



USGS TW 1

19E43

Table 1: INTENSITY DATA

I = INTENSITY

x = weight of sample in grams

y = weight of standard

| # | I _{dolo.} | I _{cal.} | I _{gyp.} | I _{QTZ} | I _{dolo} ^{30.720} | I _{cal} ^{30.920} | I _{gyp.} | I _{QTZ} | x | y |
|----------|--------------------|-------------------|-------------------|------------------|-------------------------------------|------------------------------------|-------------------|------------------|------|------|
| 403'jin | 845 | - | - | 558 | 633.75 | 132 | 42.5 | 640 | .351 | .114 |
| 404' | 865 | - | - | - | 1508 | 160 | 120 | 140 | .335 | .126 |
| 404'5" | 778.5 | 210 | - | - | 606 | 220 | 92 | 119.25 | .268 | .116 |
| 404'6" | 962.5 | - | - | 464 | 927.5 | 126.5 | 74.25 | 450 | .319 | .123 |
| 589'1" | 990 | 242.2 | 184.5 | - | 891.5 74.25 | 228.25 | 238.5 | 126 | .258 | .113 |
| 590'1" | 1115 | 275 | 63.54 | - | 460 400 | 400 | 260 | 215 | .271 | .147 |
| 591'4" | 302.5 | 165.75 | 832.5 | - | 305.5 299 | 185 | 612 | 332.5 | .190 | .130 |
| 593'1" | 1102.5 | - | - | - | 1162 249 | 195.8 | 145 | 140 | .320 | .136 |
| 594'7" | 610 | 108 | 548 | 15 | 742 106 | 203.3 | 540 | 232 | .220 | .152 |
| 595'8" | 445 | 515 | 136 | 10 | 215 312.5 | 379.5 | 254 | 178 | .236 | .119 |
| 598'5" | 607.5 | 242 | 792 | - | 494 228 | 204 | 625 | 184.5 | .253 | .142 |
| 600'3" | 1240 | 116 | 156 | 12.5 | 564 | 137.5 | 192 | 104 | .334 | .101 |
| 601'1" | 940 | 120 | 585 | - | 630.5 | 183 | 418.5 | 218.25 | .215 | .139 |
| 603'3" | 1012 | - | 98 | - | 696 232 | 103.5 | 117 | 196 | .321 | .130 |
| 604'1" | 1182.5 | 127.5 | 196 | - | 767 118 | 227.5 | 135 | 169 | .296 | .153 |
| 754'9" | - | 665.5 | - | - | 122.5 | 579 | 276 | 108 | .270 | .127 |
| 757'9" | 51.75 | 737 | - | - | 378 | 621.5 | 305 | 130 | .232 | .181 |
| 760'2" | - | 748 | - | - | 200 | 502.5 | 162 | 92 | .279 | .157 |
| 765'2" | 35 | 808.5 | - | - | 190 | 732 | 213.75 | 130 | .281 | .101 |
| 907'3" | - | 959.75 | - | - | 355.5 | 907.5 | 260 | 114 | .306 | .120 |
| 911'1" | - | 1070 | - | - | 319 | 877.25 | 135 | 124.25 | .273 | .102 |
| 913'10" | - | 836 | - | - | 216 | 577.5 | 154 | 94 | .256 | .113 |
| 916'8" | - | 1028.5 | - | - | 200 | 957 | 290 | 172 | .230 | .104 |
| 1004'8" | 65.25 | 862.5 | 119.25 | 31.5 | 203.5 | 759 | 200.25 | 204 | .267 | .152 |
| 1008'6" | 17.5 | 863.5 | - | - | 189 | 654.5 | 180 | 166.5 | .249 | .181 |
| 1014'11" | - | 662.75 | 442 | 35 | 283.5 | 474 | 318 | 173.25 | .218 | .161 |

Table 2: MINERAL PERCENTS : BASED ON X-RAY INTENSITY DATA

check of thin about #4 on thin sections

| # | Dolo. | CAL. | GYP. | QTZ |
|----------|-------|-------|-------|-------|
| 403'1" | 87.89 | - | - | 12.11 |
| 404' | 100 | - | - | - |
| 404'5" | 79.53 | 20.83 | - | - |
| 404'6" | 51.01 | - | - | 49.02 |
| 589'1" | 38.67 | 45.66 | 15.64 | - |
| 590'1" | 64.88 | 30.69 | 4.44 | - |
| 591'4" | 7.23 | 19.44 | 71.50 | - |
| 593'1" | 100 | - | - | - |
| 594'7" | 22.09 | 12.19 | 65.11 | * |
| 595'8" | 14.56 | 78.93 | 6.50 | * |
| 598'5" | 14.53 | 36.97 | 48.15 | - |
| 600'3" | 91.99 | 4.12 | 3.89 | * |
| 601'1" | 51.55 | 8.14 | 40.32 | - |
| 603'3" | 79.60 | - | 21.49 | - |
| 604'1" | 38.23 | 5.90 | 55.86 | - |
| 754'9" | - | 100 | - | - |
| 757'9" | 2.08 | 97.94 | - | - |
| 760'2" | - | 100 | - | - |
| 765'2" | 1.62 | 97.82 | - | - |
| 907'3" | - | 100 | - | - |
| 911'1" | - | 100 | - | - |
| 913'10" | - | 100 | - | - |
| 916.8" | - | 100 | - | - |
| 1004'2" | 4.51 | 81.92 | 11.48 | * |
| 1008'6" | 1.16 | 98.16 | - | - |
| 1014'11" | - | 49.04 | 48.00 | 2.26 |

* \approx < 2%

*needs
shading.*

Lowndes Co. 19E43

11.957W1

Lithological Discription of Samples by Binocular Microscope

- 403'1" Dolomite - very dense crystalline, light tan color. Clear crystals fill void spaces, most probably quartz.
- 404' Dolomite - saccharoidal texture, tan color vuggy, accessory pyrite grains.
- 404'5" Partially Dolomitized Limestone - chalky Limestone with saccharoidal dolomite, cream color. Partial remains of larger foraminifera, dolomitized in layers
- 404'6" Dolomite - resembling 403'1", very dense crystalline, quartz crystals fill vugs, prismatic in shape, with striations.
- 589'1" Dolomite - light and dark tan, crystalline. Limestone-chalky, cream color, calcitized grains, with sparry optically continuous overgrowths. gypsum platy variety, white color, fills voids, and is intergrown with Dolomite.
- 590'1" Dolomite - mostly saccharoidal, a little crystalline. Limestone, chalky more of it than in 589'1" gypsum in void-filling
- 591'4" Dolomite - light tan in color, dense crystalline variety, showing optical continuity (most dense crystalline dolomite shows large optically continuous grains) a little chalky Limestone, small amount of gypsum.
- 593'1" Dolomite - saccharoidal and dense crystalline varieties, very minor chalk & gypsum
- 594'7" Dolomite - dense crystalline, Limestone -chalky, some gypsum.
- 595'8" Partially Dolomitized limestone - gypsum & dolomite are intergrown. Appears soft & powdery creamy yellow color very altered forminifera and pieces of coral.
- 598'5" Dolomite - Dense crystalline and saccharoidal varieties, light tan. Limestone, chalky testure, gypsum.
- 600'3" Dolomite - dense crystalline & sugary textures, gypsum present filling vugs.
- 601'1" Dolomite, limestone, gypsum as before.
- 603'3" Dolomite - saccharoidal, vuggy light and dark tan, Some gypsum.
- 604'1" Dolomite - Dense crystalline, gypsum fills vugs, limestone-chalky
- 754'9" Recrystallinized limestone - very chalky porous, soft, buff color, fossils present some are calcitized, with all structures obliterated. Some particles, lenticular in shape, may be intraclasts. Many large and small foraminifera.
- 757'9" Recrystallized Limestone - soft, very chalky, buff color. Some calcitized grains small crystals, presumably calcite, lime cavities very fine glauconite is sparsely distributed in sample.
- 760'2" Limestone granular to soft and chalky calcitized. Cemented and recrystallized fossil fragments show continuous grains of calcite i.e, calcite overgrowths, porous. Some greyish lenticular wafers are present- may be intraclasts. A little fine glauconite is sparsely distributed.
- 765'2" Limestone - granular to chalky, fewer calcite crystals in pore fillings. Fewer overgrowths, some glauconite.
- 907'3" Limestone - chalky, powdery, very soft. Some calcite as crystals and as overgrowth on bryozoans and echinoid spines. A little more glauconite than noted in previous samples.
- 911'1" Limestone - granular, recrystallized, light tan. Sparry calcite overgrowths on bryozoans. A few ostracods, some chalky limestone, and glauconite

- 913'10" Limestone - granular texture, sparry overgrowth, some glauconite
916'1" Limestone as above
1004'2" Limestone - chalky, light tan color. Powdery, soft, gypsum in a powdery and friable form. (in core, gypsum occurred as large nodules many centimeters across) Sparse glauconite; a few accessory grains of brown banded phosphate minerals
1008'6" Limestone - soft, chalky, a fine dusting of glauconite. A few echinoid spines and bryozoans.
1014'11" Limestone - soft chalky, buff colored a few calcite grains, gypsum present in friable granular form. A small amount of glauconite.

References

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- Hutchinson, C. R.; Laboratory handbook of petrographic techniques: John R. Wiley & Sons, 1974
- Runnells, D. D.; Errors in X-rays analysis of carbonates due to solid solution variation in composition of component minerals: Journal of Sedimentary Petrology, Vol. 40, No. 4, p.1158-1166 December 1970.