LIBERTY OILFIELD SERVICES

Well Completion Summary

05/10/19

Customer	Customer Name	Petro Operating Company, LLC
	Attention	Andy Peterson
	Remit to Address	950 17th Street, Suite 2400, Denver, CO 80202
Well	Well Name and Number	BEF West 19
	API / AFE	05-001-10209 / BEF 19
Project	Project Description	210°F Niobrara Cemented, Plug & Perf LibertyFR
	LOS Field Ticket Number	122921
Signatories	Customer Representatives	Sean Reece, Eric Koval, Brent Hill and Ibrahim Massoud
	LOS Engineers	David Van Akkeren and Justin Schneider

Well Design		Design Completion Percentage	
Design Clean Job Volume (bbl)	201,809 bbl	Clean Treating Fluid	105.9%
Design Proppant Mass (lb)	7,700,250 lb	Proppant Mass (BOL)	99.2%
Personnel and Time Information		**Personnel and Time Information**	
LOS Crew	Freedom	Pump Time for Prop Frac (min)	2,970 min
Start Pumping Prop Frac hh:mm	5/3/19 11:15	Pump Time Wireline Pumpdown (min)	506 min
End Pumping Prop Frac hh:mm	5/10/19 10:10	LOS Down Time (min)	286 min
Total LOS HorsePower Hours (Mhhp*hr)	660.123 Mhhp*hr	Third-Party Down Time (min)	77 min
Maxima and Averages		**Pressure Analysis**	
Average Treating Pressure (psi)	7,155 psi	Initial ISIP (psi)	psi
Maximum Wellhead Pressure (psi)	8,053 psi	Initial FG (psi/ft)	psi/ft
Average Slurry Rate (bpm)	87.6 bpm	Final ISIP (psi)	4,552 psi
Maximum Wellhead Rate (bpm)	94.4 bpm	Final FG (psi/ft)	1.052 psi/ft
Total Fluid Volumes		**Total Fluid Volumes by Fluid Type**	
Pump Down Volume (bbl)	3,749 bbl	SlickWater Volume	128,717 bbl
Total Clean Volume (bbl)	213,414 bbl	Treated Water Volume	3,749 bbl
Total Slurry Volume (bbl)	223,657 bbl	Fresh Water Volume	571 bbl
		HCL-15 Volume	548 bbl
		HCFR Volume	79,830 bbl
Chemicals Billed for Total Job		**Total Proppant Pumped (BOL Weight)**	
LIBERTY CLEAN OUT FLUID G		100 MESH	1,531,750 lb
HCl-28 (28% HCl Acid)	11,592 gal	WHITE SAND 40/70	6,108,810 lb
ACI-97 (GREEN ACID INHIBITOR)	46 gal	PROPPANT HANDLING & STORAGE	7,640,560 lb
ASF-67 (ACID NE)	46 gal		
BIOSUITE GQ 123X (Biocide)	1,331 gal		
SCALECEASE 7102	1,750 gal		
CLAYBRAKE 1000 (Clay Stabilizer)	8,962 gal		
SURFFLO 420 (Surfactant)	13,068 gal		
HIRATE PLUS 1200 (Friction Reducer)	13,489 gal		
GELBRAKE 100 (Breaker)	1,055 gal		
Chemicals Billed on Stages		**Chemicals Billed on PumpDown**	
HCL-28 Volume For Frac Use	11,592 gal		
CLAYBRAKE 1000 Volume For Frac Use	8,813 gal	CLAYBRAKE 1000 Volume for Pump Down	149 gal
SURFFLO 420 Volume For Frac Use	13,068 gal		
BIOSUITE GQ 123X Volume For Frac Use	1,306 gal	BIOSUITE GQ 123X Volume for Pump Down	25 gal
SCALECEASE 7102 Volume For Frac Use	1,718 gal	SCALECEASE 7102 Volume for Pump Down	32 gal
GELBRAKE 100 Volume For Frac Use	1,055 lbs		
ACI-97 Volume For Frac Use	46 gal		
ASF-67 Volume For Frac Use	46 gal		
HIRATE PLUS 1200 Volume For Frac Use	13,489 gal		

LIBERTY OILFIELD SERVICES

Wellbore Summary

Interval #	Perforation Depths			Perforation Volume			Perforation Volume			Volume @ Ball Hit	Plug Volume Early/Late	Pressure Before Ball Hit	Peak Pressure @ Ball Hit	Differential Pressure	Stabilized Pressure
	Top (ft)	Bottom (ft)	Plug (ft)	Top (gal)	Bottom (gal)	Plug (gal)	Top (bbl)	Bottom (bbl)	Plug (bbl)	(bbl)	(bbl)	(psi)	(psi)	(psi)	(psi)
1	11,955	12,118	12,128	11,135	11,287	11,296	265.1	268.7	269.0	260.1	-8.9	4,704	4,739	35	4,735
2	11,773	11,935	11,945	10,965	11,117	11,126	261.1	264.7	264.9	256.3	-8.6	4,943	5,504	561	5,427
3	11,590	11,753	11,763	10,795	10,947	10,956	257.0	260.6	260.9	260.0	-0.9	4,881	4,950	69	4,945
4	11,408	11,570	11,580	10,625	10,777	10,786	253.0	256.6	256.8	249.0	-7.8	5,045	5,989	944	5,855
5	11,225	11,388	11,398	10,455	10,607	10,616	248.9	252.5	252.8	238.0	-14.8	5,159	5,923	764	5,867
6	11,043	11,205	11,215	10,285	10,437	10,446	244.9	248.5	248.7						
7	10,860	11,023	11,033	10,115	10,267	10,276	240.8	244.4	244.7						
8	10,678	10,840	10,850	9,945	10,097	10,106	236.8	240.4	240.6						
9	10,495	10,658	10,668	9,775	9,927	9,936	232.7	236.3	236.6						
10	10,313	10,475	10,485	9,605	9,757	9,766	228.7	232.3	232.5						
11	10,130	10,293	10,303	9,435	9,587	9,596	224.7	228.3	228.5						
12	9,948	10,110	10,120	9,265	9,417	9,426	220.6	224.2	224.4						
13	9,765	9,928	9,938	9,095	9,247	9,256	216.6	220.2	220.4						
14	9,583	9,745	9,755	8,925	9,077	9,086	212.5	216.1	216.3						
15	9,400	9,563	9,573	8,755	8,907	8,916	208.5	212.1	212.3						
16	9,218	9,380	9,390	8,585	8,737	8,746	204.4	208.0	208.2						
17	9,035	9,198	9,208	8,415	8,567	8,576	200.4	204.0	204.2						
18	8,853	9,015	9,025	8,245	8,397	8,406	196.3	199.9	200.1						
19	8,670	8,833	8,843	8,075	8,227	8,236	192.3	195.9	196.1						
20	8,488	8,650	8,660	7,905	8,057	8,066	188.2	191.8	192.0						
21	8,305	8,468	8,478	7,735	7,887	7,896	184.2	187.8	188.0						
22	8,123	8,285	8,295	7,565	7,717	7,726	180.1	183.7	184.0						
23	7,940	8,103	8,113	7,395	7,547	7,556	176.1	179.7	179.9						

Min	7,940	8,103	8,113	7,395	7,547	7,556	176.1	179.7	179.9	238.0	-14.8	4,704	4,739	35	4,735
Max	11,955	12,118	12,128	11,135	11,287	11,296	265.1	268.7	269.0	260.1	-0.9	5,159	5,989	944	5,867
Average											-8.2	4,946	5,421	475	5,366

LIBERTY OILFIELD SERVICES

Stage Summary

INTERVAL #	FLUID VOLUMES							PROPPANT MASSES				PROPPANT MASSES				Time
	SlickWater Vol	Treated Water Vol	Fresh Water Vol	HCL-15 Vol	HCFR Vol	TOTAL FLUID	Design vs. Actual Fluid	100 Mesh Actual Weight	40/70 White Actual Weight	TOTAL PROP	Design vs. Actual Proppant	100 Mesh Screw	40/70 White Screw	TOTAL PROP	Design vs. Screw Proppant	Frac Pump Time
	(BBL)	(BBL)	(BBL)	(BBL)	(BBL)	(BBL)	(% Complete)	(LBS)	(LBS)	(LBS)	(% Complete)	(LBS)	(LBS)	(LBS)	(% Complete)	(MIN)
1	7,172	319	20	24	2,462	9,996	97%	66,700	266,320	333,020	100%	66,407	266,381	332,788	100%	137
2	8,462	249	18	24	1,614	10,367	106%	66,600	266,460	333,060	100%	67,110	265,920	333,030	100%	134
3	8,560	248	37	24	1,200	10,069	103%	66,550	266,440	332,990	100%	66,934	266,274	333,209	100%	133
4	7,068	237	32	24	2,824	10,185	104%	66,650	262,370	329,020	99%	66,853	263,085	329,938	99%	148
5	2,438	229	31	24	7,483	10,205	105%	66,530	266,430	332,960	100%	66,645	263,528	330,173	99%	139
6	6,624	209	21	24	2,102	8,980	101%	67,100	268,960	336,060	101%	66,451	269,571	336,022	101%	123
7	5,935	211	25	24	2,953	9,148	103%	66,590	266,490	333,080	100%	66,010	267,281	333,290	100%	128
8	5,944	200	31	24	3,263	9,461	107%	66,490	266,600	333,090	100%	65,812	267,308	333,120	100%	125
9	5,024	184	20	24	3,669	8,920	101%	66,470	266,410	332,880	100%	66,335	267,387	333,722	100%	115
10	5,883	188	23	24	2,904	9,022	102%	66,500	266,680	333,180	100%	66,040	267,388	333,428	100%	135
11	5,160	185	23	24	4,781	10,173	115%	66,690	266,690	333,380	100%	66,038	269,113	335,151	101%	152
12	5,001	164	46	24	4,135	9,370	113%	66,810	266,310	333,120	100%	64,989	269,148	334,137	100%	131
13	5,105	145	16	24	3,706	8,995	108%	66,720	266,540	333,260	100%	66,248	267,194	333,442	100%	123
14	4,942	124	22	24	3,461	8,573	103%	66,580	266,400	332,980	100%	68,370	266,127	334,498	100%	117
15	6,393	144	25	24	2,997	9,582	116%	66,460	255,840	322,300	97%	66,904	255,246	322,150	97%	138
16	6,340	123	39	24	1,772	8,298	100%	66,330	259,360	325,690	98%	65,777	261,010	326,787	98%	113
17	5,004	104	20	24	3,449	8,601	104%	65,990	266,370	332,360	100%	66,004	270,389	336,393	101%	118
18	5,057	116	10	24	3,573	8,780	106%	66,780	266,270	333,050	100%	66,049	269,098	335,147	101%	120
19	6,037	98	25	24	4,006	10,190	124%	66,960	266,340	333,300	100%	66,608	267,212	333,820	100%	137
20	4,918	87	23	24	3,454	8,505	103%	66,600	266,290	332,890	100%	66,603	267,437	334,040	100%	124
21	2,516	74	30	24	5,716	8,359	101%	66,610	266,140	332,750	100%	67,146	266,355	333,501	100%	119
22	2,735	58	26	24	6,492	9,334	113%	66,440	266,600	333,040	100%	66,611	267,180	333,790	100%	134
23	6,399	53	8	24	1,817	8,301	97%	66,600	266,500	333,100	89%	66,609	266,684	333,293	89%	127
Min	2,438	53	8	24	1,200	8,298	97%	65,990	255,840	322,300	89%	64,989	255,246	322,150	89%	113
Max	8,560	319	46	24	7,483	10,367	124%	67,100	268,960	336,060	101%	68,370	270,389	336,393	101%	152
Average	5,596	163	25	24	3,471	9,279	106%	66,598	265,600	332,198	99%	66,459	266,362	332,820	99%	129.1
Totals	128,717	3,749	571	548	79,830	213,414		1,531,750	6,108,810	7,640,560		1,528,553	6,126,316	7,654,869		2,970

*Detailed proppant BOL's are available upon request.

LIBERTY OILFIELD SERVICES

Pumpdown Summary

Interval #	Wireline Company	Pumpdown Company	# of PumpDown Pumps	Start Pump Time	End Pump Time	Total Time (min)	Max Rate (bpm)	Max Pressure (psi)	Clean Fluid (bbl)	Total Fluid (bbl)	# of Perfs / Ports	Perf. Diam. (in)
1	Reliance	LOS	2	5/3/19 8:03	5/3/19 8:57	54	18.0	5,650	319	319	36	0.35
2	Reliance	LOS	2	5/3/19 14:58	5/3/19 15:16	18	18.0	5,100	249	249	36	0.35
3	Reliance	LOS	2	5/3/19 21:50	5/3/19 22:13	23	18.0	5,120	248	248	36	0.35
4	Reliance	LOS	2	5/4/19 5:09	5/4/19 5:28	19	18.0	5,100	237	237	36	0.35
5	Reliance	LOS	2	5/4/19 12:58	5/4/19 13:16	18	18.0	5,200	229	229	36	0.35
6	Reliance	LOS	2	5/4/19 20:58	5/4/19 21:16	18	18.0	4,960	209	209	36	0.35
7	Reliance	LOS	2	5/5/19 3:11	5/5/19 3:53	42	18.0	5,320	211	211	36	0.35
8	Reliance	LOS	2	5/5/19 11:33	5/5/19 11:50	17	18.0	5,100	200	200	36	0.35
9	Reliance	LOS	2	5/5/19 19:19	5/5/19 19:37	18	18.0	5,060	184	184	36	0.35
10	Reliance	LOS	2	5/6/19 1:04	5/6/19 1:24	20	18.0	5,220	188	188	36	0.35
11	Reliance	LOS	2	5/6/19 8:18	5/6/19 8:37	19	18.0	5,300	185	185	36	0.35
12	Reliance	LOS	2	5/6/19 21:25	5/6/19 22:04	39	18.0	5,270	164	164	36	0.35
13	Reliance	LOS	2	5/7/19 6:29	5/7/19 7:06	37	18.0	5,150	145	145	36	0.35
14	Reliance	LOS	2	5/7/19 13:30	5/7/19 13:44	14	18.0	5,200	124	124	36	0.35
15	Reliance	LOS	2	5/7/19 19:31	5/7/19 19:52	21	18.0	8,086	144	144	36	0.35
16	Reliance	LOS	2	5/8/19 4:17	5/8/19 4:32	15	18.0	7,082	123	123	36	0.35
17	Reliance	LOS	2	5/8/19 11:40	5/8/19 11:56	16	18.0	5,200	104	104	36	0.35
18	Reliance	LOS	2	5/8/19 20:06	5/8/19 20:20	14	18.0	6,140	116	116	36	0.35
19	Reliance	LOS	2	5/9/19 3:20	5/9/19 3:55	35	18.0	5,260	98	98	36	0.35
20	Reliance	LOS	2	5/9/19 11:40	5/9/19 11:55	15	18.0	5,500	87	87	36	0.35
21	Reliance	LOS	2	5/9/19 19:15	5/9/19 19:28	13	18.0	5,060	74	74	36	0.35
22	Reliance	LOS	2	5/10/19 0:02	5/10/19 0:13	11	17.0	4,950	58	58	36	0.35
23	Reliance	LOS	2	5/10/19 6:08	5/10/19 6:18	10	15.0	4,900	53	53	36	0.35

Min		2	5/3/19 8:03	5/3/19 8:57	10	15.0	4,900	53	53	36	0.35
Max		2	5/10/19 6:08	5/10/19 6:18	54	18.0	8,086	319	319	36	0.35
Average						17.8	5,432	163	163	36	0.35
Totals					506			3,749	3,749	828	