

Holesize	9.9"	Casing size	9 7/8"x 7" "	RKB-MSL	75'	Macondo #1
Section TD	18360'	Set at	18303.92'	RKB-Wellhead	5054	
Prev casing at	17168'	Landing at	5059'	Rathole	55'	
Block weight	180 kips	Connection	Hyd 523 Hyd. 513	Mudweight	14.0 ppg	Steel density
M.C. 252 Well #1		Make-up	ft-lbs			Buoyant factor

Joint No.	Casing description				Strap Length	Running depth		Final depth		Hook Load	Comments
	Size	Grade	Conn	PPF		From	To	From	To		
Shoe	7"	Q-125	Hyd.513	32.0	2.98	0.00	2.98	18303.92	18300.94	180	
S. Jt.	7"	Q-125	Hyd.513	32.0	43.94	2.98	46.92	18300.94	18257.00	181	
C.Jt	7"	Q-125	Hyd.513	32.0	47.59	46.92	94.51	18257.00	18209.41	182	
C.Jt	7"	Q-125	Hyd.513	32.0	47.59	94.51	142.10	18209.41	18161.82	184	Pip Tag at 18,210'
75	7"	Q-125	Hyd.513	32.0	46.89	142.10	188.99	18161.82	18114.93	185	
F.C.	7"	Q-125	Hyd.513	32.0	2.14	188.99	191.13	18114.93	18112.79	185	
F.C.Jt	7"	Q-125	Hyd.513	32.0	45.79	191.13	236.92	18112.79	18067.00	186	Pip Tag at 18,114'
74	7"	Q-125	Hyd.513	32.0	46.52	236.92	283.44	18067.00	18020.48	187	
73	7"	Q-125	Hyd.513	32.0	46.92	283.44	330.36	18020.48	17973.56	188	
C.Jt	7	Q-125	Hyd.513	32.0	45.85	330.36	376.21	17973.56	17927.71	189	
72	7"	Q-125	Hyd.513	32.0	47.02	376.21	423.23	17927.71	17880.69	191	
C.Jt	7"	Q-125	Hyd.513	32.0	46.93	423.23	470.16	17880.69	17833.76	192	
71	7"	Q-125	Hyd.513	32.0	47.03	470.16	517.19	17833.76	17786.73	193	
70	7"	Q-125	Hyd.513	32.0	45.20	517.19	562.39	17786.73	17741.53	194	
69	7"	Q-125	Hyd.513	32.0	45.50	562.39	607.89	17741.53	17696.03	195	
68	7"	Q-125	Hyd.513	32.0	46.54	607.89	654.43	17696.03	17649.49	196	
67	7"	Q-125	Hyd.513	32.0	44.63	654.43	699.06	17649.49	17604.86	198	
66	7"	Q-125	Hyd.513	32.0	46.37	699.06	745.43	17604.86	17558.49	199	
65	7"	Q-125	Hyd.513	32.0	45.48	745.43	790.91	17558.49	17513.01	200	
64	7"	Q-125	Hyd.513	32.0	46.42	790.91	837.33	17513.01	17466.59	201	
63	7"	Q-125	Hyd.513	32.0	46.91	837.33	884.24	17466.59	17419.68	202	
62	7"	Q-125	Hyd.513	32.0	47.02	884.24	931.26	17419.68	17372.66	203	
61	7"	Q-125	Hyd.513	32.0	45.85	931.26	977.11	17372.66	17326.81	205	
60	7"	Q-125	Hyd.513	32.0	47.06	977.11	1,024.17	17326.81	17279.75	206	
59	7"	Q-125	Hyd.513	32.0	46.27	1,024.17	1,070.44	17279.75	17233.48	207	
58	7"	Q-125	Hyd.513	32.0	47.02	1,070.44	1,117.46	17233.48	17186.46	208	
57	7"	Q-125	Hyd.513	32.0	46.93	1,117.46	1,164.39	17186.46	17139.53	209	
56	7"	Q-125	Hyd.513	32.0	46.68	1,164.39	1,211.07	17139.53	17092.85	210	
55	7"	Q-125	Hyd.513	32.0	44.10	1,211.07	1,255.17	17092.85	17048.75	212	
54	7"	Q-125	Hyd.513	32.0	46.50	1,255.17	1,301.67	17048.75	17002.25	213	
53	7"	Q-125	Hyd.513	32.0	46.94	1,301.67	1,348.61	17002.25	16955.31	214	
52	7"	Q-125	Hyd.513	32.0	46.81	1,348.61	1,395.42	16955.31	16908.50	215	



51	7"	Q-125	Hyd. 513	32.0	47.01	1,395.42	1,442.43	16908.50	16861.49	216
50	7"	Q-125	Hyd. 513	32.0	46.36	1,442.43	1,488.79	16861.49	16815.13	217
49	7"	Q-125	Hyd. 513	32.0	45.27	1,488.79	1,534.06	16815.13	16769.86	219
48	7"	Q-125	Hyd. 513	32.0	46.64	1,534.06	1,580.70	16769.86	16723.22	220
47	7"	Q-125	Hyd. 513	32.0	44.63	1,580.70	1,625.33	16723.22	16678.59	221
46	7"	Q-125	Hyd. 513	32.0	45.94	1,625.33	1,671.27	16678.59	16632.65	222
45	7"	Q-125	Hyd. 513	32.0	46.61	1,671.27	1,717.88	16632.65	16586.04	223
44	7"	Q-125	Hyd. 513	32.0	45.97	1,717.88	1,763.85	16586.04	16540.07	224
43	7"	Q-125	Hyd. 513	32.0	47.00	1,763.85	1,810.85	16540.07	16493.07	226
42	7"	Q-125	Hyd. 513	32.0	44.37	1,810.85	1,855.22	16493.07	16448.70	227
41	7"	Q-125	Hyd. 513	32.0	47.03	1,855.22	1,902.25	16448.70	16401.67	228
40	7"	Q-125	Hyd. 513	32.0	44.11	1,902.25	1,946.36	16401.67	16357.56	229
39	7"	Q-125	Hyd. 513	32.0	46.59	1,946.36	1,992.95	16357.56	16310.97	230
38	7"	Q-125	Hyd. 513	32.0	46.52	1,992.95	2,039.47	16310.97	16264.45	231
37	7"	Q-125	Hyd. 513	32.0	46.97	2,039.47	2,086.44	16264.45	16217.48	232
36	7"	Q-125	Hyd. 513	32.0	46.60	2,086.44	2,133.04	16217.48	16170.88	234
35	7"	Q-125	Hyd. 513	32.0	44.50	2,133.04	2,177.54	16170.88	16126.38	235
34	7"	Q-125	Hyd. 513	32.0	44.70	2,177.54	2,222.24	16126.38	16081.68	236
33	7"	Q-125	Hyd. 513	32.0	44.67	2,222.24	2,266.91	16081.68	16037.01	237
32	7"	Q-125	Hyd. 513	32.0	46.58	2,266.91	2,313.49	16037.01	15990.43	238
31	7"	Q-125	Hyd. 513	32.0	45.26	2,313.49	2,358.75	15990.43	15945.17	239
30	7"	Q-125	Hyd. 513	32.0	46.61	2,358.75	2,405.36	15945.17	15898.56	241
29	7"	Q-125	Hyd. 513	32.0	44.93	2,405.36	2,450.29	15898.56	15853.63	242
28	7"	Q-125	Hyd. 513	32.0	46.97	2,450.29	2,497.26	15853.63	15806.66	243
27	7"	Q-125	Hyd. 513	32.0	45.75	2,497.26	2,543.01	15806.66	15760.91	244
26	7"	Q-125	Hyd. 513	32.0	46.24	2,543.01	2,589.25	15760.91	15714.67	245
25	7"	Q-125	Hyd. 513	32.0	46.38	2,589.25	2,635.63	15714.67	15668.29	246
24	7"	Q-125	Hyd. 513	32.0	47.01	2,635.63	2,682.64	15668.29	15621.28	247
23	7"	Q-125	Hyd. 513	32.0	44.20	2,682.64	2,726.84	15621.28	15577.08	249
22	7"	Q-125	Hyd. 513	32.0	45.40	2,726.84	2,772.24	15577.08	15531.68	250
21	7"	Q-125	Hyd. 513	32.0	47.05	2,772.24	2,819.29	15531.68	15484.63	251
20	7"	Q-125	Hyd. 513	32.0	46.54	2,819.29	2,865.83	15484.63	15438.09	252
19	7"	Q-125	Hyd. 513	32.0	45.69	2,865.83	2,911.52	15438.09	15392.40	253
18	7"	Q-125	Hyd. 513	32.0	47.57	2,911.52	2,959.09	15392.40	15344.83	254
17	7"	Q-125	Hyd. 513	32.0	46.35	2,959.09	3,005.44	15344.83	15298.48	256
16	7"	Q-125	Hyd. 513	32.0	47.19	3,005.44	3,052.63	15298.48	15251.29	257
15	7"	Q-125	Hyd. 513	32.0	47.02	3,052.63	3,099.65	15251.29	15204.27	258
14	7"	Q-125	Hyd. 513	32.0	46.89	3,099.65	3,146.54	15204.27	15157.38	259
13	7"	Q-125	Hyd. 513	32.0	47.02	3,146.54	3,193.56	15157.38	15110.36	260
12	7"	Q-125	Hyd. 513	32.0	46.52	3,193.56	3,240.08	15110.36	15063.84	262
11	7"	Q-125	Hyd. 513	32.0	46.30	3,240.08	3,286.38	15063.84	15017.54	263
10	7"	Q-125	Hyd. 513	32.0	46.90	3,286.38	3,333.28	15017.54	14970.64	264



9	7"	Q-125 Hyd.513	32.0	46.99	3,333.28	3,380.27	14970.64	14923.65	265	Start 7" Doubles		
8	7"	Q-125 Hyd.513	32.0	44.65	3,380.27	3,424.92	14923.65	14879.00	266			
101	7"	Q-125 Hyd.513	32.0	93.98	3,424.92	3,518.90	14879.00	14785.02	269			
100	7"	Q-125 Hyd.513	32.0	92.18	3,518.90	3,611.08	14785.02	14692.84	271			
99	7"	Q-125 Hyd.513	32.0	91.20	3,611.08	3,702.28	14692.84	14601.64	273			
98	7"	Q-125 Hyd.513	32.0	91.61	3,702.28	3,793.89	14601.64	14510.03	275			
97	7"	Q-125 Hyd.513	32.0	93.96	3,793.89	3,887.85	14510.03	14416.07	278			
96	7"	Q-125 Hyd.513	32.0	93.47	3,887.85	3,981.32	14416.07	14322.60	280			
95	7"	Q-125 Hyd.513	32.0	91.39	3,981.32	4,072.71	14322.60	14231.21	282			
94	7"	Q-125 Hyd.513	32.0	93.98	4,072.71	4,166.69	14231.21	14137.23	285			
93	7"	Q-125 Hyd.513	32.0	93.45	4,166.69	4,260.14	14137.23	14043.78	287			
92	7"	Q-125 Hyd.513	32.0	92.96	4,260.14	4,353.10	14043.78	13950.82	289			
91	7"	Q-125 Hyd.513	32.0	92.96	4,353.10	4,446.06	13950.82	13857.86	292			
90	7"	Q-125 Hyd.513	32.0	89.42	4,446.06	4,535.48	13857.86	13768.44	294			
89	7"	Q-125 Hyd.513	32.0	92.44	4,535.48	4,627.92	13768.44	13676.00	296			
88	7"	Q-125 Hyd.513	32.0	92.55	4,627.92	4,720.47	13676.00	13583.45	299			
87	7"	Q-125 Hyd.513	32.0	91.02	4,720.47	4,811.49	13583.45	13492.43	301			
86	7"	Q-125 Hyd.513	32.0	94.03	4,811.49	4,905.52	13492.43	13398.40	303			
85	7"	Q-125 Hyd.513	32.0	91.81	4,905.52	4,997.33	13398.40	13306.59	306			
84	7"	Q-125 Hyd.513	32.0	87.82	4,997.33	5,085.15	13306.59	13218.77	308			
83	7"	Q-125 Hyd.513	32.0	89.33	5,085.15	5,174.48	13218.77	13129.44	310			
82	7"	Q-125 Hyd.513	32.0	91.77	5,174.48	5,266.25	13129.44	13037.67	312			
81	7"	Q-125 Hyd.513	32.0	91.87	5,266.25	5,358.12	13037.67	12945.80	315			
80	7"	Q-125 Hyd.513	32.0	89.66	5,358.12	5,447.78	12945.80	12856.14	317			
79	7"	Q-125 Hyd.513	32.0	93.65	5,447.78	5,541.43	12856.14	12762.49	319			
78	7"	Q-125 Hyd.513	32.0	91.83	5,541.43	5,633.26	12762.49	12670.66	322			
77	7"	Q-125 Hyd.513	32.0	89.55	5,633.26	5,722.81	12670.66	12581.11	324			
76	7"	Q-125 Hyd.513	32.0	93.47	5,722.81	5,816.28	12581.11	12487.64	326			
XO	9 7/8	Q-125 Hyd.523	62.8	3.78	5,816.28	5,820.06	12487.64	12483.86	326		9 7/8"x 7"	213.4
178	9 7/8	Q-125 Hyd.523	62.8	43.99	5,820.06	5,864.05	12483.86	12439.87	329		9 7/8" PIP Tag 12,485'	533.1
177	9 7/8	Q-125 Hyd.523	62.8	44.08	5,864.05	5,908.13	12439.87	12395.79	331			746.4
176	9 7/8	Q-125 Hyd.523	62.8	43.64	5,908.13	5,951.77	12395.79	12352.15	333			137.5
175	9 7/8	Q-125 Hyd.523	62.8	45.12	5,951.77	5,996.89	12352.15	12307.03	335			883.9
174	9 7/8	Q-125 Hyd.523	62.8	33.15	5,996.89	6,030.04	12307.03	12273.88	337			72
173	9 7/8	Q-125 Hyd.523	62.8	43.86	6,030.04	6,073.90	12273.88	12230.02	339			51
172	9 7/8	Q-125 Hyd.523	62.8	44.24	6,073.90	6,118.14	12230.02	12185.78	341			1006.9
171	9 7/8	Q-125 Hyd.523	62.8	44.64	6,118.14	6,162.78	12185.78	12141.14	343			7,422.96
170	9 7/8	Q-125 Hyd.523	62.8	39.51	6,162.78	6,202.29	12141.14	12101.63	345			
169	9 7/8	Q-125 Hyd.523	62.8	39.10	6,202.29	6,241.39	12101.63	12062.53	347			
168	9 7/8	Q-125 Hyd.523	62.8	41.83	6,241.39	6,283.22	12062.53	12020.70	349			
											Step	
											Bottom Dart to Diverter	



167	9 7/8	Q-125	Hyd.523	62.8	44.52	6,283.22	6,327.74	12020.70	11976.18	352
166	9 7/8	Q-125	Hyd.523	62.8	42.49	6,327.74	6,370.23	11976.18	11933.69	354
165	9 7/8	Q-125	Hyd.523	62.8	45.11	6,370.23	6,415.34	11933.69	11888.58	356
164	9 7/8	Q-125	Hyd.523	62.8	42.75	6,415.34	6,458.09	11888.58	11845.83	358
163	9 7/8	Q-125	Hyd.523	62.8	43.98	6,458.09	6,502.07	11845.83	11801.85	360
162	9 7/8	Q-125	Hyd.523	62.8	42.98	6,502.07	6,545.05	11801.85	11758.87	362
161	9 7/8	Q-125	Hyd.523	62.8	43.66	6,545.05	6,588.71	11758.87	11715.21	364
160	9 7/8	Q-125	Hyd.523	62.8	43.82	6,588.71	6,632.53	11715.21	11671.39	367
159	9 7/8	Q-125	Hyd.523	62.8	43.46	6,632.53	6,675.99	11671.39	11627.93	369
158	9 7/8	Q-125	Hyd.523	62.8	44.29	6,675.99	6,720.28	11627.93	11583.64	371
157	9 7/8	Q-125	Hyd.523	62.8	44.40	6,720.28	6,764.68	11583.64	11539.24	373
156	9 7/8	Q-125	Hyd.523	62.8	42.21	6,764.68	6,806.89	11539.24	11497.03	375
155	9 7/8	Q-125	Hyd.523	62.8	43.93	6,806.89	6,850.82	11497.03	11453.10	377
154	9 7/8	Q-125	Hyd.523	62.8	43.66	6,850.82	6,894.48	11453.10	11409.44	380
153	9 7/8	Q-125	Hyd.523	62.8	44.74	6,894.48	6,939.22	11409.44	11364.70	382
152	9 7/8	Q-125	Hyd.523	62.8	44.80	6,939.22	6,984.02	11364.70	11319.90	384
151	9 7/8	Q-125	Hyd.523	62.8	43.93	6,984.02	7,027.95	11319.90	11275.97	386
150	9 7/8	Q-125	Hyd.523	62.8	44.01	7,027.95	7,071.96	11275.97	11231.96	388
149	9 7/8	Q-125	Hyd.523	62.8	44.04	7,071.96	7,116.00	11231.96	11187.92	390
148	9 7/8	Q-125	Hyd.523	62.8	43.71	7,116.00	7,159.71	11187.92	11144.21	393
147	9 7/8	Q-125	Hyd.523	62.8	44.09	7,159.71	7,203.80	11144.21	11100.12	395
146	9 7/8	Q-125	Hyd.523	62.8	43.76	7,203.80	7,247.56	11100.12	11056.36	397
145	9 7/8	Q-125	Hyd.523	62.8	44.12	7,247.56	7,291.68	11056.36	11012.24	399
144	9 7/8	Q-125	Hyd.523	62.8	41.84	7,291.68	7,333.52	11012.24	10970.40	401
143	9 7/8	Q-125	Hyd.523	62.8	44.14	7,333.52	7,377.66	10970.40	10926.26	403
142	9 7/8	Q-125	Hyd.523	62.8	44.16	7,377.66	7,421.82	10926.26	10882.10	406
141	9 7/8	Q-125	Hyd.523	62.8	43.55	7,421.82	7,465.37	10882.10	10838.55	408
140	9 7/8	Q-125	Hyd.523	62.8	42.46	7,465.37	7,507.83	10838.55	10796.09	410
139	9 7/8	Q-125	Hyd.523	62.8	42.78	7,507.83	7,550.61	10796.09	10753.31	412
138	9 7/8	Q-125	Hyd.523	62.8	41.49	7,550.61	7,592.10	10753.31	10711.82	414
137	9 7/8	Q-125	Hyd.523	62.8	43.99	7,592.10	7,636.09	10711.82	10667.83	416
136	9 7/8	Q-125	Hyd.523	62.8	46.85	7,636.09	7,682.94	10667.83	10620.98	418
135	9 7/8	Q-125	Hyd.523	62.8	46.29	7,682.94	7,729.23	10620.98	10574.69	421
134	9 7/8	Q-125	Hyd.523	62.8	44.20	7,729.23	7,773.43	10574.69	10530.49	423
133	9 7/8	Q-125	Hyd.523	62.8	46.25	7,773.43	7,819.68	10530.49	10484.24	425
132	9 7/8	Q-125	Hyd.523	62.8	46.34	7,819.68	7,866.02	10484.24	10437.90	427
131	9 7/8	Q-125	Hyd.523	62.8	45.65	7,866.02	7,911.67	10437.90	10392.25	430
130	9 7/8	Q-125	Hyd.523	62.8	45.71	7,911.67	7,957.38	10392.25	10346.54	432

Bottom Dart to DTD
Bottom Dart to Plug
Top Dart to Diverter
Top Dart to DTD
Top Dart to Plug
Switch to Rig Pumps
Bottom Plug to 7"
Top Plug to 7"
Bottom Plug to Float C
<b>Top Plug to Float Col</b>
Max Displacement

Total Displacement  
Compressibility  
Max Displacement

Shoe Track Volume



129	9 7/8	Q-125	Hyd. 523	62.8	44.74	7,957.38	8,002.12	10346.54	10301.80	434
128	9 7/8	Q-125	Hyd. 523	62.8	46.22	8,002.12	8,048.34	10301.80	10255.58	436
127	9 7/8	Q-125	Hyd. 523	62.8	46.31	8,048.34	8,094.65	10255.58	10209.27	439
126	9 7/8	Q-125	Hyd. 523	62.8	46.03	8,094.65	8,140.68	10209.27	10163.24	441
125	9 7/8	Q-125	Hyd. 523	62.8	46.09	8,140.68	8,186.77	10163.24	10117.15	443
124	9 7/8	Q-125	Hyd. 523	62.8	46.04	8,186.77	8,232.81	10117.15	10071.11	446
123	9 7/8	Q-125	Hyd. 523	62.8	45.71	8,232.81	8,278.52	10071.11	10025.40	448
122	9 7/8	Q-125	Hyd. 523	62.8	46.38	8,278.52	8,324.90	10025.40	9979.02	450
121	9 7/8	Q-125	Hyd. 523	62.8	42.96	8,324.90	8,367.86	9979.02	9936.06	452
120	9 7/8	Q-125	Hyd. 523	62.8	41.91	8,367.86	8,409.77	9936.06	9894.15	454
119	9 7/8	Q-125	Hyd. 523	62.8	44.09	8,409.77	8,453.86	9894.15	9850.06	457
118	9 7/8	Q-125	Hyd. 523	62.8	42.82	8,453.86	8,496.68	9850.06	9807.24	459
117	9 7/8	Q-125	Hyd. 523	62.8	44.05	8,496.68	8,540.73	9807.24	9763.19	461
116	9 7/8	Q-125	Hyd. 523	62.8	41.85	8,540.73	8,582.58	9763.19	9721.34	463
115	9 7/8	Q-125	Hyd. 523	62.8	45.60	8,582.58	8,628.18	9721.34	9675.74	465
114	9 7/8	Q-125	Hyd. 523	62.8	43.25	8,628.18	8,671.43	9675.74	9632.49	467
113	9 7/8	Q-125	Hyd. 523	62.8	44.02	8,671.43	8,715.45	9632.49	9588.47	469
112	9 7/8	Q-125	Hyd. 523	62.8	45.80	8,715.45	8,761.25	9588.47	9542.67	472
111	9 7/8	Q-125	Hyd. 523	62.8	46.06	8,761.25	8,807.31	9542.67	9496.61	474
110	9 7/8	Q-125	Hyd. 523	62.8	46.34	8,807.31	8,853.65	9496.61	9450.27	476
109	9 7/8	Q-125	Hyd. 523	62.8	42.77	8,853.65	8,896.42	9450.27	9407.50	478
108	9 7/8	Q-125	Hyd. 523	62.8	44.15	8,896.42	8,940.57	9407.50	9363.35	481
107	9 7/8	Q-125	Hyd. 523	62.8	43.73	8,940.57	8,984.30	9363.35	9319.62	483
106	9 7/8	Q-125	Hyd. 523	62.8	44.15	8,984.30	9,028.45	9319.62	9275.47	485
105	9 7/8	Q-125	Hyd. 523	62.8	43.89	9,028.45	9,072.34	9275.47	9231.58	487
104	9 7/8	Q-125	Hyd. 523	62.8	40.11	9,072.34	9,112.45	9231.58	9191.47	489
103	9 7/8	Q-125	Hyd. 523	62.8	43.41	9,112.45	9,155.86	9191.47	9148.06	491
102	9 7/8	Q-125	Hyd. 523	62.8	42.58	9,155.86	9,198.44	9148.06	9105.48	493
101	9 7/8	Q-125	Hyd. 523	62.8	44.07	9,198.44	9,242.51	9105.48	9061.41	495
100	9 7/8	Q-125	Hyd. 523	62.8	42.28	9,242.51	9,284.79	9061.41	9019.13	498
99	9 7/8	Q-125	Hyd. 523	62.8	38.71	9,284.79	9,323.50	9019.13	8980.42	499
98	9 7/8	Q-125	Hyd. 523	62.8	43.65	9,323.50	9,367.15	8980.42	8936.77	502
97	9 7/8	Q-125	Hyd. 523	62.8	44.07	9,367.15	9,411.22	8936.77	8892.70	504
96	9 7/8	Q-125	Hyd. 523	62.8	44.01	9,411.22	9,455.23	8892.70	8848.69	506
95	9 7/8	Q-125	Hyd. 523	62.8	44.10	9,455.23	9,499.33	8848.69	8804.59	508
94	9 7/8	Q-125	Hyd. 523	62.8	43.69	9,499.33	9,543.02	8804.59	8760.90	510
93	9 7/8	Q-125	Hyd. 523	62.8	43.59	9,543.02	9,586.61	8760.90	8717.31	512
92	9 7/8	Q-125	Hyd. 523	62.8	41.39	9,586.61	9,628.00	8717.31	8675.92	514
91	9 7/8	Q-125	Hyd. 523	62.8	41.26	9,628.00	9,669.26	8675.92	8634.66	517
90	9 7/8	Q-125	Hyd. 523	62.8	42.96	9,669.26	9,712.22	8634.66	8591.70	519

89	9 7/8	Q-125	Hyd.523	62.8	41.88	9,712.22	9,754.10	8591.70	8549.82	521
88	9 7/8	Q-125	Hyd.523	62.8	42.78	9,754.10	9,796.88	8549.82	8507.04	523
87	9 7/8	Q-125	Hyd.523	62.8	37.09	9,796.88	9,833.97	8507.04	8469.95	525
86	9 7/8	Q-125	Hyd.523	62.8	44.80	9,833.97	9,878.77	8469.95	8425.15	527
85	9 7/8	Q-125	Hyd.523	62.8	34.19	9,878.77	9,912.96	8425.15	8390.96	529
84	9 7/8	Q-125	Hyd.523	62.8	43.03	9,912.96	9,955.99	8390.96	8347.93	531
83	9 7/8	Q-125	Hyd.523	62.8	43.29	9,955.99	9,999.28	8347.93	8304.64	533
82	9 7/8	Q-125	Hyd.523	62.8	42.97	9,999.28	10,042.25	8304.64	8261.67	535
81	9 7/8	Q-125	Hyd.523	62.8	42.69	10,042.25	10,084.94	8261.67	8218.98	537
80	9 7/8	Q-125	Hyd.523	62.8	44.62	10,084.94	10,129.56	8218.98	8174.36	539
79	9 7/8	Q-125	Hyd.523	62.8	41.84	10,129.56	10,171.40	8174.36	8132.52	541
78	9 7/8	Q-125	Hyd.523	62.8	43.02	10,171.40	10,214.42	8132.52	8089.50	543
77	9 7/8	Q-125	Hyd.523	62.8	44.10	10,214.42	10,258.52	8089.50	8045.40	546
76	9 7/8	Q-125	Hyd.523	62.8	44.34	10,258.52	10,302.86	8045.40	8001.06	548
75	9 7/8	Q-125	Hyd.523	62.8	42.54	10,302.86	10,345.40	8001.06	7958.52	550
74	9 7/8	Q-125	Hyd.523	62.8	39.17	10,345.40	10,384.57	7958.52	7919.35	552
73	9 7/8	Q-125	Hyd.523	62.8	42.64	10,384.57	10,427.21	7919.35	7876.71	554
72	9 7/8	Q-125	Hyd.523	62.8	44.13	10,427.21	10,471.34	7876.71	7832.58	556
71	9 7/8	Q-125	Hyd.523	62.8	41.48	10,471.34	10,512.82	7832.58	7791.10	558
70	9 7/8	Q-125	Hyd.523	62.8	42.89	10,512.82	10,555.71	7791.10	7748.21	560
69	9 7/8	Q-125	Hyd.523	62.8	42.14	10,555.71	10,597.85	7748.21	7706.07	562
68	9 7/8	Q-125	Hyd.523	62.8	41.35	10,597.85	10,639.20	7706.07	7664.72	564
67	9 7/8	Q-125	Hyd.523	62.8	41.74	10,639.20	10,680.94	7664.72	7622.98	566
66	9 7/8	Q-125	Hyd.523	62.8	43.20	10,680.94	10,724.14	7622.98	7579.78	569
65	9 7/8	Q-125	Hyd.523	62.8	42.71	10,724.14	10,766.85	7579.78	7537.07	571
64	9 7/8	Q-125	Hyd.523	62.8	43.16	10,766.85	10,810.01	7537.07	7493.91	573
63	9 7/8	Q-125	Hyd.523	62.8	44.17	10,810.01	10,854.18	7493.91	7449.74	575
62	9 7/8	Q-125	Hyd.523	62.8	41.48	10,854.18	10,895.66	7449.74	7408.26	577
61	9 7/8	Q-125	Hyd.523	62.8	44.18	10,895.66	10,939.84	7408.26	7364.08	579
60	9 7/8	Q-125	Hyd.523	62.8	44.25	10,939.84	10,984.09	7364.08	7319.83	581
59	9 7/8	Q-125	Hyd.523	62.8	44.08	10,984.09	11,028.17	7319.83	7275.75	584
58	9 7/8	Q-125	Hyd.523	62.8	43.67	11,028.17	11,071.84	7275.75	7232.08	586
57	9 7/8	Q-125	Hyd.523	62.8	43.34	11,071.84	11,115.18	7232.08	7188.74	588
56	9 7/8	Q-125	Hyd.523	62.8	43.90	11,115.18	11,159.08	7188.74	7144.84	590
55	9 7/8	Q-125	Hyd.523	62.8	41.58	11,159.08	11,200.66	7144.84	7103.26	592
54	9 7/8	Q-125	Hyd.523	62.8	43.69	11,200.66	11,244.35	7103.26	7059.57	594
53	9 7/8	Q-125	Hyd.523	62.8	44.11	11,244.35	11,288.46	7059.57	7015.46	596
52	9 7/8	Q-125	Hyd.523	62.8	43.61	11,288.46	11,332.07	7015.46	6971.85	599
51	9 7/8	Q-125	Hyd.523	62.8	44.10	11,332.07	11,376.17	6971.85	6927.75	601



50	9 7/8	Q-125	Hyd.523	62.8	38.21	11,376.17	11,414.38	6927.75	6889.54	603
49	9 7/8	Q-125	Hyd.523	62.8	42.12	11,414.38	11,456.50	6889.54	6847.42	605
48	9 7/8	Q-125	Hyd.523	62.8	42.64	11,456.50	11,499.14	6847.42	6804.78	607
47	9 7/8	Q-125	Hyd.523	62.8	43.02	11,499.14	11,542.16	6804.78	6761.76	609
46	9 7/8	Q-125	Hyd.523	62.8	43.52	11,542.16	11,585.68	6761.76	6718.24	611
45	9 7/8	Q-125	Hyd.523	62.8	44.05	11,585.68	11,629.73	6718.24	6674.19	613
44	9 7/8	Q-125	Hyd.523	62.8	44.18	11,629.73	11,673.91	6674.19	6630.01	615
43	9 7/8	Q-125	Hyd.523	62.8	44.12	11,673.91	11,718.03	6630.01	6585.89	618
42	9 7/8	Q-125	Hyd.523	62.8	43.19	11,718.03	11,761.22	6585.89	6542.70	620
41	9 7/8	Q-125	Hyd.523	62.8	41.01	11,761.22	11,802.23	6542.70	6501.69	622
40	9 7/8	Q-125	Hyd.523	62.8	43.44	11,802.23	11,845.67	6501.69	6458.25	624
39	9 7/8	Q-125	Hyd.523	62.8	42.59	11,845.67	11,888.26	6458.25	6415.66	626
38	9 7/8	Q-125	Hyd.523	62.8	41.37	11,888.26	11,929.63	6415.66	6374.29	628
37	9 7/8	Q-125	Hyd.523	62.8	44.05	11,929.63	11,973.68	6374.29	6330.24	630
36	9 7/8	Q-125	Hyd.523	62.8	41.27	11,973.68	12,014.95	6330.24	6288.97	632
35	9 7/8	Q-125	Hyd.523	62.8	43.97	12,014.95	12,058.92	6288.97	6245.00	634
34	9 7/8	Q-125	Hyd.523	62.8	41.84	12,058.92	12,100.76	6245.00	6203.16	637
33	9 7/8	Q-125	Hyd.523	62.8	43.20	12,100.76	12,143.96	6203.16	6159.96	639
32	9 7/8	Q-125	Hyd.523	62.8	41.34	12,143.96	12,185.30	6159.96	6118.62	641
31	9 7/8	Q-125	Hyd.523	62.8	41.56	12,185.30	12,226.86	6118.62	6077.06	643
30	9 7/8	Q-125	Hyd.523	62.8	42.02	12,226.86	12,268.88	6077.06	6035.04	645
29	9 7/8	Q-125	Hyd.523	62.8	42.61	12,268.88	12,311.49	6035.04	5992.43	647
28	9 7/8	Q-125	Hyd.523	62.8	41.01	12,311.49	12,352.50	5992.43	5951.42	649
27	9 7/8	Q-125	Hyd.523	62.8	41.82	12,352.50	12,394.32	5951.42	5909.60	651
26	9 7/8	Q-125	Hyd.523	62.8	44.11	12,394.32	12,438.43	5909.60	5865.49	653
25	9 7/8	Q-125	Hyd.523	62.8	43.11	12,438.43	12,481.54	5865.49	5822.38	655
24	9 7/8	Q-125	Hyd.523	62.8	43.95	12,481.54	12,525.49	5822.38	5778.43	658
23	9 7/8	Q-125	Hyd.523	62.8	43.50	12,525.49	12,568.99	5778.43	5734.93	660
22	9 7/8	Q-125	Hyd.523	62.8	44.17	12,568.99	12,613.16	5734.93	5690.76	662
21	9 7/8	Q-125	Hyd.523	62.8	43.72	12,613.16	12,656.88	5690.76	5647.04	664
20	9 7/8	Q-125	Hyd.523	62.8	<b>43.36</b>	12,656.88	12,700.24	5647.04	5603.68	666
19	9 7/8	Q-125	Hyd.523	62.8	<b>43.72</b>	12,700.24	12,743.96	5603.68	5559.96	668
18	9 7/8	Q-125	Hyd.523	62.8	42.85	12,743.96	12,786.81	5559.96	5517.11	670
17	9 7/8	Q-125	Hyd.523	62.8	42.72	12,786.81	12,829.53	5517.11	5474.39	673
16	9 7/8	Q-125	Hyd.523	62.8	43.20	12,829.53	12,872.73	5474.39	5431.19	675
15	9 7/8	Q-125	Hyd.523	62.8	42.85	12,872.73	12,915.58	5431.19	5388.34	677
14	9 7/8	Q-125	Hyd.523	62.8	43.97	12,915.58	12,959.55	5388.34	5344.37	679
13	9 7/8	Q-125	Hyd.523	62.8	43.66	12,959.55	13,003.21	5344.37	5300.71	681
12	9 7/8	Q-125	Hyd.523	62.8	41.80	13,003.21	13,045.01	5300.71	5258.91	683

11	9 7/8	Q-125	Hyd.52	62.8	42.85	13,045.01	13,087.86	5258.91	5216.06	685	<b>Pip Tag at 5,084'</b> Hang off at 5059.65'
10	9 7/8	Q-125	Hyd.52	62.8	43.83	13,087.86	13,131.69	5216.06	5172.23	687	
9	9 7/8	Q-125	Hyd.52	62.8	44.19	13,131.69	13,175.88	5172.23	5128.04	690	
8	9 7/8	Q-125	Hyd.52	62.8	44.23	13,175.88	13,220.11	5128.04	5083.81	692	
Ext.	9 7/8	Q-125	Hyd.52	62.8	22.91	13,220.11	13,243.02	5083.81	5060.90	693	
Hanger	below				1.25	13,243.02	13,244.27	5060.90	5059.65	693	
Hanger	Above				2.35	13,244.27	13,246.62	5059.65	5057.30	693	
R/T					4.71	13,246.62	13,251.33	5057.30	5052.59	693	
Single	6 5/8	S-135	FH	46.0	44.57	13,251.33	13,295.90	5052.59	5008.02	695	
1	6 5/8	S-135	FH	46.0	133.43	13,295.90	13,429.33	5008.02	4874.59	699	
2	6 5/8	S-135	FH	46.0	132.36	13,429.33	13,561.69	4874.59	4742.23	704	
DTD	6 5/8	S-135	FH	46.0	7.38	13,561.69	13,569.07	4742.23	4734.85	704	
S	6 5/8	S-135	FH	46.0	44.49	13,569.07	13,613.56	4734.85	4690.36	706	
3	6 5/8	S-135	FH	46.0	133.56	13,613.56	13,747.12	4690.36	4556.80	711	
4	6 5/8	S-135	FH	46.0	132.37	13,747.12	13,879.49	4556.80	4424.43	716	
Div.	6 5/8	S-135	FH	46.0	6.80	13,879.49	13,886.29	4424.43	4417.63	716	
S	6 5/8	S-135	FH	46.0	44.35	13,886.29	13,930.64	4417.63	4373.28	717	
s	6 5/8	S-135	FH	46.0	44.30	13,930.64	13,974.94	4373.28	4328.98	719	
pup	6 5/8	S-135	FH	46.0	30.00	13,974.94	14,004.94	4328.98	4298.98	720	
5	6 5/8	S-135	FH	46.0	133.25	14,004.94	14,138.19	4298.98	4165.73	725	
6	6 5/8	S-135	FH	46.0	132.15	14,138.19	14,270.34	4165.73	4033.58	730	
7	6 5/8	S-135	FH	46.0	133.53	14,270.34	14,403.87	4033.58	3900.05	735	
8	6 5/8	S-135	FH	46.0	132.99	14,403.87	14,536.86	3900.05	3767.06	739	
9	6 5/8	S-135	FH	46.0	133.74	14,536.86	14,670.60	3767.06	3633.32	744	
10	6 5/8	S-135	FH	46.0	132.19	14,670.60	14,802.79	3633.32	3501.13	749	
11	6 5/8	S-135	FH	46.0	133.73	14,802.79	14,936.52	3501.13	3367.40	754	
12	6 5/8	S-135	FH	46.0	133.62	14,936.52	15,070.14	3367.40	3233.78	759	
13	6 5/8	S-135	FH	46.0	132.06	15,070.14	15,202.20	3233.78	3101.72	763	
14	6 5/8	S-135	FH	46.0	133.56	15,202.20	15,335.76	3101.72	2968.16	768	
15	6 5/8	S-135	FH	46.0	133.59	15,335.76	15,469.35	2968.16	2834.57	773	
16	6 5/8	S-135	FH	46.0	133.53	15,469.35	15,602.88	2834.57	2701.04	778	
17	6 5/8	S-135	FH	46.0	133.57	15,602.88	15,736.45	2701.04	2567.47	783	
18	6 5/8	S-135	FH	46.0	133.62	15,736.45	15,870.07	2567.47	2433.85	788	
19	6 5/8	S-135	FH	46.0	133.88	15,870.07	16,003.95	2433.85	2299.97	792	
20	6 5/8	S-135	FH	46.0	133.50	16,003.95	16,137.45	2299.97	2166.47	797	
21	6 5/8	S-135	FH	46.0	133.60	16,137.45	16,271.05	2166.47	2032.87	802	
22	6 5/8	S-135	FH	46.0	133.41	16,271.05	16,404.46	2032.87	1899.46	807	
23	6 5/8	S-135	FH	46.0	133.65	16,404.46	16,538.11	1899.46	1765.81	812	
24	6 5/8	S-135	FH	46.0	133.43	16,538.11	16,671.54	1765.81	1632.38	817	



25	6 5/8	S-135	FH	46.0	133.58	16,671.54	16,805.12	1632.38	1498.80	821
26	6 5/8	S-135	FH	46.0	132.85	16,805.12	16,937.97	1498.80	1365.95	826
27	6 5/8	S-135	FH	46.0	133.88	16,937.97	17,071.85	1365.95	1232.07	831
28	6 5/8	S-135	FH	46.0	132.81	17,071.85	17,204.66	1232.07	1099.26	836
29	6 5/8	S-135	FH	46.0	133.69	17,204.66	17,338.35	1099.26	965.57	841
30	6 5/8	S-135	FH	46.0	133.61	17,338.35	17,471.96	965.57	831.96	846
31	6 5/8	V-150	FH	48.0	135.49	17,471.96	17,607.45	831.96	696.47	851
32	6 5/8	V-150	FH	48.0	135.57	17,607.45	17,743.02	696.47	560.90	856
33	6 5/8	V-150	FH	48.0	135.67	17,743.02	17,878.69	560.90	425.23	861
34	6 5/8	V-150	FH	48.0	135.98	17,878.69	18,014.67	425.23	289.25	866
35	6 5/8	V-150	FH	48.0	135.52	18,014.67	18,150.19	289.25	153.73	871
36	6 5/8	V-150	FH	48.0	134.94	18,150.19	18,285.13	153.73	18.79	876
pup	6 5/8	V-150	FH	48.0	20.30	18,285.13	18,305.43	18.79	-1.51	877
pup	6 5/8	V-150	FH	48.0	10.15	18,305.43	18,315.58	-1.51	-11.66	877
valve					2.73	18,315.58	18,318.31	-11.66	-14.39	877
head					15.61	18,318.31	18,333.92	-14.39	-30.00	877
valve					2.75	18,333.92	18,336.67	-30.00	-32.75	877
pup					15.35	18,336.67	18,352.02	-32.75	-48.10	877























		Calculated			Actual	
Pumps	Step	Total	Release Pressure		Volume	Pressure
Cement Unit	Bottom Dart to Diverter	60 bbls	2500 - 3000 psi		43 bbls	3500 psi
Cement Unit	Bottom Dart to DTD	69 bbls	2500 - 3000 psi		-	3250 psi
Cement Unit	Bottom Dart to Plug	78 bbls	800 - 1200 psi		-	-
Cement Unit	Top Dart to Diverter	120 bbls	2500 - 3000 psi		100 bbls	3200 psi
Cement Unit	Top Dart to DTD	129 bbls	2500 - 3000 psi		109 bbls	3400 psi
Cement Unit	Top Dart to Plug	138 bbls	2000 - 2500 psi	Cumm	119 bbls	3300 psi
Cement Unit	Switch to Rig Pumps	150 bbls	-	Total	150 bbls	-
				0 bbls	0 bbls	-
Rig Pumps	Bottom Plug to 7"	611 bbls	-	461 bbls	469 bbls	830 psi
Rig Pumps	Top Plug to 7"	671 bbls	-	521 bbls	527 bbls	590 psi
Rig Pumps	Bottom Plug to Float Collar	817 bbls	900 - 1100 psi	667 bbls	673 bbls	2932 psi
Rig Pumps	Top Plug to Float Collar	877 bbls	500 - 1000 psi	727 bbls ***	727 bbls	740 psi
Rig Pumps	Max Displacement	894 bbls		744 bbls ***	-	-