



Do It Once
Do It Right

10-Stage 4-1/2" StackFRAC® HD
Mr. Brad Crouch
2/22/2012



StackFRAC® HD

Multi-Stage Fracturing System from



Do It Once
Do It Right

Prepared for:
Tres Management for CMX
Mr. Brad Crouch

Socrates 1H
Rice County, KS

10-Stage 4-1/2" StackFRAC® HD
Completion
4-1/2" 11.60# P-110 LTC



Do It Once.
Do It Right.

Confidential Information - not to be disclosed outside
Tres Management / CMX

Completion
FINAL

Prepared for		Company		Date				
Mr. Brad Crouch		Tres Management for CMX		5-Feb-12				
Well Name		Type of Installation		Location				
Socrates XX-XH		10-Stage 4-1/2" StackFRAC® HD		Rice County, KS				
Depth	Drawing	Description	OD (in)	ID (in)	Length			
7" shoe is set at 3749'			<div style="text-align: right; font-weight: bold; font-size: 1.2em;">Page 1</div>					
KOP @ 2842'		High Pressure Packoff assembly _____' MD						
Packer @ 2898'								
Stage 5		4-1/2" 11.60# N-80 LTC LINER JOINTS: 4				4.500"	4.000"	175.82'
3082'		11 Packers Plus 4-1/2" Drillable FracPORT® with 2.750" Seat for 2.875" High Pressure Ball				5.630"	2.750"	2.65'
48bbbs		(6 shear pins @ 315 psi each for 1,890 psi opening pressure) PN: 121332-000017 SN: EA1021679					3.81"	
		4-1/2" 11.60# N-80 LTC LINER JOINTS: 4				4.500"	4.000"	171.93'
		6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743				4.500"	4.000"	
3263'		10 Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer				5.75"	3.875"	14.41'
		(6 pins @ 324 psi each for 1,944 psi setting) PN: 121381-000001 SN: EA3015384						
		3' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106982-000001 w/ Centralizer PN: 104743				4.500"	4.000"	
Stage 4		4-1/2" 11.60# N-80 LTC LINER JOINTS: 4				4.500"	4.000"	176.00'
3447'		9 Packers Plus 4-1/2" Drillable FracPORT® with 2.625" Seat for 2.750" High Pressure Ball				5.630"	2.625"	2.65'
53bbbs		(6 shear pins @ 315 psi each for 1,890 psi opening pressure) PN: 121332-000016 SN: EA1021648					3.81"	
		4-1/2" 11.60# N-80 LTC LINER JOINTS: 4				4.500"	4.000"	177.05'
3633'		6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743				4.500"	4.000"	
		8 Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer				5.75"	3.750"	14.42'
		(6 pins @ 324 psi each for 1,944 psi setting) PN: 102188-000003 SN: EA3015377						
		3' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106982-000001 w/ Centralizer PN: 104743				4.500"	4.000"	
7" shoe 3749'		4-1/2" 11.60# N-80 LTC LINER JOINTS: 4				4.500"	4.000"	176.75'
tools in open hole								
Stage 3		7 Packers Plus 4-1/2" Drillable FracPORT® with 2.500" Seat for 2.625" High Pressure Ball	5.630"	2.500"	2.65'			
3818'		(6 shear pins @ 315 psi each for 1,890 psi opening pressure) PN: 121332-000015 SN: EA1003023		3.81"				
59bbbs		4-1/2" 11.60# N-80 LTC LINER JOINTS: 4	4.500"	4.000"	176.80'			
		6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743	4.500"	4.000"				
4004'		6 Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer	5.75"	3.750"	14.42'			
		(6 pins @ 324 psi each for 1,944 psi setting) PN: 102188-000003 SN: EA3015529						
		3' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106982-000001 w/ Centralizer PN: 104743	4.500"	4.000"				
Stage 2		4-1/2" 11.60# N-80 LTC LINER JOINTS: 5	4.500"	4.000"	220.06'			
4232'		5 Packers Plus 4-1/2" Drillable FracPORT® with 2.375" Seat for 2.500" High Pressure Ball	5.630"	2.375"	2.65'			
66bbbs		(6 shear pins @ 315 psi each for 1,890 psi opening pressure) PN: 121332-000014 SN: EA1021570		3.81"				
		4-1/2" 11.60# N-80 LTC LINER JOINTS: 5	4.500"	4.000"	221.13'			
4462'		6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743	4.500"	4.000"				
		4 Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer	5.75"	3.875"	14.45'			
		(6 pins @ 324 psi each for 1,944 psi setting) PN: 121381-000001 SN: EA3015528						
		3' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106982-000001 w/ Centralizer PN: 104743	4.500"	4.000"				
4565'		4-1/2" 11.60# N-80 LTC LINER JOINTS: 2	4.500"	4.000"	88.33'			
		6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743	4.500"	4.000"				
		3 Packers Plus 7" x 4-1/2" RockSEAL® IIS 10K Hydraulic Set Anchor Packer	5.75"	3.750"	16.38'			
		(6 shear pins at 324 psi each: 1,944 psi setting pressure) PN: 102428-000002 SN: EM0053333						
		3' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106982-000001 w/ Centralizer PN: 104743	4.500"	4.000"				
Stage 1		4-1/2" 11.60# N-80 LTC LINER JOINTS: 2	4.500"	4.000"	88.41'			
4669'		2 6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743	4.500"	4.000"				
72bbbs		1 Packers Plus 4-1/2" Dual Hydraulic FracPORT® PN: 121288-000001 SN: EA1020689	5.630"	3.750"	13.58'			
		(11 pins at 391 psi each: 4,301 psi Upper) / (7 pins at 630 psi each: 4,410 psi Lower)						
		3' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106982-000001 w/ Centralizer PN: 104743	4.500"	4.000"				
		4-1/2" 11.60# N-80 LTC LINER JOINTS: 1	4.500"	4.000"	44.19'			
Toe Sub		1 6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013	4.500"	4.000				
4727'		1 Packers Plus 4-1/2" Toe Circulating Sub w/ 1.00" Seat for 1.25" High Pressure Ball	5.500"	NA	18.44'			
73bbbs		(3 pins at 366 psi each: 1,098 psi closing pressure) PN: 104818-000002 SN:EA1019638						
		4-1/2" LTC Single Valve Float Collar PN: 104733-000001	5.000"	NA				
		6' x 4-1/2" 11.6# P-110 LTC Pup Joint PN: 106986-000013 w/ Centralizer PN: 104743	4.500"	4.000"				
		4-1/2" LTC Single Valve Float Collar PN: 104733-000001	5.000"	NA				
GS 4740'		4-1/2" LTC Guide Shoe PN: 121704-000001	5.500"	2.250"				
Service Center	Telephone	Contact	Telephone					
Conway, AR	501-327-0241	Gary Leber	Chad Williams 405-255-3223					

PACKERS PLUS - PACKER PLACEMENT

Socrates 1H					
Item	Description	Length	Landed @	Accumulated	Proposed
			Actual MD		
			4740.00		
	GS	0.75	4739.25	0.75	
	FC	1.34	4737.91	2.09	
	pup	6.15	4731.76	8.24	
	FC	1.33	4730.43	9.57	
	TOE SUB	2.73	4727.70	12.30	
	pup	6.14	4721.56	18.44	
1	4 1/2" 11.6ppf N-80 LTC	44.19	4677.37	62.63	
	pup	3.10	4674.27	65.73	
	DHY	4.33	4669.94	70.06	
	pup	6.15	4663.79	76.21	
2	4 1/2" 11.6ppf N-80 LTC	44.19	4619.60	120.40	
3	4 1/2" 11.6ppf N-80 LTC	44.22	4575.38	164.62	
	pup	3.08	4572.30	167.70	
	RSIIS	7.18	4565.12	174.88	
	pup	6.12	4559.00	181.00	
4	4 1/2" 11.6ppf N-80 LTC	44.13	4514.87	225.13	
5	4 1/2" 11.6ppf N-80 LTC	44.20	4470.67	269.33	
	pup	3.10	4467.57	272.43	
	RSII	5.23	4462.34	277.66	
	pup	6.12	4456.22	283.78	
6	4 1/2" 11.6ppf N-80 LTC	44.24	4411.98	328.02	
7	4 1/2" 11.6ppf N-80 LTC	44.23	4367.75	372.25	
8	4 1/2" 11.6ppf N-80 LTC	44.22	4323.53	416.47	
9	4 1/2" 11.6ppf N-80 LTC	44.22	4279.31	460.69	
10	4 1/2" 11.6ppf N-80 LTC	44.22	4235.09	504.91	
	2.375 FRAC PORT	2.65	4232.44	507.56	
11	4 1/2" 11.6ppf N-80 LTC	43.73	4188.71	551.29	
12	4 1/2" 11.6ppf N-80 LTC	44.20	4144.51	595.49	
13	4 1/2" 11.6ppf N-80 LTC	44.22	4100.29	639.71	
14	4 1/2" 11.6ppf N-80 LTC	43.72	4056.57	683.43	
15	4 1/2" 11.6ppf N-80 LTC	44.19	4012.38	727.62	
	pup	3.09	4009.29	730.71	
	RSII	5.22	4004.07	735.93	
	pup	6.11	3997.96	742.04	
16	4 1/2" 11.6ppf N-80 LTC	44.22	3953.74	786.26	
17	4 1/2" 11.6ppf N-80 LTC	44.21	3909.53	830.47	
18	4 1/2" 11.6ppf N-80 LTC	44.21	3865.32	874.68	
19	4 1/2" 11.6ppf N-80 LTC	44.16	3821.16	918.84	
	2.50 FRAC PORT	2.65	3818.51	921.49	open hole
20	4 1/2" 11.6ppf N-80 LTC	44.12	3774.39	965.61	
21	4 1/2" 11.6ppf N-80 LTC	44.22	3730.17	1009.83	
22	4 1/2" 11.6ppf N-80 LTC	44.20	3685.97	1054.03	
23	4 1/2" 11.6ppf N-80 LTC	44.21	3641.76	1098.24	
	pup	3.09	3638.67	1101.33	

PACKERS PLUS - PACKER PLACEMENT

	RSII	5.23	3633.44	1106.56	
	pup	6.10	3627.34	1112.66	
24	4 1/2" 11.6ppf N-80 LTC	44.21	3583.13	1156.87	
25	4 1/2" 11.6ppf N-80 LTC	44.22	3538.91	1201.09	
26	4 1/2" 11.6ppf N-80 LTC	44.14	3494.77	1245.23	
27	4 1/2" 11.6ppf N-80 LTC	44.48	3450.29	1289.71	
	2.625 FRAC PORT	2.65	3447.64	1292.36	
28	4 1/2" 11.6ppf N-80 LTC	44.21	3403.43	1336.57	
29	4 1/2" 11.6ppf N-80 LTC	44.22	3359.21	1380.79	
30	4 1/2" 11.6ppf N-80 LTC	44.24	3314.97	1425.03	
31	4 1/2" 11.6ppf N-80 LTC	43.33	3271.64	1468.36	
	pup	3.09	3268.55	1471.45	
	RSII	5.23	3263.32	1476.68	
	pup	6.09	3257.23	1482.77	
32	4 1/2" 11.6ppf N-80 LTC	41.02	3216.21	1523.79	
33	4 1/2" 11.6ppf N-80 LTC	43.45	3172.76	1567.24	
34	4 1/2" 11.6ppf N-80 LTC	43.28	3129.48	1610.52	
35	4 1/2" 11.6ppf N-80 LTC	44.18	3085.30	1654.70	
	2.75 FRAC PORT	2.65	3082.65	1657.35	
36	4 1/2" 11.6ppf N-80 LTC	43.20	3039.45	1700.55	
37	4 1/2" 11.6ppf N-80 LTC	44.23	2995.22	1744.78	
38	4 1/2" 11.6ppf N-80 LTC	44.20	2951.02	1788.98	
39	4 1/2" 11.6ppf N-80 LTC	44.19	2906.83	1833.17	
	pup	3.09	2903.74	1836.26	
	RSII	5.23	2898.51	1841.49	
	pup	6.10	2892.41	1847.59	
40	4 1/2" 11.6ppf N-80 LTC	43.24	2849.17	1890.83	
41	4 1/2" 11.6ppf N-80 LTC	44.18	2804.99	1935.01	
42	4 1/2" 11.6ppf N-80 LTC	43.66	2761.33	1978.67	
43	4 1/2" 11.6ppf N-80 LTC	44.22	2717.11	2022.89	
	2.875 FRAC PORT	2.65	2714.46	2025.54	these tools
44	4 1/2" 11.6ppf N-80 LTC	44.22	2670.24	2069.76	were
45	4 1/2" 11.6ppf N-80 LTC	44.20	2626.04	2113.96	removed
46	4 1/2" 11.6ppf N-80 LTC	44.20	2581.84	2158.16	from well
47	4 1/2" 11.6ppf N-80 LTC	44.16	2537.68	2202.32	
	pup	3.08	2534.60	2205.40	
	RSII	5.23	2529.37	2210.63	
	pup	6.11	2523.26	2216.74	
48	4 1/2" 11.6ppf N-80 LTC	44.22	2479.04	2260.96	
49	4 1/2" 11.6ppf N-80 LTC	44.19	2434.85	2305.15	
	3.00 FRAC PORT	2.65	2432.20	2307.80	
50	4 1/2" 11.6ppf N-80 LTC	44.20	2388.00	2352.00	
51	4 1/2" 11.6ppf N-80 LTC	43.08	2344.92	2395.08	
52	4 1/2" 11.6ppf N-80 LTC	43.10	2301.82	2438.18	
	pup	3.11	2298.71	2441.29	
	RSII	5.22	2293.49	2446.51	
	pup	6.11	2287.38	2452.62	
53	4 1/2" 11.6ppf N-80 LTC	44.22	2243.16	2496.84	

PACKERS PLUS - PACKER PLACEMENT

54	4 1/2" 11.6ppf N-80 LTC	44.22	2198.94	2541.06	
55	4 1/2" 11.6ppf N-80 LTC	44.17	2154.77	2585.23	
56	4 1/2" 11.6ppf N-80 LTC	42.91	2111.86	2628.14	
	3.125 FRAC PORT	2.65	2109.21	2630.79	
57	4 1/2" 11.6ppf N-80 LTC	44.18	2065.03	2674.97	
58	4 1/2" 11.6ppf N-80 LTC	43.38	2021.65	2718.35	
59	4 1/2" 11.6ppf N-80 LTC	44.20	1977.45	2762.55	
	pup	3.08	1974.37	2765.63	
	RSII	5.23	1969.14	2770.86	
	pup	6.14	1963.00	2777.00	
60	4 1/2" 11.6ppf N-80 LTC	44.18	1918.82	2821.18	
61	4 1/2" 11.6ppf N-80 LTC	44.21	1874.61	2865.39	
62	4 1/2" 11.6ppf N-80 LTC	44.18	1830.43	2909.57	
63	4 1/2" 11.6ppf N-80 LTC	42.68	1787.75	2952.25	
	3.250 FRAC PORT	2.65	1785.10	2954.90	
64	4 1/2" 11.6ppf N-80 LTC	44.14	1740.96	2999.04	
65	4 1/2" 11.6ppf N-80 LTC	44.18	1696.78	3043.22	
66	4 1/2" 11.6ppf N-80 LTC	44.21	1652.57	3087.43	
67	4 1/2" 11.6ppf N-80 LTC	44.32	1608.25	3131.75	
	pup	3.07	1605.18	3134.82	
	RSII	5.24	1599.94	3140.06	
	pup	6.13	1593.81	3146.19	
68	4 1/2" 11.6ppf N-80 LTC	43.94	1549.87	3190.13	
69	4 1/2" 11.6ppf N-80 LTC	43.06	1506.81	3233.19	
70	4 1/2" 11.6ppf N-80 LTC	44.20	1462.61	3277.39	
71	4 1/2" 11.6ppf N-80 LTC	44.21	1418.40	3321.60	
72	4 1/2" 11.6ppf N-80 LTC	44.20	1374.20	3365.80	
	3.375 FRAC PORT	2.65	1371.55	3368.45	
73	4 1/2" 11.6ppf N-80 LTC	44.10	1327.45	3412.55	
74	4 1/2" 11.6ppf N-80 LTC	44.19	1283.26	3456.74	
75	4 1/2" 11.6ppf N-80 LTC	44.22	1239.04	3500.96	
76	4 1/2" 11.6ppf N-80 LTC	42.05	1196.99	3543.01	
77	4 1/2" 11.6ppf N-80 LTC	42.94	1154.05	3585.95	
78	4 1/2" 11.6ppf N-80 LTC	41.93	1112.12	3627.88	
79	4 1/2" 11.6ppf N-80 LTC	44.15	1067.97	3672.03	
80	4 1/2" 11.6ppf N-80 LTC	43.18	1024.79	3715.21	
81	4 1/2" 11.6ppf N-80 LTC	44.16	980.63	3759.37	
	pup	3.07	977.56	3762.44	
	RSII	5.24	972.32	3767.68	
	pup	6.15	966.17	3773.83	
82	4 1/2" 11.6ppf N-80 LTC	44.22	921.95	3818.05	
83	4 1/2" 11.6ppf N-80 LTC	44.21	877.74	3862.26	
84	4 1/2" 11.6ppf N-80 LTC	44.18	833.56	3906.44	
85	4 1/2" 11.6ppf N-80 LTC	44.23	789.33	3950.67	
	PUP	3.09	786.24	3953.76	
	BOTTOM CONN.	1.01	785.23	3954.77	
	SF HANGER	2.52	782.71	3957.29	
	LOWER SETTING SLEEVE	2.82	779.89	3960.11	

PACKERS PLUS - PACKER PLACEMENT

	UPPER SETTING SLEEVE	1.64	778.25	3961.75	
	HYD SETTING TOOL	2.84	775.41	3964.59	
	TOP CONN.	1.04	774.37	3965.63	
	HANDLING SUB	5.01	769.36	3970.64	
1	DP	95.40	673.96	4066.04	
2		94.03	579.93	4160.07	
3		95.36	484.57	4255.43	
4		95.26	389.31	4350.69	
5		94.95	294.36	4445.64	
6		95.18	199.18	4540.82	
7		94.98	104.20	4635.80	
8		95.15	9.05	4730.95	
9		95.10	-86.05	4826.05	
10	DP	95.10	-181.15	4921.15	
11	HW DP	92.35	-273.50	5013.50	
12		94.17	-367.67	5107.67	
13		91.66	-459.33	5199.33	
14		92.79	-552.12	5292.12	
15		93.46	-645.58	5385.58	
16		93.40	-738.98	5478.98	
17		92.88	-831.86	5571.86	
18		92.83	-924.69	5664.69	
19		93.42	-1018.11	5758.11	
20		93.10	-1111.21	5851.21	
21		92.94	-1204.15	5944.15	
22		91.23	-1295.38	6035.38	
23		93.46	-1388.84	6128.84	
24		91.85	-1480.69	6220.69	
25		93.45	-1574.14	6314.14	
26		93.44	-1667.58	6407.58	
27		93.41	-1760.99	6500.99	
28	HW DP	93.45	-1854.44	6594.44	
29	DP	95.12	-1949.56	6689.56	
30		94.97	-2044.53	6784.53	
31		95.05	-2139.58	6879.58	
32		95.28	-2234.86	6974.86	
33		95.22	-2330.08	7070.08	
34		95.20	-2425.28	7165.28	
35		95.03	-2520.31	7260.31	
36		95.18	-2615.49	7355.49	
37		95.22	-2710.71	7450.71	
38		95.17	-2805.88	7545.88	
39	DP	95.02	-2900.90	7640.90	
86		31.74	-2932.64	7672.64	



Do It Once
Do It Right

Job Record

Operator:	CMX	Base Point:	Conway
Company Rep:	Ed Gladden	Packers Plus Rep:	Gary Goodman/Brad Kelley
Well Name:	Socrates 1-H	Date Started:	1/17/2012
Ticket Number:	SOU004046	Date Completed:	2/5/2012
County/State:	Rice Co, Kansas	Type of Job:	StackFrac HD
Field	N/A	Formation	Mississippi
Rig Name	Duke 20	Well API #	N/A

DETAIL THE JOB - THIS FORM USED TO REPORT WHAT ACTUALLY TOOK PLACE - FILL OUT COMPLETELY

General Well Information				Stages			
Well Profile	Open Hole Horizontal			Number of Stages	3		
Depth TVD	3,770	Feet		Packers Set At			
Depth MD	7,950	Feet	MD to Packer 1	3377			
			Packer 1 to Packer 2	453.05			
			Packer 2 to Packer 3	365.4			
Lateral Length	4,201	Feet					
KOP	2,842	Feet					
Hole Size	6.125	Inch					
BHP	1,634	PSI					
BHT	98	°F					
Reamer run?	Yes	Size	6.00"				
Build Rate	10/100	°/100 FT					
Max Dog Leg	8	°/100 FT					
Angle of Perma Plus	0	°					
Planned Depth Guide Shoe	7650	Feet					
Actual Depth Guide Shoe	4740	Feet					
Distance Off		Feet					
			Average Stage Length	1398.483333		Feet	

WORK STRING INFORMATION

Casing	Weight	Thread	ID	Capacity	Grade	Shoe	
7	26	lrc	6	0.038263237	J55	3749	
				0			
Drill Pipe	Weight	Thread	ID	Capacity	Grade	Length	Torque
3.5	13.3	IF	2.725	0.007213547	S135	2010.32	1,500
Heavy Weight	Weight	Thread	ID	Capacity	Grade	Length	Torque
3.5	26	IF	2.125	0.004386657	S135	1673.29	1,500
Drill Collar	Weight	Thread	ID	Capacity	Grade	Length	Torque
0	0	.	0	0	0	0	0
Liner	Weight	Thread	ID	Capacity	Grade	Length	Torque
4.5	11.6	LTC	4	0.015543035	N80	3957.29	2280
Well Data						Open Hole	
MD	TVD	KOP	Shoe	Bottom of curve @90	Lateral	Size	Capacity
	3770	2842	7650'	3749'	4201	6.125	0.03644417 bbl/ft

FLUIDS

Mud Weight	Mud Type	Fill Fluid	Fill Weight	LCM (if yes-amount- ppg)	Viscosity		
8.35	water base	water base	8.35	0	0		
Fluid Level in Annulus	PUMP	Elevator					
Start	TYPE	Top Drive	Kelly	Weight			
Change	full	MK1000	73	0.075	0	X	12k

AS RUN IN HOLE WEIGHTS

Liner	Push Pipe	H.W.D.P.	D.P.
Air	Mud	Air	Mud
0	8	0	8
Calculated Neutral Weight Including Blocks:		Weight When Released From SF Liner Hanger:	
0		0	
		Pipe Stretch in Inches Before Releasing:	
		0	

Setting Tool Part Number	108720-000001	Frac Port Part Number	121332-000015
Elastomer / Metallurgy		Elastomer / Metallurgy	
Packer Part Number	121381-000001	Other Part No.	
Elastomer / Metallurgy	HSN	Elastomer / Metallurgy	
FTR	NONE	Problem on Job	

Notes: