

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 2081413	Quote #: 0022197692	Sales Order #: 0903383163
Customer: NOBLE ENERGY INC - EBUS		Customer Rep: .	
Well Name: Ehrlich	Well #: 13-22	API/UWI #:	
Field:	City (SAP): MILLIKEN	County/Parish: WELD	State: COLORADO
Legal Description:			
Contractor: UNKNOWN		Rig/Platform Name/Num: WORKOVER RIG	
Job BOM: 7526			
Well Type: GAS			
Sales Person: HALAMERICA\HB71271		Srcv Supervisor: Nathaniel Moore	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	3802ft		Job Depth TVD
Water Depth	Wk Ht Above Floor		
Perforation Depth (MD)	From	3800 ft	To 3810 ft

Well Data

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		8.625	8.097	24			0	372		
Tubing		2.375	1.995	4.7			0	3734		
Casing		4.5	4	11.6			0	7433		
Open Hole Section			7.875				372	7433		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	2.375				Top Plug	2.375		HES
Float Shoe	2.375				Bottom Plug	2.375		HES
Float Collar	2.375				SSR plug set	2.375		HES
Insert Float	2.375				Plug Container	2.375		HES
Stage Tool	2.375				Centralizers	2.375		HES

Fluid Data

Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Fresh Water		0	bbl	8.4					
Stage/Plug #: 2										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	WellLock	SBM CMT WellLock PKG	3	bbl	9.17					
8.17 gal/bbl			chem, Welllock R2, 5 gal pail (807639)							

10.13 gal/bbl	chem, Wellock H1, 5 gal pail (807654)
23.43 gal/bbl	chem, Wellock R1, 5 gail pail (807670)
0.28 gal/bbl	CHEM,WELLOCK A2, 5 GALLON PAIL (102217155)

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	15.8# HalCem	HALCEM (TM) SYSTEM	50	sack	15.8	1.149		3	5.01
4.88 Gal		FRESH WATER							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Fresh Water	Fresh Water	13	bbl	8.33				

Cement Left In Pipe	Amount	Reason
	1 bbl on top of retainer	

Reversed out 19 bbl. Got .75 bbl back to surface

1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	Call Out	6/24/2016	03:30:00	USER					Verify equipment/materials. Load chemicals
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	6/24/2016	06:30:00	USER					Journey management with crew
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/24/2016	07:30:00	USER					
Event	4	Other	Meet with customer rep	6/24/2016	07:30:01	USER					2.375" 4.7# tubing at 3734' stung into retainer. Perfs at 3802' in 4.5" 11.6# N-80 casing. Bridge plug at 3850'. Injection rate yesterday 1300 psi at 0.75 bpm.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/24/2016	07:35:00	USER					Spot equipment onto location
Event	6	Start Job	Start Job	6/24/2016	08:27:34	COM1	6.00	0.11	0.00	0.0	
Event	7	Prime Pumps	Prime Pumps	6/24/2016	08:30:06	COM1	7.00	0.12	0.00	0.0	
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/24/2016	08:50:00	USER	4.00	8.41	0.00	0.0	Discuss job procedure and contingencies with rig crew and HES.
Event	9	Other	Other	6/24/2016	09:01:11	COM1	4.00	8.39	0.00	0.0	Fill lines
Event	10	Test Lines	Test Lines	6/24/2016	09:04:31	COM1	5.00	8.39	0.00	0.9	Test lines to 4100 psi
Event	11	Pressure Up Well	Pressure Up Well	6/24/2016	09:08:46	COM1	19.00	8.40	0.00	0.0	Injection test. ISIP: 1160 psi at .5 bpm. Lined out to 1040 psi. Walked rate up to 1.5 bpm at 1250 psi. Decided to bull head fluid into formation rather than

Event	12	Shutdown	Shutdown	6/24/2016	09:14:09	COM1	952.00	8.41	0.00	4.8	stinging out to spot.
Event	13	Other	Other	6/24/2016	09:15:00	USER	885.00	8.42	0.00	4.8	Mix H1 with R1 and R2. Mix for 30 minutes. Mixed up cement while waiting
Event	14	Check Weight	Check weight	6/24/2016	09:40:48	COM1	840.00	8.36	0.00	4.8	15.8 ppg verified with pressurized mud scales
Event	15	Other	Other	6/24/2016	09:43:00	USER	839.00	8.36	0.00	4.8	Add accelerator. Allow to mix for 5 minutes
Event	16	Next Stage	Pump well lock	6/24/2016	09:49:52	COM1	836.00	8.36	0.00	4.8	Pump Well Lock - 3 bbl
Event	17	Pump Cement	Pump Cement	6/24/2016	09:54:25	COM1	1311.00	9.29	1.20	0.0	50 sks/10 bbl 15.8 ppg 1.14 f3/sk 5.0 gal/sk. With Mucol, HR-6 and Halad 344 in mix water
Event	18	Other	Check HT guages	6/24/2016	10:00:00	USER	770.00	15.96	1.20	6.7	Temp 120 Pressure 100
Event	19	Pump Displacement	Pump Displacement	6/24/2016	10:02:00	COM1	487.00	15.40	1.20	0.0	13 bbl water to leave 1.5 bbl of cement on top of retainer. Final pump pressure 1050 psi at 1.2 bpm.
Event	20	Shutdown	Shutdown	6/24/2016	10:12:31	COM1	912.00	8.32	0.00	12.5	Break iron off of tubing. Rig pulled 2 stands. Tie back on to reverse
Event	21	Other	Other	6/24/2016	10:16:14	COM1	25.00	0.01	0.00	12.5	Reverse circulate 19 bbl water. Approx .75 bbl cement back at 14 bbl away
Event	22	Reverse Circ Well	Reverse Circ Well	6/24/2016	10:25:23	COM1	27.00	0.02	0.00	0.0	Clean lines to pit with 50 lbs of sugar. Clean tote with 60 gal mucol and 5 bbl water. Pump off to pit.
Event	23	Other	Clean lines/Tote	6/24/2016	10:45:00	USER					Safety meeting with crew
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/24/2016	10:55:00	USER					