



Chisholm Energy

30-015-44600

Prepared For
Nick Cleveland

Cottonwood Fee SWD #1

Production Liner Cement

Located in

Eddy County, NM

Prepared by
Kevin Swikert
on
Friday, July 20, 2018

**NM OIL CONSERVATION
ARTESIA DISTRICT**

JUL 20 2018

RECEIVED

Serviced from the Pecos, Texas facility
For Customer Service Call
432-755-4999

Proposal Version: 12

7/20/2018 10:30

3.36N120117

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Chisholm Energy
Cottonwood Fee SWD #1
Production Liner
7/20/2018

Rig: X



Job Data

Job Type	Production Liner
Round Trip Mileage	100
Previous Casing	9.625" 43.5# HCL80/BTC to 8000'
Hole Size	9.035" to 11760'
Casing Size/Weight	5" 21.45# DP to 7600' 7" 29# Butress to 11760'
MD	11760
Mud	10.0-10.2# Saturated Brine
Est. BHST/BHCT	174-F BHST / 139-F BHCT (0.8-F/100-ft)
Top of Liner	7600
Notes	Standby chargers start after C&J has been on location for more than 6-hrs.

Volumes

	Length (ft)	OD (in)	ID (in)	Excess (%)	CF/FT	Vol. (cf)	Vol. (bbl)
Tail	400	8.755	7.000	0%	0.1508	60.3	10.7
Tail	3760	9.035	7.000	25%	0.2225	836.5	149.0
Shoe Joint	80		6.184		0.20857	16.7	3.0

Fluid Requirements

Spacer

40-bbls Fresh Water

Tail

50% Poz+50% Class H+2% Gel+0.5% O-TX47A+0.3% O-TX20+5% SALT+0.75-GAL/100-SX CF-41L

Volume (sx)	745	164 (bbls)
Weight (ppg)	14.50	
Yield (cf/sx)	1.23	
Water (gps)	5.40	
Top of Cement (ft)	7600	
Excess (%)	25%	
Compressive Strengths (psi)	500-psi @ 13:00, 2200-psi @ 72-hrs	

Displacement

151.5-bbls Saturated Brine

Displacement

20-bbls Fresh Water

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Displacement

114.9-bbls Saturated Brine

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REF. #	DESCRIPTION	QUANTITY	UNIT PRICE	DISCOUNT	GROSS	NET TOTAL
CP002	H (Premium Cement) (94 lbs/f3)	373	\$ 30.80	60.00%	\$ 11,488.41	\$ 4,595.37
CP003	POZ (Fly Ash) (74 lbs/f3) -	373	\$ 13.55	60.00%	\$ 5,054.20	\$ 2,021.68
CP005	GEL	1252	\$ 0.68	60.00%	\$ 851.36	\$ 340.54
CP013	O-TX20 (CF-20) LS Retarder (below 220°)	188	\$ 13.55	60.00%	\$ 2,547.40	\$ 1,018.96
CPC17	O-TX47A (C-47 A)	313	\$ 37.00	60.00%	\$ 11,581.00	\$ 4,632.40
CP020	Salt (NaCl), 100 mesh sacked	1677	\$ 0.68	60.00%	\$ 1,140.36	\$ 456.14
CP009	CF-41 (Foam Preventer)	6	\$ 86.06	60.00%	\$ 516.36	\$ 206.54
CC011	Pump Charge 10,001-12,000'	1	\$ 10,846.44	60.00%	\$ 10,846.44	\$ 4,338.58
RP001	Reserve (standby) Pump	1	\$ 3,267.00	60.00%	\$ 3,267.00	\$ 1,306.80
JM001	Data Acquisition System	1	\$ 1,437.48	60.00%	\$ 1,437.48	\$ 574.99
AE001	Hi Volume Air compressor	1	\$ 457.38	60.00%	\$ 457.38	\$ 182.95
AE002	Cement Head with manifold	1	\$ 1,176.12	60.00%	\$ 1,176.12	\$ 470.45
AE003	Circulation Equipment(40' of equipment)	1	\$ 1,633.50	60.00%	\$ 1,633.50	\$ 653.40
AE007	1" to 2" valves	1	\$ 424.71	60.00%	\$ 424.71	\$ 169.88
PC003	Employee/Supervisor Retention/perdiem	1	\$ 1,306.80	0.00%	\$ 1,306.80	\$ 1,306.80
ML014	Fuel Surcharge	5	\$ 653.40	60.00%	\$ 3,267.00	\$ 1,306.80
CL013	7 5/8" Top Rubber Plug	1	\$ 203.28	60.00%	\$ 203.28	\$ 81.31
ML001	Pickup Mileage	200	\$ 4.26	60.00%	\$ 852.00	\$ 340.80
ML002	Pump Truck/Heavy Vehicle Mileage	400	\$ 7.32	60.00%	\$ 2,928.00	\$ 1,171.20
ML003	Bulk Cement Delivery/Return	1651	\$ 2.95	60.00%	\$ 4,870.45	\$ 1,948.18
MX001	Bulk Material Mixing Service Charge	806	\$ 3.27	60.00%	\$ 2,635.62	\$ 1,054.25
GROSS/BOOK PRICE:					\$	68,484.88
DISCOUNTED AMOUNT:					\$	40,306.85
ESTIMATED JOB COST:					\$	28,178.03
If Needed Items -Not Included in Estimated Job Cost						
CC015	Pump Charge Additional Hours	1	\$ 588.06	60.00%	\$ 588.06	\$ 235.22
AE012	Bulk Unit Additional Hours	1	\$ 130.68	60.00%	\$ 130.68	\$ 52.27
RP002	Reserve (standby) Pump additional hrs	1	\$ 457.38	60.00%	\$ 457.38	\$ 182.95
BB001	Batch Mixer	1	\$ 2,384.91	60.00%	\$ 2,384.91	\$ 953.96
CP025	Barite (weighting material)	2564	\$ 1.10	60.00%	\$ 2,820.40	\$ 1,128.16
CPC45	C-65 (Weighted Spacer Mix OBM)	210	\$ 12.85	60.00%	\$ 2,698.50	\$ 1,079.40
CPC18	Plexaid 803	30	\$ 60.98	60.00%	\$ 1,829.40	\$ 731.76
CPC35	Plexaid 830 Surfactant	30	\$ 137.94	60.00%	\$ 4,138.20	\$ 1,655.28
RFC16	Cl-Tric (powder citric acid)	20	\$ 13.55	60.00%	\$ 271.00	\$ 108.40
CPC53	C-40P	20	\$ 9.25	60.00%	\$ 185.00	\$ 74.00
50% Remedial Discount						

The services and materials quoted are based on the best information available at the time that this quotation was prepared. When the actual work is performed the amounts and types of services and materials may require adjustments from this quotation. Actual amounts and types of services and materials will be charged at the time the work is performed. Unit prices from C&J's current price list and discounts quoted are applied as per this quotation, unless otherwise noted. This quotation is for the materials and services presented under this cover letter. The prices and discounts are based on C&J being awarded the work on a first call basis. Prices may be adjusted if the work is not on a first call basis. Prices are valid for a period of 30 days following this quotation. Taxes, if any, will be applied to the actual invoice. All services and materials sold and/or provided by C&J are subject to C&J's "Contractor's Standard Terms and Conditions" document, which contains provisions concerning risk allocation and warranties associated with C&J's services. The parties hereby agree that all materials and services will be furnished pursuant to C&J's "Contractor's Standard Terms and Conditions" document and a customary work order agreement.



CEMENT LABORATORY REPORT

Submitted for:

Chisholm Energy

Cottonwood Fee SWD #1

Location: Eddy Co

Type Test: Pilot Test

Type Job: Production Casing

BHST: 174 [F]

Report #: OTML 181011-1 Liner

Submitted by:

E. Kabran

Approved by: Marivel Badilla

2601 E. I-20

Midland, Tx 79706

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C&J Energy Services, Ltd.

Permian Basin Laboratory
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(432) 686-8559

Cement Test Report

File: OTML 181011-1 Liner
Date: July 10, 2018
District: Pecos, TX
Lab Tech: E. Kabran

Client: Chisholm Energy
Well: Cottonwood Fee SWD #1
Rig:
County: Eddy Co

Well Conditions

Casing size: 7.625 "
Job Type: Production Casing
Total MD: 11760 ft
TVD: 11760 ft
BHST: 174 F
BHCT: 139 F
BHP: 6176 psi

Pilot Test

Cement Class:
Cement Vendor:
Density:
Yield:
Total Fresh Water:

Slurry Specs

Class H
GCC
14.5 PPG
1.26 cuft/sk
5.69 gal/sk

Slurry Composition

50:50 PozC:Class H + 5% NACL (BWOW) + 2% Gel + 0.5% O-TX47A + 0.3% O-TX20 + 0.0075 GAL/SK C-41L

Code	Lot Number	Concentration	Function
PozC	Bulk	37 LB/SK	Extender
Class H	Bulk	47 LB/SK	Cement
NACL	21012831	5 %BWOW	Salt
Gel	Bulk	2 %BWOB	Extender
O-TX47A	SH8D21X06	0.5 %BWOB	Fluid Loss
O-TX20	52118	0.3 %BWOB	Retarder
C-41L	NA	0.0075 GAL/SK	Defoamer
Water	fresh water	5.69 GAL/SK	

Fluid Loss

API Fluid Loss 156 [mL/30min]

Thickening Time

Consistency (Bc)	Time*
30 Bc	5:06
50 Bc	5:15
70 Bc	5:20

Compressive Strength

Time (hr)	Strength (psi)	Temp (F)

Rheology

(rpm)	80°F	139 F
300	37	145
200	26.5	125.5
100	15	103
60	10	90.5
30	6	74.5
6	2.15	50
3	1.65	40
10sec Gel strength	1.7	40
10 min Gel Strength	33.7	39
Rheological Model	PV=35.6[cP], YP=2.3 [lb/100ft²]	PV=97.0[cP], YP=61.2 [lb/100ft²]
Bingham Plastic		

Free Water

0 [mL/250mL], 0% in 2 hrs at 139 [F]



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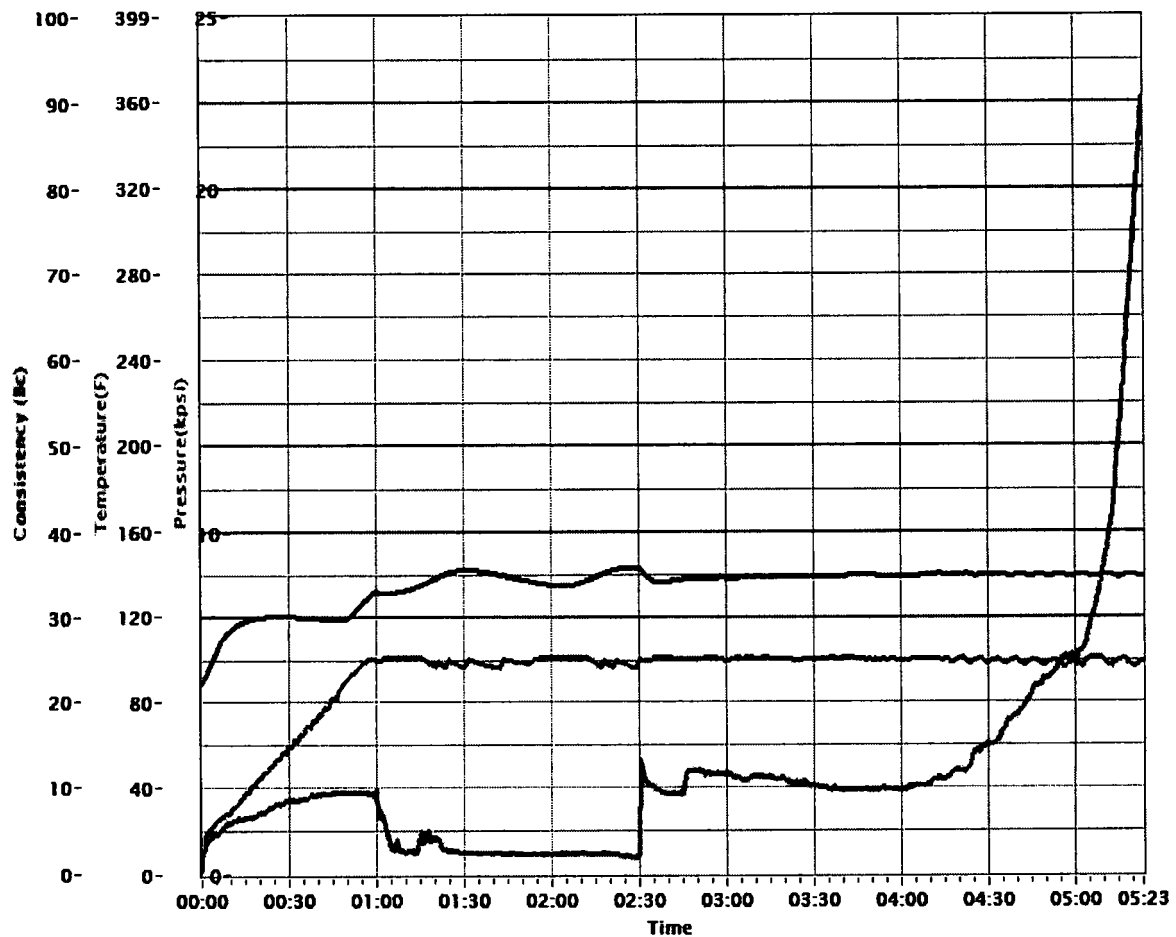
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Well Conditions		Pilot Test	Slurry Specs
Casing size:	7.625 "		
Job Type:	Production Casing	Cement Class:	Class H
Total MD:	11760 ft	Cement Vendor:	GCC
TVD:	11760 ft	Density:	14.5 PPG
BHST:	174 F	Yield:	1.26 cuft/sk
BHCT:	139 F	Total Fresh Water:	5.69 gal/sk
BHP:	6176 psi		





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Comments

All tests conducted according to API RP 10B2.

Ambient rheologies were obtained directly after blending to simulate surface mixability.

Rheologies preconditioned at BHCT on atmospheric consistometer, and tested with an OFITE model 900, R1B1, F1 spring.

Fluid Loss tested on CTE model M622-500 Static FL , SN-FL#999.

Free Water preconditioned at BHCT on atmospheric consistometer and tested at 90 angle.

Thickening Time conducted on CTE model 22-400, SN, 280.

Thickening Time includes 90 minute hesitation beginning at 1:00.

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