and released

Merit Energy
Long Bow 2-10 - 2 stage



Job Started On: 09/03/2016 @ 7:08:33 PM

Merit Energy 2nd Stage Longbow #2-10





CEMENT MIXING WATER GUIDELINES

Company Name:

MERIT ENERGY COMPANY

Lease Name:

Longbow # 2-10

County

State

Grant

KS

Water Source:

TANK

Submitted By:

Date:

Lenny Baeza

9/3/2016

pH Level

7

Must be less than 8.5

Sulfates

400

Must be less than 1,000 PPM

Chlorides

0

Must be less than 3,000 PPM

Temperature

72

COMMENTS

Thank You

Customer Signature

A handwritten signature in black ink, appearing to read 'Rudy Lopez', is written over a horizontal line.



Customer: MERIT ENERGY COMPANY
Date: Saturday, September 03, 2016
Well Name: Longbow # 2-10
Well Location:
Supervisor: Lenny Baeza

Equipment Operators: Lenny B. - Carlos I - Victor G. - Hector E. - Kenny B.

Performance	Customer	
Was the appearance of the personnel and equipment satisfactory?	Yes	No
Was the job performed in a professional manner?	Yes	No
Were the calculations prepared and explained properly?	Yes	No
Were the correct services dispatched to the job site?	Yes	No
Were the services performed as requested?	Yes	No
Did the job site environment remain unchanged?	Yes	No
Did the equipment perform in the manner expected?	Yes	No
Did the materials meet your expectations?	Yes	No
Was the crew prepared for the job?	Yes	No
Was the crew prompt in the rig-up and actual job?	Yes	No
Were reasonable recommendations given, as requested?	Yes	No
Did the crew perform safely?	Yes	No
Was the job performed to your satisfaction?	Yes	No

Customer Signature: *Rodriguez* Date: 9-3-16

Additional Comments:
Great job!

Longbow 2-10

PBTD:

5900'

DV tool @ 5453'

Casing:

5.5" 17# J55

Perfs:

5699-5720 St Louis

Tubing:

2-7/8" J-55

Job Description:

Complete to the St Louis

Procedure:

1. Make up Lowery head
2. MIRU workover unit and NU BOP
3. Run in and drill out DV tool
4. Close BOP and pressure test to 1000 psi for 10 min
5. TIH to PBTD and circulate 120 bbl 2% KCL
6. POOH
7. Run gauge rig, then CBL
 - a. correlate to HES Spectral Density, Dual Spaced Neutron Log dated 03-Sep-2016
8. Swab well down to 2000' FSL.
9. Perforate under 2000 psi lubricator
 - a. correlate to HES Spectral Density, Dual Spaced Neutron Log dated 03-Sep-2016
 - b. 5699-5720
 - c. 21 ft, 4 spf, 84 total holes
 - d. 4" EXP, 38.5 gr, 0.43" E.H., 57.73" penetration
10. RIH w/BHP gauges to 5710 on slickline
11. Let sit overnight
12. POOH with gauges in AM
13. Swab Test

CASING & TUBING DATA:

Item	Size [in.]	Weight [lb/ft]	Grade	Conn	ID [in.]	Drift [in.]	P _{COLLAPSE} [psi]	P _{BURST} [psi]	Capacity [BBL/FT]
Production Casing	5-1/2"	17.0	J-55	ST&C	4.892	4.767	4,910	5,320	0.02325
Tubing	2-3/8"	4.7	J-55	8rd	1.995	1.901	8,100	7,700	0.00387
Annulus	2-3/8" x 5-1/2", 17.0#								0.01777
Tubing	2-7/8"	6.5	J-55	8rd	2.441	2.347	7,680	7,260	0.00579
PolyCore tubing	2-7/8"	6.97	J-55	8rd	2.160	2.000	7,680	7,260	
Annulus	2-7/8" x 5-1/2", 17.0#								0.01522

