

The Road to Excellence Starts with Safety

Sold To #: 345242	Ship To #: 2518426	Quote #:	Sales Order #: 0903191139
Customer: NOBLE ENERGY INC E-BUSINESS		Customer Rep: Kevin Monaghan	
Well Name: TRE MAT		Well #: 23-13	API/UWI #:
Field:	City (SAP): LUCERNE	County/Parish: WELD	State: COLORADO
Legal Description:			
Contractor: Leed		Rig/Platform Name/Num: 718	
Job BOM: 7528P			
Well Type: GAS			
Sales Person: HALAMERICA\HB71271		Srv Supervisor: Vaughn Oteri	

Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	2518ft Job Depth TVD
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From To

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		4.5	4	11.6			0	2500	0	0
Tubing		2.375	1.995	4.7			0	2518	0	0

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	QQty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Plug #1	HALCEM (TM) SYSTEM	100	sack	15.8	1.15			5
5 Gal		FRESH WATER							

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	Plug #2	HALCEM (TM) SYSTEM	275	sack	15.8	1.15			5
5 Gal		FRESH WATER							

Cement Left In Pipe	Amount	Reason	Shoe Joint
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Comment Cement back to surface

Table of Contents

Job Design 4

 Overview 4

 Pressure Schedule Inputs 4

 Pressure Schedule Table 4

Real-Time Job Summary 5

 Job Event Log 5

Attachments 7

 Case 1-Custom Results.png 7

Custom Graphs 8

 Custom Graph 8

Appendix 9

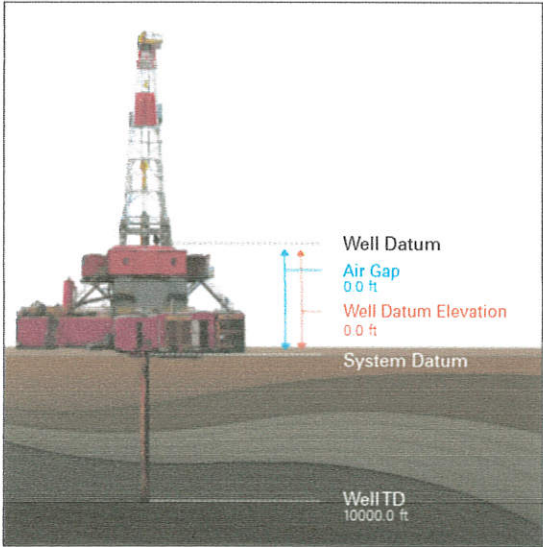
 3D Wellbore Schematic 9

1.0 Job Design

1.1 Overview

Job Type	Primary Cement Job
Injection Path	Casing/Conventional
Foam Job	No

Well Snapshot



Simulations Performed

1.2 Pressure Schedule Inputs

Pressure Mode	Conventional
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1.3 Pressure Schedule Table

Start (Pump Volume in bbl)	End (Pump Volume in bbl)	Pressure (psi)
0.00	End	0.00

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	PS Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	3/16/2016	04:00:00	USER				Call out from Arc hub
Event	2	Arrive At Loc	Arrive At Loc	3/16/2016	08:00:00	USER				Arrived on location met with company Rep to discuss job process and concerns
Event	3	Other	Well info	3/16/2016	08:30:00	USER				Well info- tubing set 2519 surface plug set at 637 oh 10" surface casing 8.625 24# set at 581 iron bridge plug set at 6905 bottom of casing cut off at 2500-4.5 11.6#
Event	4	Other	Water info	3/16/2016	08:30:05	USER				Water info Ph-7 temp 55 ci 0
Event	5	Start Job	Start Job	3/16/2016	09:02:05	COM4	38.00	8.57	1.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	6	Test Lines	Test Lines	3/16/2016	09:17:55	COM4	155.00	8.65	0.00	Pressure test pumps and lines found no leaks and pressure held good
Event	7	Check Weight	Check weight	3/16/2016	09:23:08	COM4	234.00	9.35	1.00	Confirm weight on scales
Event	8	Pump Cement	Pump Cement	3/16/2016	09:24:56	COM4	159.00	9.08	1.10	Mixed 20.5bbl or 100sks of 15.8ppg Y-1.15 G/SK-5.0 Halcem
Event	9	Pump Displacement	Pump Displacement	3/16/2016	09:34:31	COM4	11.00	13.38	2.10	Pumped 8bbl of fresh water to displace cement
Event	10	Shutdown	Shutdown	3/16/2016	09:39:09	COM4	9.00	1.19	0.00	Shut down so that rig could pull tubing to 637 feet

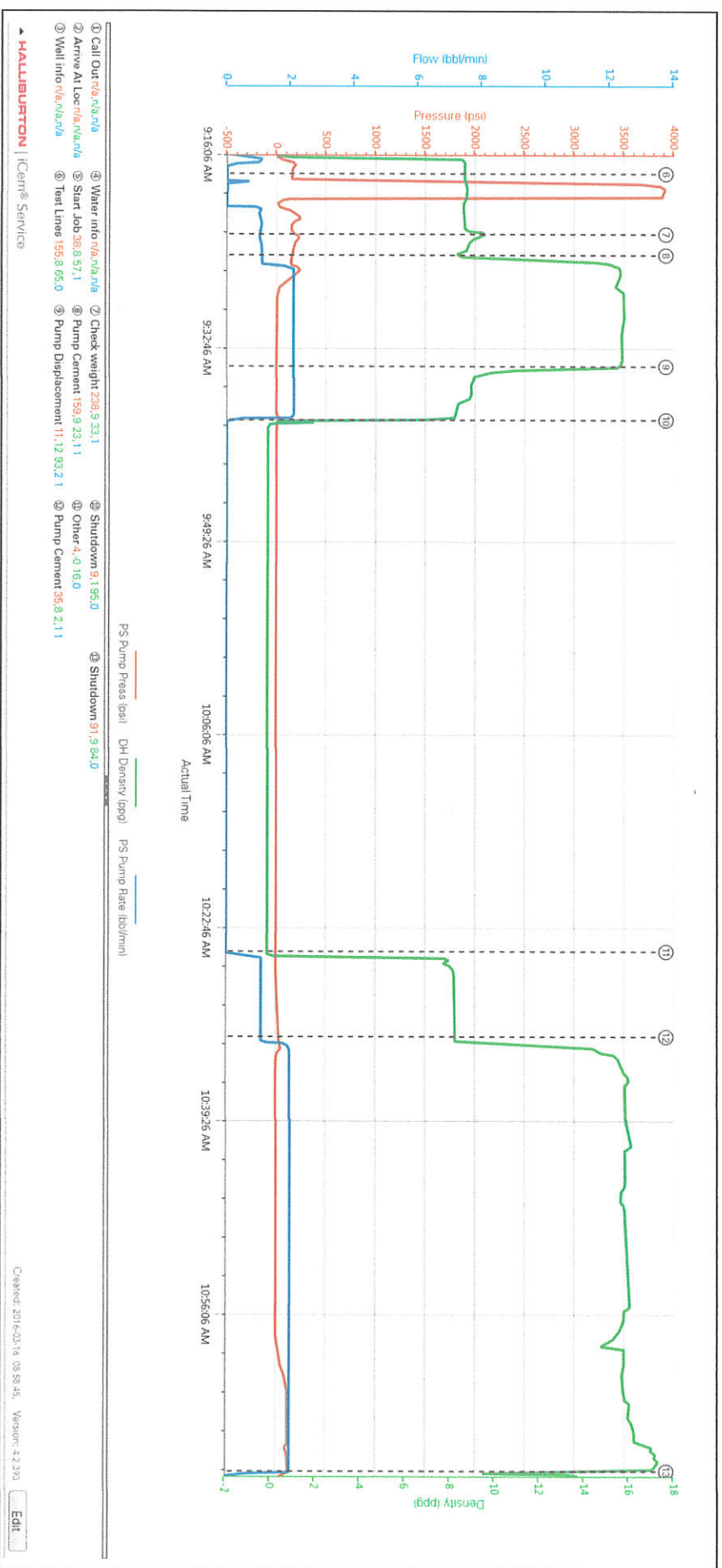
HALLIBURTON

Customer: NOBLE ENERGY INC
Job: Noble Tre Mat 23-13 PTA
Case: Case 1

Event 11	Other	Other	3/16/2016	10:25:01	COM4	4.00	-0.16	0.00	Pumped 8bbl of fresh water to fill hole
Event 12	Pump Cement	Pump Cement	3/16/2016	10:32:21	COM4	36.00	8.20	1.10	Mixed 275sks or 56bbl of 15.8ppg Halcem
Event 13	Shutdown	Shutdown	3/16/2016	11:09:46	COM4	100.00	9.45	0.00	Shut down so that rig could pull tubing out of the hole
Event 14	Other	Other	3/16/2016	11:41:44	COM4	2.00	8.78	0.00	Pumped 1.5bbl to topp out well
Event 15	End Job	End Job	3/16/2016	11:50:37	COM4	-1.00	18.00	0.00	Cement back to surface

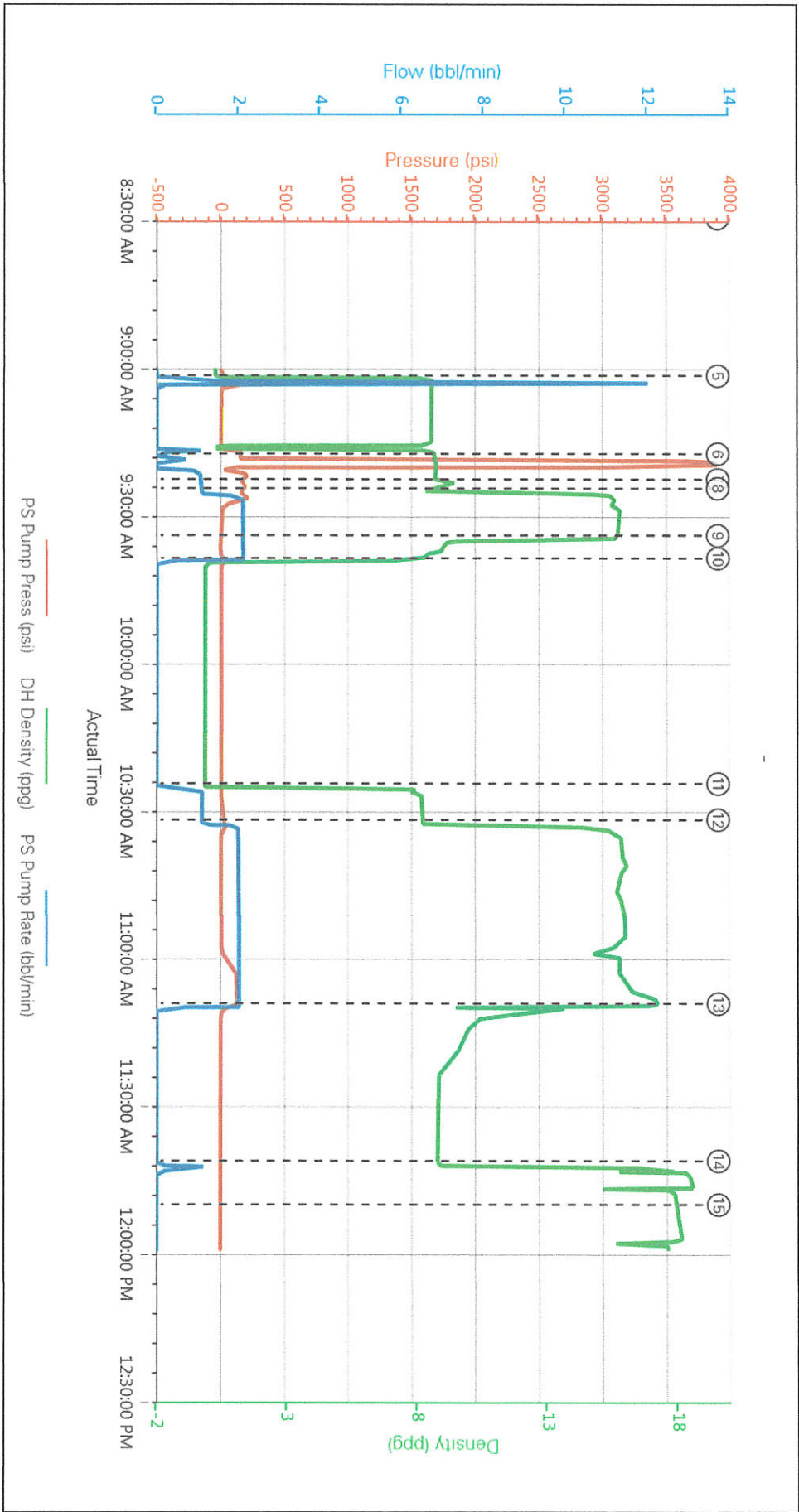
3.0 Attachments

3.1 Case 1-Custom Results.png



4.0 Custom Graphs

4.1 Custom Graph



5.0 Appendix

5.1 3D Wellbore Schematic

