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Well Casing Baseline Analysis for the Big Hill Strategic Petroleum Reserve Site

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Abstract

This report analyzes data from multi-arm caliper (MAC) surveys taken at the Big Hill SPR site to determine the most likely casing weights within each well. Radial arm data from MAC surveys were used to calculate the approximate wall thickness of each well. Results from this study indicate that (1) most wells at the site have thinner wall thicknesses than expected, (2) most wells experienced an acute increase in diameter near the salt/caprock interface, and (3) there were isolated instances of well sections being the wrong casing weight. All three findings could have a negative impact on well integrity.

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NOMENCLATURE

ASTM	American Society for Testing and Materials
BH	Big Hill SPR Site
BHF	Bradenhead Flange
DOE	Department of Energy
MAC	Multi-Arm Caliper
SNL	Sandia National Laboratories
SPR	Strategic Petroleum Reserve

1. INTRODUCTION

The Strategic Petroleum Reserve (SPR) stores large amounts of oil in subsurface salt caverns to supply the United States in times of national shortage. To achieve these goals SPR must assure the integrity of cavern wells. One method for monitoring well integrity is through the use of multi-arm caliper (MAC) surveys. MAC surveys measure the internal dimensions of the well which can be used to infer the structural integrity of each well section. One of the dimensions important for well integrity is the wall thickness. The wall thicknesses for each section are determined by the stresses and strains they will experience at a certain depth. As such, wall thicknesses will typically increase as a function of depth (PB-KBB Inc., n.d.).

Figure 1 shows the typical design for the wells at the Big Hill (BH) SPR site. The drawing indicates the innermost casing sections have an outer diameter of 13 3/8". Since the outer diameter of these sections are constant, the wall thickness is varied by changing the inner diameter of the well. As the wall thickness increases, the casing weight per linear foot also increases. Most technical drawings specify the type of well casing used by its casing weight. The as-built drawings indicate that all the 13 3/8" wells at Big Hill were designed to have weights of 54.5, 61, or 68 lb/ft depending on depth, however, this may not always be the case. Previous studies have suggested instances of casing weights at SPR being different from those reported in the as-built drawings (Roberts, 2013). In addition, it is possible that subsurface stresses have deformed the wells and have changed the internal diameter and, by extension, well volume. Identifying the casing weight of each section is essential to accurately modelling volumes, pressures, and stress-strain effects within the casing. This study looks to determine the section casing weights of each well at the Big Hill site.

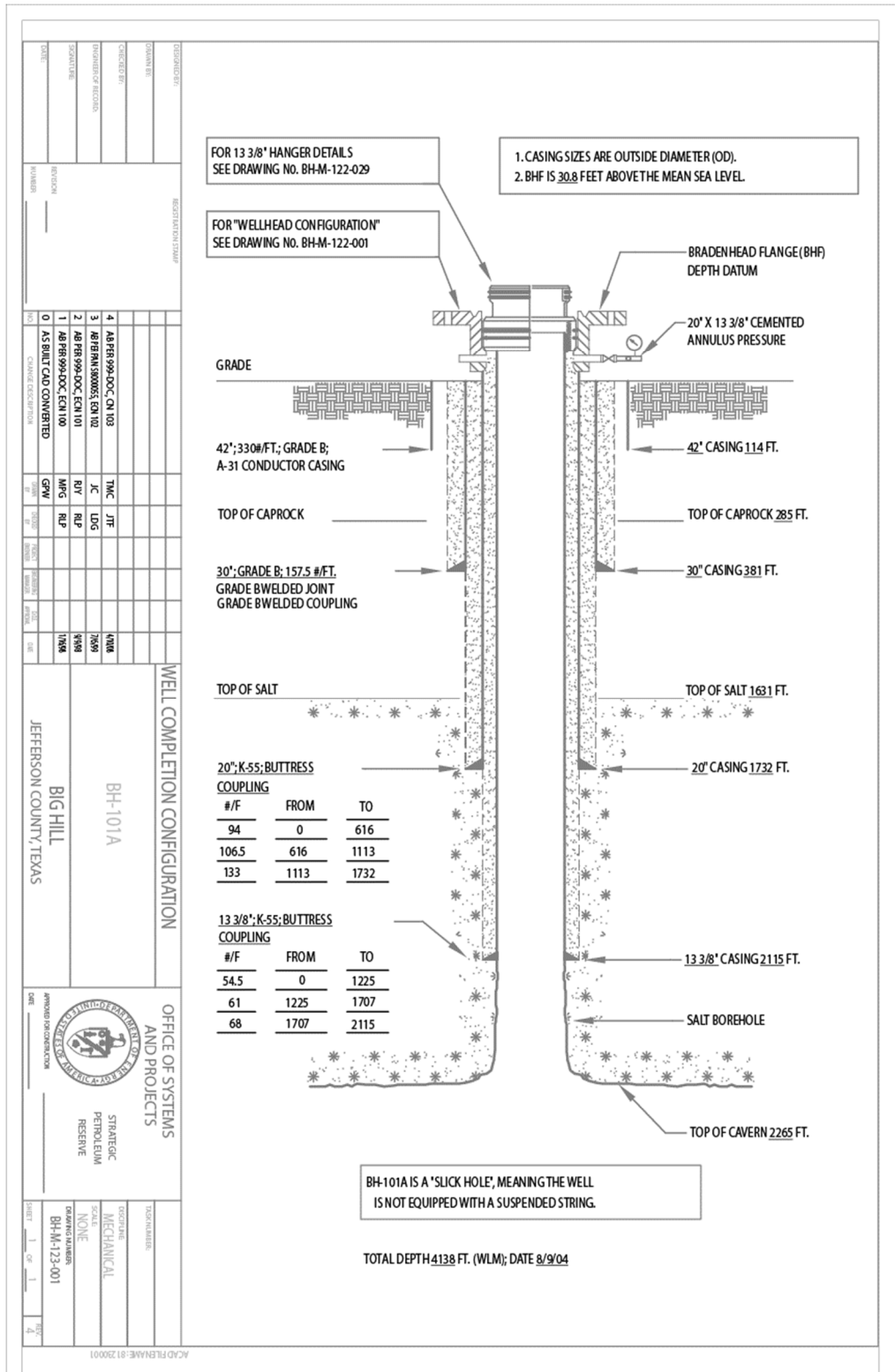


Figure 1 - As built drawing of BH 101A showing the expected casing weights and their respective depths

The information used in this study is sourced from multi-arm caliper (MAC) surveys of the Big Hill wells beginning in 2010. Each MAC survey provides radial arm data at various depths that can be used to generate multiple inner diameter measurements at each survey depth. For the purposes of this report, an average internal diameter for each depth was used to calculate the most likely casing weight in each well section.

The results found that the internal diameters, and therefore wall thicknesses, were dissimilar to the nominal wall thickness specified by the as-built drawings. For some well sections, the installed casing weight clearly did not match the as-built drawings and may be due to quality control issues during the construction of the site. Other wells exhibited signs of deformation due to stresses on the system. One deformation phenomenon that occurred in almost all of the wells was an increase in the internal diameter near the salt/caprock interface. Reasons for this increase are still unclear at this time, but is likely due to the interplay between the plastic salt and rigid caprock. In addition to these issues, there was also the possibility of MAC tool calibration error. This type of error was difficult to detect if only a single MAC survey was run on the well. Result from this study are presented in both graphical and tabular forms.

2. METHODOLOGY

Since 2010, the SPR has been measuring the internal dimensions of wells with a multi-arm caliper tool. The tool is lowered into the well and can sample at a vertical resolution between 0.025 and 0.1 feet. Each MAC can have up to 60 arms that measure the distance between the well wall and a central point inside the tool to get an arm length. Individual internal diameters can be obtained by adding the lengths given by two arms on opposite sides of the sampling tool. This means there can be up to 30 individual internal diameter measurements from a MAC tool sampling every 0.025 ft. For the purpose of this analysis, the individual internal diameters for each sampling depth were condensed into one metric: the average internal diameter of the well which is subsequently referred to as internal or inner diameter. All depths of internal diameters are reported from the bradenhead flange (BHF).

This analysis relies on two important parameters: the internal diameter and the relative wall displacement which is a function of internal diameter. The internal diameter is simply the average of all individual internal diameter measurements at a given depth. A median filter with a window size of 2 ft was also applied to minimize the internal diameter noise that can occur near the casing collar. Figure 2 shows the difference between the raw internal diameter data and the filtered internal diameter data.

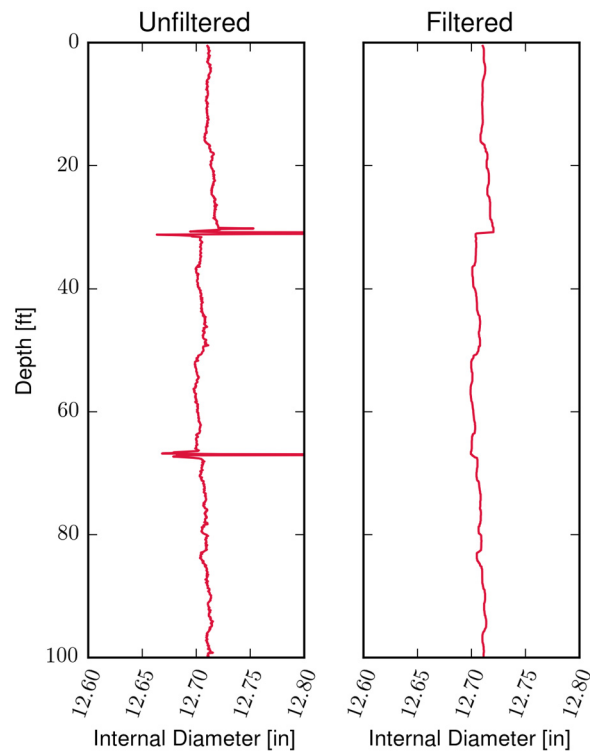


Figure 2 - Difference between the unfiltered raw internal diameter measurements (left) and the filtered measurements (right)

Although noise in the internal diameter measurements was seen near collar depths a more accurate and consistent parameter had to be used to accurately identify the boundaries of well casing sections. In this study, relative wall displacement (RWD) was used to identify casing collar depths. This parameter was adapted from a 2015 Roberts report (Roberts, 2015) and is the maximum

absolute difference between the measured and expected internal radii normalized by the expected casing wall thickness (Equation 1). The RWD is presented as follows:

$$RWD = \frac{0.5 \times \text{MAX}(|MID_{\min} - EID|, |MID_{\max} - EID|)}{EOD - EID} \quad (1)$$

where $MID_{\min}$ and $MID_{\max}$ are the minimum and maximum measured internal diameters, respectively, EID is the expected internal diameter, and EOD is the expected outer diameter. The RWD is sensitive to the jumps seen near the collar regardless of casing weight and is therefore useful in identifying the depths of casing sections. Figure 3, below, is an example of how RWD values were used to determine casing section depths.

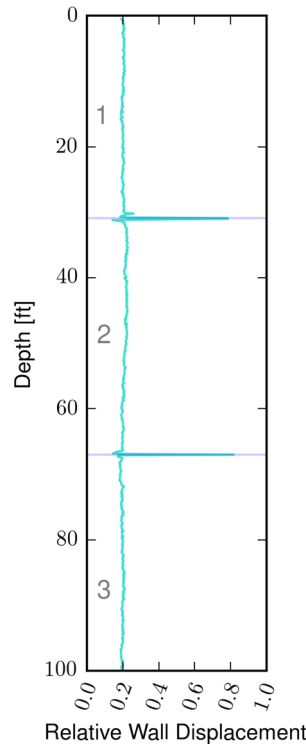


Figure 3 - Relative wall displacement for a portion of BH 101A with calculated collar locations marked by the horizontal blue lines and casing sections numbered on the left section of the graph.

2.1 Determination of Well Casing Weight

The original well casings at Big Hill are approximately 40 ft long and have an outer diameter of 13 3/8" with inner diameters that vary between 12.415" and 12.615". This means that the wall thickness should vary between 0.38" and 0.48" depending on the casing weight and must comply with ATSM A999 which specify a minimum wall thickness. ATSM A999 states that the actual wall thickness may not be less than 85% of the nominal wall thickness (ASTM International, 2004). This threshold was used to determine the actual casing weights of each section. In addition, it is possible that the measured wall thickness is greater than the specified wall thickness. For the purposes of this report the maximum allowable wall thickness is 115% of the nominal wall thickness. Assuming the outer casing diameter is 13 3/8" then then an expected range for the

internal diameter can be calculated. Table 1 shows several casing weights for a 13 3/8" casing and their expected wall thicknesses and internal diameters.

Table 1 - Weights for a 13 3/8" casing and their expected wall thicknesses and internal diameters (* denotes casing weights that are expected in the Big Hill wells).

Casing Weight [#/ft]	Outer Diameter [in]	Wall Thickness [in]			Internal Diameter [in]		
		<i>Min</i>	<i>Nominal</i>	<i>Max</i>	<i>Min</i>	<i>Nominal</i>	<i>Max</i>
48.0	13.375	0.289	0.330	0.371	12.633	12.715	12.798
54.5*	13.375	0.333	0.380	0.428	12.520	12.615	12.710
61.0*	13.375	0.376	0.430	0.484	12.408	12.515	12.623
68.0*	13.375	0.420	0.480	0.540	12.295	12.415	12.535
72.0	13.375	0.450	0.514	0.578	12.219	12.347	12.476

Next, the casing weight for each well section must be calculated. There were approximately 400 to 1600 internal diameter measurements per section it was common to see a section both inside and outside of the expected range. Because of this, an entire section was determined to be within the threshold if the majority of measurements in that section were inside the expected range. If this was not the case, then the entire well section was considered outside the expected range and a new casing weight was assigned to that section. The new section weight was assigned based on the casing weight that had the closest inner diameter to that of the measured section. In addition, any sections that experienced rapid changes or were distinctly different than surrounding sections were also examined.

3. RESULTS

The results for each survey are presented in both graphical and tabular form. The figures are discussed in each section while the tabular results are presented in Appendix A. The figures show the average internal diameter of each survey as a function of depth from the BHF. The nominal, or expected, value is identified with a dashed black line while the expected tolerance is shaded grey. If the internal diameter is within the expected range it is colored turquoise, otherwise it is colored red. The measured depths of casing collars are shown by the horizontal blue lines and each section is numbered left portion of the graph. If the number is bold then it implies that the majority of measurements for that section are outside the expected range.

While all of the surveys are discussed in detail, here are some of the general findings:

- One prominent feature of many wells is the presence of a bulge, or spike, in internal diameter. This spike generally occurs near the salt/caprock interface (Roberts, 2015). The only wells that DO NOT demonstrate this behavior include: 101A, 101B, 102A, 102B, 110A, and 110B. In addition, this feature is not seen in any of the lined wells at this time.
- Most of the original wells have larger than expected inner diameters. Assuming the outer diameter is a constant 13 3/8", this would lead to a thinner wall thickness. Only the first survey of BH 113B on July 2, 2012 indicates a smaller inner diameter and was likely due to survey error. Four out of the six lined wells also exhibit this behavior.
- Some wells with multiple surveys indicate the inner well diameter can become larger with time, however, these differences are often small and could be due to a change in tool calibration.
- While it is assumed that information from a single survey is valid, it is difficult to confirm those results without a second, or even third survey. The results indicate some survey measurements might have suffered from poor tool calibration as they are significantly different from other surveys.
- Many of the wells experienced spikes in internal diameter near the bottom of the well. This is likely due to the instrument passing over the float collar or the tool exiting the end of the well ("Personal Communication with Barry Roberts," 2016). These spikes are shown in the figures but not considered in the analysis.

Since there can be multiple surveys for a given well, the most accurate is generally assumed to be the most recent survey unless otherwise noted.

Big Hill 101

There was a single MAC survey taken for each of the wells at Big Hill 101. BH 101A was surveyed in July 2010 while 101B was surveyed in 2012. Figure 4 shows both wells being made up of 54.5, 61.0, and 68.0 lb/ft casing sections in the upper, middle, and lower portions of the well, respectively. The upper and middle portions of BH101A are outside the expected tolerance. The upper portion of the well is much closer to a 48.0 lb/ft casing while the middle portion reflects dimensions of a 54.5 lb/ft casing. Most of the measurements from the BH101B survey indicate that all well sections are within the expected tolerance. Despite these measurements being within the expected tolerance, all of the measured inner diameters are larger than expected. Assuming the outer diameter is 13 3/8" the wall thickness is also less than expected.

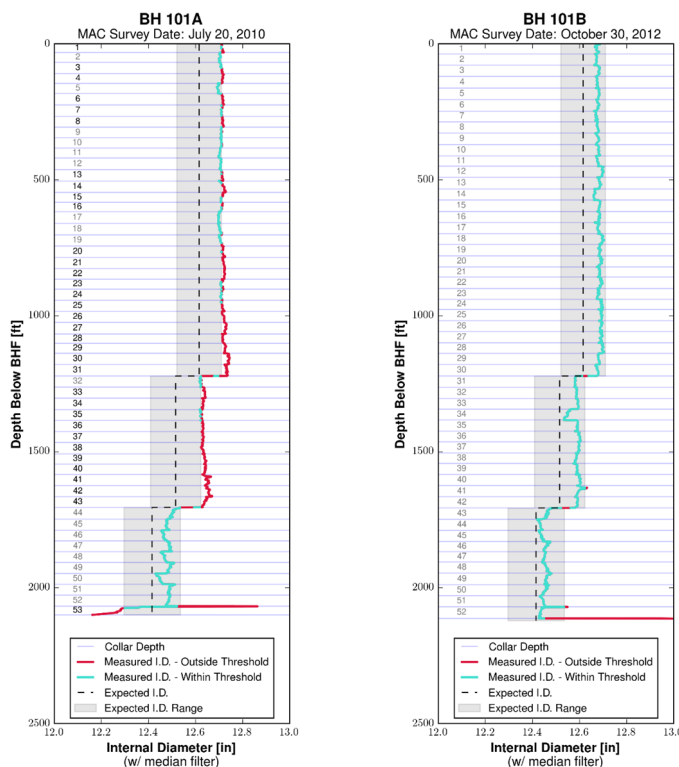


Figure 4 - Measured internal diameter of 101A (left) and 101B (right).

Big Hill 102

Figure 5 shows surveys reminiscent of results seen in BH 101A&B. The survey of BH 102A shows most of the sections in the upper portion are abnormal and are closer to a 48.0 lb/ft weight section. It should also be mentioned that the inner diameters in the middle portion of the well are close to the threshold and better reflect a 54.5 lb/ft weight casing. All sections from the BH 102B survey are within the expected range.

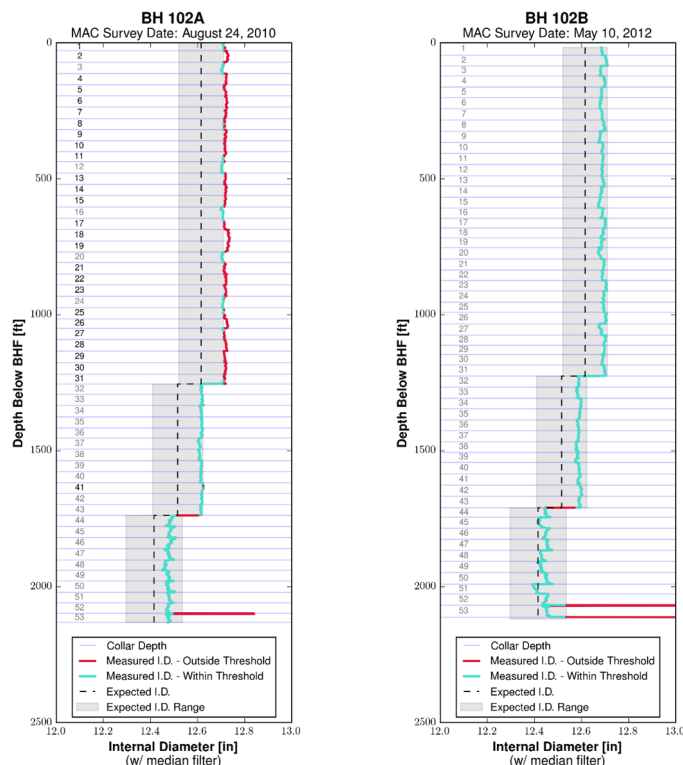


Figure 5 - Measured internal diameter of 102A (left) and 102B (right).

Big Hill 103

Wells at Big Hill 103 have been surveyed a total of six times since 2010, four surveys of BH 103A and two surveys of BH 103B. Both wells have recently been lined with 10 3/4" casing throughout. BH 103A and 103B were lined with 55.5 lb/ft and 51.0 lb/ft casing sections, respectively.

Figure 6 shows all four surveys of BH 103A beginning in 2010. Before the well was lined it was made up of three well casing weights ranging from 54.5 lb/ft in the upper portion of the well and 68.0 lb/ft in the lower portion of the well. The first survey on July 21, 2010 shows that all of the well sections in the upper and middle portions are outside the expected tolerance, however, subsequent surveys suggest that this may not be the case. The survey on March 5, 2013 indicates that all of the sections are within the expected tolerance. The final survey of the unlined well was taken on December 21, 2015 and showed several sections in the upper portion of the well that were outside of the expected threshold. There was also a single section in the middle portion of the well that was out of tolerance. This section is near the depth of the salt/caprock interface (Project Management Office - Strategic Petroleum Reserve, 2008) and there is a clear spike in the internal diameter. Despite differences in the absolute value of inner diameter, this spike can be seen in all three surveys. Assuming the surveys in 2013 and 2015 are true it is also apparent that the inner diameter is becoming larger over time.

In addition to the three surveys of the original well, there is a single survey that took place after the well was lined. In this case, the measured internal diameters of each section strongly reflected the expected value.

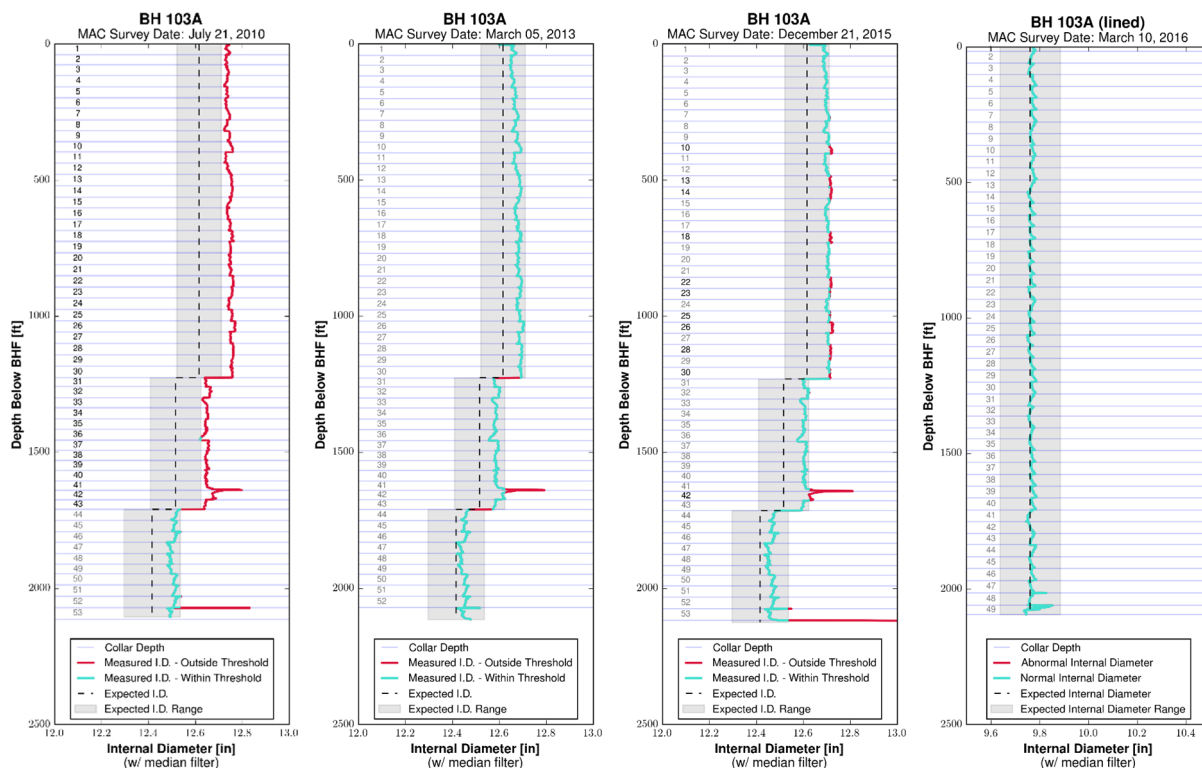


Figure 6 - Measured internal diameters from the BH 103A surveys

There were two surveys of BH 103B, one prior to the well being lined and one after. Measurements from both surveys are presented in Figure 7. The survey of the pre-lined well showed there were no sections that are outside of the expected threshold for inner diameter. Despite this, the measurements suggest the actual inner diameter is slightly larger than expected. This is consistent with surveys from other wells. The second survey in 2014 of the lined well showed that all of the casing sections were within the expected tolerance. These measurements, however, are noisier than in the other surveys. This is due to a wavelike pattern seen in the internal diameter measurements. It is unclear if this is due to the shape of the liner or the instrumentation used in the MAC survey.

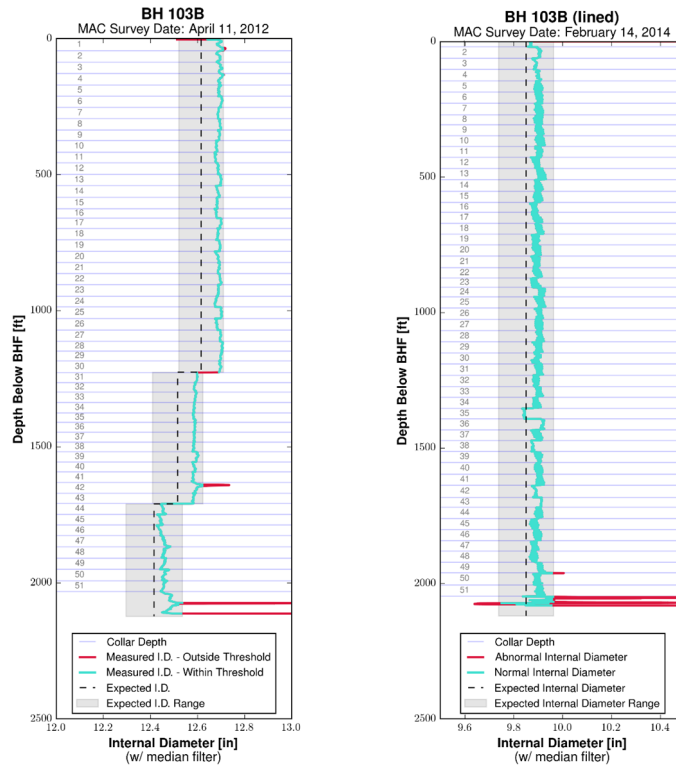


Figure 7 - Measured internal diameters from the BH 103B surveys

Big Hill 104

There are total of three surveys from the wells at BH 104 shown in Figure 8. Two wells are from BH 104A and the other is of BH 104B. The measured internal diameters in both surveys are consistent. Most of the internal diameters are larger than expected but still within the expected range. There are three sections, however, that are worth mentioning. Section #33 in the middle portion of the well is outside the expected range and reflects an internal diameter closer to the upper section. In addition, section #8 is significantly different than surrounding sections. While not outside of the expected range, it reflects internal diameters similar to the middle portion of the well. Finally, the internal diameter of section #42 shows a spike in internal diameter. This phenomenon is consistent with other wells at Big Hill.

BH 104B also shows an increase in internal diameter near the depth of the salt/caprock interface. While this increase is not similar to the other distinct spikes at this depth, this section is considered outside of the expected threshold. Other than section 41, most of the internal diameters are within the expected range (albeit larger than the nominal value).

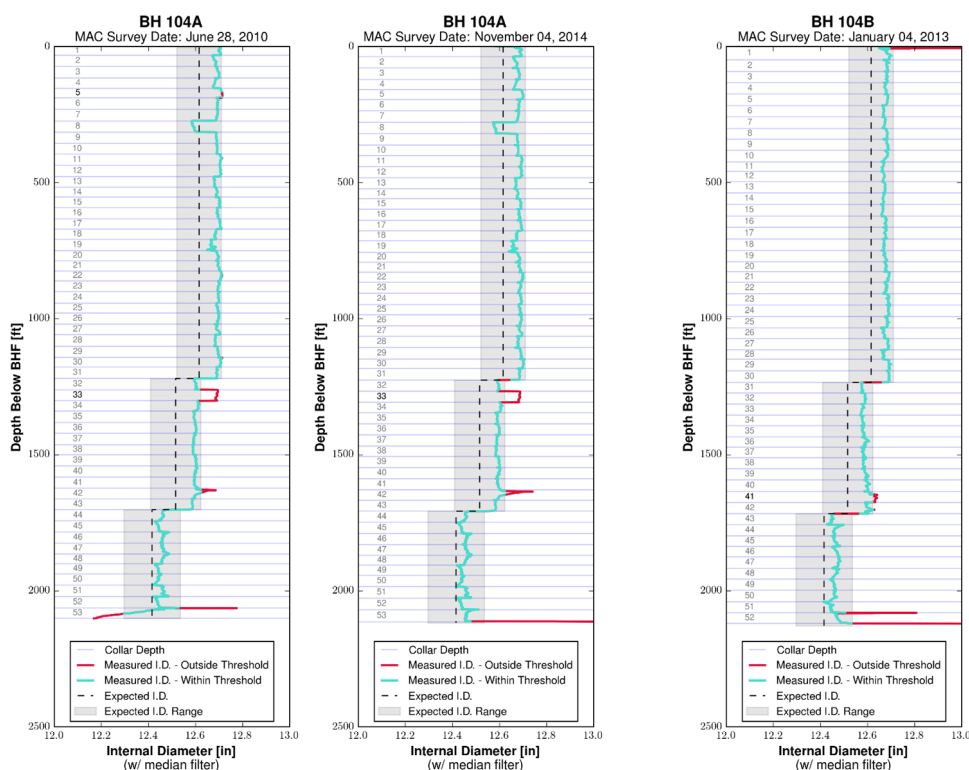


Figure 8 - Measured internal diameter from the BH 104 surveys

Big Hill 105

Big Hill 105 wells A and B had had two surveys each. The surveys of BH 105A suggest there are no casing sections that are outside the expected internal diameter range. Section #41 shows the only abnormal measurements that show a spike in internal diameter. This is consistent with other wells at Big Hill. In addition, the surveys indicate the internal diameter of the wells have become slightly larger since the 2010 survey.

The first survey of BH 105B on June 9, 2010 shows a well where most of the internal diameters are larger than expected. It is possible measurements from this survey are due calibration issues in the survey tool. Regardless of absolute value, there is still the large internal diameter spike near the salt/caprock interface which is consistent with 105A and other wells at the Big Hill site. Another survey was taken after the installation of a liner. This survey indicates that the internal diameter of the liner is consistent with the expected value. No signs of the internal diameter spike can be seen in the liner as of 2011.

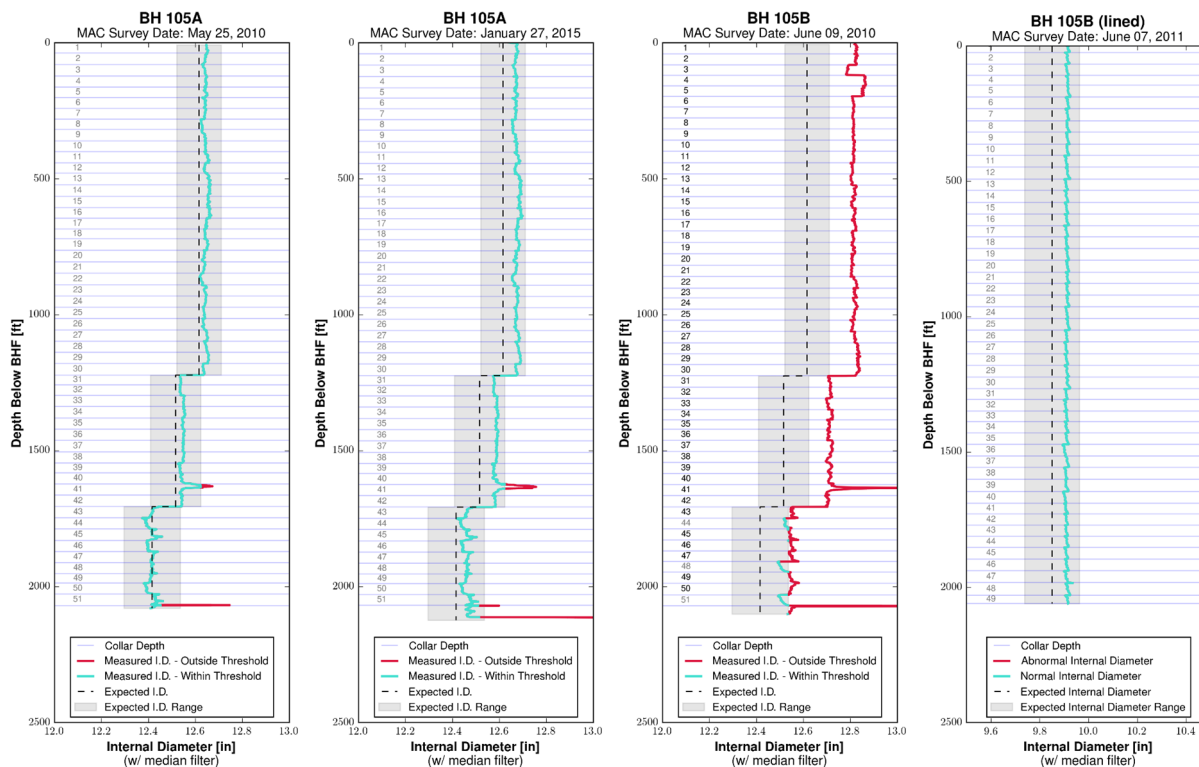


Figure 9 - Measurements of internal diameter from the BH 105 surveys

Big Hill 106

There were only three surveys taken of the BH 106 wells: one in A and two in B shown in Figure 10. All of the well sections in both A and B wells are within the expected range for internal diameter. There are some special cases that should be mentioned. First, section #39 of well A is not consistent with surrounding sections. It better reflects internal diameters from the lower portion of the well. This should not be an issue as the wall thickness should be thicker at this section. Another phenomenon seen in both wells is the bulge seen near the salt/caprock interface. This phenomenon is similar to that seen in other wells at the site.

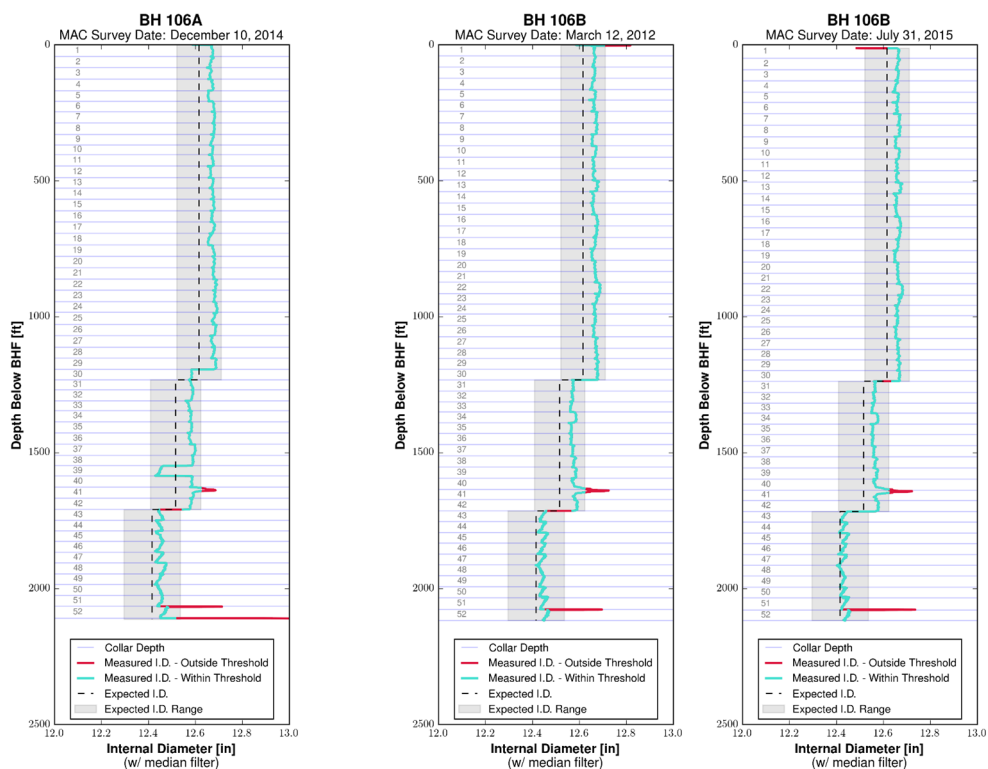


Figure 10 - Measurements of internal diameter from the BH 106 surveys

Big Hill 107

At Big Hill 107 there was a single survey taken of 107A and two taken of 107B. The results are shown in Figure 11. The single survey of 107A indicates there are no sections outside the expected internal diameter range. There is only a minor increase in diameter near the salt/caprock interface in section #41. Most of the sections within 107B are also within the expected range, however, sections #41 through #44 are significantly different than the surrounding casings. It looks as if sections #41 and #42 are 68.0 lb/ft while #43 and #44 are closer to 61.0 lb/ft. It is possible these sections were switched during the initial construction of 107B. Assuming the absolute measurements of 107B are correct, the surveys also indicate the average internal diameter of 107B has become larger since 2012.

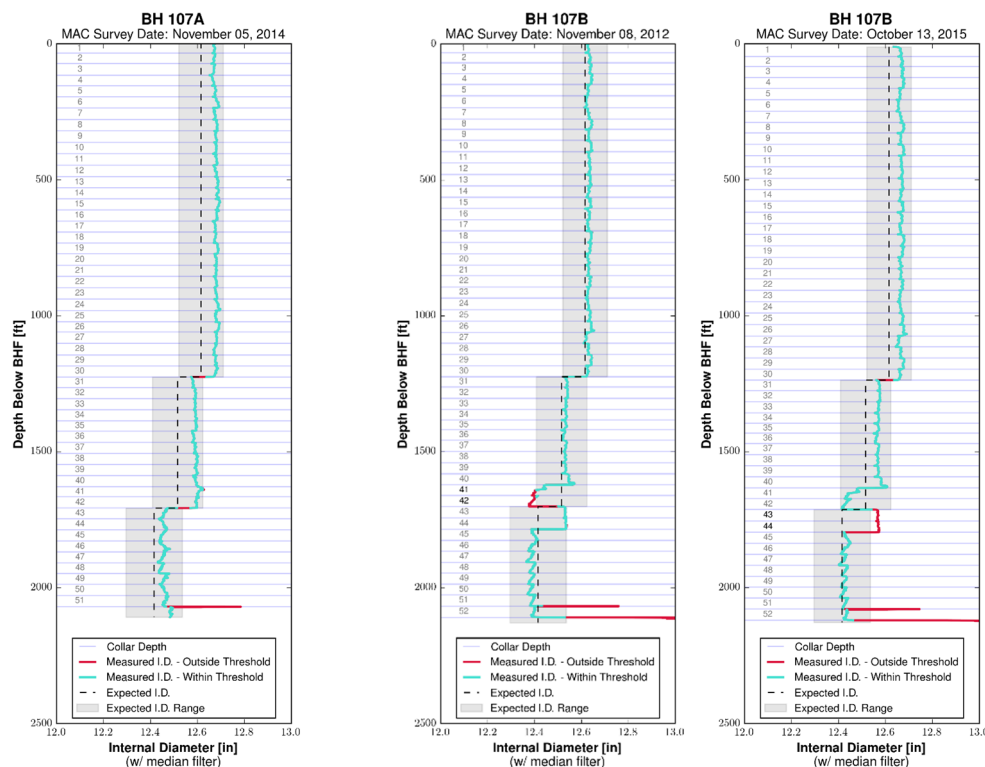


Figure 11 - Measurements of internal diameter from the BH 107 well surveys

Big Hill 108

All three surveys of Big Hill 108 wells indicate there are no sections that are outside the expected range for internal diameter (Figure 12). Although there are no sections that are outside the expected internal diameter, section #41 in both A and B wells show a bulge similar to that seen in other wells. Again, this bulge is near the salt/caprock interface. There is also a minor overall expansion seen in 108B between 2012 and 2015. This trend has been seen in other wells with multiple surveys.

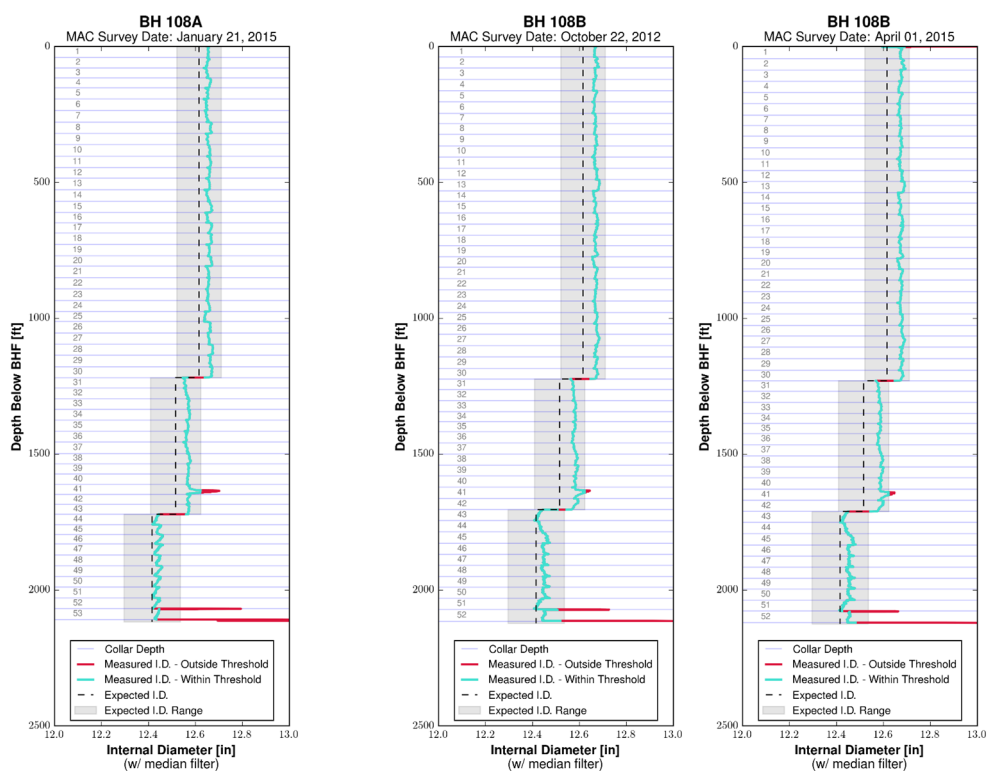


Figure 12 - Internal diameter measurements from BH 108 well surveys

Big Hill 109

Figure 13 shows the three surveys taken of the Big Hill 109 wells. There is a single survey for 109A, 109B (before well lining), and 109B after the well was lined. The survey of 109A shows that only section #17 is outside of the expected range. The other sections are near the tolerance but still within the expected range. In addition, 109A experienced a bulge near the salt/caprock interface.

Results from the January 2011 survey of 109B indicate the majority of sections are outside the expected tolerance. Since there is only a single survey before the well was lined it is difficult to determine if these are the actual results or due calibration error. Regardless of the absolute measurements, there is a large bulge seen near the salt/caprock interface.

Finally, there is a survey of the lined 109B well. The measured internal diameters are slightly larger than expected but within tolerance.

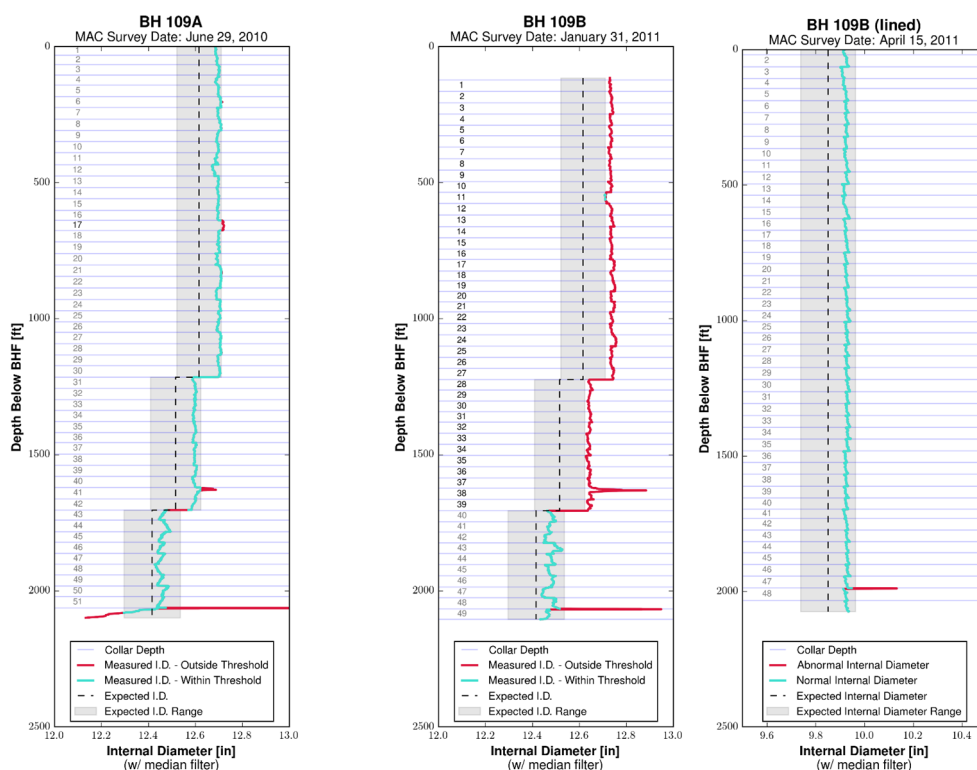


Figure 13 - Internal diameter measurements from BH 109 well surveys

Big Hill 110

Figure 13 shows the only surveys of the Big Hill 110 wells. There is a single survey for both 110A and 110B. All of the well casing sections in 110A are within the expected tolerance, however, the inner diameters are greater than expected. The single survey of 110B shows there are several sections in the upper portion of the well that are outside the expected inner diameter.

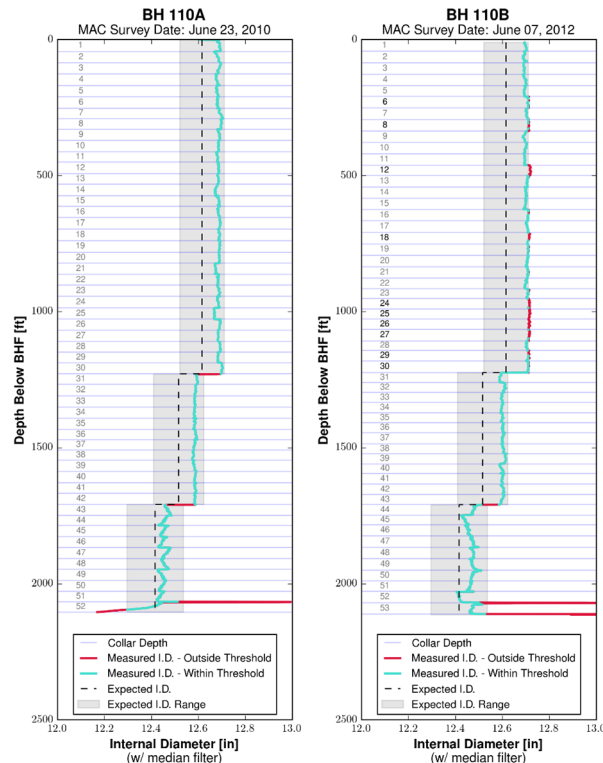


Figure 14 – Internal diameter measurements from BH 110 well surveys

Big Hill 111

Figure 4Figure 15 shows the two surveys of BH 111A and the single survey of 111B. The first survey of 111A in 2010 shows several sections in upper portion of the well to be outside the expected tolerance. There is also a bulge near the salt/caprock interface. The bulge measured by the MAC survey covers the majority of section #41 and therefore the section is considered outside the expected tolerance. It should be mentioned that most of the measurements from this survey have greater inner diameters than expected and are at the extreme limits of the expected range. The second survey in 2014 indicates contradicts the previous survey by indicating there are no sections outside of the expected tolerance. The bulge in section #41 is still present but the majority of measurements in that section are within the expected tolerance. In this case the two surveys suggest the inner diameter has actually contracted over time.

The single survey of 111B in 2012 show no wells sections outside of the expected range for inner diameter. Section #41, near the depth of the salt/caprock interface, shows a small spike in inner diameter but none of the points are outside the expected range.

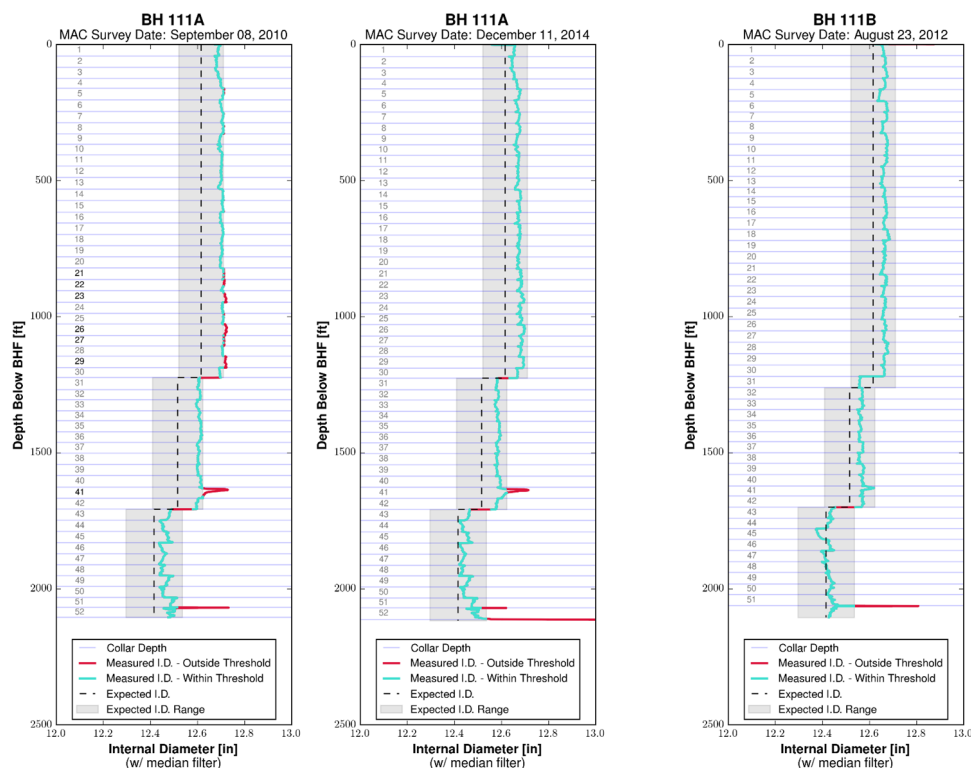


Figure 15 – Internal diameter measurements from BH 111 well surveys

Big Hill 112

Figure 16 shows MAC measurements from two surveys of 112A and one survey of 112B. These surveys are similar to the results seen at Big Hill 111 where the initial survey of 112A shows several sections outside the expected range while the second survey contradicts the first and shows no sections outside the expected range. Due to the contradictory second surveys, it is possible there was a calibration error in the initial survey. The initial surveys of BH 111A and BH 112A were taken one day apart and may suggest they were taken with the same tool and may suggest there was a systematic sampling error in these two surveys which may have measured internal diameters large than the actual values.

The single survey of 112B shows sections #30 and #51 are outside the expected inner diameter range. The inner diameter of section #30 is consistent with the upper portion of the well. It is possible the wrong sized casing was used in the construction of this section. Section #51 is outside the expected range due to a deformation in the casing near the bottom of the well. Currently, it is unclear what has caused this bulge.

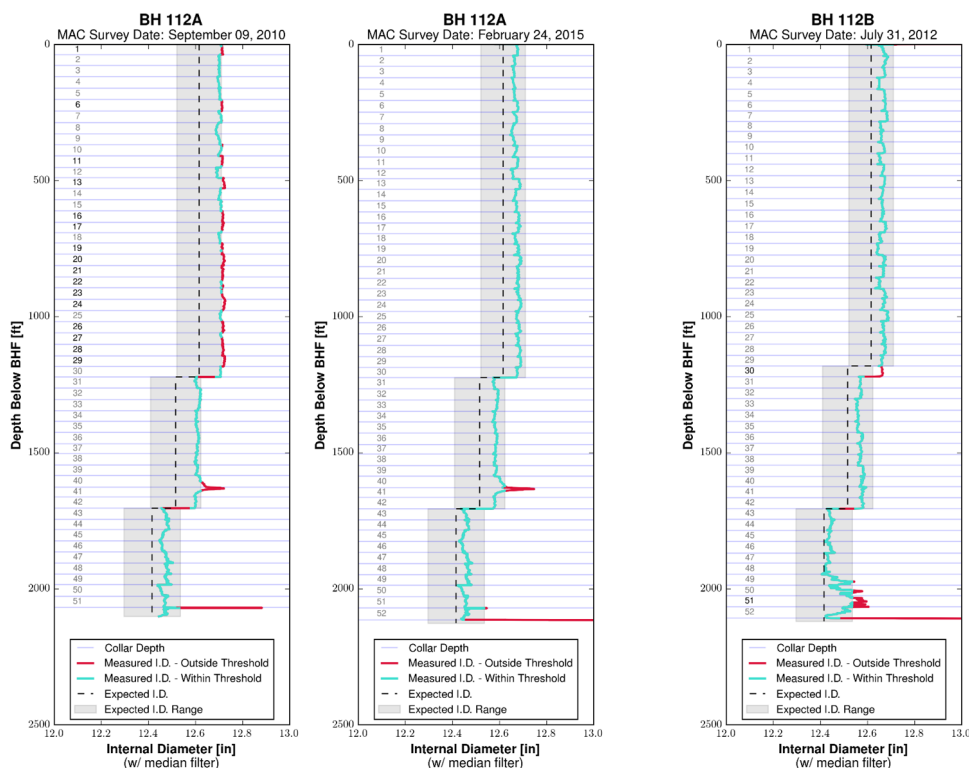


Figure 16 – Internal diameter measurements from BH 112 well surveys

Big Hill 113

Figure 17 shows the three MAC surveys of BH 113A beginning in 2010. There were two surveys before the well was lined and a single survey after. All three surveys show no well sections outside the expected range, however, the two surveys of the pre-lined well show the same internal diameter spike near the salt/caprock interface seen in many of the other wells.

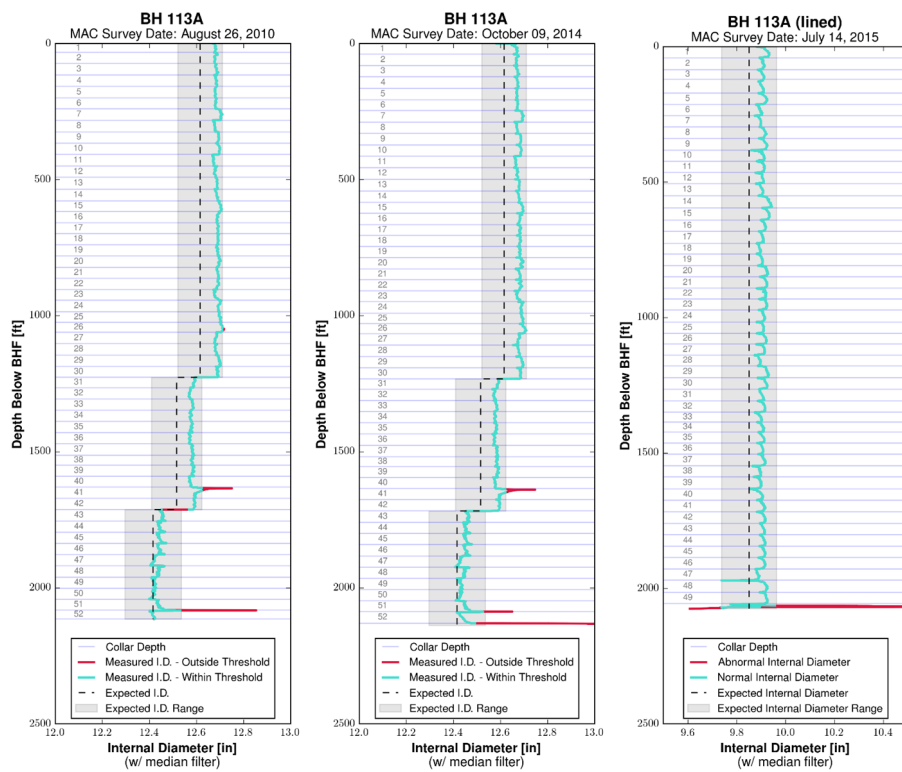


Figure 17 - Internal diameter measurements from BH 113A well surveys

Figure 18 shows the internal diameter measurements from two surveys of 113B. Measurements from the first survey in 2012 indicate the internal diameter of the entire well is considerably less than expected. This is likely due to a calibration error in the MAC tool. The subsequent survey shows only one section (#17) to be outside the expected range. It is possible this casing is a different weight as the internal diameter is significantly different than the surrounding sections. Section #42 of the 2015 survey also shows a slight spike in internal diameter. This is similar to many other wells that experienced a similar spike near the salt/caprock interface.

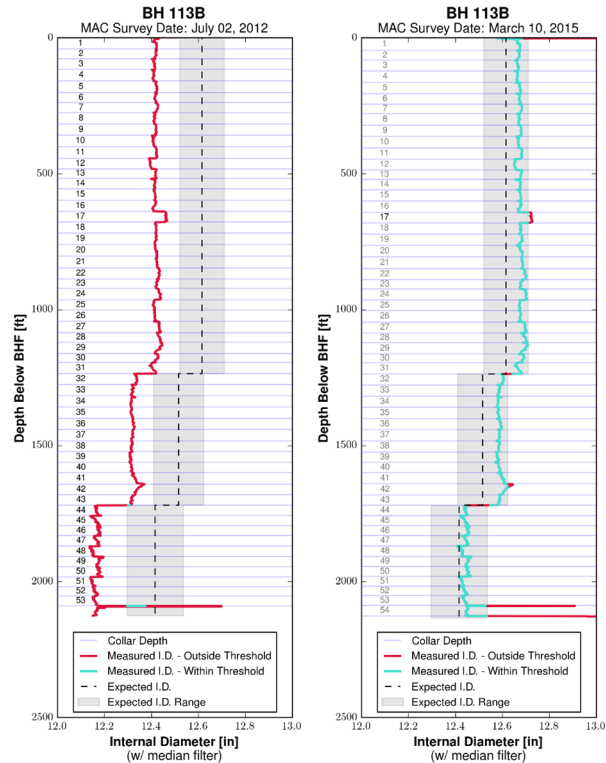


Figure 18 - Internal diameter measurements from BH 113B well surveys

Big Hill 114

There were three MAC surveys taken of Big Hill 114A and a single survey taken of 114B all shown in Figure 19. The first survey of 114A in 2010 showed most of the sections being outside the expected range for inner diameter. This is likely due to a calibration issue in the MAC tool as the second survey shows most of the well sections are within the expected range. There are only several sections that have greater than expected internal diameters. As seen in many other wells, there is a bulge in the pre-lined well near the salt/caprock interface. 114A was then lined before the 2013 survey and there are no sections outside the expected internal diameter range. In fact, most of the well sections are measured to be near the nominal value. There are only three sections (#17, #19, and #45) that show deviation from the expected value.

Measurements from 114B indicate that all well sections are within the expected range for internal diameter. A bulge near the salt/caprock interface can be seen in well section #42 of 114B.

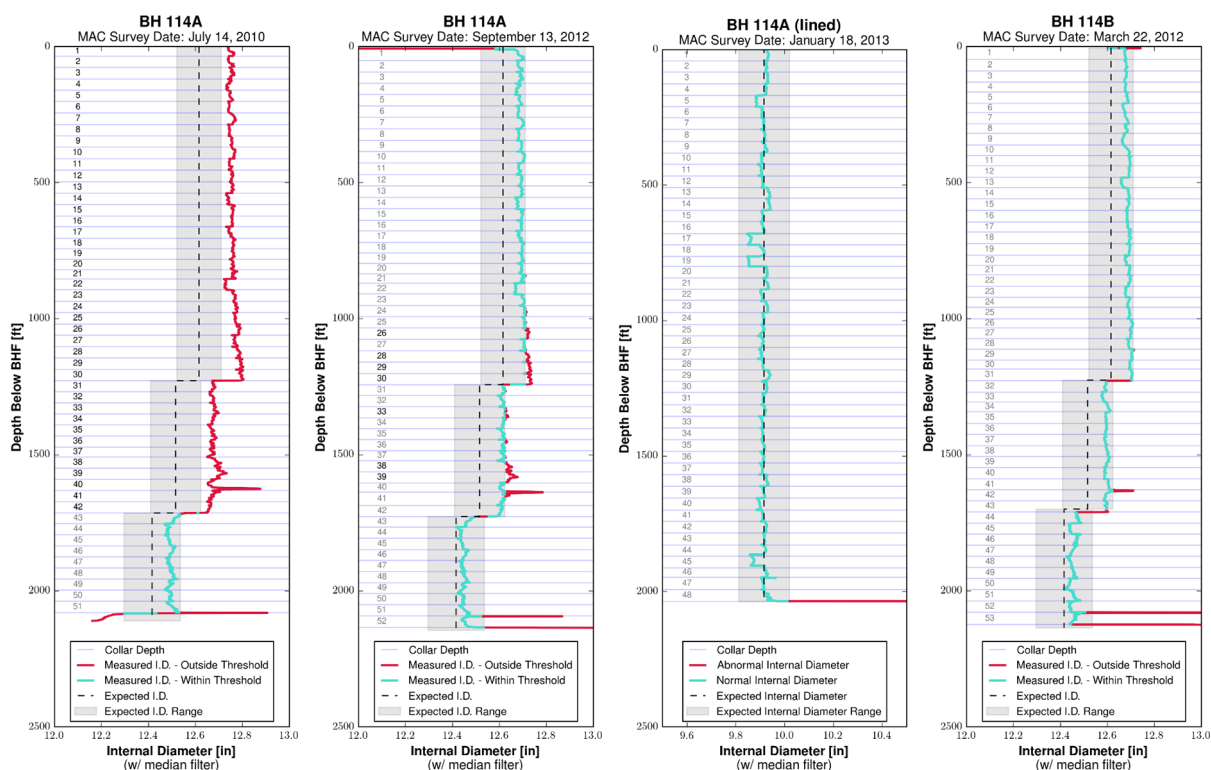


Figure 19 - Internal diameter measurements from BH 114 well surveys

4. CONCLUSIONS

Results from MAC surveys indicate that many of the well sections have larger inner diameters than reported in the as built drawings. Assuming the outer diameter is constant, this means that the wall thicknesses and casing weights may be less than expected. Many of the wells also experience an acute increase in inner diameter near the depth of the salt-caprock interface. This phenomenon is not fully understood at this time but will be considered in future studies.

It is also important that accurately calibrated MAC surveys of the wells continue. They provide essential data for determining the integrity of the wells and are able to highlight troubled regions within each well. In addition, multiple surveys of wells are suggested to help identify temporal trends or any surveys taken with poorly calibrated MAC tools.

4. REFERENCES

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APPENDIX A: CALCULATED CASING WEIGHT FOR EACH CASING SECTION

The tables presented in this section show the survey results by well section. Within each table, there is the casing number along with essential well information. First, there is the maximum depth of the section from the BHF. Depths were obtained using the RWD as described in the methodology section and then rounded to the nearest tenth of a foot. The third column shows expected casing weight which was taken from the as-built drawings. The next column is the casing weight that is calculated to be closest to the measured well section. The fifth column is populated by Boolean values that indicate if the majority of the points in each section are within the expected inner diameter range/threshold. If the majority of the measurements are within the expected range, the calculated casing weight is considered to be the expected casing weight (even if there is a different casing weight closer to the measured values). If the majority of the section measurements are not within the threshold, then the closest casing weight is chosen as the calculated casing weight. Rows highlighted red are cases in which the majority of measurements in a section are outside of the expected range.

BH 101A - July 20, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	30.9	54.5	48.0	FALSE	48.0
2	67.0	54.5	48.0	TRUE	54.5
3	108.8	54.5	48.0	FALSE	48.0
4	144.8	54.5	48.0	FALSE	48.0
5	182.6	54.5	48.0	TRUE	54.5
6	224.0	54.5	48.0	FALSE	48.0
7	265.9	54.5	48.0	FALSE	48.0
8	306.6	54.5	48.0	FALSE	48.0
9	345.3	54.5	48.0	TRUE	54.5
10	382.7	54.5	48.0	TRUE	54.5
11	419.7	54.5	48.0	TRUE	54.5
12	461.9	54.5	48.0	TRUE	54.5
13	503.8	54.5	48.0	FALSE	48.0
14	546.1	54.5	48.0	FALSE	48.0
15	582.3	54.5	48.0	FALSE	48.0
16	617.6	54.5	48.0	FALSE	48.0
17	660.2	54.5	48.0	TRUE	54.5
18	702.3	54.5	48.0	TRUE	54.5
19	742.9	54.5	48.0	TRUE	54.5
20	785.3	54.5	48.0	FALSE	48.0
21	826.1	54.5	48.0	FALSE	48.0
22	864.8	54.5	48.0	FALSE	48.0
23	902.2	54.5	48.0	FALSE	48.0
24	943.2	54.5	48.0	FALSE	48.0
25	983.7	54.5	48.0	FALSE	48.0
26	1024.3	54.5	48.0	FALSE	48.0
27	1066.6	54.5	48.0	FALSE	48.0
28	1101.0	54.5	48.0	FALSE	48.0
29	1137.7	54.5	48.0	FALSE	48.0
30	1179.2	54.5	48.0	FALSE	48.0
31	1221.3	54.5	48.0	FALSE	48.0
32	1261.8	61.0	54.5	TRUE	61.0
33	1303.0	61.0	54.5	FALSE	54.5
34	1344.4	61.0	54.5	FALSE	54.5
35	1384.5	61.0	54.5	FALSE	54.5
36	1426.1	61.0	54.5	FALSE	54.5
37	1465.5	61.0	54.5	FALSE	54.5
38	1507.2	61.0	54.5	FALSE	54.5
39	1545.4	61.0	54.5	FALSE	54.5
40	1583.3	61.0	54.5	FALSE	54.5
41	1624.7	61.0	54.5	FALSE	54.5
42	1665.9	61.0	54.5	FALSE	54.5
43	1704.5	61.0	54.5	FALSE	54.5
44	1747.2	68.0	61.0	TRUE	68.0
45	1788.5	68.0	61.0	TRUE	68.0
46	1827.1	68.0	68.0	TRUE	68.0
47	1867.1	68.0	61.0	TRUE	68.0
48	1907.8	68.0	61.0	TRUE	68.0
49	1947.8	68.0	61.0	TRUE	68.0
50	1987.3	68.0	68.0	TRUE	68.0
51	2027.5	68.0	61.0	TRUE	68.0
52	2067.8	68.0	61.0	TRUE	68.0
53	2099.7	68.0	77.0	FALSE	77.0

BH 101B - October 30, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	36.8	54.5	48.0	TRUE	54.5
2	77.6	54.5	48.0	TRUE	54.5
3	119.8	54.5	48.0	TRUE	54.5
4	162.1	54.5	48.0	TRUE	54.5
5	204.3	54.5	48.0	TRUE	54.5
6	246.7	54.5	48.0	TRUE	54.5
7	285.9	54.5	48.0	TRUE	54.5
8	328.1	54.5	48.0	TRUE	54.5
9	370.2	54.5	48.0	TRUE	54.5
10	412.1	54.5	48.0	TRUE	54.5
11	449.0	54.5	48.0	TRUE	54.5
12	491.0	54.5	48.0	TRUE	54.5
13	533.3	54.5	48.0	TRUE	54.5
14	573.8	54.5	54.5	TRUE	54.5
15	616.1	54.5	48.0	TRUE	54.5
16	656.5	54.5	48.0	TRUE	54.5
17	697.7	54.5	48.0	TRUE	54.5
18	737.4	54.5	48.0	TRUE	54.5
19	779.3	54.5	48.0	TRUE	54.5
20	820.3	54.5	48.0	TRUE	54.5
21	857.2	54.5	48.0	TRUE	54.5
22	899.0	54.5	48.0	TRUE	54.5
23	938.8	54.5	48.0	TRUE	54.5
24	976.0	54.5	48.0	TRUE	54.5
25	1018.3	54.5	48.0	TRUE	54.5
26	1057.7	54.5	48.0	TRUE	54.5
27	1099.4	54.5	48.0	TRUE	54.5
28	1137.9	54.5	48.0	TRUE	54.5
29	1179.3	54.5	48.0	TRUE	54.5
30	1221.3	54.5	48.0	TRUE	54.5
31	1262.6	61.0	54.5	TRUE	61.0
32	1304.0	61.0	54.5	TRUE	61.0
33	1342.7	61.0	54.5	TRUE	61.0
34	1383.3	61.0	61.0	TRUE	61.0
35	1423.8	61.0	54.5	TRUE	61.0
36	1463.5	61.0	54.5	TRUE	61.0
37	1505.0	61.0	54.5	TRUE	61.0
38	1543.1	61.0	54.5	TRUE	61.0
39	1583.0	61.0	54.5	TRUE	61.0
40	1624.3	61.0	54.5	TRUE	61.0
41	1666.2	61.0	54.5	TRUE	61.0
42	1706.6	61.0	54.5	TRUE	61.0
43	1748.2	68.0	68.0	TRUE	68.0
44	1789.1	68.0	68.0	TRUE	68.0
45	1830.1	68.0	68.0	TRUE	68.0
46	1867.1	68.0	68.0	TRUE	68.0
47	1905.4	68.0	68.0	TRUE	68.0
48	1946.8	68.0	68.0	TRUE	68.0
49	1989.5	68.0	68.0	TRUE	68.0
50	2029.8	68.0	68.0	TRUE	68.0
51	2070.0	68.0	68.0	TRUE	68.0
52	2112.9	68.0	68.0	TRUE	68.0

BH 102A - August 24, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	28.6	54.5	48.0	FALSE	48.0
2	70.6	54.5	48.0	FALSE	48.0
3	112.5	54.5	48.0	TRUE	54.5
4	154.2	54.5	48.0	FALSE	48.0
5	194.2	54.5	48.0	FALSE	48.0
6	235.9	54.5	48.0	FALSE	48.0
7	278.2	54.5	48.0	FALSE	48.0
8	318.7	54.5	48.0	FALSE	48.0
9	359.3	54.5	48.0	FALSE	48.0
10	399.8	54.5	48.0	FALSE	48.0
11	436.7	54.5	48.0	FALSE	48.0
12	478.0	54.5	48.0	TRUE	54.5
13	520.2	54.5	48.0	FALSE	48.0
14	560.8	54.5	48.0	FALSE	48.0
15	602.9	54.5	48.0	FALSE	48.0
16	644.8	54.5	48.0	TRUE	54.5
17	686.3	54.5	48.0	FALSE	48.0
18	728.6	54.5	48.0	FALSE	48.0
19	768.8	54.5	48.0	FALSE	48.0
20	807.7	54.5	48.0	TRUE	54.5
21	849.4	54.5	48.0	FALSE	48.0
22	890.2	54.5	48.0	FALSE	48.0
23	931.8	54.5	48.0	FALSE	48.0
24	973.7	54.5	48.0	TRUE	54.5
25	1014.1	54.5	48.0	FALSE	48.0
26	1049.6	54.5	48.0	FALSE	48.0
27	1090.7	54.5	48.0	FALSE	48.0
28	1133.1	54.5	48.0	FALSE	48.0
29	1175.4	54.5	48.0	FALSE	48.0
30	1218.0	54.5	48.0	FALSE	48.0
31	1254.2	54.5	48.0	FALSE	48.0
32	1292.2	61.0	54.5	TRUE	61.0
33	1333.6	61.0	54.5	TRUE	61.0
34	1375.0	61.0	54.5	TRUE	61.0
35	1416.4	61.0	54.5	TRUE	61.0
36	1453.8	61.0	54.5	TRUE	61.0
37	1494.8	61.0	54.5	TRUE	61.0
38	1535.8	61.0	54.5	TRUE	61.0
39	1576.5	61.0	54.5	TRUE	61.0
40	1616.7	61.0	54.5	TRUE	61.0
41	1657.6	61.0	54.5	FALSE	54.5
42	1698.3	61.0	54.5	TRUE	61.0
43	1737.7	61.0	54.5	TRUE	61.0
44	1778.1	68.0	61.0	TRUE	68.0
45	1819.2	68.0	61.0	TRUE	68.0
46	1859.6	68.0	61.0	TRUE	68.0
47	1901.7	68.0	61.0	TRUE	68.0
48	1940.2	68.0	68.0	TRUE	68.0
49	1979.2	68.0	61.0	TRUE	68.0
50	2020.8	68.0	61.0	TRUE	68.0
51	2059.7	68.0	61.0	TRUE	68.0
52	2098.2	68.0	61.0	TRUE	68.0
53	2131.2	68.0	61.0	TRUE	68.0

BH 102B - May 10, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	45.1	54.5	48.0	TRUE	54.5
2	84.2	54.5	48.0	TRUE	54.5
3	120.9	54.5	48.0	TRUE	54.5
4	162.2	54.5	48.0	TRUE	54.5
5	201.3	54.5	48.0	TRUE	54.5
6	242.0	54.5	48.0	TRUE	54.5
7	283.4	54.5	48.0	TRUE	54.5
8	324.2	54.5	48.0	TRUE	54.5
9	366.4	54.5	48.0	TRUE	54.5
10	406.3	54.5	48.0	TRUE	54.5
11	446.7	54.5	48.0	TRUE	54.5
12	488.9	54.5	48.0	TRUE	54.5
13	526.3	54.5	48.0	TRUE	54.5
14	566.7	54.5	48.0	TRUE	54.5
15	606.9	54.5	48.0	TRUE	54.5
16	644.4	54.5	48.0	TRUE	54.5
17	681.6	54.5	48.0	TRUE	54.5
18	716.7	54.5	48.0	TRUE	54.5
19	752.4	54.5	48.0	TRUE	54.5
20	794.2	54.5	48.0	TRUE	54.5
21	835.9	54.5	48.0	TRUE	54.5
22	873.4	54.5	48.0	TRUE	54.5
23	911.8	54.5	48.0	TRUE	54.5
24	953.7	54.5	48.0	TRUE	54.5
25	990.9	54.5	48.0	TRUE	54.5
26	1033.1	54.5	48.0	TRUE	54.5
27	1074.8	54.5	48.0	TRUE	54.5
28	1111.2	54.5	48.0	TRUE	54.5
29	1145.8	54.5	48.0	TRUE	54.5
30	1183.7	54.5	48.0	TRUE	54.5
31	1224.9	54.5	48.0	TRUE	54.5
32	1265.7	61.0	54.5	TRUE	61.0
33	1306.3	61.0	54.5	TRUE	61.0
34	1346.2	61.0	54.5	TRUE	61.0
35	1386.6	61.0	54.5	TRUE	61.0
36	1425.7	61.0	54.5	TRUE	61.0
37	1466.3	61.0	54.5	TRUE	61.0
38	1505.8	61.0	54.5	TRUE	61.0
39	1543.0	61.0	54.5	TRUE	61.0
40	1585.0	61.0	54.5	TRUE	61.0
41	1626.5	61.0	54.5	TRUE	61.0
42	1667.8	61.0	54.5	TRUE	61.0
43	1709.1	61.0	54.5	TRUE	61.0
44	1744.6	68.0	68.0	TRUE	68.0
45	1784.3	68.0	68.0	TRUE	68.0
46	1825.2	68.0	68.0	TRUE	68.0
47	1865.8	68.0	68.0	TRUE	68.0
48	1906.8	68.0	68.0	TRUE	68.0
49	1948.3	68.0	68.0	TRUE	68.0
50	1990.3	68.0	68.0	TRUE	68.0
51	2026.9	68.0	68.0	TRUE	68.0
52	2068.1	68.0	68.0	TRUE	68.0
53	2112.1	68.0	68.0	TRUE	68.0

BH 103A - July 21, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	39.2	54.5	48.0	FALSE	48.0
2	75.4	54.5	48.0	FALSE	48.0
3	115.0	54.5	48.0	FALSE	48.0
4	156.3	54.5	48.0	FALSE	48.0
5	198.0	54.5	48.0	FALSE	48.0
6	235.8	54.5	48.0	FALSE	48.0
7	278.1	54.5	48.0	FALSE	48.0
8	318.7	54.5	48.0	FALSE	48.0
9	358.3	54.5	48.0	FALSE	48.0
10	397.0	54.5	48.0	FALSE	48.0
11	436.3	54.5	48.0	FALSE	48.0
12	478.2	54.5	48.0	FALSE	48.0
13	520.1	54.5	48.0	FALSE	48.0
14	562.5	54.5	48.0	FALSE	48.0
15	602.1	54.5	48.0	FALSE	48.0
16	643.7	54.5	48.0	FALSE	48.0
17	685.0	54.5	48.0	FALSE	48.0
18	725.4	54.5	48.0	FALSE	48.0
19	766.9	54.5	48.0	FALSE	48.0
20	809.5	54.5	48.0	FALSE	48.0
21	851.1	54.5	48.0	FALSE	48.0
22	892.8	54.5	48.0	FALSE	48.0
23	933.1	54.5	48.0	FALSE	48.0
24	975.5	54.5	48.0	FALSE	48.0
25	1017.0	54.5	48.0	FALSE	48.0
26	1057.2	54.5	48.0	FALSE	48.0
27	1099.3	54.5	48.0	FALSE	48.0
28	1141.3	54.5	48.0	FALSE	48.0
29	1183.4	54.5	48.0	FALSE	48.0
30	1225.7	54.5	48.0	FALSE	48.0
31	1258.5	61.0	54.5	FALSE	54.5
32	1299.0	61.0	54.5	FALSE	54.5
33	1336.2	61.0	54.5	FALSE	54.5
34	1377.6	61.0	54.5	FALSE	54.5
35	1415.0	61.0	54.5	FALSE	54.5
36	1455.7	61.0	54.5	FALSE	54.5
37	1493.3	61.0	54.5	FALSE	54.5
38	1529.8	61.0	54.5	FALSE	54.5
39	1566.2	61.0	54.5	FALSE	54.5
40	1605.2	61.0	54.5	FALSE	54.5
41	1639.3	61.0	54.5	FALSE	54.5
42	1673.8	61.0	48.0	FALSE	48.0
43	1709.3	61.0	54.5	FALSE	54.5
44	1750.4	68.0	61.0	TRUE	68.0
45	1791.2	68.0	61.0	TRUE	68.0
46	1830.4	68.0	61.0	TRUE	68.0
47	1871.4	68.0	61.0	TRUE	68.0
48	1911.8	68.0	61.0	TRUE	68.0
49	1947.0	68.0	61.0	TRUE	68.0
50	1986.9	68.0	61.0	TRUE	68.0
51	2028.7	68.0	61.0	TRUE	68.0
52	2070.3	68.0	61.0	TRUE	68.0
53	2112.8	68.0	61.0	TRUE	68.0

BH 103A - March 5, 2013

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	41.8	54.5	54.5	TRUE	54.5
2	78.1	54.5	54.5	TRUE	54.5
3	117.5	54.5	54.5	TRUE	54.5
4	158.9	54.5	54.5	TRUE	54.5
5	200.3	54.5	48.0	TRUE	54.5
6	238.1	54.5	54.5	TRUE	54.5
7	280.4	54.5	48.0	TRUE	54.5
8	321.0	54.5	48.0	TRUE	54.5
9	360.7	54.5	48.0	TRUE	54.5
10	399.4	54.5	48.0	TRUE	54.5
11	438.5	54.5	54.5	TRUE	54.5
12	480.1	54.5	48.0	TRUE	54.5
13	522.0	54.5	48.0	TRUE	54.5
14	564.4	54.5	48.0	TRUE	54.5
15	603.9	54.5	48.0	TRUE	54.5
16	645.4	54.5	48.0	TRUE	54.5
17	686.6	54.5	48.0	TRUE	54.5
18	727.0	54.5	48.0	TRUE	54.5
19	768.4	54.5	48.0	TRUE	54.5
20	811.1	54.5	48.0	TRUE	54.5
21	852.6	54.5	48.0	TRUE	54.5
22	894.4	54.5	48.0	TRUE	54.5
23	934.5	54.5	48.0	TRUE	54.5
24	977.2	54.5	48.0	TRUE	54.5
25	1018.4	54.5	48.0	TRUE	54.5
26	1058.5	54.5	48.0	TRUE	54.5
27	1100.6	54.5	48.0	TRUE	54.5
28	1142.4	54.5	48.0	TRUE	54.5
29	1184.4	54.5	48.0	TRUE	54.5
30	1226.7	54.5	48.0	TRUE	54.5
31	1259.4	61.0	54.5	TRUE	61.0
32	1300.0	61.0	54.5	TRUE	61.0
33	1337.2	61.0	54.5	TRUE	61.0
34	1378.4	61.0	54.5	TRUE	61.0
35	1415.8	61.0	54.5	TRUE	61.0
36	1456.5	61.0	54.5	TRUE	61.0
37	1494.1	61.0	54.5	TRUE	61.0
38	1530.6	61.0	54.5	TRUE	61.0
39	1566.9	61.0	54.5	TRUE	61.0
40	1605.8	61.0	54.5	TRUE	61.0
41	1639.7	61.0	54.5	TRUE	61.0
42	1674.1	61.0	54.5	TRUE	61.0
43	1709.8	61.0	54.5	TRUE	61.0
44	1750.8	68.0	68.0	TRUE	68.0
45	1791.3	68.0	68.0	TRUE	68.0
46	1830.8	68.0	68.0	TRUE	68.0
47	1871.7	68.0	68.0	TRUE	68.0
48	1912.2	68.0	68.0	TRUE	68.0
49	1947.4	68.0	68.0	TRUE	68.0
50	1987.1	68.0	68.0	TRUE	68.0
51	2028.9	68.0	68.0	TRUE	68.0
52	2070.6	68.0	68.0	TRUE	68.0

BH 103A - December 21, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	44.7	54.5	48.0	TRUE	54.5
2	81.1	54.5	48.0	TRUE	54.5
3	120.5	54.5	48.0	TRUE	54.5
4	161.9	54.5	48.0	TRUE	54.5
5	203.4	54.5	48.0	TRUE	54.5
6	241.4	54.5	48.0	TRUE	54.5
7	283.7	54.5	48.0	TRUE	54.5
8	324.3	54.5	48.0	TRUE	54.5
9	364.0	54.5	48.0	TRUE	54.5
10	402.6	54.5	48.0	FALSE	48.0
11	441.8	54.5	48.0	TRUE	54.5
12	483.6	54.5	48.0	TRUE	54.5
13	525.6	54.5	48.0	FALSE	48.0
14	568.1	54.5	48.0	FALSE	48.0
15	607.5	54.5	48.0	TRUE	54.5
16	649.1	54.5	48.0	TRUE	54.5
17	690.3	54.5	48.0	TRUE	54.5
18	730.6	54.5	48.0	FALSE	48.0
19	772.0	54.5	48.0	TRUE	54.5
20	814.6	54.5	48.0	TRUE	54.5
21	856.0	54.5	48.0	TRUE	54.5
22	897.7	54.5	48.0	FALSE	48.0
23	938.0	54.5	48.0	FALSE	48.0
24	980.3	54.5	48.0	TRUE	54.5
25	1021.9	54.5	48.0	FALSE	48.0
26	1062.0	54.5	48.0	FALSE	48.0
27	1104.2	54.5	48.0	TRUE	54.5
28	1146.0	54.5	48.0	FALSE	48.0
29	1188.1	54.5	48.0	TRUE	54.5
30	1230.5	54.5	48.0	FALSE	48.0
31	1263.1	61.0	54.5	TRUE	61.0
32	1303.6	61.0	54.5	TRUE	61.0
33	1340.8	61.0	54.5	TRUE	61.0
34	1382.1	61.0	54.5	TRUE	61.0
35	1419.5	61.0	54.5	TRUE	61.0
36	1460.1	61.0	54.5	TRUE	61.0
37	1498.7	61.0	54.5	TRUE	61.0
38	1534.1	61.0	54.5	TRUE	61.0
39	1570.5	61.0	54.5	TRUE	61.0
40	1609.5	61.0	54.5	TRUE	61.0
41	1643.5	61.0	54.5	TRUE	61.0
42	1677.9	61.0	54.5	FALSE	54.5
43	1713.5	61.0	54.5	TRUE	61.0
44	1754.5	68.0	61.0	TRUE	68.0
45	1795.1	68.0	61.0	TRUE	68.0
46	1834.4	68.0	61.0	TRUE	68.0
47	1875.4	68.0	68.0	TRUE	68.0
48	1915.9	68.0	68.0	TRUE	68.0
49	1950.9	68.0	68.0	TRUE	68.0
50	1990.8	68.0	61.0	TRUE	68.0
51	2032.4	68.0	61.0	TRUE	68.0
52	2074.0	68.0	61.0	TRUE	68.0
53	2117.2	68.0	68.0	TRUE	68.0

BH 103A (lined) - March 10, 2016

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	16.4	55.5	55.5	TRUE	55.5
2	59.4	55.5	55.5	TRUE	55.5
3	100.9	55.5	55.5	TRUE	55.5
4	145.3	55.5	55.5	TRUE	55.5
5	189.4	55.5	55.5	TRUE	55.5
6	232.5	55.5	55.5	TRUE	55.5
7	277.2	55.5	55.5	TRUE	55.5
8	319.2	55.5	55.5	TRUE	55.5
9	363.0	55.5	55.5	TRUE	55.5
10	403.3	55.5	55.5	TRUE	55.5
11	446.0	55.5	55.5	TRUE	55.5
12	490.7	55.5	55.5	TRUE	55.5
13	534.2	55.5	55.5	TRUE	55.5
14	576.8	55.5	55.5	TRUE	55.5
15	621.1	55.5	55.5	TRUE	55.5
16	664.1	55.5	55.5	TRUE	55.5
17	709.2	55.5	55.5	TRUE	55.5
18	753.6	55.5	55.5	TRUE	55.5
19	796.6	55.5	55.5	TRUE	55.5
20	840.9	55.5	55.5	TRUE	55.5
21	885.6	55.5	55.5	TRUE	55.5
22	930.5	55.5	55.5	TRUE	55.5
23	974.5	55.5	55.5	TRUE	55.5
24	1019.0	55.5	55.5	TRUE	55.5
25	1062.7	55.5	55.5	TRUE	55.5
26	1105.4	55.5	55.5	TRUE	55.5
27	1148.6	55.5	55.5	TRUE	55.5
28	1191.9	55.5	55.5	TRUE	55.5
29	1236.3	55.5	55.5	TRUE	55.5
30	1280.6	55.5	55.5	TRUE	55.5
31	1324.3	55.5	55.5	TRUE	55.5
32	1361.6	55.5	55.5	TRUE	55.5
33	1405.8	55.5	55.5	TRUE	55.5
34	1445.0	55.5	55.5	TRUE	55.5
35	1489.2	55.5	55.5	TRUE	55.5
36	1533.0	55.5	55.5	TRUE	55.5
37	1577.1	55.5	55.5	TRUE	55.5
38	1620.5	55.5	55.5	TRUE	55.5
39	1664.1	55.5	55.5	TRUE	55.5
40	1707.8	55.5	55.5	TRUE	55.5
41	1751.3	55.5	55.5	TRUE	55.5
42	1795.2	55.5	55.5	TRUE	55.5
43	1835.4	55.5	55.5	TRUE	55.5
44	1880.8	55.5	55.5	TRUE	55.5
45	1924.1	55.5	55.5	TRUE	55.5
46	1968.6	55.5	55.5	TRUE	55.5
47	2013.5	55.5	55.5	TRUE	55.5
48	2059.6	55.5	55.5	TRUE	55.5
49	2094.4	55.5	55.5	TRUE	55.5

BH 103B - April 11, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	44.3	54.5	48.0	TRUE	54.5
2	86.0	54.5	48.0	TRUE	54.5
3	127.7	54.5	48.0	TRUE	54.5
4	169.6	54.5	48.0	TRUE	54.5
5	211.0	54.5	48.0	TRUE	54.5
6	252.7	54.5	48.0	TRUE	54.5
7	293.4	54.5	48.0	TRUE	54.5
8	335.8	54.5	48.0	TRUE	54.5
9	375.0	54.5	48.0	TRUE	54.5
10	417.3	54.5	48.0	TRUE	54.5
11	456.2	54.5	48.0	TRUE	54.5
12	498.5	54.5	48.0	TRUE	54.5
13	540.6	54.5	48.0	TRUE	54.5
14	583.1	54.5	48.0	TRUE	54.5
15	625.1	54.5	48.0	TRUE	54.5
16	659.8	54.5	48.0	TRUE	54.5
17	697.3	54.5	48.0	TRUE	54.5
18	739.7	54.5	48.0	TRUE	54.5
19	781.4	54.5	48.0	TRUE	54.5
20	823.4	54.5	48.0	TRUE	54.5
21	862.8	54.5	48.0	TRUE	54.5
22	903.9	54.5	48.0	TRUE	54.5
23	947.0	54.5	48.0	TRUE	54.5
24	986.1	54.5	48.0	TRUE	54.5
25	1028.3	54.5	48.0	TRUE	54.5
26	1070.5	54.5	48.0	TRUE	54.5
27	1112.9	54.5	48.0	TRUE	54.5
28	1148.0	54.5	48.0	TRUE	54.5
29	1184.4	54.5	48.0	TRUE	54.5
30	1226.6	54.5	48.0	TRUE	54.5
31	1263.5	61.0	54.5	TRUE	61.0
32	1299.1	61.0	54.5	TRUE	61.0
33	1336.8	61.0	54.5	TRUE	61.0
34	1375.7	61.0	54.5	TRUE	61.0
35	1409.4	61.0	54.5	TRUE	61.0
36	1447.0	61.0	54.5	TRUE	61.0
37	1482.8	61.0	54.5	TRUE	61.0
38	1518.3	61.0	54.5	TRUE	61.0
39	1556.1	61.0	54.5	TRUE	61.0
40	1592.4	61.0	54.5	TRUE	61.0
41	1631.5	61.0	54.5	TRUE	61.0
42	1670.3	61.0	54.5	TRUE	61.0
43	1708.8	61.0	54.5	TRUE	61.0
44	1748.4	68.0	68.0	TRUE	68.0
45	1788.0	68.0	68.0	TRUE	68.0
46	1826.9	68.0	68.0	TRUE	68.0
47	1868.0	68.0	68.0	TRUE	68.0
48	1909.1	68.0	68.0	TRUE	68.0
49	1950.8	68.0	68.0	TRUE	68.0
50	1991.8	68.0	68.0	TRUE	68.0
51	2032.4	68.0	68.0	TRUE	68.0

BH 103B (lined) - February 14, 2014

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	19.3	51.0	51.0	TRUE	51.0
2	61.5	51.0	45.5	TRUE	51.0
3	102.7	51.0	51.0	TRUE	51.0
4	144.8	51.0	45.5	TRUE	51.0
5	186.0	51.0	51.0	TRUE	51.0
6	228.0	51.0	45.5	TRUE	51.0
7	269.5	51.0	45.5	TRUE	51.0
8	306.8	51.0	45.5	TRUE	51.0
9	346.9	51.0	45.5	TRUE	51.0
10	387.1	51.0	45.5	TRUE	51.0
11	426.8	51.0	45.5	TRUE	51.0
12	468.0	51.0	51.0	TRUE	51.0
13	510.0	51.0	45.5	TRUE	51.0
14	552.4	51.0	51.0	TRUE	51.0
15	592.4	51.0	51.0	TRUE	51.0
16	629.8	51.0	51.0	TRUE	51.0
17	670.8	51.0	51.0	TRUE	51.0
18	710.5	51.0	45.5	TRUE	51.0
19	749.5	51.0	51.0	TRUE	51.0
20	790.8	51.0	51.0	TRUE	51.0
21	834.4	51.0	51.0	TRUE	51.0
22	872.3	51.0	51.0	TRUE	51.0
23	906.8	51.0	51.0	TRUE	51.0
24	941.8	51.0	45.5	TRUE	51.0
25	983.4	51.0	45.5	TRUE	51.0
26	1024.8	51.0	45.5	TRUE	51.0
27	1066.6	51.0	45.5	TRUE	51.0
28	1107.2	51.0	45.5	TRUE	51.0
29	1149.7	51.0	51.0	TRUE	51.0
30	1189.4	51.0	51.0	TRUE	51.0
31	1231.5	51.0	45.5	TRUE	51.0
32	1272.9	51.0	51.0	TRUE	51.0
33	1313.4	51.0	45.5	TRUE	51.0
34	1353.8	51.0	51.0	TRUE	51.0
35	1392.5	51.0	51.0	TRUE	51.0
36	1433.3	51.0	45.5	TRUE	51.0
37	1472.5	51.0	51.0	TRUE	51.0
38	1512.7	51.0	51.0	TRUE	51.0
39	1554.2	51.0	45.5	TRUE	51.0
40	1596.9	51.0	45.5	TRUE	51.0
41	1636.9	51.0	45.5	TRUE	51.0
42	1681.9	51.0	51.0	TRUE	51.0
43	1718.9	51.0	45.5	TRUE	51.0
44	1760.2	51.0	45.5	TRUE	51.0
45	1800.6	51.0	51.0	TRUE	51.0
46	1842.0	51.0	51.0	TRUE	51.0
47	1880.5	51.0	51.0	TRUE	51.0
48	1921.9	51.0	51.0	TRUE	51.0
49	1960.7	51.0	45.5	TRUE	51.0
50	2005.0	51.0	51.0	TRUE	51.0
51	2047.2	51.0	45.5	TRUE	51.0

BH 104A - June 28, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	31.2	54.5	48.0	TRUE	54.5
2	72.5	54.5	48.0	TRUE	54.5
3	114.7	54.5	48.0	TRUE	54.5
4	152.4	54.5	48.0	TRUE	54.5
5	188.5	54.5	48.0	FALSE	48.0
6	230.2	54.5	48.0	TRUE	54.5
7	272.4	54.5	48.0	TRUE	54.5
8	313.8	54.5	54.5	TRUE	54.5
9	356.1	54.5	48.0	TRUE	54.5
10	394.9	54.5	48.0	TRUE	54.5
11	435.7	54.5	48.0	TRUE	54.5
12	477.2	54.5	48.0	TRUE	54.5
13	516.7	54.5	48.0	TRUE	54.5
14	553.2	54.5	48.0	TRUE	54.5
15	591.7	54.5	48.0	TRUE	54.5
16	632.4	54.5	48.0	TRUE	54.5
17	670.7	54.5	48.0	TRUE	54.5
18	708.2	54.5	48.0	TRUE	54.5
19	749.7	54.5	48.0	TRUE	54.5
20	786.6	54.5	48.0	TRUE	54.5
21	823.7	54.5	48.0	TRUE	54.5
22	861.0	54.5	48.0	TRUE	54.5
23	900.7	54.5	48.0	TRUE	54.5
24	942.4	54.5	48.0	TRUE	54.5
25	979.7	54.5	48.0	TRUE	54.5
26	1019.5	54.5	48.0	TRUE	54.5
27	1058.3	54.5	48.0	TRUE	54.5
28	1100.7	54.5	48.0	TRUE	54.5
29	1142.4	54.5	48.0	TRUE	54.5
30	1177.5	54.5	48.0	TRUE	54.5
31	1219.3	54.5	48.0	TRUE	54.5
32	1260.7	61.0	54.5	TRUE	61.0
33	1301.5	61.0	48.0	FALSE	48.0
34	1339.5	61.0	54.5	TRUE	61.0
35	1380.6	61.0	54.5	TRUE	61.0
36	1420.8	61.0	54.5	TRUE	61.0
37	1462.7	61.0	54.5	TRUE	61.0
38	1500.0	61.0	54.5	TRUE	61.0
39	1540.9	61.0	54.5	TRUE	61.0
40	1582.2	61.0	54.5	TRUE	61.0
41	1622.8	61.0	54.5	TRUE	61.0
42	1661.6	61.0	54.5	TRUE	61.0
43	1701.7	61.0	54.5	TRUE	61.0
44	1742.8	68.0	68.0	TRUE	68.0
45	1783.9	68.0	68.0	TRUE	68.0
46	1824.4	68.0	68.0	TRUE	68.0
47	1864.6	68.0	68.0	TRUE	68.0
48	1900.3	68.0	68.0	TRUE	68.0
49	1937.8	68.0	68.0	TRUE	68.0
50	1979.3	68.0	68.0	TRUE	68.0
51	2020.8	68.0	68.0	TRUE	68.0
52	2062.7	68.0	68.0	TRUE	68.0
53	2101.2	68.0	72.0	TRUE	68.0

BH 104A - November 4, 2014

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	36.7	54.5	48.0	TRUE	54.5
2	78.1	54.5	48.0	TRUE	54.5
3	120.1	54.5	48.0	TRUE	54.5
4	158.0	54.5	48.0	TRUE	54.5
5	194.1	54.5	48.0	TRUE	54.5
6	235.7	54.5	48.0	TRUE	54.5
7	278.0	54.5	48.0	TRUE	54.5
8	319.3	54.5	54.5	TRUE	54.5
9	361.7	54.5	48.0	TRUE	54.5
10	400.5	54.5	48.0	TRUE	54.5
11	441.3	54.5	48.0	TRUE	54.5
12	482.8	54.5	48.0	TRUE	54.5
13	522.3	54.5	48.0	TRUE	54.5
14	558.9	54.5	48.0	TRUE	54.5
15	597.4	54.5	48.0	TRUE	54.5
16	638.1	54.5	48.0	TRUE	54.5
17	676.2	54.5	48.0	TRUE	54.5
18	713.8	54.5	48.0	TRUE	54.5
19	755.2	54.5	54.5	TRUE	54.5
20	792.1	54.5	48.0	TRUE	54.5
21	829.1	54.5	48.0	TRUE	54.5
22	866.4	54.5	48.0	TRUE	54.5
23	906.0	54.5	48.0	TRUE	54.5
24	947.8	54.5	48.0	TRUE	54.5
25	985.1	54.5	48.0	TRUE	54.5
26	1025.7	54.5	48.0	TRUE	54.5
27	1063.9	54.5	48.0	TRUE	54.5
28	1106.3	54.5	48.0	TRUE	54.5
29	1148.0	54.5	48.0	TRUE	54.5
30	1183.1	54.5	48.0	TRUE	54.5
31	1224.9	54.5	48.0	TRUE	54.5
32	1266.2	61.0	54.5	TRUE	61.0
33	1307.1	61.0	48.0	FALSE	48.0
34	1345.2	61.0	54.5	TRUE	61.0
35	1386.1	61.0	54.5	TRUE	61.0
36	1426.3	61.0	54.5	TRUE	61.0
37	1468.2	61.0	54.5	TRUE	61.0
38	1505.4	61.0	54.5	TRUE	61.0
39	1546.4	61.0	54.5	TRUE	61.0
40	1587.7	61.0	54.5	TRUE	61.0
41	1628.1	61.0	54.5	TRUE	61.0
42	1666.8	61.0	54.5	TRUE	61.0
43	1706.9	61.0	54.5	TRUE	61.0
44	1748.0	68.0	68.0	TRUE	68.0
45	1789.0	68.0	68.0	TRUE	68.0
46	1829.6	68.0	68.0	TRUE	68.0
47	1869.8	68.0	68.0	TRUE	68.0
48	1905.6	68.0	68.0	TRUE	68.0
49	1943.1	68.0	68.0	TRUE	68.0
50	1984.7	68.0	68.0	TRUE	68.0
51	2026.2	68.0	68.0	TRUE	68.0
52	2069.5	68.0	68.0	TRUE	68.0
53	2113.9	68.0	68.0	TRUE	68.0

BH 104B - January 4, 2013

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	48.3	54.5	48.0	TRUE	54.5
2	90.8	54.5	48.0	TRUE	54.5
3	132.6	54.5	48.0	TRUE	54.5
4	174.1	54.5	48.0	TRUE	54.5
5	216.2	54.5	48.0	TRUE	54.5
6	258.0	54.5	48.0	TRUE	54.5
7	300.0	54.5	48.0	TRUE	54.5
8	339.6	54.5	48.0	TRUE	54.5
9	381.6	54.5	48.0	TRUE	54.5
10	423.1	54.5	48.0	TRUE	54.5
11	458.1	54.5	48.0	TRUE	54.5
12	495.1	54.5	48.0	TRUE	54.5
13	537.3	54.5	48.0	TRUE	54.5
14	579.5	54.5	48.0	TRUE	54.5
15	622.1	54.5	54.5	TRUE	54.5
16	664.3	54.5	48.0	TRUE	54.5
17	706.6	54.5	48.0	TRUE	54.5
18	748.9	54.5	48.0	TRUE	54.5
19	790.9	54.5	48.0	TRUE	54.5
20	826.8	54.5	48.0	TRUE	54.5
21	865.8	54.5	48.0	TRUE	54.5
22	907.9	54.5	48.0	TRUE	54.5
23	949.3	54.5	48.0	TRUE	54.5
24	991.5	54.5	48.0	TRUE	54.5
25	1033.3	54.5	48.0	TRUE	54.5
26	1072.2	54.5	48.0	TRUE	54.5
27	1114.5	54.5	48.0	TRUE	54.5
28	1149.1	54.5	48.0	TRUE	54.5
29	1191.7	54.5	48.0	TRUE	54.5
30	1233.4	54.5	48.0	TRUE	54.5
31	1272.2	61.0	54.5	TRUE	61.0
32	1313.1	61.0	54.5	TRUE	61.0
33	1354.0	61.0	54.5	TRUE	61.0
34	1393.3	61.0	54.5	TRUE	61.0
35	1434.5	61.0	54.5	TRUE	61.0
36	1472.4	61.0	54.5	TRUE	61.0
37	1510.8	61.0	54.5	TRUE	61.0
38	1551.2	61.0	54.5	TRUE	61.0
39	1592.5	61.0	54.5	TRUE	61.0
40	1634.3	61.0	54.5	TRUE	61.0
41	1674.9	61.0	54.5	FALSE	54.5
42	1716.2	61.0	54.5	TRUE	61.0
43	1756.4	68.0	68.0	TRUE	68.0
44	1797.7	68.0	68.0	TRUE	68.0
45	1836.5	68.0	68.0	TRUE	68.0
46	1875.3	68.0	61.0	TRUE	68.0
47	1917.0	68.0	61.0	TRUE	68.0
48	1957.5	68.0	61.0	TRUE	68.0
49	1998.2	68.0	68.0	TRUE	68.0
50	2039.6	68.0	68.0	TRUE	68.0
51	2080.0	68.0	68.0	TRUE	68.0
52	2120.1	68.0	61.0	TRUE	68.0

BH 105A - May 25, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	36.8	54.5	54.5	TRUE	54.5
2	79.3	54.5	54.5	TRUE	54.5
3	121.2	54.5	54.5	TRUE	54.5
4	162.5	54.5	54.5	TRUE	54.5
5	200.4	54.5	54.5	TRUE	54.5
6	240.4	54.5	54.5	TRUE	54.5
7	280.5	54.5	54.5	TRUE	54.5
8	317.9	54.5	54.5	TRUE	54.5
9	360.0	54.5	54.5	TRUE	54.5
10	399.2	54.5	54.5	TRUE	54.5
11	441.4	54.5	54.5	TRUE	54.5
12	478.8	54.5	54.5	TRUE	54.5
13	521.4	54.5	54.5	TRUE	54.5
14	563.8	54.5	54.5	TRUE	54.5
15	605.4	54.5	54.5	TRUE	54.5
16	644.0	54.5	54.5	TRUE	54.5
17	683.8	54.5	54.5	TRUE	54.5
18	720.7	54.5	54.5	TRUE	54.5
19	762.3	54.5	54.5	TRUE	54.5
20	804.8	54.5	54.5	TRUE	54.5
21	847.3	54.5	54.5	TRUE	54.5
22	889.6	54.5	54.5	TRUE	54.5
23	930.8	54.5	54.5	TRUE	54.5
24	971.3	54.5	54.5	TRUE	54.5
25	1013.7	54.5	54.5	TRUE	54.5
26	1055.6	54.5	54.5	TRUE	54.5
27	1097.0	54.5	54.5	TRUE	54.5
28	1137.3	54.5	54.5	TRUE	54.5
29	1179.3	54.5	54.5	TRUE	54.5
30	1221.6	54.5	54.5	TRUE	54.5
31	1257.6	61.0	61.0	TRUE	61.0
32	1296.0	61.0	61.0	TRUE	61.0
33	1337.3	61.0	61.0	TRUE	61.0
34	1378.7	61.0	61.0	TRUE	61.0
35	1420.0	61.0	61.0	TRUE	61.0
36	1462.1	61.0	61.0	TRUE	61.0
37	1503.7	61.0	61.0	TRUE	61.0
38	1545.1	61.0	61.0	TRUE	61.0
39	1580.8	61.0	61.0	TRUE	61.0
40	1622.2	61.0	61.0	TRUE	61.0
41	1663.1	61.0	61.0	TRUE	61.0
42	1705.0	61.0	61.0	TRUE	61.0
43	1747.0	68.0	68.0	TRUE	68.0
44	1788.0	68.0	68.0	TRUE	68.0
45	1830.0	68.0	68.0	TRUE	68.0
46	1870.4	68.0	68.0	TRUE	68.0
47	1911.2	68.0	68.0	TRUE	68.0
48	1951.8	68.0	68.0	TRUE	68.0
49	1986.4	68.0	68.0	TRUE	68.0
50	2026.8	68.0	68.0	TRUE	68.0
51	2069.1	68.0	68.0	TRUE	68.0

BH 105A - January 27, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	39.5	54.5	48.0	TRUE	54.5
2	81.9	54.5	48.0	TRUE	54.5
3	123.6	54.5	48.0	TRUE	54.5
4	164.9	54.5	48.0	TRUE	54.5
5	202.8	54.5	48.0	TRUE	54.5
6	242.7	54.5	48.0	TRUE	54.5
7	282.7	54.5	48.0	TRUE	54.5
8	320.1	54.5	54.5	TRUE	54.5
9	362.2	54.5	48.0	TRUE	54.5
10	401.4	54.5	48.0	TRUE	54.5
11	443.6	54.5	48.0	TRUE	54.5
12	481.0	54.5	48.0	TRUE	54.5
13	523.6	54.5	48.0	TRUE	54.5
14	566.0	54.5	48.0	TRUE	54.5
15	607.5	54.5	48.0	TRUE	54.5
16	646.0	54.5	48.0	TRUE	54.5
17	685.9	54.5	48.0	TRUE	54.5
18	722.9	54.5	48.0	TRUE	54.5
19	764.5	54.5	48.0	TRUE	54.5
20	807.0	54.5	48.0	TRUE	54.5
21	849.7	54.5	48.0	TRUE	54.5
22	891.9	54.5	54.5	TRUE	54.5
23	933.0	54.5	48.0	TRUE	54.5
24	973.6	54.5	48.0	TRUE	54.5
25	1016.0	54.5	48.0	TRUE	54.5
26	1057.6	54.5	48.0	TRUE	54.5
27	1099.1	54.5	48.0	TRUE	54.5
28	1139.4	54.5	48.0	TRUE	54.5
29	1181.4	54.5	48.0	TRUE	54.5
30	1223.8	54.5	48.0	TRUE	54.5
31	1259.7	61.0	54.5	TRUE	61.0
32	1298.0	61.0	54.5	TRUE	61.0
33	1339.4	61.0	54.5	TRUE	61.0
34	1380.7	61.0	54.5	TRUE	61.0
35	1422.1	61.0	54.5	TRUE	61.0
36	1464.3	61.0	54.5	TRUE	61.0
37	1505.7	61.0	54.5	TRUE	61.0
38	1547.1	61.0	54.5	TRUE	61.0
39	1582.9	61.0	54.5	TRUE	61.0
40	1624.1	61.0	54.5	TRUE	61.0
41	1665.0	61.0	54.5	TRUE	61.0
42	1706.9	61.0	54.5	TRUE	61.0
43	1748.8	68.0	68.0	TRUE	68.0
44	1789.8	68.0	68.0	TRUE	68.0
45	1831.8	68.0	68.0	TRUE	68.0
46	1872.2	68.0	68.0	TRUE	68.0
47	1912.9	68.0	61.0	TRUE	68.0
48	1953.6	68.0	68.0	TRUE	68.0
49	1988.3	68.0	68.0	TRUE	68.0
50	2028.8	68.0	68.0	TRUE	68.0
51	2068.8	68.0	61.0	TRUE	68.0

BH 105B - June 9, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	40.6	54.5	48.0	FALSE	48.0
2	80.7	54.5	48.0	FALSE	48.0
3	118.3	54.5	48.0	FALSE	48.0
4	157.5	54.5	48.0	FALSE	48.0
5	196.2	54.5	48.0	FALSE	48.0
6	236.0	54.5	48.0	FALSE	48.0
7	275.7	54.5	48.0	FALSE	48.0
8	316.0	54.5	48.0	FALSE	48.0
9	357.6	54.5	48.0	FALSE	48.0
10	398.5	54.5	48.0	FALSE	48.0
11	440.4	54.5	48.0	FALSE	48.0
12	481.3	54.5	48.0	FALSE	48.0
13	523.6	54.5	48.0	FALSE	48.0
14	565.4	54.5	48.0	FALSE	48.0
15	607.2	54.5	48.0	FALSE	48.0
16	649.1	54.5	48.0	FALSE	48.0
17	691.0	54.5	48.0	FALSE	48.0
18	733.3	54.5	48.0	FALSE	48.0
19	775.9	54.5	48.0	FALSE	48.0
20	817.8	54.5	48.0	FALSE	48.0
21	859.7	54.5	48.0	FALSE	48.0
22	901.7	54.5	48.0	FALSE	48.0
23	937.4	54.5	48.0	FALSE	48.0
24	979.6	54.5	48.0	FALSE	48.0
25	1019.0	54.5	48.0	FALSE	48.0
26	1060.8	54.5	48.0	FALSE	48.0
27	1103.1	54.5	48.0	FALSE	48.0
28	1143.0	54.5	48.0	FALSE	48.0
29	1183.2	54.5	48.0	FALSE	48.0
30	1224.4	54.5	48.0	FALSE	48.0
31	1265.7	61.0	48.0	FALSE	48.0
32	1307.1	61.0	48.0	FALSE	48.0
33	1348.5	61.0	48.0	FALSE	48.0
34	1385.6	61.0	48.0	FALSE	48.0
35	1421.4	61.0	48.0	FALSE	48.0
36	1461.6	61.0	48.0	FALSE	48.0
37	1502.8	61.0	48.0	FALSE	48.0
38	1543.0	61.0	48.0	FALSE	48.0
39	1584.0	61.0	48.0	FALSE	48.0
40	1624.7	61.0	48.0	FALSE	48.0
41	1664.9	61.0	48.0	FALSE	48.0
42	1706.2	61.0	48.0	FALSE	48.0
43	1748.0	68.0	61.0	FALSE	61.0
44	1786.8	68.0	61.0	TRUE	68.0
45	1828.2	68.0	61.0	FALSE	61.0
46	1868.4	68.0	61.0	FALSE	61.0
47	1907.6	68.0	61.0	FALSE	61.0
48	1946.5	68.0	61.0	TRUE	68.0
49	1987.2	68.0	61.0	FALSE	61.0
50	2030.0	68.0	61.0	FALSE	61.0
51	2070.3	68.0	61.0	TRUE	68.0

BH 105B (lined) - June 7, 2011

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	23.8	51.0	45.5	TRUE	51.0
2	66.6	51.0	45.5	TRUE	51.0
3	108.4	51.0	45.5	TRUE	51.0
4	144.8	51.0	45.5	TRUE	51.0
5	188.8	51.0	45.5	TRUE	51.0
6	231.6	51.0	45.5	TRUE	51.0
7	276.4	51.0	45.5	TRUE	51.0
8	318.7	51.0	45.5	TRUE	51.0
9	363.1	51.0	45.5	TRUE	51.0
10	404.6	51.0	45.5	TRUE	51.0
11	447.3	51.0	45.5	TRUE	51.0
12	491.6	51.0	45.5	TRUE	51.0
13	534.0	51.0	45.5	TRUE	51.0
14	577.7	51.0	45.5	TRUE	51.0
15	620.9	51.0	45.5	TRUE	51.0
16	663.5	51.0	45.5	TRUE	51.0
17	704.9	51.0	45.5	TRUE	51.0
18	748.1	51.0	45.5	TRUE	51.0
19	791.6	51.0	45.5	TRUE	51.0
20	835.3	51.0	45.5	TRUE	51.0
21	876.8	51.0	45.5	TRUE	51.0
22	920.1	51.0	45.5	TRUE	51.0
23	963.7	51.0	45.5	TRUE	51.0
24	1007.1	51.0	45.5	TRUE	51.0
25	1050.1	51.0	45.5	TRUE	51.0
26	1093.3	51.0	45.5	TRUE	51.0
27	1137.0	51.0	45.5	TRUE	51.0
28	1179.6	51.0	45.5	TRUE	51.0
29	1223.4	51.0	45.5	TRUE	51.0
30	1266.4	51.0	45.5	TRUE	51.0
31	1306.2	51.0	45.5	TRUE	51.0
32	1348.7	51.0	45.5	TRUE	51.0
33	1387.2	51.0	45.5	TRUE	51.0
34	1429.4	51.0	45.5	TRUE	51.0
35	1471.6	51.0	45.5	TRUE	51.0
36	1514.4	51.0	45.5	TRUE	51.0
37	1557.1	51.0	45.5	TRUE	51.0
38	1601.0	51.0	45.5	TRUE	51.0
39	1646.0	51.0	45.5	TRUE	51.0
40	1689.3	51.0	45.5	TRUE	51.0
41	1728.7	51.0	45.5	TRUE	51.0
42	1770.3	51.0	45.5	TRUE	51.0
43	1810.9	51.0	45.5	TRUE	51.0
44	1852.5	51.0	45.5	TRUE	51.0
45	1894.9	51.0	45.5	TRUE	51.0
46	1938.7	51.0	45.5	TRUE	51.0
47	1982.7	51.0	45.5	TRUE	51.0
48	2029.6	51.0	45.5	TRUE	51.0
49	2060.3	51.0	45.5	TRUE	51.0

BH 106A - December 10, 2014

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	42.5	54.5	48.0	TRUE	54.5
2	83.4	54.5	48.0	TRUE	54.5
3	125.2	54.5	54.5	TRUE	54.5
4	167.8	54.5	48.0	TRUE	54.5
5	206.7	54.5	54.5	TRUE	54.5
6	244.9	54.5	48.0	TRUE	54.5
7	287.0	54.5	48.0	TRUE	54.5
8	329.1	54.5	48.0	TRUE	54.5
9	367.9	54.5	48.0	TRUE	54.5
10	403.4	54.5	48.0	TRUE	54.5
11	445.5	54.5	48.0	TRUE	54.5
12	488.0	54.5	54.5	TRUE	54.5
13	526.3	54.5	48.0	TRUE	54.5
14	567.1	54.5	48.0	TRUE	54.5
15	609.5	54.5	48.0	TRUE	54.5
16	650.8	54.5	48.0	TRUE	54.5
17	693.0	54.5	48.0	TRUE	54.5
18	735.4	54.5	54.5	TRUE	54.5
19	777.7	54.5	48.0	TRUE	54.5
20	819.1	54.5	48.0	TRUE	54.5
21	860.8	54.5	48.0	TRUE	54.5
22	902.4	54.5	48.0	TRUE	54.5
23	944.3	54.5	48.0	TRUE	54.5
24	983.5	54.5	48.0	TRUE	54.5
25	1027.8	54.5	48.0	TRUE	54.5
26	1069.8	54.5	48.0	TRUE	54.5
27	1111.3	54.5	48.0	TRUE	54.5
28	1151.6	54.5	48.0	TRUE	54.5
29	1193.8	54.5	48.0	TRUE	54.5
30	1231.3	54.5	54.5	TRUE	54.5
31	1268.5	61.0	54.5	TRUE	61.0
32	1308.7	61.0	54.5	TRUE	61.0
33	1345.1	61.0	54.5	TRUE	61.0
34	1385.6	61.0	54.5	TRUE	61.0
35	1426.6	61.0	54.5	TRUE	61.0
36	1468.5	61.0	54.5	TRUE	61.0
37	1509.7	61.0	54.5	TRUE	61.0
38	1547.8	61.0	54.5	TRUE	61.0
39	1584.9	61.0	68.0	TRUE	61.0
40	1626.4	61.0	54.5	TRUE	61.0
41	1667.0	61.0	54.5	TRUE	61.0
42	1708.7	61.0	54.5	TRUE	61.0
43	1748.2	68.0	68.0	TRUE	68.0
44	1787.6	68.0	68.0	TRUE	68.0
45	1825.9	68.0	68.0	TRUE	68.0
46	1865.2	68.0	68.0	TRUE	68.0
47	1904.7	68.0	68.0	TRUE	68.0
48	1945.9	68.0	61.0	TRUE	68.0
49	1984.3	68.0	68.0	TRUE	68.0
50	2024.7	68.0	68.0	TRUE	68.0
51	2064.8	68.0	68.0	TRUE	68.0
52	2108.7	68.0	61.0	TRUE	68.0

BH 106B - March 12, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	40.2	54.5	54.5	TRUE	54.5
2	81.0	54.5	54.5	TRUE	54.5
3	122.5	54.5	48.0	TRUE	54.5
4	164.5	54.5	54.5	TRUE	54.5
5	201.9	54.5	48.0	TRUE	54.5
6	244.3	54.5	54.5	TRUE	54.5
7	286.6	54.5	48.0	TRUE	54.5
8	328.6	54.5	48.0	TRUE	54.5
9	370.5	54.5	54.5	TRUE	54.5
10	412.4	54.5	48.0	TRUE	54.5
11	454.6	54.5	54.5	TRUE	54.5
12	496.8	54.5	54.5	TRUE	54.5
13	539.0	54.5	48.0	TRUE	54.5
14	581.3	54.5	54.5	TRUE	54.5
15	623.4	54.5	54.5	TRUE	54.5
16	665.6	54.5	48.0	TRUE	54.5
17	707.9	54.5	48.0	TRUE	54.5
18	749.5	54.5	48.0	TRUE	54.5
19	791.8	54.5	54.5	TRUE	54.5
20	833.6	54.5	48.0	TRUE	54.5
21	872.6	54.5	48.0	TRUE	54.5
22	914.4	54.5	48.0	TRUE	54.5
23	952.2	54.5	48.0	TRUE	54.5
24	990.0	54.5	54.5	TRUE	54.5
25	1031.8	54.5	48.0	TRUE	54.5
26	1073.8	54.5	54.5	TRUE	54.5
27	1115.2	54.5	48.0	TRUE	54.5
28	1153.3	54.5	48.0	TRUE	54.5
29	1192.3	54.5	48.0	TRUE	54.5
30	1232.1	54.5	48.0	TRUE	54.5
31	1273.5	61.0	54.5	TRUE	61.0
32	1312.3	61.0	54.5	TRUE	61.0
33	1349.7	61.0	61.0	TRUE	61.0
34	1389.7	61.0	54.5	TRUE	61.0
35	1428.5	61.0	61.0	TRUE	61.0
36	1469.9	61.0	61.0	TRUE	61.0
37	1511.7	61.0	54.5	TRUE	61.0
38	1552.5	61.0	54.5	TRUE	61.0
39	1593.8	61.0	54.5	TRUE	61.0
40	1635.0	61.0	54.5	TRUE	61.0
41	1672.4	61.0	54.5	TRUE	61.0
42	1713.4	61.0	54.5	TRUE	61.0
43	1753.4	68.0	68.0	TRUE	68.0
44	1793.4	68.0	68.0	TRUE	68.0
45	1832.6	68.0	68.0	TRUE	68.0
46	1872.6	68.0	68.0	TRUE	68.0
47	1912.6	68.0	68.0	TRUE	68.0
48	1952.3	68.0	68.0	TRUE	68.0
49	1993.4	68.0	68.0	TRUE	68.0
50	2033.7	68.0	68.0	TRUE	68.0
51	2075.8	68.0	68.0	TRUE	68.0
52	2117.0	68.0	68.0	TRUE	68.0

BH 106B - July 31, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	49.1	54.5	54.5	TRUE	54.5
2	90.8	54.5	54.5	TRUE	54.5
3	132.0	54.5	54.5	TRUE	54.5
4	173.7	54.5	54.5	TRUE	54.5
5	211.1	54.5	54.5	TRUE	54.5
6	253.2	54.5	54.5	TRUE	54.5
7	295.3	54.5	48.0	TRUE	54.5
8	337.2	54.5	48.0	TRUE	54.5
9	379.2	54.5	54.5	TRUE	54.5
10	420.6	54.5	48.0	TRUE	54.5
11	462.6	54.5	54.5	TRUE	54.5
12	504.6	54.5	54.5	TRUE	54.5
13	546.7	54.5	48.0	TRUE	54.5
14	588.8	54.5	54.5	TRUE	54.5
15	630.8	54.5	54.5	TRUE	54.5
16	672.7	54.5	48.0	TRUE	54.5
17	715.0	54.5	48.0	TRUE	54.5
18	756.4	54.5	54.5	TRUE	54.5
19	798.4	54.5	54.5	TRUE	54.5
20	840.0	54.5	54.5	TRUE	54.5
21	878.8	54.5	54.5	TRUE	54.5
22	920.3	54.5	48.0	TRUE	54.5
23	958.0	54.5	48.0	TRUE	54.5
24	995.6	54.5	54.5	TRUE	54.5
25	1037.2	54.5	54.5	TRUE	54.5
26	1078.9	54.5	54.5	TRUE	54.5
27	1120.2	54.5	54.5	TRUE	54.5
28	1158.2	54.5	54.5	TRUE	54.5
29	1197.2	54.5	48.0	TRUE	54.5
30	1236.8	54.5	48.0	TRUE	54.5
31	1278.1	61.0	61.0	TRUE	61.0
32	1316.8	61.0	61.0	TRUE	61.0
33	1354.1	61.0	61.0	TRUE	61.0
34	1393.9	61.0	54.5	TRUE	61.0
35	1432.5	61.0	61.0	TRUE	61.0
36	1473.6	61.0	61.0	TRUE	61.0
37	1515.3	61.0	61.0	TRUE	61.0
38	1555.8	61.0	54.5	TRUE	61.0
39	1596.7	61.0	54.5	TRUE	61.0
40	1637.7	61.0	61.0	TRUE	61.0
41	1674.8	61.0	54.5	TRUE	61.0
42	1715.8	61.0	54.5	TRUE	61.0
43	1755.6	68.0	68.0	TRUE	68.0
44	1795.5	68.0	68.0	TRUE	68.0
45	1834.5	68.0	68.0	TRUE	68.0
46	1874.2	68.0	68.0	TRUE	68.0
47	1914.0	68.0	68.0	TRUE	68.0
48	1953.6	68.0	68.0	TRUE	68.0
49	1994.3	68.0	68.0	TRUE	68.0
50	2034.3	68.0	68.0	TRUE	68.0
51	2078.5	68.0	68.0	TRUE	68.0
52	2117.0	68.0	68.0	TRUE	68.0

BH 107A - November 5, 2014

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	33.6	54.5	48.0	TRUE	54.5
2	72.4	54.5	48.0	TRUE	54.5
3	114.7	54.5	48.0	TRUE	54.5
4	153.5	54.5	48.0	TRUE	54.5
5	194.0	54.5	48.0	TRUE	54.5
6	235.6	54.5	48.0	TRUE	54.5
7	277.6	54.5	48.0	TRUE	54.5
8	319.9	54.5	48.0	TRUE	54.5
9	362.1	54.5	48.0	TRUE	54.5
10	403.6	54.5	48.0	TRUE	54.5
11	445.9	54.5	48.0	TRUE	54.5
12	487.8	54.5	48.0	TRUE	54.5
13	529.4	54.5	48.0	TRUE	54.5
14	570.2	54.5	48.0	TRUE	54.5
15	610.4	54.5	48.0	TRUE	54.5
16	651.7	54.5	48.0	TRUE	54.5
17	691.7	54.5	48.0	TRUE	54.5
18	731.3	54.5	48.0	TRUE	54.5
19	772.1	54.5	48.0	TRUE	54.5
20	814.6	54.5	48.0	TRUE	54.5
21	854.9	54.5	48.0	TRUE	54.5
22	896.2	54.5	48.0	TRUE	54.5
23	938.6	54.5	48.0	TRUE	54.5
24	980.5	54.5	48.0	TRUE	54.5
25	1022.4	54.5	48.0	TRUE	54.5
26	1059.3	54.5	48.0	TRUE	54.5
27	1101.3	54.5	48.0	TRUE	54.5
28	1143.6	54.5	48.0	TRUE	54.5
29	1184.3	54.5	48.0	TRUE	54.5
30	1224.5	54.5	48.0	TRUE	54.5
31	1263.6	61.0	54.5	TRUE	61.0
32	1305.0	61.0	54.5	TRUE	61.0
33	1346.3	61.0	54.5	TRUE	61.0
34	1386.1	61.0	54.5	TRUE	61.0
35	1423.6	61.0	54.5	TRUE	61.0
36	1464.7	61.0	54.5	TRUE	61.0
37	1505.8	61.0	54.5	TRUE	61.0
38	1546.7	61.0	54.5	TRUE	61.0
39	1587.5	61.0	54.5	TRUE	61.0
40	1628.8	61.0	54.5	TRUE	61.0
41	1665.8	61.0	54.5	TRUE	61.0
42	1706.9	61.0	54.5	TRUE	61.0
43	1746.8	68.0	68.0	TRUE	68.0
44	1786.6	68.0	68.0	TRUE	68.0
45	1828.1	68.0	68.0	TRUE	68.0
46	1868.5	68.0	68.0	TRUE	68.0
47	1908.6	68.0	68.0	TRUE	68.0
48	1947.2	68.0	68.0	TRUE	68.0
49	1987.2	68.0	68.0	TRUE	68.0
50	2028.5	68.0	68.0	TRUE	68.0
51	2069.5	68.0	68.0	TRUE	68.0

BH 107B – November 8, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	32.4	54.5	54.5	TRUE	54.5
2	69.2	54.5	54.5	TRUE	54.5
3	109.5	54.5	54.5	TRUE	54.5
4	149.1	54.5	54.5	TRUE	54.5
5	191.1	54.5	54.5	TRUE	54.5
6	233.5	54.5	54.5	TRUE	54.5
7	275.6	54.5	54.5	TRUE	54.5
8	313.5	54.5	54.5	TRUE	54.5
9	355.1	54.5	54.5	TRUE	54.5
10	396.8	54.5	54.5	TRUE	54.5
11	438.0	54.5	54.5	TRUE	54.5
12	480.0	54.5	54.5	TRUE	54.5
13	522.2	54.5	54.5	TRUE	54.5
14	563.9	54.5	54.5	TRUE	54.5
15	605.5	54.5	54.5	TRUE	54.5
16	647.0	54.5	54.5	TRUE	54.5
17	687.3	54.5	54.5	TRUE	54.5
18	729.5	54.5	54.5	TRUE	54.5
19	771.8	54.5	54.5	TRUE	54.5
20	813.5	54.5	54.5	TRUE	54.5
21	851.7	54.5	54.5	TRUE	54.5
22	893.2	54.5	54.5	TRUE	54.5
23	934.8	54.5	54.5	TRUE	54.5
24	977.0	54.5	54.5	TRUE	54.5
25	1019.2	54.5	54.5	TRUE	54.5
26	1061.5	54.5	54.5	TRUE	54.5
27	1100.9	54.5	54.5	TRUE	54.5
28	1142.4	54.5	54.5	TRUE	54.5
29	1184.0	54.5	54.5	TRUE	54.5
30	1223.8	54.5	54.5	TRUE	54.5
31	1262.4	61.0	61.0	TRUE	61.0
32	1303.7	61.0	61.0	TRUE	61.0
33	1344.6	61.0	61.0	TRUE	61.0
34	1383.0	61.0	61.0	TRUE	61.0
35	1419.5	61.0	61.0	TRUE	61.0
36	1457.0	61.0	61.0	TRUE	61.0
37	1498.6	61.0	61.0	TRUE	61.0
38	1539.9	61.0	61.0	TRUE	61.0
39	1580.5	61.0	61.0	TRUE	61.0
40	1621.6	61.0	61.0	TRUE	61.0
41	1661.3	61.0	68.0	FALSE	68.0
42	1701.2	61.0	68.0	FALSE	68.0
43	1743.1	68.0	61.0	TRUE	68.0
44	1784.9	68.0	61.0	TRUE	68.0
45	1825.5	68.0	68.0	TRUE	68.0
46	1865.4	68.0	68.0	TRUE	68.0
47	1906.3	68.0	68.0	TRUE	68.0
48	1946.5	68.0	68.0	TRUE	68.0
49	1986.9	68.0	68.0	TRUE	68.0
50	2026.8	68.0	68.0	TRUE	68.0
51	2067.2	68.0	68.0	TRUE	68.0
52	2109.4	68.0	68.0	TRUE	68.0

BH 107B - October 13, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	46.1	54.5	54.5	TRUE	54.5
2	82.6	54.5	48.0	TRUE	54.5
3	123.3	54.5	48.0	TRUE	54.5
4	163.0	54.5	48.0	TRUE	54.5
5	205.0	54.5	54.5	TRUE	54.5
6	247.5	54.5	54.5	TRUE	54.5
7	289.4	54.5	48.0	TRUE	54.5
8	327.3	54.5	48.0	TRUE	54.5
9	369.0	54.5	48.0	TRUE	54.5
10	410.5	54.5	48.0	TRUE	54.5
11	451.6	54.5	48.0	TRUE	54.5
12	493.6	54.5	48.0	TRUE	54.5
13	535.7	54.5	48.0	TRUE	54.5
14	577.4	54.5	54.5	TRUE	54.5
15	618.8	54.5	48.0	TRUE	54.5
16	660.4	54.5	48.0	TRUE	54.5
17	700.4	54.5	54.5	TRUE	54.5
18	742.5	54.5	48.0	TRUE	54.5
19	784.7	54.5	48.0	TRUE	54.5
20	826.3	54.5	54.5	TRUE	54.5
21	864.4	54.5	48.0	TRUE	54.5
22	906.1	54.5	48.0	TRUE	54.5
23	947.7	54.5	54.5	TRUE	54.5
24	989.8	54.5	54.5	TRUE	54.5
25	1032.0	54.5	48.0	TRUE	54.5
26	1074.3	54.5	48.0	TRUE	54.5
27	1113.6	54.5	54.5	TRUE	54.5
28	1155.1	54.5	48.0	TRUE	54.5
29	1196.5	54.5	48.0	TRUE	54.5
30	1236.4	54.5	54.5	TRUE	54.5
31	1275.0	61.0	54.5	TRUE	61.0
32	1316.2	61.0	54.5	TRUE	61.0
33	1357.1	61.0	54.5	TRUE	61.0
34	1395.3	61.0	54.5	TRUE	61.0
35	1431.7	61.0	54.5	TRUE	61.0
36	1469.1	61.0	61.0	TRUE	61.0
37	1510.5	61.0	54.5	TRUE	61.0
38	1551.7	61.0	54.5	TRUE	61.0
39	1592.2	61.0	54.5	TRUE	61.0
40	1633.2	61.0	54.5	TRUE	61.0
41	1672.8	61.0	68.0	TRUE	61.0
42	1712.6	61.0	68.0	TRUE	61.0
43	1754.6	68.0	54.5	FALSE	54.5
44	1796.2	68.0	54.5	FALSE	54.5
45	1836.9	68.0	68.0	TRUE	68.0
46	1876.8	68.0	68.0	TRUE	68.0
47	1917.5	68.0	68.0	TRUE	68.0
48	1957.7	68.0	68.0	TRUE	68.0
49	1998.0	68.0	68.0	TRUE	68.0
50	2037.8	68.0	68.0	TRUE	68.0
51	2078.1	68.0	68.0	TRUE	68.0
52	2120.2	68.0	68.0	TRUE	68.0

BH 108A - January 21, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	39.4	54.5	54.5	TRUE	54.5
2	78.2	54.5	54.5	TRUE	54.5
3	115.0	54.5	54.5	TRUE	54.5
4	152.0	54.5	54.5	TRUE	54.5
5	192.4	54.5	54.5	TRUE	54.5
6	234.8	54.5	54.5	TRUE	54.5
7	277.2	54.5	54.5	TRUE	54.5
8	319.7	54.5	54.5	TRUE	54.5
9	360.4	54.5	54.5	TRUE	54.5
10	402.8	54.5	54.5	TRUE	54.5
11	445.1	54.5	54.5	TRUE	54.5
12	484.4	54.5	54.5	TRUE	54.5
13	526.7	54.5	54.5	TRUE	54.5
14	568.8	54.5	54.5	TRUE	54.5
15	610.8	54.5	48.0	TRUE	54.5
16	647.5	54.5	54.5	TRUE	54.5
17	685.6	54.5	48.0	TRUE	54.5
18	728.0	54.5	48.0	TRUE	54.5
19	770.1	54.5	54.5	TRUE	54.5
20	807.8	54.5	48.0	TRUE	54.5
21	849.8	54.5	54.5	TRUE	54.5
22	892.1	54.5	54.5	TRUE	54.5
23	934.5	54.5	54.5	TRUE	54.5
24	974.8	54.5	54.5	TRUE	54.5
25	1011.7	54.5	54.5	TRUE	54.5
26	1053.6	54.5	54.5	TRUE	54.5
27	1095.4	54.5	54.5	TRUE	54.5
28	1135.8	54.5	48.0	TRUE	54.5
29	1177.8	54.5	54.5	TRUE	54.5
30	1217.8	54.5	48.0	TRUE	54.5
31	1256.2	61.0	61.0	TRUE	61.0
32	1295.5	61.0	61.0	TRUE	61.0
33	1334.3	61.0	54.5	TRUE	61.0
34	1373.9	61.0	54.5	TRUE	61.0
35	1415.0	61.0	54.5	TRUE	61.0
36	1455.3	61.0	61.0	TRUE	61.0
37	1496.8	61.0	61.0	TRUE	61.0
38	1535.0	61.0	54.5	TRUE	61.0
39	1572.6	61.0	54.5	TRUE	61.0
40	1610.5	61.0	54.5	TRUE	61.0
41	1647.6	61.0	54.5	TRUE	61.0
42	1684.4	61.0	54.5	TRUE	61.0
43	1720.8	61.0	54.5	TRUE	61.0
44	1758.8	68.0	68.0	TRUE	68.0
45	1795.6	68.0	68.0	TRUE	68.0
46	1830.7	68.0	68.0	TRUE	68.0
47	1870.5	68.0	68.0	TRUE	68.0
48	1910.1	68.0	68.0	TRUE	68.0
49	1949.0	68.0	68.0	TRUE	68.0
50	1988.6	68.0	68.0	TRUE	68.0
51	2028.5	68.0	68.0	TRUE	68.0
52	2067.9	68.0	68.0	TRUE	68.0
53	2108.1	68.0	68.0	TRUE	68.0

BH 108B - October 22, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	37.7	54.5	54.5	TRUE	54.5
2	79.0	54.5	48.0	TRUE	54.5
3	120.1	54.5	48.0	TRUE	54.5
4	162.1	54.5	54.5	TRUE	54.5
5	203.4	54.5	48.0	TRUE	54.5
6	244.7	54.5	54.5	TRUE	54.5
7	283.1	54.5	48.0	TRUE	54.5
8	322.4	54.5	48.0	TRUE	54.5
9	364.8	54.5	48.0	TRUE	54.5
10	406.6	54.5	48.0	TRUE	54.5
11	448.2	54.5	54.5	TRUE	54.5
12	488.7	54.5	48.0	TRUE	54.5
13	530.8	54.5	48.0	TRUE	54.5
14	569.0	54.5	54.5	TRUE	54.5
15	611.6	54.5	48.0	TRUE	54.5
16	652.4	54.5	48.0	TRUE	54.5
17	694.7	54.5	48.0	TRUE	54.5
18	733.0	54.5	48.0	TRUE	54.5
19	773.2	54.5	48.0	TRUE	54.5
20	811.8	54.5	54.5	TRUE	54.5
21	853.7	54.5	48.0	TRUE	54.5
22	894.5	54.5	48.0	TRUE	54.5
23	936.4	54.5	48.0	TRUE	54.5
24	977.9	54.5	48.0	TRUE	54.5
25	1019.4	54.5	48.0	TRUE	54.5
26	1058.3	54.5	48.0	TRUE	54.5
27	1099.8	54.5	48.0	TRUE	54.5
28	1141.8	54.5	48.0	TRUE	54.5
29	1184.1	54.5	48.0	TRUE	54.5
30	1222.6	54.5	48.0	TRUE	54.5
31	1261.6	61.0	54.5	TRUE	61.0
32	1302.7	61.0	54.5	TRUE	61.0
33	1343.4	61.0	54.5	TRUE	61.0
34	1380.3	61.0	54.5	TRUE	61.0
35	1417.3	61.0	54.5	TRUE	61.0
36	1457.7	61.0	54.5	TRUE	61.0
37	1498.7	61.0	54.5	TRUE	61.0
38	1539.9	61.0	54.5	TRUE	61.0
39	1580.3	61.0	54.5	TRUE	61.0
40	1621.0	61.0	54.5	TRUE	61.0
41	1662.7	61.0	54.5	TRUE	61.0
42	1704.0	61.0	54.5	TRUE	61.0
43	1744.0	68.0	68.0	TRUE	68.0
44	1785.7	68.0	68.0	TRUE	68.0
45	1827.4	68.0	68.0	TRUE	68.0
46	1868.8	68.0	68.0	TRUE	68.0
47	1908.5	68.0	68.0	TRUE	68.0
48	1949.5	68.0	68.0	TRUE	68.0
49	1989.4	68.0	68.0	TRUE	68.0
50	2030.1	68.0	68.0	TRUE	68.0
51	2070.9	68.0	68.0	TRUE	68.0
52	2115.0	68.0	68.0	TRUE	68.0

BH 108B - April 1, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	44.6	54.5	48.0	TRUE	54.5
2	86.0	54.5	48.0	TRUE	54.5
3	127.0	54.5	48.0	TRUE	54.5
4	168.8	54.5	48.0	TRUE	54.5
5	210.2	54.5	48.0	TRUE	54.5
6	251.6	54.5	48.0	TRUE	54.5
7	290.1	54.5	48.0	TRUE	54.5
8	329.3	54.5	48.0	TRUE	54.5
9	371.7	54.5	48.0	TRUE	54.5
10	413.5	54.5	48.0	TRUE	54.5
11	455.2	54.5	48.0	TRUE	54.5
12	495.5	54.5	48.0	TRUE	54.5
13	537.5	54.5	48.0	TRUE	54.5
14	575.7	54.5	48.0	TRUE	54.5
15	617.9	54.5	48.0	TRUE	54.5
16	658.7	54.5	48.0	TRUE	54.5
17	701.0	54.5	48.0	TRUE	54.5
18	739.1	54.5	48.0	TRUE	54.5
19	779.2	54.5	48.0	TRUE	54.5
20	817.8	54.5	48.0	TRUE	54.5
21	859.7	54.5	48.0	TRUE	54.5
22	900.8	54.5	48.0	TRUE	54.5
23	942.8	54.5	48.0	TRUE	54.5
24	984.2	54.5	48.0	TRUE	54.5
25	1025.7	54.5	48.0	TRUE	54.5
26	1064.6	54.5	48.0	TRUE	54.5
27	1106.3	54.5	48.0	TRUE	54.5
28	1148.3	54.5	48.0	TRUE	54.5
29	1190.6	54.5	48.0	TRUE	54.5
30	1229.3	54.5	48.0	TRUE	54.5
31	1268.2	61.0	54.5	TRUE	61.0
32	1309.4	61.0	54.5	TRUE	61.0
33	1350.2	61.0	54.5	TRUE	61.0
34	1387.2	61.0	54.5	TRUE	61.0
35	1424.0	61.0	54.5	TRUE	61.0
36	1464.4	61.0	54.5	TRUE	61.0
37	1505.5	61.0	54.5	TRUE	61.0
38	1546.7	61.0	54.5	TRUE	61.0
39	1587.1	61.0	54.5	TRUE	61.0
40	1628.2	61.0	54.5	TRUE	61.0
41	1669.5	61.0	54.5	TRUE	61.0
42	1710.7	61.0	54.5	TRUE	61.0
43	1750.7	68.0	68.0	TRUE	68.0
44	1792.3	68.0	68.0	TRUE	68.0
45	1834.0	68.0	61.0	TRUE	68.0
46	1875.5	68.0	68.0	TRUE	68.0
47	1915.1	68.0	68.0	TRUE	68.0
48	1956.1	68.0	68.0	TRUE	68.0
49	1995.9	68.0	68.0	TRUE	68.0
50	2036.7	68.0	68.0	TRUE	68.0
51	2077.4	68.0	68.0	TRUE	68.0
52	2119.7	68.0	68.0	TRUE	68.0

BH 109A - June 29, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	31.0	54.5	48.0	TRUE	54.5
2	66.3	54.5	48.0	TRUE	54.5
3	104.4	54.5	48.0	TRUE	54.5
4	141.2	54.5	48.0	TRUE	54.5
5	183.0	54.5	48.0	TRUE	54.5
6	223.7	54.5	48.0	TRUE	54.5
7	265.8	54.5	48.0	TRUE	54.5
8	307.6	54.5	48.0	TRUE	54.5
9	349.4	54.5	48.0	TRUE	54.5
10	390.3	54.5	48.0	TRUE	54.5
11	433.4	54.5	48.0	TRUE	54.5
12	475.4	54.5	48.0	TRUE	54.5
13	517.2	54.5	48.0	TRUE	54.5
14	558.8	54.5	48.0	TRUE	54.5
15	601.5	54.5	48.0	TRUE	54.5
16	638.6	54.5	48.0	TRUE	54.5
17	675.7	54.5	48.0	FALSE	48.0
18	717.7	54.5	48.0	TRUE	54.5
19	760.0	54.5	48.0	TRUE	54.5
20	802.3	54.5	48.0	TRUE	54.5
21	844.5	54.5	48.0	TRUE	54.5
22	887.0	54.5	48.0	TRUE	54.5
23	929.0	54.5	48.0	TRUE	54.5
24	971.0	54.5	48.0	TRUE	54.5
25	1011.2	54.5	48.0	TRUE	54.5
26	1049.6	54.5	48.0	TRUE	54.5
27	1091.3	54.5	48.0	TRUE	54.5
28	1133.0	54.5	48.0	TRUE	54.5
29	1172.1	54.5	48.0	TRUE	54.5
30	1214.2	54.5	48.0	TRUE	54.5
31	1255.9	61.0	54.5	TRUE	61.0
32	1297.3	61.0	54.5	TRUE	61.0
33	1336.1	61.0	54.5	TRUE	61.0
34	1377.5	61.0	54.5	TRUE	61.0
35	1418.4	61.0	54.5	TRUE	61.0
36	1455.5	61.0	54.5	TRUE	61.0
37	1497.2	61.0	54.5	TRUE	61.0
38	1538.9	61.0	54.5	TRUE	61.0
39	1579.5	61.0	54.5	TRUE	61.0
40	1619.7	61.0	54.5	TRUE	61.0
41	1661.5	61.0	54.5	TRUE	61.0
42	1702.7	61.0	54.5	TRUE	61.0
43	1740.2	68.0	68.0	TRUE	68.0
44	1782.5	68.0	61.0	TRUE	68.0
45	1821.0	68.0	68.0	TRUE	68.0
46	1862.3	68.0	68.0	TRUE	68.0
47	1901.5	68.0	68.0	TRUE	68.0
48	1940.6	68.0	68.0	TRUE	68.0
49	1981.4	68.0	68.0	TRUE	68.0
50	2021.3	68.0	68.0	TRUE	68.0
51	2062.4	68.0	68.0	TRUE	68.0

BH 109B - January 31, 2011

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	163.9	54.5	48.0	FALSE	48.0
2	206.3	54.5	48.0	FALSE	48.0
3	247.6	54.5	48.0	FALSE	48.0
4	289.2	54.5	48.0	FALSE	48.0
5	327.3	54.5	48.0	FALSE	48.0
6	369.4	54.5	48.0	FALSE	48.0
7	411.6	54.5	48.0	FALSE	48.0
8	453.9	54.5	48.0	FALSE	48.0
9	495.9	54.5	48.0	FALSE	48.0
10	534.5	54.5	48.0	FALSE	48.0
11	575.7	54.5	48.0	FALSE	48.0
12	618.8	54.5	48.0	FALSE	48.0
13	660.9	54.5	48.0	FALSE	48.0
14	702.6	54.5	48.0	FALSE	48.0
15	744.1	54.5	48.0	FALSE	48.0
16	781.8	54.5	48.0	FALSE	48.0
17	823.7	54.5	48.0	FALSE	48.0
18	860.6	54.5	48.0	FALSE	48.0
19	899.2	54.5	48.0	FALSE	48.0
20	937.6	54.5	48.0	FALSE	48.0
21	974.8	54.5	48.0	FALSE	48.0
22	1017.1	54.5	48.0	FALSE	48.0
23	1058.9	54.5	48.0	FALSE	48.0
24	1100.0	54.5	48.0	FALSE	48.0
25	1142.3	54.5	48.0	FALSE	48.0
26	1182.1	54.5	48.0	FALSE	48.0
27	1223.5	54.5	48.0	FALSE	48.0
28	1262.4	61.0	54.5	FALSE	54.5
29	1302.0	61.0	54.5	FALSE	54.5
30	1341.6	61.0	54.5	FALSE	54.5
31	1380.0	61.0	54.5	FALSE	54.5
32	1421.1	61.0	54.5	FALSE	54.5
33	1460.9	61.0	54.5	FALSE	54.5
34	1502.4	61.0	54.5	FALSE	54.5
35	1543.5	61.0	54.5	FALSE	54.5
36	1584.8	61.0	54.5	FALSE	54.5
37	1623.1	61.0	54.5	FALSE	54.5
38	1664.0	61.0	54.5	FALSE	54.5
39	1704.8	61.0	54.5	FALSE	54.5
40	1745.4	68.0	61.0	TRUE	68.0
41	1783.8	68.0	61.0	TRUE	68.0
42	1824.1	68.0	68.0	TRUE	68.0
43	1862.9	68.0	61.0	TRUE	68.0
44	1903.6	68.0	61.0	TRUE	68.0
45	1944.8	68.0	61.0	TRUE	68.0
46	1985.5	68.0	61.0	TRUE	68.0
47	2025.9	68.0	68.0	TRUE	68.0
48	2066.2	68.0	61.0	TRUE	68.0
49	2104.4	68.0	68.0	TRUE	68.0

BH 109B (lined) - April 15, 2011

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	19.1	51.0	45.5	TRUE	51.0
2	62.8	51.0	45.5	TRUE	51.0
3	105.7	51.0	45.5	TRUE	51.0
4	143.2	51.0	45.5	TRUE	51.0
5	188.5	51.0	45.5	TRUE	51.0
6	232.7	51.0	45.5	TRUE	51.0
7	275.7	51.0	45.5	TRUE	51.0
8	320.8	51.0	45.5	TRUE	51.0
9	365.3	51.0	45.5	TRUE	51.0
10	407.7	51.0	45.5	TRUE	51.0
11	451.3	51.0	45.5	TRUE	51.0
12	495.3	51.0	45.5	TRUE	51.0
13	537.8	51.0	45.5	TRUE	51.0
14	581.1	51.0	45.5	TRUE	51.0
15	623.1	51.0	45.5	TRUE	51.0
16	666.6	51.0	45.5	TRUE	51.0
17	705.6	51.0	45.5	TRUE	51.0
18	748.4	51.0	45.5	TRUE	51.0
19	790.1	51.0	45.5	TRUE	51.0
20	835.2	51.0	45.5	TRUE	51.0
21	877.3	51.0	45.5	TRUE	51.0
22	918.3	51.0	45.5	TRUE	51.0
23	962.9	51.0	45.5	TRUE	51.0
24	1004.4	51.0	45.5	TRUE	51.0
25	1045.4	51.0	45.5	TRUE	51.0
26	1087.7	51.0	45.5	TRUE	51.0
27	1130.4	51.0	45.5	TRUE	51.0
28	1173.4	51.0	45.5	TRUE	51.0
29	1217.7	51.0	45.5	TRUE	51.0
30	1262.0	51.0	45.5	TRUE	51.0
31	1306.3	51.0	45.5	TRUE	51.0
32	1350.3	51.0	45.5	TRUE	51.0
33	1393.8	51.0	45.5	TRUE	51.0
34	1437.0	51.0	45.5	TRUE	51.0
35	1481.1	51.0	45.5	TRUE	51.0
36	1523.8	51.0	45.5	TRUE	51.0
37	1567.4	51.0	45.5	TRUE	51.0
38	1611.8	51.0	45.5	TRUE	51.0
39	1654.8	51.0	45.5	TRUE	51.0
40	1696.4	51.0	45.5	TRUE	51.0
41	1730.6	51.0	45.5	TRUE	51.0
42	1773.3	51.0	45.5	TRUE	51.0
43	1816.4	51.0	45.5	TRUE	51.0
44	1857.5	51.0	45.5	TRUE	51.0
45	1899.8	51.0	45.5	TRUE	51.0
46	1943.4	51.0	45.5	TRUE	51.0
47	1987.6	51.0	45.5	TRUE	51.0
48	2032.9	51.0	45.5	TRUE	51.0

BH 110A - June 23, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	43.1	54.5	48.0	TRUE	54.5
2	84.6	54.5	48.0	TRUE	54.5
3	126.4	54.5	48.0	TRUE	54.5
4	168.2	54.5	48.0	TRUE	54.5
5	209.9	54.5	48.0	TRUE	54.5
6	251.6	54.5	48.0	TRUE	54.5
7	290.1	54.5	48.0	TRUE	54.5
8	329.6	54.5	48.0	TRUE	54.5
9	370.2	54.5	48.0	TRUE	54.5
10	411.9	54.5	48.0	TRUE	54.5
11	450.0	54.5	48.0	TRUE	54.5
12	492.3	54.5	48.0	TRUE	54.5
13	530.8	54.5	48.0	TRUE	54.5
14	573.3	54.5	48.0	TRUE	54.5
15	612.8	54.5	48.0	TRUE	54.5
16	654.1	54.5	48.0	TRUE	54.5
17	696.4	54.5	48.0	TRUE	54.5
18	738.6	54.5	48.0	TRUE	54.5
19	781.0	54.5	48.0	TRUE	54.5
20	821.3	54.5	48.0	TRUE	54.5
21	862.1	54.5	48.0	TRUE	54.5
22	902.6	54.5	48.0	TRUE	54.5
23	943.5	54.5	48.0	TRUE	54.5
24	985.8	54.5	48.0	TRUE	54.5
25	1027.2	54.5	48.0	TRUE	54.5
26	1067.5	54.5	48.0	TRUE	54.5
27	1109.0	54.5	48.0	TRUE	54.5
28	1148.0	54.5	48.0	TRUE	54.5
29	1187.4	54.5	48.0	TRUE	54.5
30	1228.1	54.5	48.0	TRUE	54.5
31	1266.8	61.0	54.5	TRUE	61.0
32	1309.2	61.0	54.5	TRUE	61.0
33	1350.5	61.0	54.5	TRUE	61.0
34	1391.3	61.0	54.5	TRUE	61.0
35	1432.6	61.0	54.5	TRUE	61.0
36	1470.1	61.0	54.5	TRUE	61.0
37	1507.7	61.0	54.5	TRUE	61.0
38	1545.8	61.0	54.5	TRUE	61.0
39	1587.1	61.0	54.5	TRUE	61.0
40	1628.5	61.0	54.5	TRUE	61.0
41	1667.1	61.0	54.5	TRUE	61.0
42	1708.1	61.0	54.5	TRUE	61.0
43	1749.0	68.0	61.0	TRUE	68.0
44	1785.7	68.0	68.0	TRUE	68.0
45	1826.5	68.0	68.0	TRUE	68.0
46	1867.0	68.0	68.0	TRUE	68.0
47	1906.8	68.0	68.0	TRUE	68.0
48	1946.3	68.0	68.0	TRUE	68.0
49	1987.9	68.0	68.0	TRUE	68.0
50	2027.4	68.0	68.0	TRUE	68.0
51	2065.8	68.0	68.0	TRUE	68.0
52	2103.7	68.0	68.0	TRUE	68.0

BH 110B - June 7, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	42.8	54.5	48.0	TRUE	54.5
2	85.3	54.5	48.0	TRUE	54.5
3	126.7	54.5	48.0	TRUE	54.5
4	169.5	54.5	48.0	TRUE	54.5
5	208.4	54.5	48.0	TRUE	54.5
6	251.3	54.5	48.0	FALSE	48.0
7	293.8	54.5	48.0	TRUE	54.5
8	335.5	54.5	48.0	FALSE	48.0
9	377.6	54.5	48.0	TRUE	54.5
10	419.5	54.5	48.0	TRUE	54.5
11	461.1	54.5	48.0	TRUE	54.5
12	499.3	54.5	48.0	FALSE	48.0
13	540.9	54.5	48.0	TRUE	54.5
14	583.4	54.5	48.0	TRUE	54.5
15	624.0	54.5	48.0	TRUE	54.5
16	665.5	54.5	48.0	TRUE	54.5
17	708.3	54.5	48.0	TRUE	54.5
18	750.3	54.5	48.0	FALSE	48.0
19	792.3	54.5	48.0	TRUE	54.5
20	834.3	54.5	48.0	TRUE	54.5
21	876.3	54.5	48.0	TRUE	54.5
22	915.3	54.5	48.0	TRUE	54.5
23	950.8	54.5	48.0	TRUE	54.5
24	990.0	54.5	48.0	FALSE	48.0
25	1027.1	54.5	48.0	FALSE	48.0
26	1064.8	54.5	48.0	FALSE	48.0
27	1107.1	54.5	48.0	FALSE	48.0
28	1141.6	54.5	48.0	TRUE	54.5
29	1180.8	54.5	48.0	FALSE	48.0
30	1223.7	54.5	48.0	FALSE	48.0
31	1260.3	61.0	54.5	TRUE	61.0
32	1296.7	61.0	54.5	TRUE	61.0
33	1333.9	61.0	54.5	TRUE	61.0
34	1371.9	61.0	54.5	TRUE	61.0
35	1407.9	61.0	54.5	TRUE	61.0
36	1444.4	61.0	54.5	TRUE	61.0
37	1485.3	61.0	54.5	TRUE	61.0
38	1522.2	61.0	54.5	TRUE	61.0
39	1558.8	61.0	54.5	TRUE	61.0
40	1594.4	61.0	54.5	TRUE	61.0
41	1633.4	61.0	54.5	TRUE	61.0
42	1671.8	61.0	54.5	TRUE	61.0
43	1708.8	61.0	54.5	TRUE	61.0
44	1747.3	68.0	61.0	TRUE	68.0
45	1782.6	68.0	68.0	TRUE	68.0
46	1823.8	68.0	68.0	TRUE	68.0
47	1865.8	68.0	61.0	TRUE	68.0
48	1907.8	68.0	61.0	TRUE	68.0
49	1949.6	68.0	61.0	TRUE	68.0
50	1989.6	68.0	61.0	TRUE	68.0
51	2027.9	68.0	68.0	TRUE	68.0
52	2069.1	68.0	68.0	TRUE	68.0
53	2111.0	68.0	61.0	TRUE	68.0

BH 111A - September 8, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	41.2	54.5	48.0	TRUE	54.5
2	83.3	54.5	48.0	TRUE	54.5
3	124.3	54.5	48.0	TRUE	54.5
4	160.3	54.5	48.0	TRUE	54.5
5	202.7	54.5	48.0	TRUE	54.5
6	245.1	54.5	48.0	TRUE	54.5
7	287.3	54.5	48.0	TRUE	54.5
8	327.6	54.5	48.0	TRUE	54.5
9	365.7	54.5	48.0	TRUE	54.5
10	404.7	54.5	48.0	TRUE	54.5
11	445.7	54.5	48.0	TRUE	54.5
12	487.7	54.5	48.0	TRUE	54.5
13	530.4	54.5	48.0	TRUE	54.5
14	572.8	54.5	48.0	TRUE	54.5
15	615.2	54.5	48.0	TRUE	54.5
16	655.7	54.5	48.0	TRUE	54.5
17	697.6	54.5	48.0	TRUE	54.5
18	738.2	54.5	48.0	TRUE	54.5
19	779.1	54.5	48.0	TRUE	54.5
20	820.4	54.5	48.0	TRUE	54.5
21	862.7	54.5	48.0	FALSE	48.0
22	904.4	54.5	48.0	FALSE	48.0
23	946.8	54.5	48.0	FALSE	48.0
24	987.9	54.5	48.0	TRUE	54.5
25	1027.1	54.5	48.0	TRUE	54.5
26	1068.8	54.5	48.0	FALSE	48.0
27	1107.0	54.5	48.0	FALSE	48.0
28	1144.9	54.5	48.0	TRUE	54.5
29	1187.2	54.5	48.0	FALSE	48.0
30	1223.2	54.5	48.0	TRUE	54.5
31	1267.3	61.0	54.5	TRUE	61.0
32	1304.7	61.0	54.5	TRUE	61.0
33	1345.8	61.0	54.5	TRUE	61.0
34	1382.3	61.0	54.5	TRUE	61.0
35	1423.4	61.0	54.5	TRUE	61.0
36	1461.8	61.0	54.5	TRUE	61.0
37	1501.3	61.0	54.5	TRUE	61.0
38	1542.9	61.0	54.5	TRUE	61.0
39	1584.3	61.0	54.5	TRUE	61.0
40	1625.8	61.0	54.5	TRUE	61.0
41	1666.8	61.0	54.5	FALSE	54.5
42	1707.1	61.0	54.5	TRUE	61.0
43	1747.3	68.0	61.0	TRUE	68.0
44	1788.9	68.0	68.0	TRUE	68.0
45	1830.3	68.0	61.0	TRUE	68.0
46	1871.1	68.0	68.0	TRUE	68.0
47	1911.5	68.0	68.0	TRUE	68.0
48	1951.2	68.0	68.0	TRUE	68.0
49	1991.1	68.0	61.0	TRUE	68.0
50	2031.7	68.0	68.0	TRUE	68.0
51	2067.7	68.0	61.0	TRUE	68.0
52	2104.8	68.0	61.0	TRUE	68.0

BH 111A - December 11, 2014

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	43.3	54.5	54.5	TRUE	54.5
2	85.4	54.5	54.5	TRUE	54.5
3	126.4	54.5	54.5	TRUE	54.5
4	162.3	54.5	48.0	TRUE	54.5
5	204.7	54.5	48.0	TRUE	54.5
6	247.1	54.5	48.0	TRUE	54.5
7	289.3	54.5	48.0	TRUE	54.5
8	329.6	54.5	48.0	TRUE	54.5
9	367.7	54.5	54.5	TRUE	54.5
10	406.7	54.5	48.0	TRUE	54.5
11	447.6	54.5	48.0	TRUE	54.5
12	489.6	54.5	48.0	TRUE	54.5
13	532.2	54.5	48.0	TRUE	54.5
14	574.6	54.5	48.0	TRUE	54.5
15	617.0	54.5	48.0	TRUE	54.5
16	657.4	54.5	48.0	TRUE	54.5
17	699.3	54.5	48.0	TRUE	54.5
18	739.9	54.5	48.0	TRUE	54.5
19	780.7	54.5	48.0	TRUE	54.5
20	822.8	54.5	48.0	TRUE	54.5
21	864.3	54.5	48.0	TRUE	54.5
22	906.1	54.5	48.0	TRUE	54.5
23	948.4	54.5	48.0	TRUE	54.5
24	989.6	54.5	48.0	TRUE	54.5
25	1028.7	54.5	48.0	TRUE	54.5
26	1070.4	54.5	48.0	TRUE	54.5
27	1108.7	54.5	48.0	TRUE	54.5
28	1146.5	54.5	48.0	TRUE	54.5
29	1188.7	54.5	48.0	TRUE	54.5
30	1225.6	54.5	48.0	TRUE	54.5
31	1268.9	61.0	54.5	TRUE	61.0
32	1306.3	61.0	54.5	TRUE	61.0
33	1347.5	61.0	54.5	TRUE	61.0
34	1383.7	61.0	54.5	TRUE	61.0
35	1424.7	61.0	54.5	TRUE	61.0
36	1463.1	61.0	54.5	TRUE	61.0
37	1502.5	61.0	54.5	TRUE	61.0
38	1544.2	61.0	54.5	TRUE	61.0
39	1585.6	61.0	54.5	TRUE	61.0
40	1627.0	61.0	54.5	TRUE	61.0
41	1668.0	61.0	54.5	TRUE	61.0
42	1708.4	61.0	54.5	TRUE	61.0
43	1748.6	68.0	68.0	TRUE	68.0
44	1790.2	68.0	68.0	TRUE	68.0
45	1831.5	68.0	68.0	TRUE	68.0
46	1872.4	68.0	68.0	TRUE	68.0
47	1912.9	68.0	68.0	TRUE	68.0
48	1952.6	68.0	68.0	TRUE	68.0
49	1993.0	68.0	68.0	TRUE	68.0
50	2033.1	68.0	68.0	TRUE	68.0
51	2069.5	68.0	61.0	TRUE	68.0
52	2112.1	68.0	61.0	TRUE	68.0

BH 111B - August 23, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	41.0	54.5	54.5	TRUE	54.5
2	81.4	54.5	48.0	TRUE	54.5
3	123.2	54.5	48.0	TRUE	54.5
4	165.1	54.5	48.0	TRUE	54.5
5	206.8	54.5	54.5	TRUE	54.5
6	247.4	54.5	48.0	TRUE	54.5
7	282.6	54.5	48.0	TRUE	54.5
8	324.5	54.5	54.5	TRUE	54.5
9	365.9	54.5	48.0	TRUE	54.5
10	406.4	54.5	48.0	TRUE	54.5
11	448.0	54.5	48.0	TRUE	54.5
12	484.4	54.5	54.5	TRUE	54.5
13	523.8	54.5	54.5	TRUE	54.5
14	558.3	54.5	54.5	TRUE	54.5
15	597.2	54.5	48.0	TRUE	54.5
16	636.2	54.5	48.0	TRUE	54.5
17	678.0	54.5	54.5	TRUE	54.5
18	719.2	54.5	48.0	TRUE	54.5
19	760.7	54.5	54.5	TRUE	54.5
20	802.9	54.5	54.5	TRUE	54.5
21	844.5	54.5	54.5	TRUE	54.5
22	886.3	54.5	48.0	TRUE	54.5
23	925.4	54.5	54.5	TRUE	54.5
24	967.4	54.5	48.0	TRUE	54.5
25	1009.1	54.5	54.5	TRUE	54.5
26	1051.3	54.5	48.0	TRUE	54.5
27	1093.5	54.5	54.5	TRUE	54.5
28	1135.7	54.5	48.0	TRUE	54.5
29	1177.5	54.5	54.5	TRUE	54.5
30	1219.4	54.5	54.5	TRUE	54.5
31	1260.6	54.5	61.0	TRUE	54.5
32	1301.8	61.0	54.5	TRUE	61.0
33	1340.9	61.0	54.5	TRUE	61.0
34	1381.2	61.0	61.0	TRUE	61.0
35	1422.3	61.0	61.0	TRUE	61.0
36	1459.6	61.0	61.0	TRUE	61.0
37	1499.9	61.0	54.5	TRUE	61.0
38	1539.5	61.0	61.0	TRUE	61.0
39	1580.4	61.0	54.5	TRUE	61.0
40	1621.5	61.0	54.5	TRUE	61.0
41	1658.6	61.0	54.5	TRUE	61.0
42	1699.9	61.0	54.5	TRUE	61.0
43	1740.5	68.0	68.0	TRUE	68.0
44	1778.1	68.0	68.0	TRUE	68.0
45	1817.7	68.0	68.0	TRUE	68.0
46	1859.4	68.0	68.0	TRUE	68.0
47	1900.2	68.0	68.0	TRUE	68.0
48	1939.5	68.0	68.0	TRUE	68.0
49	1981.5	68.0	68.0	TRUE	68.0
50	2021.0	68.0	68.0	TRUE	68.0
51	2062.1	68.0	68.0	TRUE	68.0

BH 112A - September 9, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	37.0	54.5	48.0	FALSE	48.0
2	75.6	54.5	48.0	TRUE	54.5
3	117.5	54.5	48.0	TRUE	54.5
4	159.6	54.5	48.0	TRUE	54.5
5	201.5	54.5	48.0	TRUE	54.5
6	243.8	54.5	48.0	FALSE	48.0
7	285.8	54.5	48.0	TRUE	54.5
8	327.8	54.5	48.0	TRUE	54.5
9	366.9	54.5	48.0	TRUE	54.5
10	409.3	54.5	48.0	TRUE	54.5
11	450.9	54.5	48.0	FALSE	48.0
12	488.8	54.5	48.0	TRUE	54.5
13	527.9	54.5	48.0	FALSE	48.0
14	570.3	54.5	48.0	TRUE	54.5
15	610.9	54.5	48.0	TRUE	54.5
16	652.3	54.5	48.0	FALSE	48.0
17	691.1	54.5	48.0	FALSE	48.0
18	729.2	54.5	48.0	TRUE	54.5
19	770.0	54.5	48.0	FALSE	48.0
20	811.3	54.5	48.0	FALSE	48.0
21	853.8	54.5	48.0	FALSE	48.0
22	893.7	54.5	48.0	FALSE	48.0
23	935.1	54.5	48.0	FALSE	48.0
24	977.1	54.5	48.0	FALSE	48.0
25	1018.0	54.5	48.0	TRUE	54.5
26	1059.2	54.5	48.0	FALSE	48.0
27	1100.9	54.5	48.0	FALSE	48.0
28	1143.7	54.5	48.0	FALSE	48.0
29	1183.3	54.5	48.0	FALSE	48.0
30	1220.8	54.5	48.0	TRUE	54.5
31	1262.3	61.0	54.5	TRUE	61.0
32	1303.6	61.0	54.5	TRUE	61.0
33	1344.8	61.0	54.5	TRUE	61.0
34	1383.5	61.0	54.5	TRUE	61.0
35	1425.3	61.0	54.5	TRUE	61.0
36	1466.8	61.0	54.5	TRUE	61.0
37	1502.5	61.0	54.5	TRUE	61.0
38	1544.4	61.0	54.5	TRUE	61.0
39	1584.0	61.0	54.5	TRUE	61.0
40	1625.3	61.0	54.5	TRUE	61.0
41	1661.9	61.0	54.5	TRUE	61.0
42	1703.3	61.0	54.5	TRUE	61.0
43	1744.9	68.0	61.0	TRUE	68.0
44	1782.0	68.0	61.0	TRUE	68.0
45	1823.7	68.0	68.0	TRUE	68.0
46	1863.3	68.0	68.0	TRUE	68.0
47	1905.3	68.0	61.0	TRUE	68.0
48	1945.7	68.0	61.0	TRUE	68.0
49	1985.0	68.0	61.0	TRUE	68.0
50	2027.1	68.0	68.0	TRUE	68.0
51	2068.8	68.0	61.0	TRUE	68.0

BH 112A - February 24, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	40.6	54.5	48.0	TRUE	54.5
2	79.4	54.5	54.5	TRUE	54.5
3	121.2	54.5	54.5	TRUE	54.5
4	163.4	54.5	54.5	TRUE	54.5
5	205.3	54.5	54.5	TRUE	54.5
6	247.7	54.5	48.0	TRUE	54.5
7	289.6	54.5	48.0	TRUE	54.5
8	331.5	54.5	54.5	TRUE	54.5
9	370.7	54.5	54.5	TRUE	54.5
10	413.0	54.5	48.0	TRUE	54.5
11	455.3	54.5	48.0	TRUE	54.5
12	493.2	54.5	54.5	TRUE	54.5
13	531.5	54.5	48.0	TRUE	54.5
14	573.7	54.5	48.0	TRUE	54.5
15	615.1	54.5	48.0	TRUE	54.5
16	655.7	54.5	48.0	TRUE	54.5
17	694.3	54.5	48.0	TRUE	54.5
18	732.4	54.5	48.0	TRUE	54.5
19	773.3	54.5	48.0	TRUE	54.5
20	815.3	54.5	48.0	TRUE	54.5
21	857.9	54.5	48.0	TRUE	54.5
22	896.8	54.5	48.0	TRUE	54.5
23	938.3	54.5	48.0	TRUE	54.5
24	980.2	54.5	48.0	TRUE	54.5
25	1021.9	54.5	48.0	TRUE	54.5
26	1062.3	54.5	48.0	TRUE	54.5
27	1104.8	54.5	48.0	TRUE	54.5
28	1146.6	54.5	48.0	TRUE	54.5
29	1186.1	54.5	48.0	TRUE	54.5
30	1223.6	54.5	48.0	TRUE	54.5
31	1265.0	61.0	54.5	TRUE	61.0
32	1306.3	61.0	54.5	TRUE	61.0
33	1347.3	61.0	54.5	TRUE	61.0
34	1386.7	61.0	54.5	TRUE	61.0
35	1427.7	61.0	54.5	TRUE	61.0
36	1469.1	61.0	54.5	TRUE	61.0
37	1504.8	61.0	54.5	TRUE	61.0
38	1546.7	61.0	54.5	TRUE	61.0
39	1586.2	61.0	54.5	TRUE	61.0
40	1627.5	61.0	54.5	TRUE	61.0
41	1664.2	61.0	54.5	TRUE	61.0
42	1705.5	61.0	54.5	TRUE	61.0
43	1747.0	68.0	68.0	TRUE	68.0
44	1784.1	68.0	61.0	TRUE	68.0
45	1825.7	68.0	68.0	TRUE	68.0
46	1865.3	68.0	68.0	TRUE	68.0
47	1907.2	68.0	68.0	TRUE	68.0
48	1947.5	68.0	61.0	TRUE	68.0
49	1986.7	68.0	68.0	TRUE	68.0
50	2028.8	68.0	68.0	TRUE	68.0
51	2070.2	68.0	68.0	TRUE	68.0
52	2113.8	68.0	68.0	TRUE	68.0

BH 112B - July 31, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	41.0	54.5	48.0	TRUE	54.5
2	83.3	54.5	48.0	TRUE	54.5
3	120.8	54.5	48.0	TRUE	54.5
4	163.1	54.5	54.5	TRUE	54.5
5	205.8	54.5	48.0	TRUE	54.5
6	243.2	54.5	48.0	TRUE	54.5
7	282.7	54.5	48.0	TRUE	54.5
8	319.0	54.5	54.5	TRUE	54.5
9	357.6	54.5	54.5	TRUE	54.5
10	399.3	54.5	48.0	TRUE	54.5
11	439.6	54.5	54.5	TRUE	54.5
12	481.8	54.5	48.0	TRUE	54.5
13	524.1	54.5	48.0	TRUE	54.5
14	566.3	54.5	54.5	TRUE	54.5
15	607.5	54.5	54.5	TRUE	54.5
16	649.2	54.5	54.5	TRUE	54.5
17	690.2	54.5	48.0	TRUE	54.5
18	730.5	54.5	54.5	TRUE	54.5
19	772.4	54.5	54.5	TRUE	54.5
20	814.0	54.5	48.0	TRUE	54.5
21	856.0	54.5	48.0	TRUE	54.5
22	895.8	54.5	54.5	TRUE	54.5
23	932.5	54.5	48.0	TRUE	54.5
24	974.5	54.5	48.0	TRUE	54.5
25	1016.5	54.5	48.0	TRUE	54.5
26	1057.7	54.5	48.0	TRUE	54.5
27	1100.2	54.5	48.0	TRUE	54.5
28	1142.0	54.5	48.0	TRUE	54.5
29	1180.8	54.5	54.5	TRUE	54.5
30	1219.9	61.0	54.5	FALSE	54.5
31	1261.8	61.0	54.5	TRUE	61.0
32	1301.4	61.0	54.5	TRUE	61.0
33	1342.6	61.0	61.0	TRUE	61.0
34	1384.4	61.0	61.0	TRUE	61.0
35	1425.1	61.0	61.0	TRUE	61.0
36	1465.1	61.0	54.5	TRUE	61.0
37	1506.2	61.0	54.5	TRUE	61.0
38	1546.2	61.0	54.5	TRUE	61.0
39	1586.4	61.0	54.5	TRUE	61.0
40	1624.5	61.0	54.5	TRUE	61.0
41	1664.7	61.0	54.5	TRUE	61.0
42	1705.2	61.0	54.5	TRUE	61.0
43	1743.4	68.0	68.0	TRUE	68.0
44	1785.4	68.0	68.0	TRUE	68.0
45	1826.1	68.0	68.0	TRUE	68.0
46	1868.1	68.0	68.0	TRUE	68.0
47	1905.8	68.0	68.0	TRUE	68.0
48	1946.8	68.0	68.0	TRUE	68.0
49	1986.8	68.0	61.0	TRUE	68.0
50	2025.9	68.0	61.0	TRUE	68.0
51	2065.2	68.0	61.0	FALSE	61.0
52	2107.9	68.0	61.0	TRUE	68.0

BH 113A - August 26, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	32.0	54.5	48.0	TRUE	54.5
2	72.8	54.5	48.0	TRUE	54.5
3	115.2	54.5	48.0	TRUE	54.5
4	156.7	54.5	48.0	TRUE	54.5
5	199.8	54.5	48.0	TRUE	54.5
6	239.1	54.5	48.0	TRUE	54.5
7	281.3	54.5	48.0	TRUE	54.5
8	323.8	54.5	48.0	TRUE	54.5
9	365.4	54.5	48.0	TRUE	54.5
10	406.8	54.5	48.0	TRUE	54.5
11	449.9	54.5	48.0	TRUE	54.5
12	491.3	54.5	48.0	TRUE	54.5
13	534.8	54.5	48.0	TRUE	54.5
14	577.3	54.5	48.0	TRUE	54.5
15	616.8	54.5	48.0	TRUE	54.5
16	658.5	54.5	48.0	TRUE	54.5
17	698.3	54.5	48.0	TRUE	54.5
18	739.0	54.5	48.0	TRUE	54.5
19	780.3	54.5	48.0	TRUE	54.5
20	822.2	54.5	48.0	TRUE	54.5
21	861.8	54.5	48.0	TRUE	54.5
22	903.5	54.5	48.0	TRUE	54.5
23	941.9	54.5	48.0	TRUE	54.5
24	985.0	54.5	48.0	TRUE	54.5
25	1024.3	54.5	48.0	TRUE	54.5
26	1060.4	54.5	48.0	TRUE	54.5
27	1102.4	54.5	48.0	TRUE	54.5
28	1144.5	54.5	48.0	TRUE	54.5
29	1185.6	54.5	48.0	TRUE	54.5
30	1226.2	54.5	48.0	TRUE	54.5
31	1264.6	61.0	54.5	TRUE	61.0
32	1306.2	61.0	54.5	TRUE	61.0
33	1346.5	61.0	54.5	TRUE	61.0
34	1387.8	61.0	54.5	TRUE	61.0
35	1429.3	61.0	54.5	TRUE	61.0
36	1470.8	61.0	54.5	TRUE	61.0
37	1512.8	61.0	54.5	TRUE	61.0
38	1548.8	61.0	54.5	TRUE	61.0
39	1589.6	61.0	54.5	TRUE	61.0
40	1629.8	61.0	54.5	TRUE	61.0
41	1670.6	61.0	54.5	TRUE	61.0
42	1712.4	61.0	54.5	TRUE	61.0
43	1754.1	68.0	68.0	TRUE	68.0
44	1795.5	68.0	68.0	TRUE	68.0
45	1836.3	68.0	68.0	TRUE	68.0
46	1877.8	68.0	68.0	TRUE	68.0
47	1918.7	68.0	68.0	TRUE	68.0
48	1960.8	68.0	68.0	TRUE	68.0
49	2001.5	68.0	68.0	TRUE	68.0
50	2041.9	68.0	68.0	TRUE	68.0
51	2081.5	68.0	68.0	TRUE	68.0
52	2114.5	68.0	68.0	TRUE	68.0

BH 113A - October 9, 2014

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	38.6	54.5	48.0	TRUE	54.5
2	80.1	54.5	48.0	TRUE	54.5
3	121.8	54.5	48.0	TRUE	54.5
4	164.0	54.5	48.0	TRUE	54.5
5	206.3	54.5	48.0	TRUE	54.5
6	245.5	54.5	48.0	TRUE	54.5
7	287.7	54.5	48.0	TRUE	54.5
8	330.3	54.5	48.0	TRUE	54.5
9	371.7	54.5	48.0	TRUE	54.5
10	413.8	54.5	48.0	TRUE	54.5
11	455.3	54.5	54.5	TRUE	54.5
12	498.3	54.5	48.0	TRUE	54.5
13	540.9	54.5	48.0	TRUE	54.5
14	583.3	54.5	48.0	TRUE	54.5
15	623.5	54.5	48.0	TRUE	54.5
16	665.1	54.5	48.0	TRUE	54.5
17	704.9	54.5	48.0	TRUE	54.5
18	744.8	54.5	48.0	TRUE	54.5
19	785.9	54.5	48.0	TRUE	54.5
20	827.9	54.5	48.0	TRUE	54.5
21	867.4	54.5	48.0	TRUE	54.5
22	908.9	54.5	48.0	TRUE	54.5
23	948.0	54.5	48.0	TRUE	54.5
24	990.3	54.5	48.0	TRUE	54.5
25	1028.9	54.5	48.0	TRUE	54.5
26	1065.8	54.5	48.0	TRUE	54.5
27	1107.9	54.5	48.0	TRUE	54.5
28	1149.9	54.5	48.0	TRUE	54.5
29	1191.7	54.5	48.0	TRUE	54.5
30	1231.6	54.5	48.0	TRUE	54.5
31	1270.0	61.0	54.5	TRUE	61.0
32	1311.7	61.0	54.5	TRUE	61.0
33	1351.9	61.0	54.5	TRUE	61.0
34	1393.1	61.0	54.5	TRUE	61.0
35	1434.7	61.0	54.5	TRUE	61.0
36	1476.0	61.0	54.5	TRUE	61.0
37	1518.0	61.0	54.5	TRUE	61.0
38	1553.9	61.0	54.5	TRUE	61.0
39	1594.6	61.0	54.5	TRUE	61.0
40	1634.7	61.0	54.5	TRUE	61.0
41	1675.4	61.0	54.5	TRUE	61.0
42	1717.3	61.0	54.5	TRUE	61.0
43	1759.0	68.0	68.0	TRUE	68.0
44	1800.4	68.0	68.0	TRUE	68.0
45	1841.3	68.0	68.0	TRUE	68.0
46	1882.7	68.0	68.0	TRUE	68.0
47	1923.9	68.0	68.0	TRUE	68.0
48	1965.9	68.0	68.0	TRUE	68.0
49	2006.8	68.0	68.0	TRUE	68.0
50	2047.3	68.0	68.0	TRUE	68.0
51	2086.7	68.0	68.0	TRUE	68.0
52	2130.4	68.0	68.0	TRUE	68.0

BH 113A (lined) - July 14, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	40.9	51.0	45.5	TRUE	51.0
2	84.9	51.0	45.5	TRUE	51.0
3	120.1	51.0	45.5	TRUE	51.0
4	171.6	51.0	45.5	TRUE	51.0
5	213.2	51.0	45.5	TRUE	51.0
6	254.5	51.0	51.0	TRUE	51.0
7	296.0	51.0	51.0	TRUE	51.0
8	338.6	51.0	45.5	TRUE	51.0
9	381.8	51.0	45.5	TRUE	51.0
10	422.4	51.0	45.5	TRUE	51.0
11	465.0	51.0	45.5	TRUE	51.0
12	506.1	51.0	45.5	TRUE	51.0
13	550.5	51.0	45.5	TRUE	51.0
14	595.0	51.0	45.5	TRUE	51.0
15	639.6	51.0	45.5	TRUE	51.0
16	681.7	51.0	45.5	TRUE	51.0
17	725.4	51.0	45.5	TRUE	51.0
18	764.9	51.0	51.0	TRUE	51.0
19	807.8	51.0	45.5	TRUE	51.0
20	849.5	51.0	45.5	TRUE	51.0
21	891.4	51.0	45.5	TRUE	51.0
22	931.3	51.0	45.5	TRUE	51.0
23	971.7	51.0	45.5	TRUE	51.0
24	1016.2	51.0	45.5	TRUE	51.0
25	1058.5	51.0	45.5	TRUE	51.0
26	1097.9	51.0	45.5	TRUE	51.0
27	1138.7	51.0	45.5	TRUE	51.0
28	1178.5	51.0	51.0	TRUE	51.0
29	1222.5	51.0	45.5	TRUE	51.0
30	1264.0	51.0	45.5	TRUE	51.0
31	1307.4	51.0	45.5	TRUE	51.0
32	1349.6	51.0	45.5	TRUE	51.0
33	1385.9	51.0	51.0	TRUE	51.0
34	1422.7	51.0	45.5	TRUE	51.0
35	1462.7	51.0	45.5	TRUE	51.0
36	1504.6	51.0	45.5	TRUE	51.0
37	1547.4	51.0	45.5	TRUE	51.0
38	1588.4	51.0	51.0	TRUE	51.0
39	1632.0	51.0	51.0	TRUE	51.0
40	1674.1	51.0	45.5	TRUE	51.0
41	1716.8	51.0	45.5	TRUE	51.0
42	1759.7	51.0	45.5	TRUE	51.0
43	1802.1	51.0	45.5	TRUE	51.0
44	1843.8	51.0	45.5	TRUE	51.0
45	1886.1	51.0	45.5	TRUE	51.0
46	1927.6	51.0	45.5	TRUE	51.0
47	1969.0	51.0	51.0	TRUE	51.0
48	2014.6	51.0	45.5	TRUE	51.0
49	2056.2	51.0	45.5	TRUE	51.0

BH 113B - July 2, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	40.8	54.5	68.0	FALSE	68.0
2	76.4	54.5	68.0	FALSE	68.0
3	115.6	54.5	68.0	FALSE	68.0
4	158.0	54.5	68.0	FALSE	68.0
5	200.7	54.5	68.0	FALSE	68.0
6	238.0	54.5	68.0	FALSE	68.0
7	274.8	54.5	68.0	FALSE	68.0
8	316.5	54.5	68.0	FALSE	68.0
9	357.9	54.5	68.0	FALSE	68.0
10	399.5	54.5	68.0	FALSE	68.0
11	442.7	54.5	68.0	FALSE	68.0
12	481.2	54.5	68.0	FALSE	68.0
13	516.6	54.5	68.0	FALSE	68.0
14	554.8	54.5	68.0	FALSE	68.0
15	596.5	54.5	68.0	FALSE	68.0
16	637.9	54.5	68.0	FALSE	68.0
17	676.5	54.5	68.0	FALSE	68.0
18	717.7	54.5	68.0	FALSE	68.0
19	759.8	54.5	68.0	FALSE	68.0
20	802.3	54.5	68.0	FALSE	68.0
21	845.5	54.5	68.0	FALSE	68.0
22	886.3	54.5	68.0	FALSE	68.0
23	920.3	54.5	68.0	FALSE	68.0
24	962.6	54.5	68.0	FALSE	68.0
25	1001.4	54.5	68.0	FALSE	68.0
26	1042.3	54.5	68.0	FALSE	68.0
27	1083.9	54.5	68.0	FALSE	68.0
28	1119.1	54.5	68.0	FALSE	68.0
29	1160.7	54.5	68.0	FALSE	68.0
30	1193.5	54.5	68.0	FALSE	68.0
31	1234.7	54.5	68.0	FALSE	68.0
32	1274.6	61.0	72.0	FALSE	72.0
33	1316.7	61.0	72.0	FALSE	72.0
34	1357.2	61.0	72.0	FALSE	72.0
35	1399.3	61.0	72.0	FALSE	72.0
36	1440.5	61.0	72.0	FALSE	72.0
37	1481.8	61.0	72.0	FALSE	72.0
38	1522.3	61.0	72.0	FALSE	72.0
39	1560.7	61.0	77.0	FALSE	77.0
40	1599.1	61.0	72.0	FALSE	72.0
41	1640.5	61.0	72.0	FALSE	72.0
42	1680.4	61.0	72.0	FALSE	72.0
43	1718.4	61.0	72.0	FALSE	72.0
44	1756.6	68.0	80.7	FALSE	80.7
45	1793.9	68.0	80.7	FALSE	80.7
46	1830.4	68.0	80.7	FALSE	80.7
47	1868.8	68.0	80.7	FALSE	80.7
48	1907.8	68.0	80.7	FALSE	80.7
49	1944.2	68.0	80.7	FALSE	80.7
50	1982.3	68.0	80.7	FALSE	80.7
51	2017.6	68.0	80.7	FALSE	80.7
52	2052.7	68.0	80.7	FALSE	80.7
53	2088.5	68.0	80.7	FALSE	80.7

BH 113B - March 10, 2015

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	45.7	54.5	48.0	TRUE	54.5
2	81.8	54.5	48.0	TRUE	54.5
3	121.1	54.5	48.0	TRUE	54.5
4	163.3	54.5	54.5	TRUE	54.5
5	205.0	54.5	48.0	TRUE	54.5
6	243.0	54.5	48.0	TRUE	54.5
7	278.9	54.5	48.0	TRUE	54.5
8	320.5	54.5	48.0	TRUE	54.5
9	362.5	54.5	48.0	TRUE	54.5
10	404.0	54.5	48.0	TRUE	54.5
11	446.2	54.5	48.0	TRUE	54.5
12	485.3	54.5	54.5	TRUE	54.5
13	520.6	54.5	48.0	TRUE	54.5
14	558.0	54.5	48.0	TRUE	54.5
15	599.6	54.5	48.0	TRUE	54.5
16	640.8	54.5	48.0	TRUE	54.5
17	680.1	54.5	48.0	FALSE	48.0
18	721.2	54.5	48.0	TRUE	54.5
19	763.0	54.5	48.0	TRUE	54.5
20	805.4	54.5	48.0	TRUE	54.5
21	847.7	54.5	48.0	TRUE	54.5
22	889.2	54.5	48.0	TRUE	54.5
23	923.0	54.5	48.0	TRUE	54.5
24	964.4	54.5	48.0	TRUE	54.5
25	1003.1	54.5	48.0	TRUE	54.5
26	1044.6	54.5	48.0	TRUE	54.5
27	1085.3	54.5	48.0	TRUE	54.5
28	1121.1	54.5	48.0	TRUE	54.5
29	1162.5	54.5	48.0	TRUE	54.5
30	1194.5	54.5	48.0	TRUE	54.5
31	1235.6	54.5	48.0	TRUE	54.5
32	1276.2	61.0	54.5	TRUE	61.0
33	1317.3	61.0	54.5	TRUE	61.0
34	1358.6	61.0	54.5	TRUE	61.0
35	1399.9	61.0	54.5	TRUE	61.0
36	1440.9	61.0	54.5	TRUE	61.0
37	1482.1	61.0	54.5	TRUE	61.0
38	1522.5	61.0	54.5	TRUE	61.0
39	1560.8	61.0	54.5	TRUE	61.0
40	1599.0	61.0	54.5	TRUE	61.0
41	1640.2	61.0	54.5	TRUE	61.0
42	1680.8	61.0	54.5	TRUE	61.0
43	1718.8	61.0	54.5	TRUE	61.0
44	1756.8	68.0	68.0	TRUE	68.0
45	1794.1	68.0	68.0	TRUE	68.0
46	1830.5	68.0	68.0	TRUE	68.0
47	1868.6	68.0	68.0	TRUE	68.0
48	1906.8	68.0	68.0	TRUE	68.0
49	1943.9	68.0	68.0	TRUE	68.0
50	1981.1	68.0	68.0	TRUE	68.0
51	2016.3	68.0	68.0	TRUE	68.0
52	2051.3	68.0	68.0	TRUE	68.0
53	2087.8	68.0	68.0	TRUE	68.0
54	2126.2	68.0	68.0	TRUE	68.0

BH 114A - July 14, 2010

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	34.7	54.5	48.0	FALSE	48.0
2	76.2	54.5	48.0	FALSE	48.0
3	118.6	54.5	48.0	FALSE	48.0
4	159.3	54.5	48.0	FALSE	48.0
5	201.3	54.5	48.0	FALSE	48.0
6	243.6	54.5	48.0	FALSE	48.0
7	285.7	54.5	48.0	FALSE	48.0
8	327.7	54.5	48.0	FALSE	48.0
9	369.3	54.5	48.0	FALSE	48.0
10	411.6	54.5	48.0	FALSE	48.0
11	453.7	54.5	48.0	FALSE	48.0
12	496.1	54.5	48.0	FALSE	48.0
13	538.3	54.5	48.0	FALSE	48.0
14	580.3	54.5	48.0	FALSE	48.0
15	622.6	54.5	48.0	FALSE	48.0
16	661.4	54.5	48.0	FALSE	48.0
17	703.7	54.5	48.0	FALSE	48.0
18	742.6	54.5	48.0	FALSE	48.0
19	780.8	54.5	48.0	FALSE	48.0
20	819.5	54.5	48.0	FALSE	48.0
21	853.6	54.5	48.0	FALSE	48.0
22	893.8	54.5	48.0	FALSE	48.0
23	936.0	54.5	48.0	FALSE	48.0
24	977.8	54.5	48.0	FALSE	48.0
25	1018.8	54.5	48.0	FALSE	48.0
26	1060.2	54.5	48.0	FALSE	48.0
27	1102.0	54.5	48.0	FALSE	48.0
28	1144.3	54.5	48.0	FALSE	48.0
29	1186.1	54.5	48.0	FALSE	48.0
30	1227.4	54.5	48.0	FALSE	48.0
31	1268.0	61.0	48.0	FALSE	48.0
32	1308.5	61.0	48.0	FALSE	48.0
33	1349.5	61.0	48.0	FALSE	48.0
34	1389.4	61.0	48.0	FALSE	48.0
35	1430.1	61.0	48.0	FALSE	48.0
36	1471.5	61.0	48.0	FALSE	48.0
37	1508.0	61.0	48.0	FALSE	48.0
38	1549.5	61.0	48.0	FALSE	48.0
39	1590.4	61.0	48.0	FALSE	48.0
40	1631.7	61.0	48.0	FALSE	48.0
41	1672.3	61.0	48.0	FALSE	48.0
42	1713.5	61.0	54.5	FALSE	54.5
43	1753.1	68.0	61.0	TRUE	68.0
44	1793.8	68.0	61.0	TRUE	68.0
45	1835.2	68.0	61.0	TRUE	68.0
46	1875.2	68.0	61.0	TRUE	68.0
47	1916.5	68.0	61.0	TRUE	68.0
48	1957.3	68.0	61.0	TRUE	68.0
49	1997.1	68.0	61.0	TRUE	68.0
50	2038.3	68.0	61.0	TRUE	68.0
51	2079.9	68.0	61.0	TRUE	68.0

BH 114A - September 13, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	51.3	54.5	48.0	TRUE	54.5
2	92.8	54.5	48.0	TRUE	54.5
3	135.1	54.5	48.0	TRUE	54.5
4	175.8	54.5	48.0	TRUE	54.5
5	217.6	54.5	48.0	TRUE	54.5
6	259.8	54.5	48.0	TRUE	54.5
7	302.1	54.5	48.0	TRUE	54.5
8	343.9	54.5	48.0	TRUE	54.5
9	385.3	54.5	48.0	TRUE	54.5
10	427.5	54.5	48.0	TRUE	54.5
11	469.6	54.5	48.0	TRUE	54.5
12	511.9	54.5	48.0	TRUE	54.5
13	554.0	54.5	48.0	TRUE	54.5
14	596.0	54.5	48.0	TRUE	54.5
15	638.2	54.5	48.0	TRUE	54.5
16	677.0	54.5	48.0	TRUE	54.5
17	719.2	54.5	48.0	TRUE	54.5
18	758.1	54.5	48.0	TRUE	54.5
19	796.4	54.5	48.0	TRUE	54.5
20	835.0	54.5	48.0	TRUE	54.5
21	869.1	54.5	48.0	TRUE	54.5
22	909.3	54.5	48.0	TRUE	54.5
23	951.4	54.5	48.0	TRUE	54.5
24	993.1	54.5	48.0	TRUE	54.5
25	1033.8	54.5	48.0	TRUE	54.5
26	1075.2	54.5	48.0	FALSE	48.0
27	1116.9	54.5	48.0	TRUE	54.5
28	1159.0	54.5	48.0	FALSE	48.0
29	1200.7	54.5	48.0	FALSE	48.0
30	1241.9	54.5	48.0	FALSE	48.0
31	1282.3	61.0	54.5	TRUE	61.0
32	1322.6	61.0	54.5	TRUE	61.0
33	1363.5	61.0	54.5	FALSE	54.5
34	1403.4	61.0	54.5	TRUE	61.0
35	1443.9	61.0	54.5	TRUE	61.0
36	1485.2	61.0	54.5	TRUE	61.0
37	1521.6	61.0	54.5	TRUE	61.0
38	1563.0	61.0	54.5	FALSE	54.5
39	1603.9	61.0	54.5	FALSE	54.5
40	1637.3	61.0	54.5	TRUE	61.0
41	1685.5	61.0	54.5	TRUE	61.0
42	1726.6	61.0	54.5	TRUE	61.0
43	1766.0	68.0	68.0	TRUE	68.0
44	1806.7	68.0	68.0	TRUE	68.0
45	1848.1	68.0	68.0	TRUE	68.0
46	1887.9	68.0	68.0	TRUE	68.0
47	1929.3	68.0	68.0	TRUE	68.0
48	1970.1	68.0	68.0	TRUE	68.0
49	2009.8	68.0	68.0	TRUE	68.0
50	2050.9	68.0	68.0	TRUE	68.0
51	2092.6	68.0	68.0	TRUE	68.0
52	2134.9	68.0	68.0	TRUE	68.0

BH 114A (lined) - January 18, 2013

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	40.9	45.5	45.5	TRUE	45.5
2	82.5	45.5	45.5	TRUE	45.5
3	125.8	45.5	45.5	TRUE	45.5
4	169.6	45.5	45.5	TRUE	45.5
5	210.4	45.5	51.0	TRUE	45.5
6	251.9	45.5	45.5	TRUE	45.5
7	295.0	45.5	45.5	TRUE	45.5
8	338.2	45.5	45.5	TRUE	45.5
9	381.1	45.5	45.5	TRUE	45.5
10	422.6	45.5	45.5	TRUE	45.5
11	466.8	45.5	45.5	TRUE	45.5
12	508.6	45.5	45.5	TRUE	45.5
13	548.1	45.5	45.5	TRUE	45.5
14	593.5	45.5	45.5	TRUE	45.5
15	635.1	45.5	45.5	TRUE	45.5
16	678.5	45.5	45.5	TRUE	45.5
17	720.2	45.5	51.0	TRUE	45.5
18	763.1	45.5	45.5	TRUE	45.5
19	799.6	45.5	51.0	TRUE	45.5
20	842.2	45.5	45.5	TRUE	45.5
21	884.8	45.5	45.5	TRUE	45.5
22	924.3	45.5	45.5	TRUE	45.5
23	971.0	45.5	45.5	TRUE	45.5
24	1014.5	45.5	45.5	TRUE	45.5
25	1057.1	45.5	45.5	TRUE	45.5
26	1099.5	45.5	45.5	TRUE	45.5
27	1141.5	45.5	45.5	TRUE	45.5
28	1182.1	45.5	45.5	TRUE	45.5
29	1225.2	45.5	45.5	TRUE	45.5
30	1264.7	45.5	45.5	TRUE	45.5
31	1311.0	45.5	45.5	TRUE	45.5
32	1353.4	45.5	45.5	TRUE	45.5
33	1396.6	45.5	45.5	TRUE	45.5
34	1440.1	45.5	45.5	TRUE	45.5
35	1483.4	45.5	45.5	TRUE	45.5
36	1526.1	45.5	45.5	TRUE	45.5
37	1568.4	45.5	45.5	TRUE	45.5
38	1611.1	45.5	45.5	TRUE	45.5
39	1655.4	45.5	45.5	TRUE	45.5
40	1699.4	45.5	51.0	TRUE	45.5
41	1741.2	45.5	45.5	TRUE	45.5
42	1784.5	45.5	45.5	TRUE	45.5
43	1828.5	45.5	45.5	TRUE	45.5
44	1870.0	45.5	45.5	TRUE	45.5
45	1912.5	45.5	51.0	TRUE	45.5
46	1947.8	45.5	45.5	TRUE	45.5
47	1993.2	45.5	45.5	TRUE	45.5
48	2037.0	45.5	45.5	TRUE	45.5

BH 114B - March 22, 2012

Casing Number	Max Depth from BHF [ft]	Expected Casing Weight [# /ft]	Closest Casing Weight [# /ft]	Within Threshold?	Calculated Casing Weight [# /ft]
1	46.9	54.5	48.0	TRUE	54.5
2	88.6	54.5	48.0	TRUE	54.5
3	130.3	54.5	48.0	TRUE	54.5
4	166.5	54.5	48.0	TRUE	54.5
5	208.1	54.5	48.0	TRUE	54.5
6	242.3	54.5	48.0	TRUE	54.5
7	283.5	54.5	48.0	TRUE	54.5
8	318.9	54.5	48.0	TRUE	54.5
9	361.3	54.5	48.0	TRUE	54.5
10	400.6	54.5	48.0	TRUE	54.5
11	437.8	54.5	48.0	TRUE	54.5
12	479.9	54.5	48.0	TRUE	54.5
13	518.4	54.5	54.5	TRUE	54.5
14	559.8	54.5	48.0	TRUE	54.5
15	601.3	54.5	48.0	TRUE	54.5
16	643.8	54.5	48.0	TRUE	54.5
17	681.7	54.5	48.0	TRUE	54.5
18	723.8	54.5	48.0	TRUE	54.5
19	765.9	54.5	48.0	TRUE	54.5
20	803.8	54.5	48.0	TRUE	54.5
21	838.7	54.5	48.0	TRUE	54.5
22	880.8	54.5	48.0	TRUE	54.5
23	921.3	54.5	48.0	TRUE	54.5
24	957.8	54.5	48.0	TRUE	54.5
25	999.8	54.5	48.0	TRUE	54.5
26	1033.8	54.5	48.0	TRUE	54.5
27	1072.9	54.5	48.0	TRUE	54.5
28	1111.4	54.5	48.0	TRUE	54.5
29	1151.6	54.5	48.0	TRUE	54.5
30	1185.3	54.5	48.0	TRUE	54.5
31	1227.5	54.5	48.0	TRUE	54.5
32	1269.3	61.0	54.5	TRUE	61.0
33	1305.6	61.0	54.5	TRUE	61.0
34	1342.3	61.0	54.5	TRUE	61.0
35	1384.4	61.0	54.5	TRUE	61.0
36	1424.4	61.0	54.5	TRUE	61.0
37	1466.5	61.0	54.5	TRUE	61.0
38	1506.6	61.0	54.5	TRUE	61.0
39	1547.0	61.0	54.5	TRUE	61.0
40	1588.8	61.0	54.5	TRUE	61.0
41	1628.8	61.0	54.5	TRUE	61.0
42	1668.3	61.0	54.5	TRUE	61.0
43	1709.7	61.0	54.5	TRUE	61.0
44	1751.3	68.0	61.0	TRUE	68.0
45	1791.2	68.0	68.0	TRUE	68.0
46	1832.1	68.0	61.0	TRUE	68.0
47	1873.1	68.0	68.0	TRUE	68.0
48	1914.1	68.0	68.0	TRUE	68.0
49	1953.8	68.0	68.0	TRUE	68.0
50	1995.6	68.0	68.0	TRUE	68.0
51	2036.6	68.0	68.0	TRUE	68.0
52	2079.3	68.0	68.0	TRUE	68.0
53	2123.6	68.0	68.0	TRUE	68.0

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