



BASICSM
ENERGY SERVICES

BROWN OIL & GAS
MARILEE STATE 11-16
LOGAN, CO
SEC 16, T11N, R54W
20,000 LBS 20/40

Prepared for MARK BROWN
10481 CR 20.5
Sterling, Co 80751
970-520-2651

Prepared by MATTHEW HOFFMAN
970.867.2766

Service Point - Ft Morgan, Colorado
Contact: Jake Cuckow
(970) 867-2766

6/8/2015

6/8/2015

Mark Brown
Brown Oil & Gas
10481 Cr 20.5
Sterling, Co 80751

Thank you for the opportunity to present the following treatment proposal. This recommendation is submitted for your consideration.

Well Data

Casing: 5 1/2 in 15.5 lb/ft, N-80

Tubing: 2.5 in Nom. 2.875 in OD 6.5 lb/ft, J-55

Stage Info	Stage 1
Formation:	D-SAND
Packer/ EOT Depth:	5300
TVD:	
Perf. Top:	5368
Perf. Btm:	5372
SPF:	4
Total Shots:	16
Perf Diam:	0.42
Bht (deg F)	170
Frac Gradient:	0.7

Treatment Summary

Primary Fluid SpGr:	1.01
Treat Via:	Tubing
Primary Fluid Type:	25-35# MavFrac
CO2 (y/n):	No
Estimated Treat psi:	2,990
Estimated Perf Fric (psi):	54
Acid Volume (gls):	500
Total Clean Fluid/Foam (gls):	19,859
Pad Volume (gls):	6,000
SLF Volume (gls):	11,000
Estimated Flush Volume (gls):	1,356
Proppant Volume (lbs):	20,000
Estimated Pump Time (min):	42.6

*NOTE: Total clean fluid/foam volume does not include flush volume.



BASICSM
ENERGY SERVICES

Stage	HCl%/Prop Mesh	gel ppg	Downhole (design)						Surface (calc)				Cumulative			
			Clean Foam/ Clean Fluid gals	Prop Conc ppg		Rate bpm	N2%	CO2%	N2 Rate scfm	CO2 Rate bpm	Slurry Rate bpm	Clean Rate bpm	N2 scf	CO2 Tons	Surf Slurry bbls	Surf Clean bbls
HCL	7.5		500			5.0			-	-	5.0	5.0	-	-	12	12
FLUSH		10	1,000			12.0			-	-	12.0	12.0	-	-	36	36
PAD		25	6,000			12.0			-	-	12.0	12.0	-	-	179	179
SAND	20/40	25	4,000	1.0		12.0			-	-	12.0	11.5	-	-	278	274
SAND	20/40	25	5,000	2.0		12.0			-	-	12.0	11.0	-	-	408	393
SAND	20/40	25	2,000	3.0		12.0			-	-	12.0	10.6	-	-	462	440
FLUSH		10	1,359			12.0			-	-	12.0	12.0	-	-	494	473
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
									-	-	-	-	-	-	-	-
			19,859						<< === Totals === >>				-	-	494	473

[illegible]

BROWN MARILEE sTAGE 11-16 FRAC 20K 060815

FLUID SPECIFICATIONS AND REQUIREMENTS

Tank Requirements:	1	500 bbl tanks	Tank Bottoms:	30	bbl/tank
Fluid1:	25 lb	Gelled Water			17,000 Gallons
Additives:					
RM257	2%	CL-57, Liquid Kcl Replacement			
rm2005	6.25 gpt	GEL-3 LGC, Guar Liquid			
RM107	1 gpt	NE-7, Non-Emulsifier			
RM141	0.07 qpt	BREAKER-503L, Liquid Enzyme Breaker			
RM142	0.3 ppt	GB-3, Oxidative Breaker			
RM323	1 gpt	S-3, Surfactant			
RM581	0.3 gpt	BIO-I, Liquid Biocide			
RM592	2.5 gpt	XLINK B, Borate X-Linker			
Fluid 2:	10 lb	Gelled Water			2,359 Gallons
Additives:					
RM257	2%	CL-57, Liquid Kcl Replacement			
rm2005	2.5 gpt	GEL-3 LGC, Guar Liquid			
RM107	1 gpt	NE-7, Non-Emulsifier			
RM141	0.3 qpt	BREAKER-503L, Liquid Enzyme Breaker			
RM142	0.3 ppt	GB-3, Oxidative Breaker			
RM323	1 gpt	S-3, Surfactant			
RM581	0.3 gpt	BIO-I, Liquid Biocide			

Fluid Required (Not Including Tank Bottoms):	19,359 Gallons
	461 Bbls
Tank Bottoms:	30 Bbls
Total Fluid Required:	491 Bbls

ACID REQUIREMENTS

Acid Requirements:			
Acid 1:	15 %	HCL	500 Gallons
Additives:			
RM610	16 ppt	IC-100, Iron Control	
RM303	6 gpt	Acid Inhib-3, Acid Inhibitor (Moderate Temp)	

CO2 AND N2 REQUIREMENTS

-
-
-
-

PROPPANT REQUIREMENTS

SAND	20/40	Ottawa		20,000 lbs
			Total:	20,000 lbs

REQUIREMENTS AND COST

Products

RM257	CL-57, Liquid Kcl Replacement	39.0	Gal
rm2005	GEL-3 LGC, Guar Liquid	100.0	Gal
RM107	NE-7, Non-Emulsifier	19.0	Gal
RM141	BREAKER-503L, Liquid Enzyme Breaker	2.0	Qt
RM142	GB-3, Oxidative Breaker	6.0	Lb
RM323	S-3, Surfactant	19.0	Gal
RM581	BIO-I, Liquid Biocide	6.0	Gal
RM592	XLINK B, Borate X-Linker	43.0	Gal
RM610	IC-100, Iron Control	8.0	Lb
RM303	Acid Inhib-3, Acid Inhibitor (Moderate Temp)	3.0	Gal
RM7020	SAND, 20/40 White	200.0	Cwt
RM5503	HCL, 7.5%	500.0	gal

Equipment

B122	Hydration Unit	1.0	day
B200	Blender, 0-10 BPM, first 4 hrs.	1.0	ea
E100	Light Equipment Mileage	300.0	mi
E101	Heavy Equipment Mileage	1,050.0	mi
E110	Transport Delivery Charges, per hr (4 hr min.)	4.0	hr
E113	Proppant and Bulk Delivery Charges, per ton mile	1,875.0	tn/mi
E436	2250 HHP Triplex Frac Pump Charge, first 4 hrs.	1.0	ea
E712	Computerized Liquid Chemical Additive Unit (LCA Unit)	1.0	job
P800	20/40 mesh or smaller Prop Pump Charge	200.0	cwt
T101	Treatment Van, (Computerized Data monitoring)	1.0	job
S003	Service Supervisor, first 8 hrs on loc.	2.0	ea
S005	Equipment Operator, first 8 hrs on loc.	8.0	ea

Agreed Price: \$24,236.01

Thank you for the opportunity to present this proposal and cost estimate. I look forward to working with you in the future. If you have any questions or comments, please call me.

Sincerely,

Matthew Hoffman

DISCLAIMER NOTICE

This technical data is presented in good faith, no warranty is given, and BASIC, assumes no liability for recommendations or advice made concerning results to be obtained from the use of any products or service. The prices quoted are only estimates and may vary depending on equipment, materials used, and the work actually performed. Pricing does not include federal, state, and local taxes, or royalties and stated price adjustments. This quotation will remain in effect for 30 days from the date issued unless otherwise stated.