

\* BIT # 23 SMITH SGGH BIT DIAMETER : 8.50 inch NOZZ 13/13/13

MUD RHEOLOGICAL PARAMETERS : PV = 14 YP = 12 GEL = 4

| * TIME   | * MEASURED | * DEPTHS |        |         | * DRILLING PARAMETERS |       |       |      | * PIT |       | * DENSITY |     | * MUD PARAMETERS |      | * GAS |     | * OVERPRESSURE SURVEY |        |      |        | * ACCUMULATED ON BIT |      |         |      |      |
|----------|------------|----------|--------|---------|-----------------------|-------|-------|------|-------|-------|-----------|-----|------------------|------|-------|-----|-----------------------|--------|------|--------|----------------------|------|---------|------|------|
|          |            | * Hrs:mn | * feet | * feet  | * feet                | * ROP | * WOB | RPM  | TORQ  | PRESS | FLOW      | IN  | OUT              | IN   | OUT   | IN  | OUT                   | DCS    | NORM | PF     | ECD                  | FRAC | FEET    | TIME | COST |
|          |            |          |        |         |                       |       |       |      |       |       |           |     |                  |      |       |     |                       |        |      |        |                      |      |         |      |      |
| D * 5:25 | * 8957.1   | 9065.1   | 8308.0 | * 90.5  | * 27.4                | 55    | 1600  | 1473 | 347   | * 416 | * 9.1     | 9.2 | 74.3             | 91.5 | .77   | .79 | * 7                   | * .98  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 35.1  | .24  | 696  |
| D * 5:25 | * 8958.7   | 9066.7   | 8308.0 | * 298.1 | * 26.5                | 54    | 1600  | 1460 | 351   | * 416 | * 9.1     | 9.2 | 74.3             | 91.5 | .77   | .79 | * 7                   | * .62  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 36.7  | .24  | 666  |
| D * 5:25 | * 8959.1   | 9066.7   | 8308.0 | * 298.1 | * 26.5                | 54    | 1600  | 1460 | 351   | * 416 | * 9.1     | 9.2 | 74.3             | 91.5 | .77   | .79 | * 7                   | * .93  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 37.1  | .25  | 660  |
| D * 5:26 | * 8960.4   | 9068.4   | 8308.0 | * 185.7 | * 24.9                | 56    | 1500  | 1460 | 347   | * 416 | * 9.1     | 9.2 | 74.3             | 91.5 | .76   | .79 | * 7                   | * .74  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 38.4  | .25  | 638  |
| D * 5:26 | * 8961.8   | 9069.8   | 8308.0 | * 152.5 | * 26.1                | 54    | 1500  | 1460 | 347   | * 416 | * 9.1     | 9.2 | 74.3             | 91.4 | .76   | .79 | * 7                   | * .79  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 39.8  | .26  | 616  |
| D * 5:27 | * 8963.9   | 9070.8   | 8308.0 | * 117.1 | * 25.3                | 54    | 1500  | 1470 | 351   | * 416 | * 9.1     | 9.2 | 74.4             | 91.5 | .77   | .80 | * 7                   | * .88  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 40.8  | .27  | 601  |
| D * 5:27 | * 8965.7   | 9073.7   | 8308.0 | * 424.0 | * 22.3                | 55    | 1600  | 1478 | 347   | * 416 | * 9.1     | 9.2 | 74.4             | 91.6 | .77   | .79 | * 7                   | * .40  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 43.7  | .28  | 563  |
| D * 5:27 | * 8966.6   | 9074.6   | 8308.0 | * 168.7 | * 25.5                | 55    | 1600  | 1459 | 347   | * 416 | * 9.1     | 9.2 | 74.5             | 91.6 | .76   | .80 | * 7                   | * .76  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 44.6  | .28  | 552  |
| D * 5:28 | * 8967.3   | 9074.6   | 8308.0 | * 168.7 | * 25.3                | 54    | 1700  | 1460 | 347   | * 414 | * 9.1     | 9.2 | 74.4             | 91.6 | .76   | .80 | * 7                   | * .76  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 44.6  | .29  | 552  |
| D * 5:28 | * 8968.4   | 9076.4   | 8308.0 | * 296.8 | * 24.4                | 57    | 1900  | 1487 | 351   | * 414 | * 9.1     | 9.2 | 74.5             | 91.6 | .77   | .81 | * 7                   | * .59  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 46.4  | .29  | 531  |
| D * 5:28 | * 8969.1   | 9076.4   | 8308.0 | * 296.8 | * 22.9                | 54    | 1900  | 1492 | 351   | * 414 | * 9.1     | 9.2 | 74.5             | 91.6 | .76   | .79 | * 7                   | * .59  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 46.4  | .30  | 531  |
| D * 5:29 | * 8970.7   | 9078.4   | 8308.0 | * 175.9 | * 21.7                | 56    | 1900  | 1492 | 347   | * 414 | * 9.1     | 9.2 | 74.5             | 91.8 | .76   | .80 | * 7                   | * .72  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 48.4  | .30  | 510  |
| D * 5:29 | * 8971.8   | 9079.8   | 8308.0 | * 388.1 | * 25.9                | 55    | 1900  | 1487 | 347   | * 414 | * 9.1     | 9.2 | 74.5             | 91.8 | .76   | .80 | * 7                   | * .53  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 49.8  | .31  | 496  |
| D * 5:29 | * 8972.1   | 9080.1   | 8308.0 | * 92.5  | * 24.1                | 55    | 1800  | 1487 | 347   | * 414 | * 9.1     | 9.2 | 74.5             | 91.9 | .77   | .80 | * 7                   | * .94  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 50.1  | .31  | 493  |
| D * 5:30 | * 8973.2   | 9081.1   | 8308.0 | * 96.2  | * 28.5                | 54    | 2000  | 1492 | 351   | * 414 | * 9.1     | 9.2 | 74.5             | 91.9 | .77   | .81 | * 7                   | * .93  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 51.1  | .32  | 483  |
| D * 5:31 | * 8975.0   | 9082.2   | 8308.0 | * 72.4  | * 26.2                | 54    | 1900  | 1492 | 351   | * 414 | * 9.1     | 9.2 | 74.5             | 91.8 | .77   | .80 | * 7                   | * .99  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 52.2  | .34  | 475  |
| D * 5:31 | * 8975.3   | 9082.2   | 8308.0 | * 72.4  | * 21.3                | 54    | 1600  | 1492 | 348   | * 414 | * 9.1     | 9.2 | 74.5             | 91.8 | .77   | .81 | * 7                   | * .99  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 52.2  | .34  | 475  |
| D * 6: 0 | * 8976.2   | 9084.1   | 8309.0 | * 39.8  | * 19.0                | 52    | 1500  | 1318 | 338   | * 396 | * 9.1     | 9.0 | 75.8             | 93.1 | .76   | .72 | * 7                   | * .98  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 54.1  | .36  | 459  |
| D * 6: 0 | * 8977.8   | 9085.8   | 8390.0 | * 65.1  | * 17.6                | 52    | 100   | 1332 | 343   | * 396 | * 9.1     | 9.1 | 75.8             | 91.1 | .77   | .71 | * 7                   | * .93  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 55.8  | .39  | 448  |
| D * 6:16 | * 8978.3   | 9086.2   | 8390.0 | * 29.5  | * 20.9                | 52    | 1500  | 1435 | 351   | * 396 | * 9.1     | 9.1 | 75.7             | 91.2 | .78   | .68 | * 7                   | * 1.06 | 1.56 | * 10.0 | 9.1                  | 16.3 | * 56.2  | .40  | 445  |
| D * 6:16 | * 8979.5   | 9086.2   | 8390.0 | * 29.5  | * 21.7                | 52    | 1500  | 1426 | 351   | * 392 | * 9.1     | 9.1 | 75.8             | 91.4 | .77   | .67 | * 7                   | * 1.06 | 1.56 | * 10.0 | 9.1                  | 16.3 | * 56.2  | .41  | 445  |
| D * 6:16 | * 8980.4   | 9088.4   | 8390.0 | * 516.0 | * 20.4                | 52    | 1500  | 1403 | 351   | * 390 | * 9.1     | 9.1 | 75.7             | 91.5 | .78   | .66 | * 7                   | * .39  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 58.4  | .41  | 429  |
| D * 6:17 | * 8981.0   | 9088.4   | 8390.0 | * 516.0 | * 19.6                | 54    | 1500  | 1431 | 356   | * 388 | * 9.1     | 9.1 | 75.8             | 91.0 | .78   | .66 | * 7                   | * .39  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 58.4  | .42  | 429  |
| D * 6:17 | * 8982.1   | 9090.1   | 8390.0 | * 153.3 | * 23.9                | 52    | 1500  | 1445 | 356   | * 388 | * 9.1     | 9.1 | 75.8             | 90.9 | .78   | .65 | * 7                   | * .71  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 60.1  | .42  | 418  |
| D * 6:17 | * 8984.0   | 9092.0   | 8390.0 | * 217.4 | * 19.6                | 52    | 1400  | 1450 | 353   | * 388 | * 9.1     | 9.1 | 75.7             | 90.6 | .77   | .65 | * 7                   | * .62  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 62.0  | .43  | 405  |
| D * 6:18 | * 8985.3   | 9093.3   | 8390.0 | * 144.5 | * 16.7                | 52    | 1400  | 1431 | 351   | * 386 | * 9.1     | 9.1 | 75.7             | 89.7 | .77   | .66 | * 7                   | * .70  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 63.3  | .44  | 397  |
| D * 6:18 | * 8986.2   | 9094.1   | 8390.0 | * 98.3  | * 17.1                | 55    | 1500  | 1450 | 356   | * 384 | * 9.1     | 9.1 | 75.7             | 89.6 | .78   | .63 | * 7                   | * .81  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 64.1  | .44  | 393  |
| D * 6:19 | * 8987.4   | 9095.4   | 8390.0 | * 175.8 | * 21.5                | 53    | 1500  | 1426 | 356   | * 384 | * 9.1     | 9.1 | 75.7             | 90.8 | .78   | .62 | * 7                   | * .69  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 65.4  | .45  | 385  |
| D * 6:19 | * 8988.6   | 9096.2   | 8390.0 | * 189.8 | * 19.8                | 54    | 1500  | 1445 | 373   | * 384 | * 9.1     | 9.1 | 75.7             | 92.1 | .78   | .60 | * 7                   | * .81  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 66.2  | .46  | 381  |
| D * 6:20 | * 8989.0   | 9096.2   | 8390.0 | * 189.8 | * 20.6                | 52    | 1500  | 1445 | 356   | * 384 | * 9.1     | 9.2 | 75.8             | 92.4 | .78   | .60 | * 7                   | * .81  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 66.2  | .46  | 381  |
| D * 6:21 | * 8990.2   | 9098.2   | 8390.0 | * 66.5  | * 21.0                | 52    | 1500  | 1450 | 351   | * 382 | * 9.1     | 9.2 | 75.8             | 93.4 | .78   | .59 | * 7                   | * .92  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 68.2  | .48  | 371  |
| D * 6:22 | * 8991.3   | 9099.3   | 8390.0 | * 55.8  | * 21.8                | 52    | 1500  | 1440 | 352   | * 380 | * 9.1     | 9.2 | 75.8             | 94.0 | .77   | .59 | * 7                   | * .99  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 69.3  | .50  | 366  |
| D * 6:23 | * 8992.2   | 9099.3   | 8390.0 | * 55.8  | * 21.2                | 52    | 1500  | 1445 | 356   | * 378 | * 9.1     | 9.1 | 75.8             | 96.7 | .77   | .61 | * 7                   | * .99  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 69.3  | .52  | 366  |
| D * 6:24 | * 8993.5   | 8990.0   | 8390.0 | * 40.2  | * 22.9                | 53    | 1500  | 1440 | 356   | * 378 | * 9.1     | 9.1 | 75.8             | 97.3 | .77   | .62 | * 7                   | * 1.09 | 1.56 | * 10.0 | 9.1                  | 16.3 | * 70.2  | .53  | 362  |
| D * 6:25 | * 8995.1   | 8992.9   | 8392.0 | * 589.1 | * 22.9                | 51    | 1700  | 1450 | 351   | * 376 | * 9.1     | 9.1 | 75.8             | 97.1 | .78   | .62 | * 7                   | * .34  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 73.1  | .54  | 349  |
| D * 6:25 | * 8996.1   | 8993.9   | 8392.0 | * 280.7 | * 25.4                | 51    | 1600  | 1435 | 351   | * 376 | * 9.1     | 9.1 | 75.8             | 97.1 | .77   | .62 | * 7                   | * .56  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 74.1  | .54  | 344  |
| D * 6:25 | * 8997.5   | 8993.9   | 8392.0 | * 280.7 | * 21.6                | 51    | 1600  | 1445 | 356   | * 376 | * 9.1     | 9.0 | 75.9             | 97.1 | .77   | .63 | * 7                   | * .56  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 74.1  | .55  | 344  |
| D * 6:26 | * 9000.2   | 8996.9   | 8392.0 | * 225.6 | * 17.6                | 55    | 1600  | 1459 | 356   | * 376 | * 9.1     | 9.0 | 75.9             | 97.1 | .76   | .63 | * 6                   | * .57  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 77.1  | .55  | 332  |
| D * 6:26 | * 9002.0   | 8999.7   | 8392.0 | * 246.8 | * 19.6                | 55    | 1700  | 1459 | 351   | * 376 | * 9.1     | 9.0 | 76.0             | 97.0 | .75   | .63 | * 6                   | * .58  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 79.9  | .56  | 320  |
| D * 6:26 | * 9002.8   | 9000.6   | 8392.0 | * 234.4 | * 23.2                | 54    | 1600  | 1440 | 353   | * 376 | * 9.1     | 9.0 | 76.0             | 96.6 | .75   | .63 | * 6                   | * .59  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 80.8  | .57  | 317  |
| D * 6:27 | * 9003.7   | 9001.5   | 8376.0 | * 188.9 | * 20.9                | 55    | 1600  | 1435 | 356   | * 374 | * 9.1     | 9.0 | 76.0             | 96.5 | .76   | .63 | * 6                   | * .83  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 81.7  | .57  | 314  |
| D * 6:27 | * 9004.1   | 9001.8   | 8376.0 | * 183.9 | * 19.4                | 55    | 1500  | 1445 | 356   | * 374 | * 9.1     | 9.0 | 76.0             | 96.5 | .75   | .64 | * 6                   | * .65  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 82.0  | .58  | 313  |
| D * 6:27 | * 9005.2   | 9002.9   | 8376.0 | * 598.2 | * 23.3                | 55    | 1700  | 1445 | 356   | * 374 | * 9.1     | 9.0 | 76.0             | 96.4 | .75   | .63 | * 6                   | * .36  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 83.1  | .58  | 309  |
| D * 6:28 | * 9008.1   | 9004.8   | 8376.0 | * 178.2 | * 21.2                | 54    | 1500  | 1464 | 356   | * 374 | * 9.1     | 9.0 | 76.1             | 95.8 | .76   | .65 | * 6                   | * .67  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 86.1  | .59  | 299  |
| D * 6:28 | * 9007.6   | 9007.4   | 8376.0 | * 279.1 | * 14.7                | 56    | 1900  | 1464 | 356   | * 374 | * 9.1     | 9.0 | 76.2             | 95.7 | .74   | .64 | * 6                   | * .50  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 87.6  | .60  | 294  |
| D * 6:33 | * 9012.5   | 9009.8   | 8500.0 | * 200.3 | * 17.2                | 52    | 1500  | 1295 | 343   | * 380 | * 9.1     | 9.1 | 76.6             | 94.6 | .74   | .64 | * 7                   | * .57  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 90.1  | .61  | 286  |
| D * 6:34 | * 9020.9   | 9015.2   | 8500.0 | * 1244. | * 18.8                | 60    | 1400  | 1351 | 343   | * 380 | * 9.1     | 9.1 | 76.6             | 94.6 | .74   | .64 | * 7                   | * .15  | 1.55 | * 10.0 | 9.1                  | 16.3 | * 95.4  | .61  | 270  |
| D * 6:34 | * 9028.6   | 9026.3   | 8500.0 | * 1943. | * 15.8                | 60    | 1700  | 1426 | 343   | * 378 | * 9.1     | 9.1 | 76.7             | 94.4 | .73   | .64 | * 7                   | * .03  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 106.5 | .62  | 242  |
| D * 6:34 | * 9029.3   | 9027.0   | 8500.0 | * 378.2 | * 19.4                | 62    | 1800  | 1398 | 343   | * 378 | * 9.1     | 9.1 | 76.6             | 94.2 | .73   | .63 | * 7                   | * .43  | 1.56 | * 10.0 | 9.1                  | 16.3 | * 107.2 |      |      |