

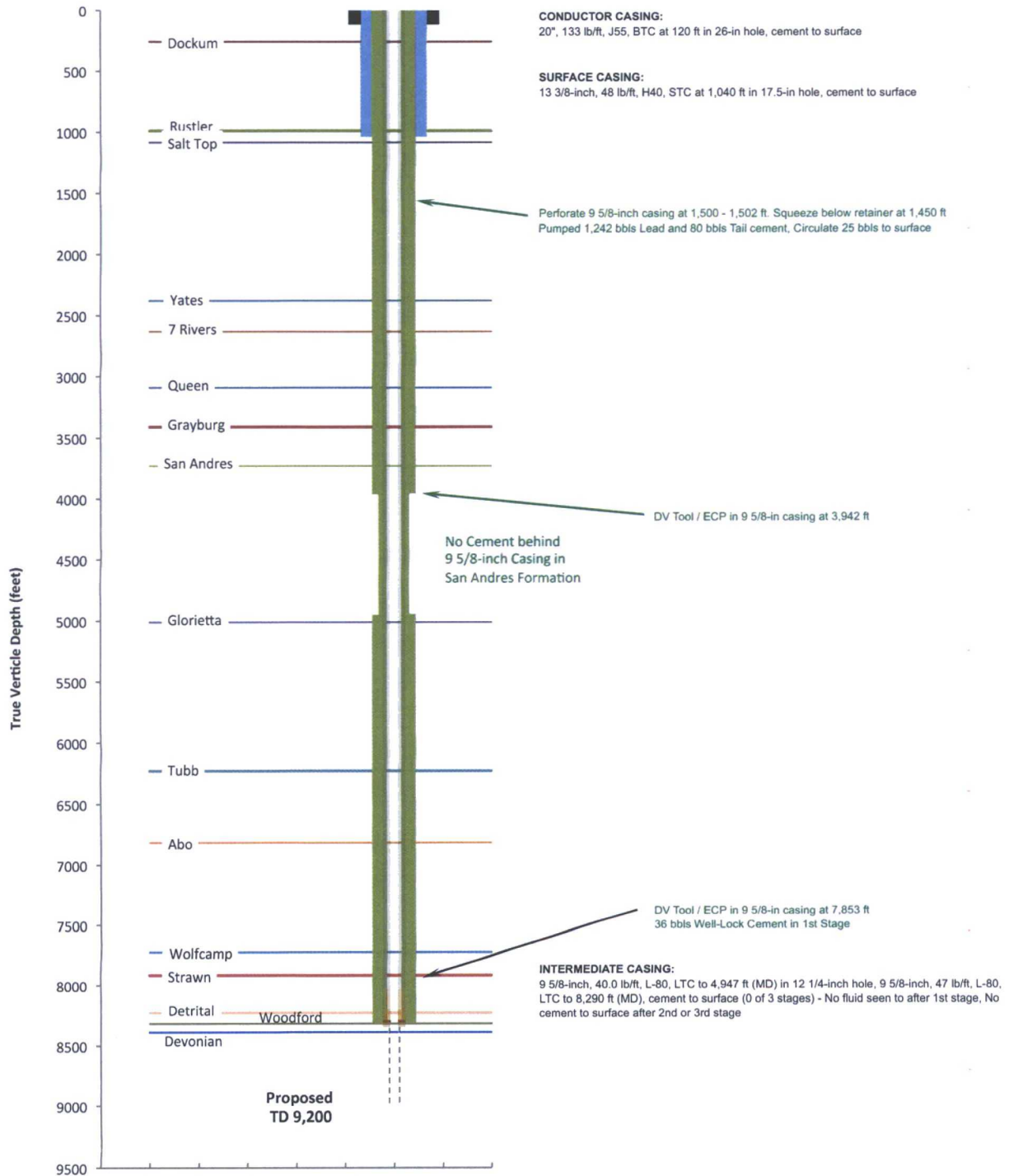
9 5/8-IN CASING IN 12 ¼-IN BOREHOLE ATTACHMENTS

**WELL SCHEMATIC
CASING TALLY
FLUID CALIPER
CEMENT LABS AND JOB SUMMARIES
BOP/BOPE TEST RESULTS
CASING TEST RESULTS**

Well Name: Targa Monument AGI #2 (API: 30-025-43470)

Surface Location: Section 36(O), T19S-R36E, (685' FSL & 2362' FEL)
Lea County, New Mexico - GL: 3,584' (KB: 25')

GEOLEX
INCORPORATED



TARGA

Targa Monument AGI D #2

9 5/8-inch Casing

Wellbore Completion Schematic

12/30/16

Monument AGI D #2									
Casing O.D.:	9.63	IN	Block Wt.:	40	lbs.	RKB to Mud Line:			
Lbs per Foot:	47	PPF	Mud Wt.:	8.8	ppg	Water Depth:			
Grade:	L-80		Length from shoe to			TD Hole Section:	8,310.00'		
Threads:	LTC		top of FC:	48.17	ft	Csg Shoe Depth:	8,288.35'		
Casing I.D.:	8.681	IN	Foreman:	Rick Messenger		RKB to Wellhead:	25.00'		
						Last Csg Depth:	1,040.00'		
TALLY JT.									
NO. ON									
String Weight	RUN #of Jts	PIPE	LENGTH	DIST F/ RKB	Tot. Lngth	DETAILS	Volume Displaced by Casing	Cap. to Top	
Put TD here >>>>>>				8,290.00'			8290.54		
107 lb		Float Shoe	1.65	8,288.35'	1.65'	Weatherford Float Shoe	0.0 bbl	NA	
1,950 lb	1	X	45.29	8,243.06'	46.94'	9 5/8", 47#, L-80, LTC	0.8 bbl	NA	
1,999 lb		Float Collar	1.22	8,241.84'	48.16'	Weatherford Float Collar	0.8 bbl	NA	
3,842 lb	2	X	45.29	8,196.55'	93.45'	9 5/8", 47#, L-80, LTC	1.6 bbl	600.4 bbl	
5,679 lb	3		45.15	8,151.40'	138.60'	9 5/8", 47#, L-80, LTC	2.4 bbl	597.1 bbl	
7,516 lb	4	X	45.15	8,106.25'	183.75'	9 5/8", 47#, L-80, LTC	3.1 bbl	593.8 bbl	
9,355 lb	5		45.19	8,061.06'	228.94'	9 5/8", 47#, L-80, LTC	3.9 bbl	590.5 bbl	
11,192 lb	6		45.16	8,015.90'	274.10'	9 5/8", 47#, L-80, LTC	4.7 bbl	587.2 bbl	
13,040 lb	7	X	45.43	7,970.47'	319.53'	9 5/8", 47#, L-80, LTC	5.5 bbl	583.8 bbl	
14,869 lb	8		44.95	7,925.52'	364.48'	9 5/8", 47#, L-80, LTC	6.2 bbl	580.5 bbl	
16,706 lb	9	X	45.14	7,880.38'	409.62'	9 5/8", 47#, L-80, LTC	7.0 bbl	577.2 bbl	
17,710 lb		ACP #1	24.68	7,855.70'	434.30'	Weatherford ACP #1	7.4 bbl	575.4 bbl	
17,818 lb		DVT #1	2.65	7,853.05'	436.95'	Weatherford DV Tool #1	7.5 bbl	575.2 bbl	
19,434 lb	10	X	39.74	7,813.31'	476.69'	9 5/8", 47#, L-80, LTC	8.2 bbl	572.3 bbl	
21,272 lb	11		45.17	7,768.14'	521.86'	9 5/8", 47#, L-80, LTC	8.9 bbl	569.0 bbl	
23,116 lb	12		45.32	7,722.82'	567.18'	9 5/8", 47#, L-80, LTC	9.7 bbl	565.7 bbl	
24,959 lb	13	X	45.29	7,677.53'	612.47'	9 5/8", 47#, L-80, LTC	10.5 bbl	562.4 bbl	
26,802 lb	14		45.30	7,632.23'	657.77'	9 5/8", 47#, L-80, LTC	11.3 bbl	559.1 bbl	
28,628 lb	15		44.90	7,587.33'	702.67'	9 5/8", 47#, L-80, LTC	12.0 bbl	555.8 bbl	
30,472 lb	16	X	45.31	7,542.02'	747.98'	9 5/8", 47#, L-80, LTC	12.8 bbl	552.5 bbl	
32,315 lb	17		45.29	7,496.73'	793.27'	9 5/8", 47#, L-80, LTC	13.6 bbl	549.1 bbl	
34,157 lb	18		45.29	7,451.44'	838.56'	9 5/8", 47#, L-80, LTC	14.3 bbl	545.8 bbl	
36,000 lb	19	X	45.29	7,406.15'	883.85'	9 5/8", 47#, L-80, LTC	15.1 bbl	542.5 bbl	
37,615 lb	20		39.70	7,366.45'	923.55'	9 5/8", 47#, L-80, LTC	15.8 bbl	539.6 bbl	
39,219 lb	21		39.41	7,327.04'	962.96'	9 5/8", 47#, L-80, LTC	16.5 bbl	536.7 bbl	
40,824 lb	22	X	39.45	7,287.59'	1,002.41'	9 5/8", 47#, L-80, LTC	17.2 bbl	533.8 bbl	
42,671 lb	23		45.42	7,242.17'	1,047.83'	9 5/8", 47#, L-80, LTC	17.9 bbl	530.5 bbl	
44,509 lb	24		45.16	7,197.01'	1,092.99'	9 5/8", 47#, L-80, LTC	18.7 bbl	527.2 bbl	
46,346 lb	25	X	45.16	7,151.85'	1,138.15'	9 5/8", 47#, L-80, LTC	19.5 bbl	523.9 bbl	
48,183 lb	26		45.15	7,106.70'	1,183.30'	9 5/8", 47#, L-80, LTC	20.2 bbl	520.6 bbl	
50,021 lb	27		45.16	7,061.54'	1,228.46'	9 5/8", 47#, L-80, LTC	21.0 bbl	517.3 bbl	
51,857 lb	28	X	45.14	7,016.40'	1,273.60'	9 5/8", 47#, L-80, LTC	21.8 bbl	514.0 bbl	
53,694 lb	29		45.15	6,971.25'	1,318.75'	9 5/8", 47#, L-80, LTC	22.6 bbl	510.7 bbl	
55,537 lb	30		45.31	6,925.94'	1,364.06'	9 5/8", 47#, L-80, LTC	23.3 bbl	507.4 bbl	
57,375 lb	31	X	45.16	6,880.78'	1,409.22'	9 5/8", 47#, L-80, LTC	24.1 bbl	504.1 bbl	
59,212 lb	32		45.15	6,835.63'	1,454.37'	9 5/8", 47#, L-80, LTC	24.9 bbl	500.8 bbl	
61,049 lb	33		45.15	6,790.48'	1,499.52'	9 5/8", 47#, L-80, LTC	25.7 bbl	497.5 bbl	
62,887 lb	34	X	45.18	6,745.30'	1,544.70'	9 5/8", 47#, L-80, LTC	26.4 bbl	494.1 bbl	
64,730 lb	35		45.30	6,700.00'	1,590.00'	9 5/8", 47#, L-80, LTC	27.2 bbl	490.8 bbl	
66,566 lb	36		45.14	6,654.86'	1,635.14'	9 5/8", 47#, L-80, LTC	28.0 bbl	487.5 bbl	
68,404 lb	37	X	45.17	6,609.69'	1,680.31'	9 5/8", 47#, L-80, LTC	28.7 bbl	484.2 bbl	
70,242 lb	38		45.16	6,564.53'	1,725.47'	9 5/8", 47#, L-80, LTC	29.5 bbl	480.9 bbl	
72,079 lb	39		45.16	6,519.37'	1,770.63'	9 5/8", 47#, L-80, LTC	30.3 bbl	477.6 bbl	
73,916 lb	40	X	45.14	6,474.23'	1,815.77'	9 5/8", 47#, L-80, LTC	31.1 bbl	474.3 bbl	
75,753 lb	41		45.16	6,429.07'	1,860.93'	9 5/8", 47#, L-80, LTC	31.8 bbl	471.0 bbl	
77,596 lb	42		45.31	6,383.76'	1,906.24'	9 5/8", 47#, L-80, LTC	32.6 bbl	467.7 bbl	
79,439 lb	43	X	45.29	6,338.47'	1,951.53'	9 5/8", 47#, L-80, LTC	33.4 bbl	464.4 bbl	
81,282 lb	44		45.30	6,293.17'	1,996.83'	9 5/8", 47#, L-80, LTC	34.2 bbl	461.0 bbl	
83,120 lb	45		45.17	6,248.00'	2,042.00'	9 5/8", 47#, L-80, LTC	34.9 bbl	457.7 bbl	
84,962 lb	46	X	45.29	6,202.71'	2,087.29'	9 5/8", 47#, L-80, LTC	35.7 bbl	454.4 bbl	
86,805 lb	47		45.28	6,157.43'	2,132.57'	9 5/8", 47#, L-80, LTC	36.5 bbl	451.1 bbl	
88,642 lb	48		45.15	6,112.28'	2,177.72'	9 5/8", 47#, L-80, LTC	37.3 bbl	447.8 bbl	
90,478 lb	49	X	45.14	6,067.14'	2,222.86'	9 5/8", 47#, L-80, LTC	38.0 bbl	444.5 bbl	
92,315 lb	50		45.14	6,022.00'	2,268.00'	9 5/8", 47#, L-80, LTC	38.8 bbl	441.2 bbl	
94,152 lb	51		45.16	5,976.84'	2,313.16'	9 5/8", 47#, L-80, LTC	39.6 bbl	437.9 bbl	
95,989 lb	52	X	45.16	5,931.68'	2,358.32'	9 5/8", 47#, L-80, LTC	40.3 bbl	434.6 bbl	
97,827 lb	53		45.16	5,886.52'	2,403.48'	9 5/8", 47#, L-80, LTC	41.1 bbl	431.3 bbl	
99,665 lb	54		45.17	5,841.35'	2,448.65'	9 5/8", 47#, L-80, LTC	41.9 bbl	428.0 bbl	
101,502 lb	55	X	45.16	5,796.19'	2,493.81'	9 5/8", 47#, L-80, LTC	42.7 bbl	424.7 bbl	
103,339 lb	56		45.16	5,751.03'	2,538.97'	9 5/8", 47#, L-80, LTC	43.4 bbl	421.4 bbl	
105,176 lb	57		45.15	5,705.88'	2,584.12'	9 5/8", 47#, L-80, LTC	44.2 bbl	418.1 bbl	
107,019 lb	58	X	45.29	5,660.59'	2,629.41'	9 5/8", 47#, L-80, LTC	45.0 bbl	414.7 bbl	
108,856 lb	59		45.16	5,615.43'	2,674.57'	9 5/8", 47#, L-80, LTC	45.8 bbl	411.4 bbl	
110,694 lb	60		45.16	5,570.27'	2,719.73'	9 5/8", 47#, L-80, LTC	46.5 bbl	408.1 bbl	
112,531 lb	61	X	45.17	5,525.10'	2,764.90'	9 5/8", 47#, L-80, LTC	47.3 bbl	404.8 bbl	
114,369 lb	62		45.16	5,479.94'	2,810.06'	9 5/8", 47#, L-80, LTC	48.1 bbl	401.5 bbl	
116,211 lb	63		45.28	5,434.66'	2,855.34'	9 5/8", 47#, L-80, LTC	48.9 bbl	398.2 bbl	

Monument AGI D #2							RKB to Mud Line:	
Casing O.D.:	9.63 IN	Block Wt:	40 lbs.				Water Depth:	
Lbs per Foot:	47 PPF	Mud Wt.:	8.8 ppg				TD Hole Section:	
Grade:	L-80	Length from shoe to					Csg Shoe Depth:	
Threads:	LTC	top of FC:	48.17 ft				RKB to Wellhead:	
Casing I.D.:	8.681 IN	Foreman:	Rick Messenger				Last Csg Depth:	
TALLY JT. NO. ON								
String Weight	RUN #of Jts	PIPE	LENGTH	DIST F/ RKB	Tot. Lngth	DETAILS	Volume Displaced by Casing	Cap. to Top
118,048 lb	64	X	45.16	5,389.50'	2,900.50'	9 5/8", 47#, L-80, LTC	49.6 bbl	394.9 bbl
119,886 lb	65		45.16	5,344.34'	2,945.66'	9 5/8", 47#, L-80, LTC	50.4 bbl	391.6 bbl
121,723 lb	66		45.16	5,299.18'	2,990.82'	9 5/8", 47#, L-80, LTC	51.2 bbl	388.3 bbl
123,566 lb	67	X	45.29	5,253.89'	3,036.11'	9 5/8", 47#, L-80, LTC	51.9 bbl	385.0 bbl
125,409 lb	68		45.30	5,208.59'	3,081.41'	9 5/8", 47#, L-80, LTC	52.7 bbl	381.7 bbl
127,251 lb	69		45.28	5,163.31'	3,126.69'	9 5/8", 47#, L-80, LTC	53.5 bbl	378.3 bbl
129,096 lb	70	X	45.34	5,117.97'	3,172.03'	9 5/8", 47#, L-80, LTC	54.3 bbl	375.0 bbl
130,722 lb	71		39.98	5,077.99'	3,212.01'	9 5/8", 47#, L-80, LTC	55.0 bbl	372.1 bbl
132,328 lb	72		39.48	5,038.51'	3,251.49'	9 5/8", 47#, L-80, LTC	55.6 bbl	369.2 bbl
134,172 lb	73	X	45.31	4,993.20'	3,296.80'	9 5/8", 47#, L-80, LTC	56.4 bbl	365.9 bbl
136,018 lb	74		45.38	4,947.82'	3,342.18'	9 5/8", 47#, L-80, LTC	57.2 bbl	362.6 bbl
137,780 lb	75		43.31	4,904.51'	3,385.49'	9 5/8", 40#, L-80, LTC	57.9 bbl	359.4 bbl
139,580 lb	76	X	44.24	4,860.27'	3,429.73'	9 5/8", 40#, L-80, LTC	58.7 bbl	356.2 bbl
141,340 lb	77		43.24	4,817.03'	3,472.97'	9 5/8", 40#, L-80, LTC	59.4 bbl	353.0 bbl
143,161 lb	78		44.77	4,772.26'	3,517.74'	9 5/8", 40#, L-80, LTC	60.2 bbl	349.7 bbl
144,975 lb	79	X	44.59	4,727.67'	3,562.33'	9 5/8", 40#, L-80, LTC	60.9 bbl	346.5 bbl
146,817 lb	80		45.28	4,682.39'	3,607.61'	9 5/8", 40#, L-80, LTC	61.7 bbl	343.1 bbl
148,660 lb	81		45.29	4,637.10'	3,652.90'	9 5/8", 40#, L-80, LTC	62.5 bbl	339.8 bbl
150,472 lb	82	X	44.54	4,592.56'	3,697.44'	9 5/8", 40#, L-80, LTC	63.3 bbl	336.6 bbl
152,289 lb	83		44.65	4,547.91'	3,742.09'	9 5/8", 40#, L-80, LTC	64.0 bbl	333.3 bbl
154,107 lb	84		44.70	4,503.21'	3,786.79'	9 5/8", 40#, L-80, LTC	64.8 bbl	330.0 bbl
155,925 lb	85	X	44.68	4,458.53'	3,831.47'	9 5/8", 40#, L-80, LTC	65.6 bbl	326.8 bbl
157,733 lb	86		44.43	4,414.10'	3,875.90'	9 5/8", 40#, L-80, LTC	66.3 bbl	323.5 bbl
159,537 lb	87		44.35	4,369.75'	3,920.25'	9 5/8", 40#, L-80, LTC	67.1 bbl	320.3 bbl
161,345 lb	88	X	44.43	4,325.32'	3,964.68'	9 5/8", 40#, L-80, LTC	67.8 bbl	317.0 bbl
163,149 lb	89		44.34	4,280.98'	4,009.02'	9 5/8", 40#, L-80, LTC	68.6 bbl	313.8 bbl
164,954 lb	90		44.37	4,236.61'	4,053.39'	9 5/8", 40#, L-80, LTC	69.4 bbl	310.5 bbl
166,760 lb	91	X	44.39	4,192.22'	4,097.78'	9 5/8", 40#, L-80, LTC	70.1 bbl	307.3 bbl
168,583 lb	92		44.81	4,147.41'	4,142.59'	9 5/8", 40#, L-80, LTC	70.9 bbl	304.0 bbl
170,425 lb	93		45.27	4,102.14'	4,187.86'	9 5/8", 40#, L-80, LTC	71.7 bbl	300.7 bbl
172,228 lb	94	X	44.30	4,057.84'	4,232.16'	9 5/8", 40#, L-80, LTC	72.4 bbl	297.4 bbl
174,023 lb	95		44.13	4,013.71'	4,276.29'	9 5/8", 40#, L-80, LTC	73.2 bbl	294.2 bbl
175,827 lb	96	X	44.34	3,969.37'	4,320.63'	9 5/8", 40#, L-80, LTC	73.9 bbl	290.9 bbl
176,831 lb	Acpt #2		24.68	3,944.69'	4,345.31'	Weatherford ACP #2	74.3 bbl	289.1 bbl
176,939 lb	DV Tool #2		2.65	3,942.04'	4,347.96'	Weatherford DV Tool #2	74.4 bbl	288.9 bbl
178,740 lb	97	X	44.26	3,897.78'	4,392.22'	9 5/8", 40#, L-80, LTC	75.1 bbl	285.7 bbl
180,540 lb	98		44.26	3,853.52'	4,436.48'	9 5/8", 40#, L-80, LTC	75.9 bbl	282.5 bbl
182,368 lb	99		44.91	3,808.61'	4,481.39'	9 5/8", 40#, L-80, LTC	76.7 bbl	279.2 bbl
184,194 lb	100	X	44.89	3,763.72'	4,526.28'	9 5/8", 40#, L-80, LTC	77.4 bbl	275.9 bbl
186,019 lb	101		44.86	3,718.86'	4,571.14'	9 5/8", 40#, L-80, LTC	78.2 bbl	272.6 bbl
187,843 lb	102		44.82	3,674.04'	4,615.96'	9 5/8", 40#, L-80, LTC	79.0 bbl	269.3 bbl
189,644 lb	103	X	44.28	3,629.76'	4,660.24'	9 5/8", 40#, L-80, LTC	79.7 bbl	266.1 bbl
191,465 lb	104		44.76	3,585.00'	4,705.00'	9 5/8", 40#, L-80, LTC	80.5 bbl	262.8 bbl
193,217 lb	105		43.06	3,541.94'	4,748.06'	9 5/8", 40#, L-80, LTC	81.2 bbl	259.7 bbl
195,037 lb	106	X	44.74	3,497.20'	4,792.80'	9 5/8", 40#, L-80, LTC	82.0 bbl	256.4 bbl
196,861 lb	107		44.83	3,452.37'	4,837.63'	9 5/8", 40#, L-80, LTC	82.8 bbl	253.1 bbl
198,582 lb	108		42.28	3,410.09'	4,879.91'	9 5/8", 40#, L-80, LTC	83.5 bbl	250.0 bbl
200,423 lb	109	X	45.26	3,364.83'	4,925.17'	9 5/8", 40#, L-80, LTC	84.3 bbl	246.7 bbl
202,124 lb	110		41.81	3,323.02'	4,966.98'	9 5/8", 40#, L-80, LTC	85.0 bbl	243.6 bbl
203,851 lb	111		42.44	3,280.58'	5,009.42'	9 5/8", 40#, L-80, LTC	85.7 bbl	240.5 bbl
205,519 lb	112	X	41.00	3,239.58'	5,050.42'	9 5/8", 40#, L-80, LTC	86.4 bbl	237.5 bbl
207,325 lb	113		44.40	3,195.18'	5,094.82'	9 5/8", 40#, L-80, LTC	87.2 bbl	234.3 bbl
209,147 lb	114		44.77	3,150.41'	5,139.59'	9 5/8", 40#, L-80, LTC	87.9 bbl	231.0 bbl
210,971 lb	115	X	44.84	3,105.57'	5,184.43'	9 5/8", 40#, L-80, LTC	88.7 bbl	227.7 bbl
212,793 lb	116		44.77	3,060.80'	5,229.20'	9 5/8", 40#, L-80, LTC	89.5 bbl	224.4 bbl
214,655 lb	117		45.78	3,015.02'	5,274.98'	9 5/8", 40#, L-80, LTC	90.3 bbl	221.1 bbl
216,498 lb	118	X	45.30	2,969.72'	5,320.28'	9 5/8", 40#, L-80, LTC	91.0 bbl	217.8 bbl
218,361 lb	119		45.79	2,923.93'	5,366.07'	9 5/8", 40#, L-80, LTC	91.8 bbl	214.4 bbl
220,203 lb	120		45.26	2,878.67'	5,411.33'	9 5/8", 40#, L-80, LTC	92.6 bbl	211.1 bbl
222,045 lb	121	X	45.29	2,833.38'	5,456.62'	9 5/8", 40#, L-80, LTC	93.4 bbl	207.8 bbl
223,888 lb	122		45.29	2,788.09'	5,501.91'	9 5/8", 40#, L-80, LTC	94.1 bbl	204.5 bbl
225,730 lb	123		45.28	2,742.81'	5,547.19'	9 5/8", 40#, L-80, LTC	94.9 bbl	201.2 bbl
227,573 lb	124	X	45.29	2,697.52'	5,592.48'	9 5/8", 40#, L-80, LTC	95.7 bbl	197.8 bbl
229,415 lb	125		45.29	2,652.23'	5,637.77'	9 5/8", 40#, L-80, LTC	96.5 bbl	194.5 bbl
231,237 lb	126		44.78	2,607.45'	5,682.55'	9 5/8", 40#, L-80, LTC	97.2 bbl	191.3 bbl
233,080 lb	127	X	45.28	2,562.17'	5,727.83'	9 5/8", 40#, L-80, LTC	98.0 bbl	187.9 bbl
234,538 lb	128		35.85	2,526.32'	5,763.68'	9 5/8", 40#, L-80, LTC	98.6 bbl	185.3 bbl
236,347 lb	129		44.47	2,481.85'	5,808.15'	9 5/8", 40#, L-80, LTC	99.4 bbl	182.1 bbl

Monument AGI D #2									
Casing O.D.:	9.63	IN	Block Wt:	40	lbs.	RKB to Mud Line:			
Lbs per Foot:	47	PPF	Mud Wt.:	8.8	ppg	Water Depth:			
Grade:	L-80		Length from shoe to			TD Hole Section:			
Threads:	LTC		top of FC:	48.17	ft	Csg Shoe Depth:			
Casing I.D.:	8.681	IN	Foreman:	Rick Messenger		RKB to Wellhead:			
						Last Csg Depth:			
TALLY JT. NO. ON									
String Weight	RUN # of Jts	PIPE	LENGTH	DIST F/ RKB	Tot. Lngth	DETAILS	Volume Displaced by Casing	Cap. to Top	
238,151 lb	130	X	44.34	2,437.51'	5,852.49'	9 5/8", 40#, L-80, LTC	100.1 bbl	178.8 bbl	
239,976 lb	131		44.84	2,392.67'	5,897.33'	9 5/8", 40#, L-80, LTC	100.9 bbl	175.5 bbl	
241,767 lb	132		44.02	2,348.65'	5,941.35'	9 5/8", 40#, L-80, LTC	101.7 bbl	172.3 bbl	
243,576 lb	133	X	44.48	2,304.17'	5,985.83'	9 5/8", 40#, L-80, LTC	102.4 bbl	169.1 bbl	
245,403 lb	134		44.89	2,259.28'	6,030.72'	9 5/8", 40#, L-80, LTC	103.2 bbl	165.8 bbl	
247,228 lb	135		44.85	2,214.43'	6,075.57'	9 5/8", 40#, L-80, LTC	104.0 bbl	162.5 bbl	
249,041 lb	136	X	44.56	2,169.87'	6,120.13'	9 5/8", 40#, L-80, LTC	104.7 bbl	159.2 bbl	
250,849 lb	137		44.45	2,125.42'	6,164.58'	9 5/8", 40#, L-80, LTC	105.5 bbl	156.0 bbl	
252,668 lb	138		44.72	2,080.70'	6,209.30'	9 5/8", 40#, L-80, LTC	106.2 bbl	152.7 bbl	
254,486 lb	139	X	44.67	2,036.03'	6,253.97'	9 5/8", 40#, L-80, LTC	107.0 bbl	149.4 bbl	
256,309 lb	140		44.80	1,991.23'	6,298.77'	9 5/8", 40#, L-80, LTC	107.8 bbl	146.1 bbl	
258,130 lb	141		44.77	1,946.46'	6,343.54'	9 5/8", 40#, L-80, LTC	108.5 bbl	142.9 bbl	
259,952 lb	142	X	44.79	1,901.67'	6,388.33'	9 5/8", 40#, L-80, LTC	109.3 bbl	139.6 bbl	
261,757 lb	143		44.35	1,857.32'	6,432.68'	9 5/8", 40#, L-80, LTC	110.1 bbl	136.3 bbl	
263,560 lb	144		44.33	1,812.99'	6,477.01'	9 5/8", 40#, L-80, LTC	110.8 bbl	133.1 bbl	
265,369 lb	145	X	44.46	1,768.53'	6,521.47'	9 5/8", 40#, L-80, LTC	111.6 bbl	129.8 bbl	
267,152 lb	146		43.81	1,724.72'	6,565.28'	9 5/8", 40#, L-80, LTC	112.3 bbl	126.6 bbl	
268,968 lb	147		44.65	1,680.07'	6,609.93'	9 5/8", 40#, L-80, LTC	113.1 bbl	123.4 bbl	
270,756 lb	148	X	43.93	1,636.14'	6,653.86'	9 5/8", 40#, L-80, LTC	113.8 bbl	120.2 bbl	
272,571 lb	149		44.62	1,591.52'	6,698.48'	9 5/8", 40#, L-80, LTC	114.6 bbl	116.9 bbl	
274,387 lb	150		44.64	1,546.88'	6,743.12'	9 5/8", 40#, L-80, LTC	115.4 bbl	113.6 bbl	
276,208 lb	151	X	44.75	1,502.13'	6,787.87'	9 5/8", 40#, L-80, LTC	116.1 bbl	110.3 bbl	
278,027 lb	152		44.71	1,457.42'	6,832.58'	9 5/8", 40#, L-80, LTC	116.9 bbl	107.1 bbl	
279,382 lb	153		33.31	1,424.11'	6,865.89'	9 5/8", 40#, L-80, LTC	117.5 bbl	104.6 bbl	
281,204 lb	154	X	44.77	1,379.34'	6,910.66'	9 5/8", 40#, L-80, LTC	118.2 bbl	101.4 bbl	
282,912 lb	155		41.98	1,337.36'	6,952.64'	9 5/8", 40#, L-80, LTC	119.0 bbl	98.3 bbl	
284,731 lb	156		44.71	1,292.65'	6,997.35'	9 5/8", 40#, L-80, LTC	119.7 bbl	95.0 bbl	
286,535 lb	157	X	44.34	1,248.31'	7,041.69'	9 5/8", 40#, L-80, LTC	120.5 bbl	91.8 bbl	
288,338 lb	158		44.33	1,203.98'	7,086.02'	9 5/8", 40#, L-80, LTC	121.2 bbl	88.5 bbl	
290,116 lb	159		43.69	1,160.29'	7,129.71'	9 5/8", 40#, L-80, LTC	122.0 bbl	85.3 bbl	
291,938 lb	160	X	44.80	1,115.49'	7,174.51'	9 5/8", 40#, L-80, LTC	122.8 bbl	82.0 bbl	
293,761 lb	161		44.79	1,070.70'	7,219.30'	9 5/8", 40#, L-80, LTC	123.5 bbl	78.8 bbl	
295,296 lb	162		37.74	1,032.96'	7,257.04'	9 5/8", 40#, L-80, LTC	124.2 bbl	76.0 bbl	
296,876 lb	163	X	38.84	994.12'	7,295.88'	9 5/8", 40#, L-80, LTC	124.8 bbl	73.2 bbl	
298,719 lb	164		45.29	948.83'	7,341.17'	9 5/8", 40#, L-80, LTC	125.6 bbl	69.8 bbl	
300,534 lb	165		44.61	904.22'	7,385.78'	9 5/8", 40#, L-80, LTC	126.4 bbl	66.6 bbl	
302,376 lb	166	X	45.28	858.94'	7,431.06'	9 5/8", 40#, L-80, LTC	127.1 bbl	63.3 bbl	
304,105 lb	167		42.49	816.45'	7,473.55'	9 5/8", 40#, L-80, LTC	127.9 bbl	60.1 bbl	
305,728 lb	168		39.90	776.55'	7,513.45'	9 5/8", 40#, L-80, LTC	128.6 bbl	57.2 bbl	
307,514 lb	169	X	43.89	732.66'	7,557.34'	9 5/8", 40#, L-80, LTC	129.3 bbl	54.0 bbl	
309,329 lb	170		44.60	688.06'	7,601.94'	9 5/8", 40#, L-80, LTC	130.1 bbl	50.8 bbl	
311,143 lb	171		44.59	643.47'	7,646.53'	9 5/8", 40#, L-80, LTC	130.8 bbl	47.5 bbl	
312,942 lb	172	X	44.21	599.26'	7,690.74'	9 5/8", 40#, L-80, LTC	131.6 bbl	44.2 bbl	
314,757 lb	173		44.61	554.65'	7,735.35'	9 5/8", 40#, L-80, LTC	132.3 bbl	41.0 bbl	
316,577 lb	174		44.75	509.90'	7,780.10'	9 5/8", 40#, L-80, LTC	133.1 bbl	37.7 bbl	
318,379 lb	175	X	44.29	465.61'	7,824.39'	9 5/8", 40#, L-80, LTC	133.9 bbl	34.5 bbl	
320,201 lb	176		44.78	420.83'	7,869.17'	9 5/8", 40#, L-80, LTC	134.6 bbl	31.2 bbl	
322,002 lb	177		44.26	376.57'	7,913.43'	9 5/8", 40#, L-80, LTC	135.4 bbl	27.9 bbl	
323,805 lb	178	X	44.33	332.24'	7,957.76'	9 5/8", 40#, L-80, LTC	136.2 bbl	24.7 bbl	
325,610 lb	179		44.36	287.88'	8,002.12'	9 5/8", 40#, L-80, LTC	136.9 bbl	21.5 bbl	
327,416 lb	180		44.38	243.50'	8,046.50'	9 5/8", 40#, L-80, LTC	137.7 bbl	18.2 bbl	
328,821 lb	181	X	34.53	208.97'	8,081.03'	9 5/8", 40#, L-80, LTC	138.3 bbl	15.7 bbl	
330,243 lb	182		34.97	174.00'	8,116.00'	9 5/8", 40#, L-80, LTC	138.9 bbl	13.1 bbl	
332,047 lb	183		44.32	129.68'	8,160.32'	9 5/8", 40#, L-80, LTC	139.6 bbl	9.9 bbl	
333,850 lb	184	X	44.32	85.36'	8,204.64'	9 5/8", 40#, L-80, LTC	140.4 bbl	6.6 bbl	
335,693 lb	185		45.30	40.06'	8,249.94'	9 5/8", 47#, L-80, LTC	141.2 bbl	3.3 bbl	
337,536 lb	186	stick up	45.30	-5.24'	8,295.24'	9 5/8", 47#, L-80, LTC	141.9 bbl	0.0 bbl	
	187	X	45.30	-50.54'		9 5/8", 40#, L-80, LTC			
	188	OUT	45.30	-95.84'		9 5/8", 40#, L-80, LTC			
	187								
	188								
	193					Leave out Jts. #187 & 188			
	194								
	197								
	198								
	199								
	200								
	201								
	202								

Davis Fluid Calipers, Inc.

WORK ORDER

P.O. BOX 1033

OFFICE (575)393-7463 CELL (575)390-8080

HOBBS, NEW MEXICO 88241

DATE 12/23/16

RIG Patriot 6

LEASE Monument AGI #2

CUST. ORDER NO. Rick Messenger

COUNTY Lea

STATE NM

Cambrian Management

AFE#

QUANTITY	DESCRIPTION	AMOUNT
	TO RUN THE DAVIS FLUID CALIPER TO DETERMINE IN CUBIC FEET THE TOTAL	
	ANNULAR VOLUME BEHIND 9 5/8" CASING	
	IN A 12 1/4" HOLE AT THE DEPTH OF 3,942' FEET	
	TOTAL ANNULAR VOLUME THRU THE STAGE TOOL 8,319 cu ft CUBIC FEET	
	PUMP DATA: MAKE & MODEL F-1600	
	LINER SIZE 7 X 12 S.P.M. 57 C.F.M. 43	
	PUMP EFFICIENCY 93% P.S.I. ON STAND PIPE #	
	WASH-OUT 574% AVERAGE HOLE SIZE 21.899" inches	
	BASE CHARGE	\$1,500.00
3,942'	DEPTH CHARGE AT THE STAGE TOOL @ \$0.12	\$473.04
0	STANDBY CHARGE @ \$200	\$0.00
40	MILEAGE CHARGE @ \$1.95	\$78.00
SUBTOTAL		\$2,051.04
TAX		\$139.73
TOTAL		\$2,190.77

RECEIVED BY

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Permian Basin, Odessa

Lab Results - 1st Stage Primary

Job Information

Request/Slurry	2354544/1	Rig Name	Patriot 5	Date	21/DEC/2016
Submitted By	Brandon Kimble	Job Type	Intermediate Casing	Bulk Plant	
Customer	Targa Resources Partners LP	Location	Lea	Well	Monument AGI #2

Well Information

Casing/Liner Size	9.625 in	Depth MD	8294 ft	BHST	61°C / 142°F
Hole Size	12.25 in	Depth TVD	8294 ft	BHCT	39°C / 103°F
Pressure	4400 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density	8.7 lbm/gal
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Cement Information - Primary Design

Cone	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		WellLock® Resin				Slurry Density	9.282	lbm/gal
100	% BWOC	WellLock R1				Slurry Yield	1.299	ft ³ /sack
27	% BWOC	WellLock H1				Water Requirement	-0.004	gal/sack

Pilot Test Results Request ID 2354544/1

Thickening Time

13/DEC/2016

Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	Start BC	100 Be (hh:mm)
103	4400	30	28	43	17:35

UCA Comp. Strength

15/DEC/2016

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	8hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)
142	4000	11:58	15:42	53	1035	1158	1144	72

Crush Compressive Strength

14/DEC/2016

Time 1 (hrs)	Strength 1	Time 2 (hrs)	Strength 2	Foam Q (%)
24	171	48	5085	0

FYSA Viscosity Profile & Gel Strength

12/DEC/2016

Test Temp (°F)	600	300	200	100	60	30	6	3	3D - 3 rpm Decay	6D - 6 rpm Decay	Gel 10 min FYSA reading (1 rpm)	K1 factor	K2 factor	Foam Quality	PV/YP	FYSA Direct YP
103	55	25	17	12	5	3	1	1	0	0	1	0.293	0.697	0	212.07 / 0	0.58

FYSA Viscosity Profile & Gel Strength

12/DEC/2016

Test Temp (°F)	300	200	100	60	30	6	3	K1 factor	K2 factor	Foam Quality	PV/YP
80	75	50	25	16	8	1	1	0.293	0.697	0	593.05 / 0.36

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Permian Basin, Odessa

Lab Results - 2nd Stage Lead

Job Information

Request/Slurry	2354596/1	Rig Name	Patriot #5	Date	21/DEC/2016
Submitted By	Brandon Kimble	Job Type	Intermediate Casing	Bulk Plant	
Customer	Targa Resources Partners LP	Location	Lca	Well	Monument AGI #2

Well Information

Casing/Liner Size	9.625 in	Depth MD	7850 ft	BHST	58°C / 136°F
Hole Size	12.25 in	Depth TVD	7850 ft	BHCT	38°C / 101°F
Pressure	3800 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density	8.7 lbm/gal
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Cement Information - Primary Design

Cone	UOM	Cement/Additive	Cement Properties		
			Slurry Density	9	lbm/gal
100	% BWOC	NeoCem™ Cement	Slurry Yield	3.485	ft ³ /sack
14.1	gal/sack	Cement Blend	Water Requirement	14.101	gal/sack
26	lb/sk	Fresh Water			
0.5	% BWOC	HGS 4000 (PB)			
0.5	% BWOC	HALAD-344 (PB)			
0.2	% BWOC	CFR-3 (PB)			
0.05	% BWOC	Fe-2 (citric acid)			
5	lb/sk	SA-1015 (PB)			
0.25	lb/sk	Microbond			
		D-Air 5000			

Pilot Test Results Request ID 2354596/1

Thickening Time

12/DEC/2016

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	70 Bc (hh:mm)
101	3800	28	6	10:01

Pilot Test Results Request ID 2344215/5

API Rheology, Historical Data

17/OCT/2016

Temp (°F)	300	200	100	60	30	6	3	PV/YP
80	56	43	26	18	13	7	6	51.02 / 7.11

API Rheology, Historical Data

17/OCT/2016

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
97	67	52	32	22	15	5	4	30	63.5 / 7.16

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API Fluid Loss, Historical Data**17/OCT/2016**

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol.	Calculated FL (<30 min)
97	1000	8.25	30	114

Free Fluid API 10B-2, Historical Data**18/OCT/2016**

Static T. (°F)	Static time (min)	Incl. (deg)	% Fluid
80	120	0	0

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Permian Basin, Odessa

2-4
Lab Results - 1st Stage Tail

Job Information					
Request/Slurry	2347986/1	Rig Name	Patriot #5	Date	21/DEC/2016
Submitted By	Brandon Kimble	Job Type	Intermediate Casing	Bulk Plant	
Customer	Targa Resources Inc	Location	Lea	Well	Monument AGI D 2

Well Information					
Casing/Liner Size	9.625 in	Depth MD	7850 ft	BHST	136 °F
Hole Size	12.25 in	Depth TVD	7850 ft	BHCT	101 °F
Pressure	3800 psi				

Cement Information - Tail Design					
Conc	UOM	Cement/Additive	Cement Properties		
		HalCem	Slurry Density	14.8	lbm/gal
100	% BWOC	Cemex Premium Plus C	Slurry Yield	1.333	ft ³ /sack
6.42	gal/sack	Field (Fresh) Water	Water Requirement	6.419	gal/sack
0.1	% BWOC	HR-800			

Pilot Test Results Request ID 2347986/1

Thickening Time - ON-OFF-ON					
					03/NOV/2016
Test Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	70 Bc (hh:mm)	Start Bc
95	2572	0	38	3:06	6

API Rheology									
									02/NOV/2016
Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditionin g Temp (°F)
80	49	42	33	28	25	18	13	0	0
									33.15 / 19.55

API Rheology									
									02/NOV/2016
Temp (°F)	300	200	100	60	30	6	3		PV/YP
95	66	59	51	47	41	20	15		44.11 / 29.65

API Fluid Loss					
					02/NOV/2016
Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol.	Calculated FL (<30 min)	
95	1000	0.15	44	1235	

Free Fluid API 10B-2							
							02/NOV/2016
Con. Temp (°F)	Con. Pr. (psi)	Cond. Time (min)	Static T. (°F)	Static time (min)	Incl. (deg)	% Fluid	
95	0	30	80	120	0	0.4	

UCA Comp. Strength												
												04/NOV/2016
End Temp Pressure (°F)	50 psi (hh:mm)	100 psi (hh:mm)	500 psi (hh:mm)	1000 psi (hh:mm)	8hr CS (psi)	12 hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)	
80	4000	4:24	5:16	10:13	17:25	302	649	921	1328	1978	2120	62.3

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Permian Basin, Odessa

Lab Results – 3rd Stage Lead

Job Information

Request/Slurry	2342277/1	Rig Name	Patriot #5	Date	21/DEC/2016
Submitted By	Brandon Kimble	Job Type	Intermediate Casing	Bulk Plant	
Customer	Targa Resources Inc	Location	Lea	Well	Monument AGI D 2

Well Information

Casing/Liner Size	9.625 in	Depth MD	3950 ft	BHST	108 °F
Hole Size	12.25 in	Depth TVD	3950 ft	BHCT	90 °F
Pressure	3000 psi				

Cement Information - Lead Design

Cone	UOM	Cement/Additive	Cement Properties		
		EconoCem	Slurry Density	12.9	lbm/gal
10.31	gal/sack	Field (Fresh) Water	Slurry Yield	1.892	ft ³ /sack
		EconoCem HLC	Water Requirement	10.306	gal/sack
100	% BWOC	Cement Blend			
5	% BWOW	NaCl (Sodium Chloride) Salt			
0.25	% BWOC	HR-800			

Operation Test Results Request ID 2342277/1

Thickening Time - ON-OFF-ON					10/OCT/2016
Test Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	70 Bc (hh:min)	Start Bc
94	3000	0	17	6:11	10

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Permian Basin, Odessa

Lab Results – 3rd Stage Tail

Job Information

Request/Slurry	2347986/1	Rig Name	Patriot #5	Date	21/DEC/2016
Submitted By	Brandon Kimble	Job Type	Intermediate Casing	Bulk Plant	
Customer	Targa Resources Inc	Location	Lea	Well	Monument AGI D 2

Well Information

Casing/Liner Size	9.625 in	Depth MD	3950 ft	BHST	108 °F
Hole Size	12.25 in	Depth TVD	3950 ft	BHCT	90 °F
Pressure	3000 psi				

Cement Information - Tail Design

<u>Cone</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Cement Properties</u>		
		HalCem	Slurry Density	14.8	lbm/gal
100	% BWOC	Cemex Premium Plus C	Slurry Yield	1.333	ft ³ /sack
6.42	gal/sack	Field (Fresh) Water	Water Requirement	6.419	gal/sack
0.1	% BWOC	HR-800			

Pilot Test Results Request ID 2347986/1

Thickening Time - ON-OFF-ON

03/NOV/2016

Test Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	70 Bc (hh:min)	Start Bc
95	2572	0	38	3:06	6

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Permian Basin, Odessa

Lab Results-Lead

Job Information

Request/Slurry	2339474/3	Rig Name		Date	23/DEC/2016
Submitted By	Victor Villegas	Job Type		Bulk Plant	
Customer	Targa.	Location	Lea	Well	

Well Information

Casing/Liner Size	7 in	Depth MD	BHST	51°C / 123°F
Hole Size	8.75 in	Depth TVD	BHCT	36°C / 96°F
Pressure	3500 psi			

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Lead Design

Cone	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		EconoCem				Slurry Density	11.9	lbm/gal
14.33	gal/sack	Field (Fresh) Water	Lab	30.08.13	Lab Tap	Slurry Yield	2.472	ft3/sack
		EconoCem C		19.08.16		Water Requirement	14.327	gal/sack
100	% BWOC	Cement Blend				Total Mix Fluid	14.327	gal/sack
0.25	lb/sk	D-Air 5000	Lab	07.09.16				
0.1	% BWOC	HR-800	Bulk Blend	07.09.16	DR076801935			
						Water Source	Field (Fresh) Water	
						Water Chloride		

Pilot Test Results Request ID 2339474/3

Thickening Time - ON-OFF-ON, Historical Data

14/SEP/2016

Test Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	70 Bc (hh:mm)	Start Bc
96	3500	0	29	7:21	7

Pilot Test Results Request ID 2339474/1

API Fluid Loss, Historical Data

12/SEP/2016

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol.	Calculated FL (<30 min)
96	1000	1.47	80	596

API Rheology, Historical Data

12/SEP/2016

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Condition in g Temp (°F)	PV/YP
96	47	44	43	41	38	18	13	30	96	26.52 / 27.54

Free Fluid API 10B-2, Historical Data

12/SEP/2016

Static T. (°F)	Static time (min)	Incl. (deg)	% Fluid
80	120	0	0.8

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STATE / BLM

HALLIBURTON**Cementing Job Summary***The Road to Excellence Starts with Safety*

Sold To #: 347474	Ship To #: 3767926	Quote #: 0022254210	Sales Order #: 0903720977
Customer: TARGA RESOURCES INC -		Customer Rep: RICK MESSENGER	
Well Name: MONUMENT AGI D	Well #: 2	API/UWI #: 30-025-43470-00	
Field: AGI	City (SAP): HOBBS	County/Parish: LEA	State: NEW MEXICO
Legal Description: 36-19S-36E-685FSL-2362FEL			
Contractor: PATRIOT DRLG		Rig/Platform Name/Num: PATRIOT 5	
Job BOM: 392189			
Well Type: VERTICAL GAS			
Sales Person: HALAMERICA\HB31506		Srvc Supervisor: CARL LUDWIG	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	8295ft		Job Depth TVD
Water Depth			Wk Ht Above Floor 5ft
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		13.375	12.715	48			0	1040		
Casing		9.625	8.835	40	LTC	L-80	0	4947		0
Open Hole Section			12.25				1040	2250		
Open Hole Section			12.25				2250	3570		
Open Hole Section			12.25				3570	5450		
Casing		9.625	8.681	47	LTC	L-80	4947	8294	0	
Open Hole Section			12.25				5450	7850		
Open Hole Section			12.25				7850	8295		0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			8294		Top Plug	9.625		HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625			8247		SSR plug set	9.625		HES
Insert Float	9.625					Plug Container	9.625	1	HES
Stage Tool	9.625					Centralizers	9.625	Y	HES

Fluid Data										
Stage/Plug #: 1										
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	
1	9 lb/gal Tuned Spacer III	Tuned Spacer III	30	bbl	9	10.06				
38.75 gal/bbl		FRESH WATER								
0.35 lbm/bbl		FE-2 (100001615)								

4 lbm/bbl	CHEM, FDP-C1193-15, 50 LB Sack - (975466)
0.30 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)
4 lbm/bbl	FDP-C1194-15, 50 LB SACK - (975474)

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	WellLock™ Resin Primary	SBM CMT WellLock PKG	40	bbl	9.3				
9.7361 gal/bbl		CHEM, WELLOCK H1, 330 GALLON TOTE (102220519)							
32.2639 gal/bbl		CHEM, WellLOCK R1, TOTE TANK (102161680)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Solvent Cleanup - HES Equipment	Solvent Cleanup - HES Equipment	330	Gal	7.6				
42 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)							
		PUMPED TO PIT							

Cement Left In Pipe	Amount	48 ft	Reason	Shoe Joint
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Fluid Data

Stage/Plug #: 2

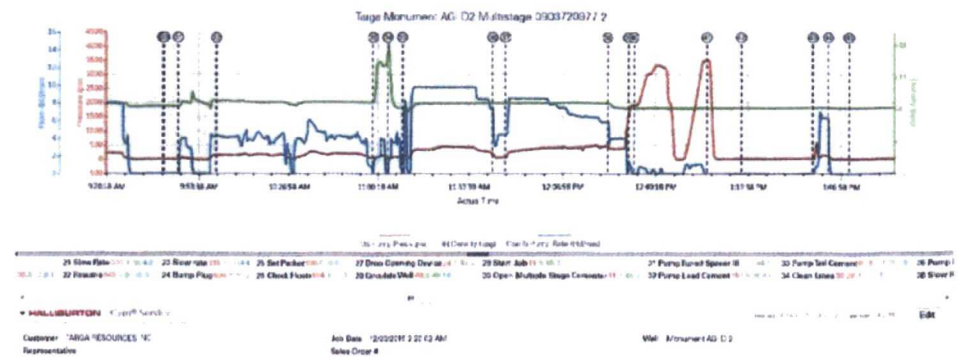
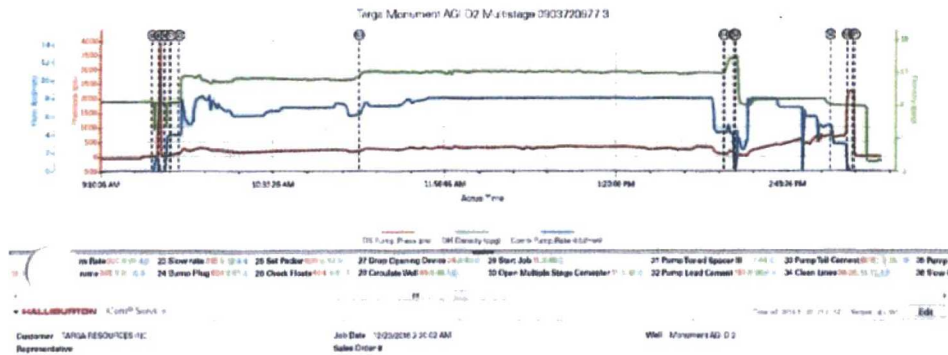
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	9 lb/gal Tuned Spacer III	Tuned Spacer III	20	bbl	9	10.06			
38.75 gal/bbl		FRESH WATER							
0.30 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)							
0.35 lbm/bbl		FE-2 (100001615)							
4 lbm/bbl		FDP-C1194-15, 50 LB SACK - (975474)							
4 lbm/bbl		CHEM, FDP-C1193-15, 50 LB Sack - (975466)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	2nd Stage Lead - NeoCem Light	NeoCem TM	425	sack	9	3.498		5	14.2
14.20 Gal		FRESH WATER							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
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3	2nd Stage Tail - HalCem™ C	Premium Plus Cement	50	sack	14.8	1.333		6	6.42
6.42 Gal		FRESH WATER							
0.10 %		HR-800, 50 LB SACK (101619742)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	***NOT PUMPED*** VersaCem™ H	VERSACEM (TM) SYSTEM	200	sack	14.5	1.23		5	5.59
0.30 %		CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
0.50 lbm		D-AIR 5000, 50 LB SACK (102068797)							
0.50 %		LAP-1 (100012766)							
Fluid Data									
Stage/Plug #: 3									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
1	Gel Spacer	Gel Spacer	20	bbl	8.4				
2.50 lbm/bbl		CHEM,FDP-S1050-12, BULK BAG (102175420)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	3rd Stage 1st Lead - EconoCem C	ECONOCEM (TM) SYSTEM	1000	sack	11.9	2.471		8	14.29
0.25 lbm		D-AIR 5000, 50 LB SACK (102068797)							
0.30 %		HR-800, 50 LB SACK (101619742)							
14.29 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	3rd Stage Second Lead - EconoCem™ HLC	ECONOCEM (TM) SYSTEM	4020	sack	12.9	1.875		5	10.12
5 %		SALT, BULK (100003695)							
0.25 %		HR-800, 50 LB SACK (101619742)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal

4	NEW 3rd Stage Tail - HalCem™ C	Premium Plus Cement	50	sack	14.8	1.333		6	6.42
0.10 %		HR-800, 50 LB SACK (101619742)							
6.42 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	***NOT PUMPED*** EconoCem™ HLH	ECONOCEM (TM) SYSTEM	790	sack	12.9	1.906		5	10.1
3 lbm		KOL-SEAL, 50 LB BAG (100064232)							
0.30 %		HR-800, 50 LB SACK (101619742)							
5 %		SALT, BULK (100003695)							
0.1250 lbm		POLY-E-FLAKE (101216940)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
6	*** NOT PUMPED*** VersaCem™ H	VERSACEM (TM) SYSTEM	200	sack	14.5	1.226		5	5.58
0.50 %		LAP-1 (100012766)							
0.25 %		D-AIR 5000, 50 LB SACK (102068797)							
0.30 %		CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							
Comment									



HALLIBURTON

Permian Basin, Odessa

Lab Results-Lead

Job Information

Request/Slurry	2359252/2	Rig Name		Date	28/DEC/2016
Submitted By	Victor Villegas	Job Type	Perforation Squeeze	Bulk Plant	
Customer	Targa Resources Partners LP	Location	Lea	Well	Monument AGI #2

Well Information

Casing/Liner Size	4.5 in	Depth MD	1460 ft	BHST	32°C / 90°F
Hole Size	9.625 in	Depth TVD	1460 ft	BHCT	27°C / 80°F
Pressure	3500 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	8.4 lbm/gal
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Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		EconoCem				Slurry Density	11.9	lbm/gal
14.35	gal/sack	Field (Fresh) Water				Slurry Yield	2.477	ft ³ /sack
		EconoCem C				Water Requirement	14.346	gal/sack
100	% BWOC	Cement Blend				Total Mix Fluid	14.346	gal/sack
0.25	lb/sk	D-Air 5000						
0.45	% BWOC	HR-800						
						Water Source	Field (Fresh)	
							Water	
						Water Chloride	N/A	

Pilot Test Results Request ID 2359252-1

API Fluid Loss

28/DEC/2016

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol.	Calculated FL (<30 min)	Conditioning time (min)	Conditioning Temp (°F)
82	1000	1.56	85	745	30	82

API Rheology

28/DEC/2016

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditioning Temp (°F)	PV/YP
82	30	30	28	28	25	16	10	30	82	14.6 / 20.06

Free Fluid API 10B-2

28/DEC/2016

Con. Temp (°F)	Cond. Time (min)	Static time (min)	Incl. (deg)	% Fluid
82	30	120	0	1.3

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HALLIBURTON

Permian Basin, Odessa

Lab Results-Tail

Job Information

Request/Slurry	2354432/2	Rig Name		Date	28/DEC/2016
Submitted By	Victor Villegas	Job Type	Perforation Squeeze	Bulk Plant	
Customer	Targa Resources Partners LP	Location	Lea	Well	Monument AGI #2

Well Information

Casing/Liner Size	13.375 in	Depth MD	1460 ft	BHST	31°C / 88°F
Hole Size	17.5 in	Depth TVD	1460 ft	BHCT	27°C / 81°F
Pressure	700 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	8.4 lbm/gal
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Cement Information - Primary Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
		HalCem				Slurry Density	14.8 lbm/gal
100	% BWOC	Cemex Premium Plus C	Bulk Blend	07 12 16	25	Slurry Yield	1.332 ft ³ /sack
6.42	gal/sack	Fresh Water	Lab	30 08 13	Lab Tap	Water Requirement	6.419 gal/sack
						Total Mix Fluid	6.419 gal/sack
						Water Source	Fresh Water
						Water Chloride	

Pilot Test Results Request ID 2354432/2

Thickening Time - ON-OFF-ON, Historical Data

10/DEC/2016

Test Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	70 Bc (hh:mm)	Start Bc
81	700	0	13	4:04	7

These are draft results and have not been approved for final use.

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HALLIBURTON

iCem® Service

TARGA RESOURCES INC

For:

Date: Thursday, December 29, 2016

Monument AGI D 2

Case 1

Job Date: Thursday, December 29, 2016

Sincerely,

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	12/28/16	22:00:00	USER				CALLED OUT TO BE C LOCATION @ 05:00 C:
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/28/16	23:30:00	USER				TESTED PUMP TRUCK GATHERED UP AND DISC ROUTE WITH CREW
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	12/28/16	23:59:00	USER				CREATED A JOURNEY MANAGEMENT AND DEI FROM FACILITY
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	12/29/16	03:00:00	USER				ARRIVED LOCATION RIG 1 DRILL PIPE ON BOTTOI WAITED OFF LOCATION TO HES LOADING CEME INTO FIELD BINS
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/29/16	05:30:00	USER				ASSESED LOCATION AT SPOTTED EQUIPMEN
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/29/16	05:50:00	USER				HAD RIG UP MEETING V HES CREW
Event	7	Rig-Up Equipment	Rig-Up Equipment	12/29/16	06:00:00	USER				RIG UP , STEEL LINES A WATER LINE.
Event	8	Rig-Up Completed	Rig-Up Completed	12/29/16	08:00:00	USER				COMPLETED RIG UP NO HURT
		OTHER		12/29/16						LAST CEMENT LOADED BIN @ 12:30
Event	9	Pre-Job Safety Meeting	Safety Meeting	12/29/16	12:40:00	USER				PRE JOB SAFET MEETING WITH EVERY B ON LOCATION. WENT O JOB PROCEDURES WITH REP RICK MESSENGER

Event	1	Start Job	Start Job	12/29/2016	13:05:28	COM7	8.49	0.00	0.00	START RECEMENT JOB
Event	2	Test Lines	Test Lines	12/29/2016	13:11:36	COM7	8.49	12.00	0.00	TESTED LINES TO 2900 PSI
Event	3	Pump Spacer 1	Pump Spacer 1	12/29/2016	13:12:49	COM7	8.48	22.00	0.00	PUMP 6 BBLs OF FRESH WATER TO CALIBRATE DENSOMETERS
Event	4	Pump Spacer 2	Pump Spacer 2	12/29/2016	13:15:07	COM7	8.55	189.00	2.90	MIX AND PUMP 50 BBLs OF GEL SPACER WITH RED DYE
Event	5	Pump Lead Cement	Pump Lead Cement	12/29/2016	13:32:50	COM7	11.91	546.00	6.00	MIX AND PUMP 3000 SKS/1320 BBLs OF ECONOCEM C @ 11.9 PPG, 2.47 YIELD, 14.3 GAL/SKS WITH 0.25% D-AIR 5000, 0.45% HR-800
Event	6	Pump Tail Cement	Pump Tail Cement	12/29/2016	16:44:42	COM7	14.83	371.00	5.20	MIX AND PUMP 340 SKS/80.5 BBLs OF HALCEM NEAT CEMENT @ 14.8 PPG, 1.33 YIELD, 6.42 GAL/SKS
Event	7	Other	Other	12/29/2016	16:57:00	USER	15.28	153.00	3.10	AT 70 BBLs INTO TAIL CEMENT START GETTING CEMENT BACK SO STOPPED MIXING AND PUMPED DOWN THE TUB AND STARTED DISPLACEMENT PER CO REP
Event	8	Pump Displacement	Pump Displacement	12/29/2016	16:57:52	COM7	7.56	79.00	2.00	DISPLACED DRILL PIPE WITH 18 BBLs OF FRESH WATER LEAVING 2 BBLs OF CEMENT ON TOP OF RETAINER PER CO REP RICK MESSENGER
Event	9	Shutdown	Shutdown	12/29/2016	17:02:50	COM7	8.31	222.00	0.00	SHUTDOWN RIG STING OUT OF RETAINER PULLED 3 STANDS AND CIRCULATED

iCem® Service

(v. 4.2.393)

Created: Thursday, December 29, 2016

										WELL
Event	10	Clean Lines	Clean Lines	12/29/2016	17:03:39	COM7	10.15	35.00	2.10	CLEAN LINES AND PUMPS TO THE PIT
Event	11	End Job	End Job	12/29/2016	17:19:24	COM7				CIRCULATED 25 BBLS/57 SKS TO SURFACE
Event	28	Pre Rig down Safety Meeting		12/29/16	17:30:00	USER				GATHER CREW FOR RIG DOWN MEETING
Event	27	Rig Down Equipment		12/29/16	17:50:00	USER				RIG DOWN EQUIPMENT
Event	29	Rig-Down Completed	Rig-Down Completed	12/29/16	19:30:00	USER				FINISH RIG DOWN NO ON HURT
Event	30	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/29/16	19:40:00	USER				JSA WAS GIVEN
Event	31	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	12/29/16	20:00:00	USER				THANK YOU: SALVADOR ALVAREZ AND CREW

The Road to Excellence Starts with Safety

Sold To #: 347474	Ship To #: 3767926	Quote #: 0022255469	Sales Order #: 0903746961
Customer: TARGA RESOURCES INC -		Customer Rep:	
Well Name: MONUMENT AGI D	Well #: 2	API/UWI #: 30-025-43470-00	
Field: AGI	City (SAP): HOBBS	County/Parish: LEA	State: NEW MEXICO
Legal Description: 36-19S-36E-685FSL-2362FEL			
Contractor: PATRIOT DRLG		Rig/Platform Name/Num: PATRIOT 5	
Job BOM: 14099			
Well Type: VERTICAL GAS			
Sales Person: HALAMERICA\HB31506		Srv Supervisor:	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST 91 degF
Job depth MD	1560ft		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
Well Attachment								1460		
Casing		13.375	12.715	48			0	1040		
Drill Pipe		4.5	3.826	16.6			0	1460		
Casing		9.625	8.835	40	LTC	L-80	0	1560		
Open Hole Section			12.25				1040	1560		

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			1560		Top Plug	9.625		HES
Float Shoe	9.625					Bottom Plug	9.625		HES
Float Collar	9.625					SSR plug set	9.625		HES
Insert Float	9.625					Plug Container	9.625		HES
Stage Tool	9.625					Centralizers	9.625		HES

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Gel Spacer	Gel Spacer	50	bbl	8.4					
	2.50 lbm/bbl	CHEM,FDP-S1050-12, BULK BAG (102175420)								
	0.10 lbm/bbl	RHODAMINE RED LIQUID DYE #2 (101201084)								

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	EconoCem™ C	ECONOCEM (TM) SYSTEM	3000	sack	11.9	2.473		3	14.3
0.25 lbm		D-AIR 5000, 50 LB SACK (102068797)							
0.45 %		HR-800, 50 LB SACK (101619742)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	HalCem™ C	HALCEM (TM) SYSTEM	2300	sack	14.8	1.332			6.42

Cement Left in Pipe	Amount	ft	Reason	Shoe Joint
Mix Water: pH ##	Mix Water: ## ppm		Mix Water Temperature: ## °F °C	
	Chloride:			
Cement Temperature: ## °F °C	Plug Displaced by: ## lb/gal kg/m3 XXXX		Disp. Temperature: ## °F °C	
Plug Bumped? Yes/No	Bump Pressure: ### psi MPa		Floats Held? Yes/No	
Cement Returns: ## bbl m3	Returns Density: ## lb/gal kg/m3		Returns Temperature: ## °F °C	
Comment				

Summary Report

Crew: _____
Job Start Date: 12/29/2016

Sales Order #: 0903746961
WO #: 0903746961
PO #: NA
AFE #: _____

Customer: TARGA RESOURCES INC -
UWI / API Number: 30-025-43470-00
Well Name: MONUMENT AGI D
Well No: 2

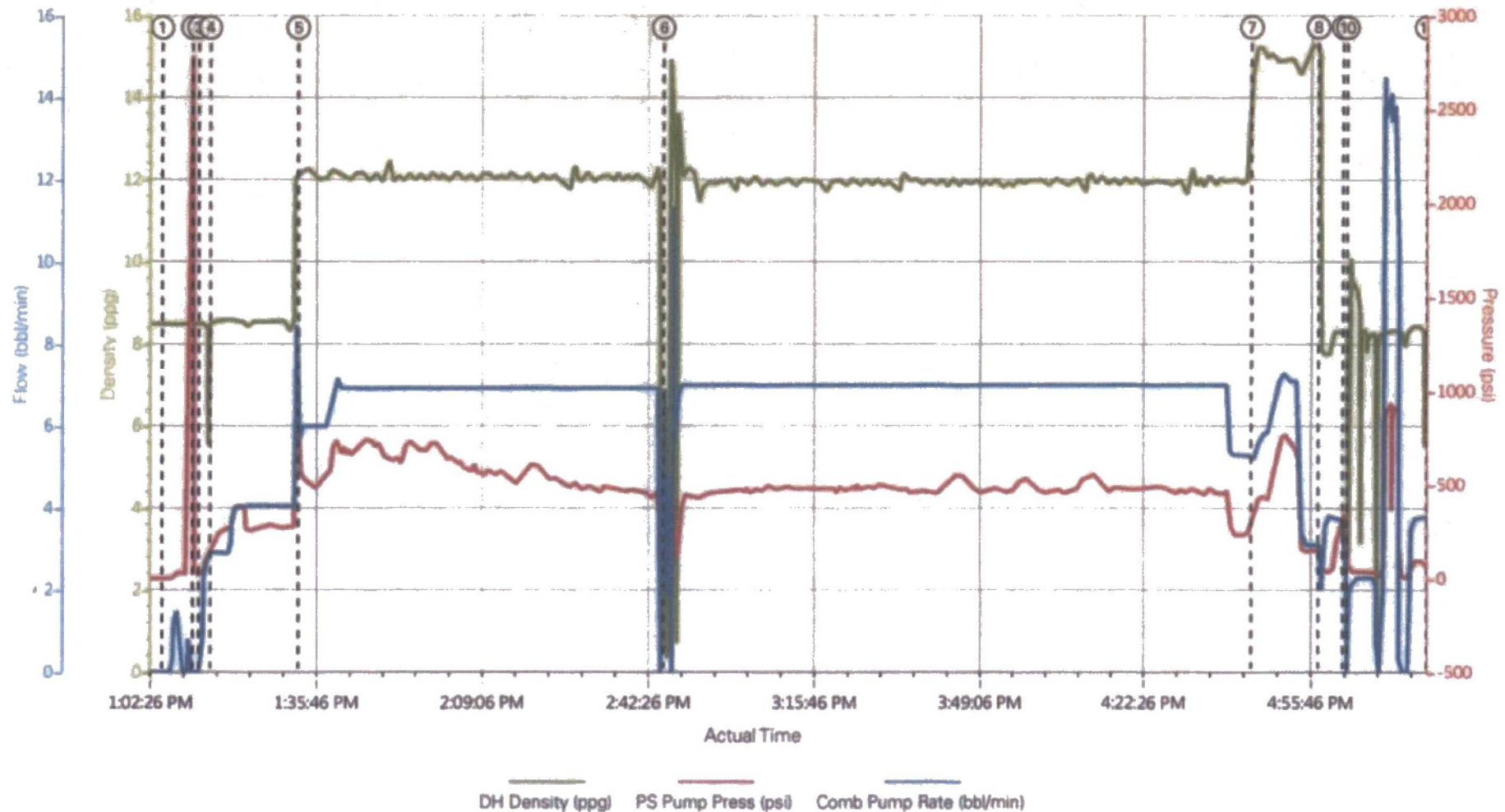
Field: AGI
County/Parish: LEA
State: NEW MEXICO
Latitude: 32.611432
Longitude: -103.306911
Sect / Twn / Rng: 36/19/36

Job Type: CMT RECEMENT
Service Supervisor: BOM
Cust Rep Name:
Cust Rep Phone #:

Remarks:

The Information Stated Herein Is Correct	Customer Representative Signature	Date
	Customer Representative Printed Name	

MONUMENT AGI D #2 RECEMENT JOB



- ① Start Job 8.49;0.0
- ② Test Lines 8.49;11.0
- ③ Pump Spacer 1 8.48;22.0
- ④ Pump Spacer 2 8.55;189;2.9
- ⑤ Pump Lead Cement 12.17;545;6
- ⑥ Start Job 8.3;17.1;6
- ⑦ Pump Tail Cement 14.98;371;5.2
- ⑧ Pump Displacement 756;79;2
- ⑨ Shutdown 8.31;222;0
- ⑩ Clean Lines 10.15;35;2.1
- ⑪ End Job 8.22;47;3.8

MAN WELDING SERVICES, INC

Company Cambrian Date 12-25-16
Lease Monument A91#2 County Lea N.M.
Drilling Contractor Patriot Plug & Drill Pipe Size 11" caa 4 1/2 x H
Accumulator Pressure: 3000 Manifold Pressure: 1500 Annular Pressure: 1500

Accumulator Function Test - OO&GO#2

To Check - **USABLE FLUID IN THE NITROGEN BOTTLES** (III.A.2.c.i. or ii or iii)

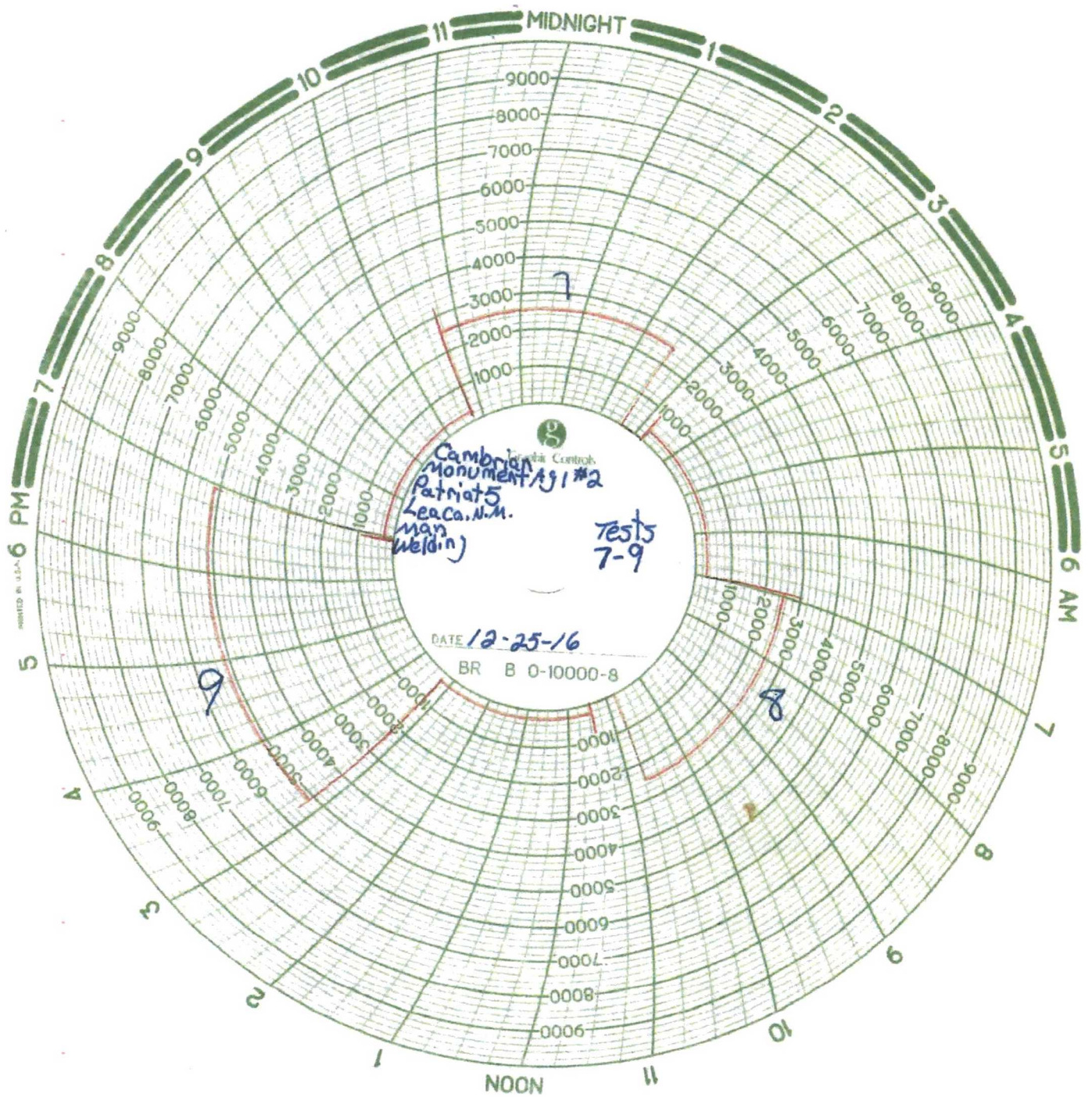
- Make sure all rams and annular are open and if applicable HCR is closed.
 - Ensure accumulator is pumped up to working pressure! (Shut off all pumps)
1. Open HCR Valve. (If applicable)
 2. Close annular.
 3. Close **all** pipe rams.
 4. Open one set of the pipe rams to simulate closing the blind ram.
 5. For 3 ram stacks, open the annular to achieve the 50+ % safety factor. (5M and greater systems).
 6. Record remaining pressure 1800 psi. Test Fails if pressure is lower than required.
- a. {950 psi for a 1500 psi system} b. {1200 psi for a 2000 & 3000 psi system }
 - 7. If annular is closed, open it at this time and close HCR.

To Check - **PRECHARGE ON BOTTLES OR SPHERICAL** (III.A.2.d.)

- Start with manifold pressure at, or above, maximum acceptable pre-charge pressure:
 - a. {800 psi for a 1500 psi system} b. {1100 psi for 2000 and 3000 psi system}
 - 1. Open bleed line to the tank, slowly. (gauge needle will drop at the lowest bottle pressure)
 - 2. Close bleed line. Barely bump electric pump and see what pressure the needle jumps up to.
 - 3. Record pressure drop 950 psi. Test fails if pressure drops below minimum.
- Minimum: a. {700 psi for a 1500 psi system} b. {900 psi for a 2000 & 3000 psi system}

To Check - **THE CAPACITY OF THE ACCUMULATOR PUMPS** (III.A.2.f.)

- Isolate the accumulator bottles or spherical from the pumps & manifold.
 - Open the bleed off valve to the tank, {manifold psi should go to 0 psi} close bleed valve.
1. Open the HCR valve, {if applicable}
 2. Close annular
 3. With pumps only, time how long it takes to regain the required manifold pressure.
 4. Record elapsed time 1:36. Test fails if it takes over 2 minutes.
- a. {950 psi for a 1500 psi system} b. {1200 psi for a 2000 & 3000 psi system}



PRINTED IN U.S.A.

6 PM

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MIDNIGHT

DATE 12-25-10

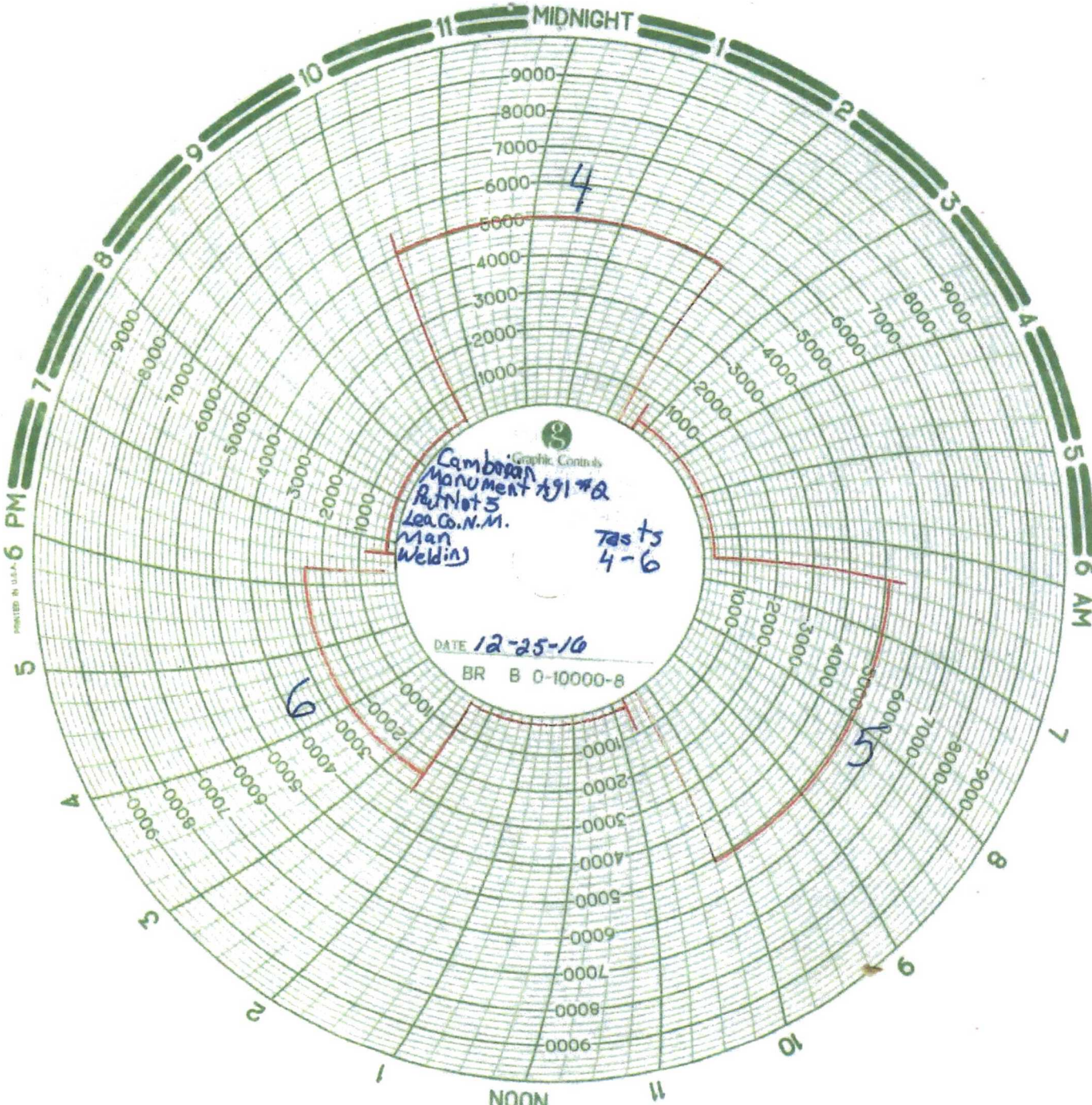
BR B 0-10000-8

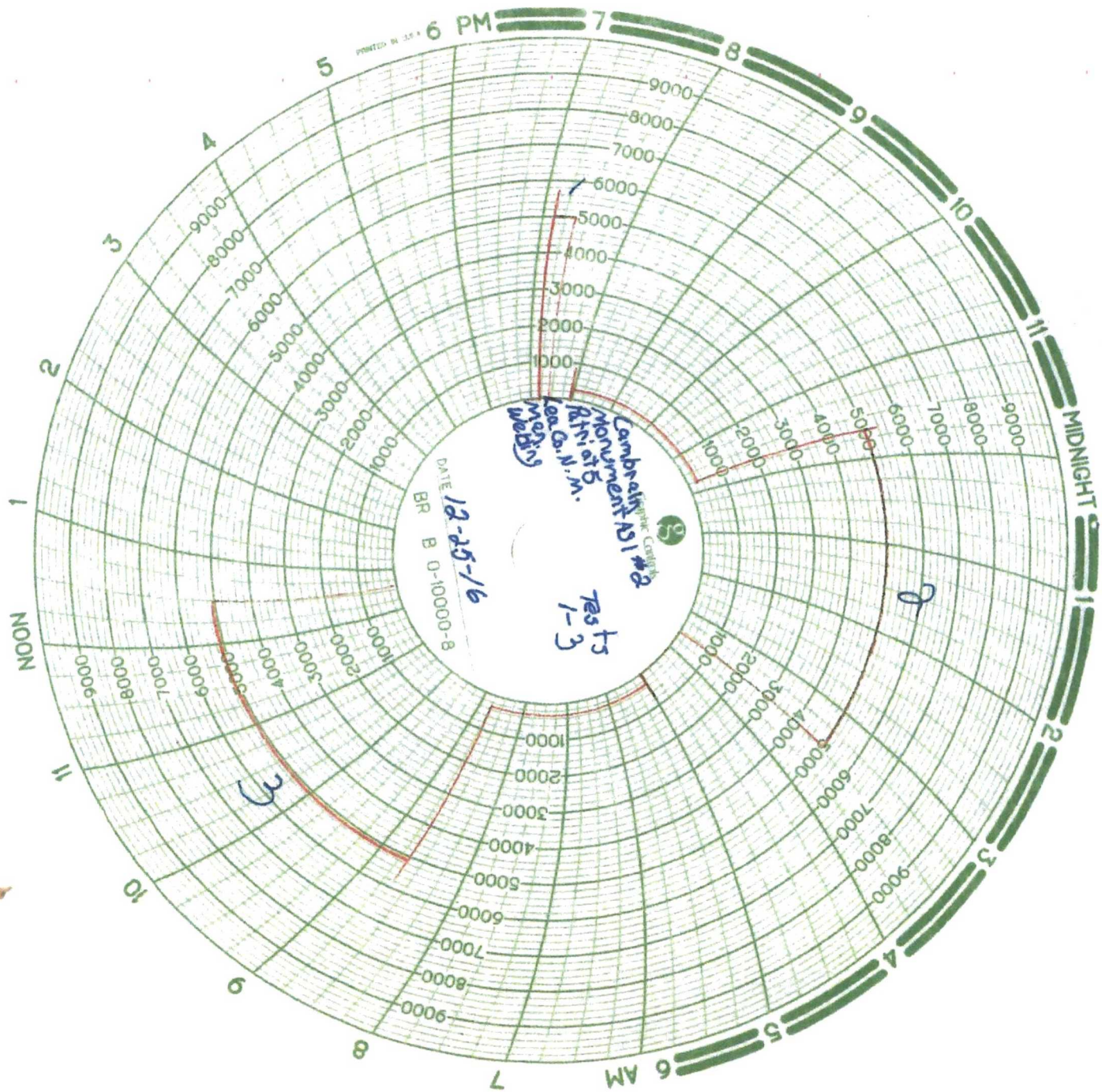
Cambrian
Monument #91 #2
Ref Net 5
Lea Co. N.M.
man
welding

Tests
4-6



Graphic Controls



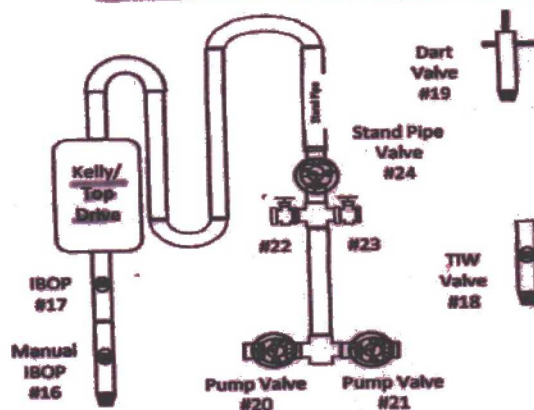




Pg. 1 of 2

Company: Cambrign Date: 12-25-16 Invoice # 82634
Lease: Monument A91 #2 Drilling Contractor: Patriot Rig # 5
Plug Size & Type: 11" C82 Drill Pipe Size 4 1/2 XH Tester: Danie/Wakeland
Required BOP: 5000 Installed BOP: _____

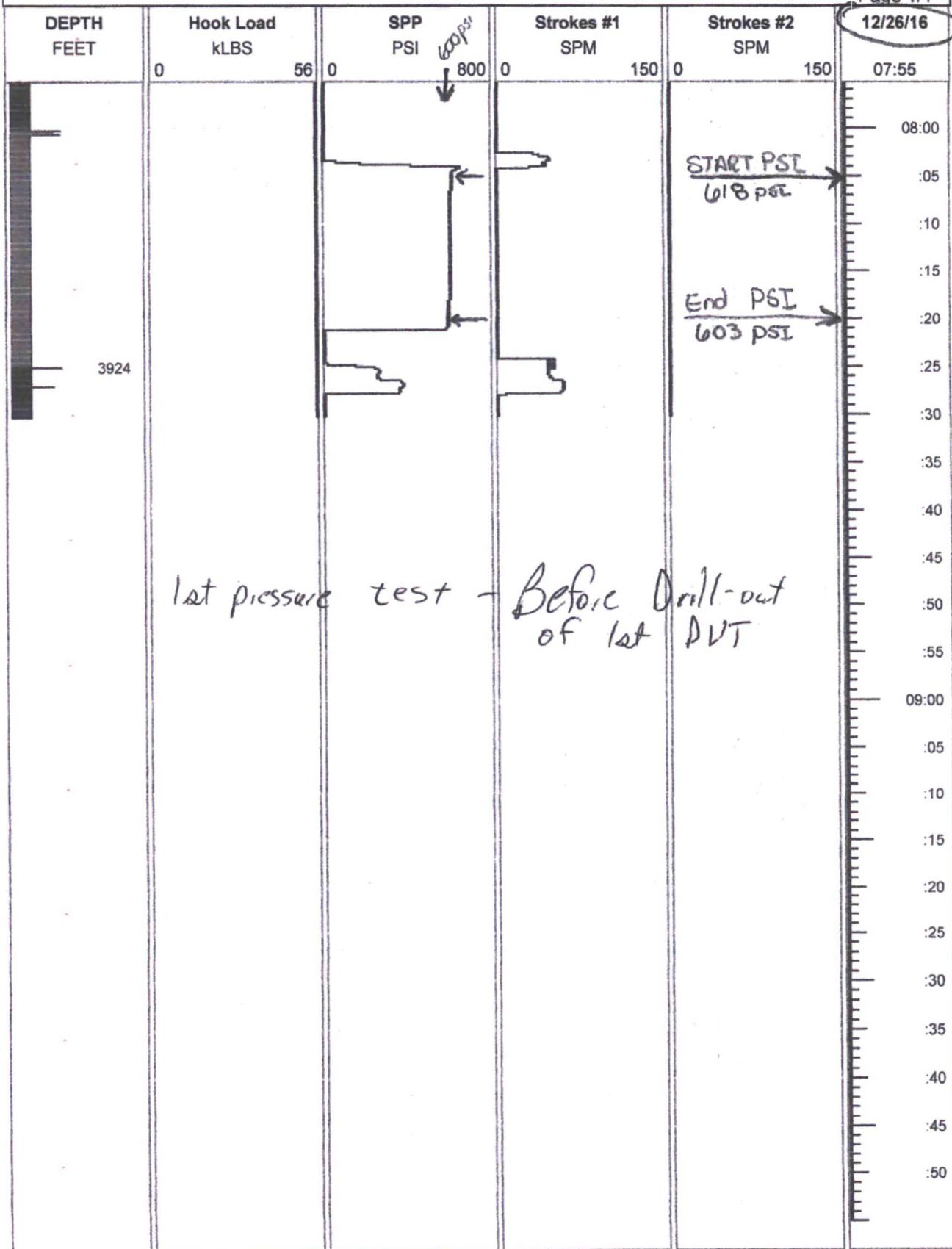
* Check Valve Must Be Open/Disabled To Test Kill Line Valves *

[illegible]

MONUMENT AGI #2 PATRIOT 5

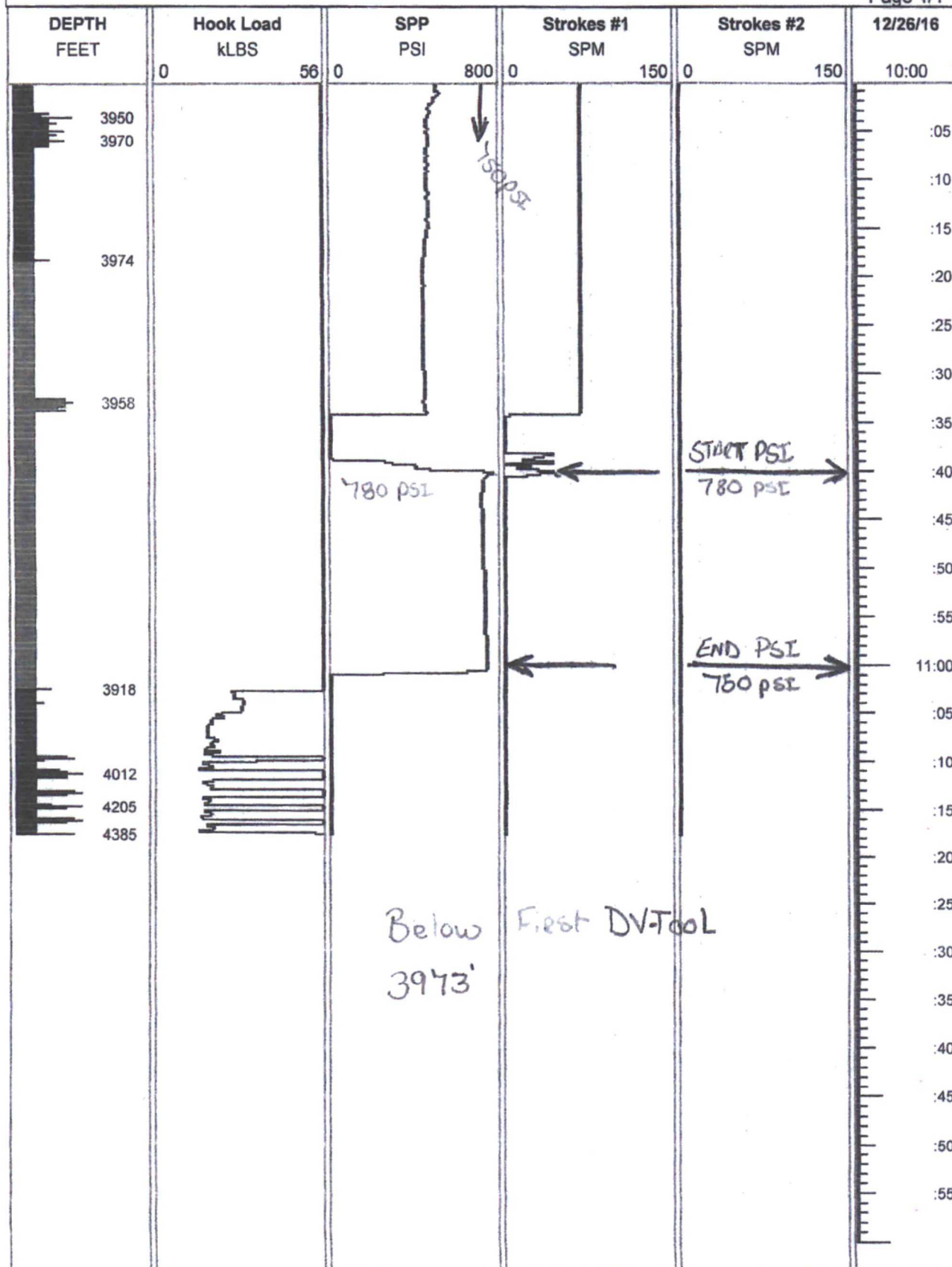
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12/26/16



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