

Cement Verification Report - Cementer's Well Service, Inc.

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COGCC Operator Guidance

RULE #308.A.B(2)A.ii



CLIENT: PDC - Petroleum Development Corp	Cementor's FIELD TICKET #	300143-D
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Requested Operator Guidance:

1) Well Name & Number	Lease	Thunder	Well No.	1C
2) Well API Number	05-123-49992			
3) Job Date	2/20/21	Time on	5:15	24 hr time
4) Job Type	New Well Surface			
5) Cementing Company	Cementor's Well Service, Inc	Contact	Nate Kvamme - 303-324-4296	
6) Ambient conditions	clear / rain / snow / other	-3	temp deg F	
7) Slurry Description				
a) Purpose	Surface - 9 5/8" CSG, 12 1/4" hole			
b) Cement Class	Type I / II			
c) Cement Yield	1.61	cuft / sk		
d) Cement Density	13.9	PPG		
e) Number of sks	570	sks (94# equiv)		
f) Cement Volume (dry)	570	cuft (ft^3)		
g) Mix Fluid Type				
Water / Cement	8.5	Gal / sk		
h) Slurry mixed	163.4	BBLs slurry		
i) Additives used	1.50%	CaCl2	3.00%	Bentonite
Total Water Used				
j) Displacement Fluid Vol	128.2	BBLs H2O		
k) Method of Placement				
l) Set Depth	1,700	feet (ft)		
m) Stage tool depth	n/a			
n) Float Collar Depth	1,658	feet (ft)		
o) Designed Top of Cement	n/a	to surface		
p) Centralizer depths	1678, 1636, 1552, 1384, 1216, 1047, 879, 711, 543, 378, 210, 42 feet (ft)			
8) Charts - (pressure, density, pump rate)				
Landed Plug @	900	psi	Final Lift Pressure @	475 psi
Cement Density (as weighed during job) @	13.9	PPG		
9) Job notes				
a) Plug down	<input checked="" type="radio"/> Y / <input type="radio"/> N	Time	7:30	24 hr time
b) Floats held	<input checked="" type="radio"/> Y / <input type="radio"/> N			
c) Full Returns	<input checked="" type="radio"/> Y / <input type="radio"/> N	Lost Circulation	<input checked="" type="radio"/> Y / <input type="radio"/> N	
d) Cement to surface	<input checked="" type="radio"/> Y / <input type="radio"/> N	28.0	BBLs to surface	
e) If no returns, top off	BBLs			
f) Top off detail				



Centralizer Depths

Well Name: Thunder 1C

Surface, Set Depth: 1,700.4ftKB

API 05123499920000		Surface Legal Location SENW 3 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal	
Ground Elevation (ft) 4,621.00	Original KB Elevation (ft) 4,634.00	KB-Ground Distance (ft) 13.00		Spud Date	Rig Release Date	On Production Date		Abandon Date	

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jw/ry	Connections	Top (ftKB)	Cum Len (ft)
2		Casing Joints	9 5/8	36.00	J-55	Yes	42.10	Yes		LT&C	1,656.5	43.95
6		Casing Joints	9 5/8	36.00	J-55	Yes	42.10	Yes		LT&C	1,488.0	212.36
10		Casing Joints	9 5/8	36.00	J-55	Yes	42.08	Yes		LT&C	1,319.7	380.66
14		Casing Joints	9 5/8	36.00	J-55	Yes	42.09	Yes		LT&C	1,155.3	545.08
18		Casing Joints	9 5/8	36.00	J-55	Yes	42.07	Yes		LT&C	987.4	712.99
22		Casing Joints	9 5/8	36.00	J-55	Yes	42.09	Yes		LT&C	819.1	881.30
26		Casing Joints	9 5/8	36.00	J-55	Yes	42.08	Yes		LT&C	650.8	1,049.60
30		Casing Joints	9 5/8	36.00	J-55	Yes	42.09	Yes		LT&C	482.5	1,217.95
34		Casing Joints	9 5/8	36.00	J-55	Yes	42.07	Yes		LT&C	314.2	1,386.24
38		Casing Joints	9 5/8	36.00	J-55	Yes	42.06	Yes		LT&C	145.8	1,554.57
40		Casing Joints	9 5/8	36.00	J-55	Yes	42.06	Yes		LT&C	61.7	1,638.69