

30.039-31215

COMMENTS: OBJECTIVE FORMATION: Dakota and Mesa Verde

NOTES:

<u>Surface Section</u>	Cemented to Surface				Cement w/ 297 sx (413 cu ft) Type III cement to surface.
Inclination @ 500'	12 1/4" Hole >				
	8-5/8", 24#, J-55, ST&C		525'		

7 7/8" Hole from 525' to TD >

Production Tubing: 2 3/8" 4.7# J-55 Set @ 7175', SN @ 7174'	Ojo Alamo >	2,162'
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				< < Stage Collar Cementing Tool Log depth
Kirtland >	2,232'			
	2,417'			
Fruitland Coal >	2,692'			
				OIL CONS. DIV DIST. 3
Picture Cliffs >	2,824'			AUG 15 2014
Lewis >	2,891'			

Chacra >

3706

4134

< < Resume vertical hole @ +/- 3600' MD
Vertical Section = +/- 117 NW

< < Stage Collar Cementing Tool Log Depth

MV: 7-29-2014; 5052-5215, 49 - 0.40" holes, 1000 gal 15% HCl & balls, frac with 112000 gal 70-60% N2 foam and 153080 # 20/40 sand @ 65 bpm.	Marker Jt 4479'-4494' MD Cliffhouse >	>>>>	4453
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U dakota; 7-28-2014; 7002-7047, 33 - 0.40" holes, 1000 gal 15% HCl & balls, frac with 149000 gal 20# gel and 141620# 20/40 sand @ 60 bpm	Menefee > Point Lookout >	4502 5015	Stg 1 Cement: 30 bbl Seal Bond, 1053 cu ft (524 sx) Prem Lite HS @ 12.5 ppg, 2.01 yld, 45 bbl cement back. Stg2 Cement: 10 bbl SAPP, 575 cu ft (270 sx) Prem Lite @ 12.1 ppg, 2.13 yld, 69 cu ft (50 sx) Type III tail @ 14.6 ppg, 1.39 yld. 37 bbls cement back
L Dakota: 7-28-2014: 7134-7226, 40 -			

0.40" holes, 1000 gal 15% HCl & balls, frac with 163000 gal 20# gel and 160000# 20/40 sand @ 65 bpm.	Mancos > Regulatory Mancos	5215 5515	40 bbls cement back. Stg 3 Cement: 10 bbl SAPP, 654 cu ft (307 sx) Prem Lite @ 12.1 ppg, 2.13 yld, 70 cu ft(50 sx) Typelll @ 14.6 ppg, 1.39 yld. 40 bbls cement back.
	Gallup >	6181	Logs: Cased Hole Pulsed Neutron (RMT) & CBL

Greenhorn >	6917	to surface casing
Graneros Shale >	6973	

Dakota > 6998'

4-1/2", 11.6#, N-80 LT&C - 7319' to Surface

FC = 7275'

7320' MD	7316' TVD
7320' MD	7316' TVD

AFE #	CO 1312 913	REGULATORY	M Doescher	505-320-5682
EV #	57025.004	ENGINEER	L Diede	505-334-8867
API #	30-039-31215	GEOLOGIST	G Kowalczyk	713-495-6590

FN