SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

BID NUMBER RFB 1816
CROOKED LAKE WELLSITE PHASE 2 – HYDROGEOLOGICAL INVESTIGATION OF THE LOWER FLORIDAN AQUIFER IN POLK COUNTY, FLORIDA

FIGURE 4
CROOKED LAKE PHOTO LOG OF CORES

Crooked Lake Well Site Photographic Log and Core Descriptions

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Description: 1200-1204.5 – Grout. 1204.5-1210 – light brown dolomitic Limestone (wackestone). Moderately well indurated, low permeability. Pinpoint and moldic porosity with some calcite infilling.	Description: 1210-1220 - Light brown dolomitic limestone (wackestone). Moderately well indurated, low permeability. Moldic and pinpoint porosity with some calcite infilling.
	
Description: 1220-1228.5 and 1229.25-1230– light brown dolomitic limestone (wackestone). 1228.5-1229.25 – drown dolostone (crystalline), vuggy. Moderately well to well indurated, low to moderate permeability. Moldic and intergranular porosity with some calcite infilling.	Description: 1230-1230.5 and 1236.5-1237.5 – light brown dolostone (mudstone). 1230.5-1236.5 and 1237.5-1240 – light brown dolomitic limestone (wackestone). Moderately well indurated, low permeability. Moldic and intergranular porosity with some calcite infilling.

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Description: 1240-1250 - Light brown dolomitic limestone (1240-1246 mudstone, 1246-1250 wackestone). Poorly to moderately well indurated, low permeability. Moldic and intergranular porosity with some calcite infilling. Evaporite staining gypsum 1240-1242.



Description: 1250-1251 - brown dolostone (crystalline), massive with few vugs. 1251-1260 – light brown dolomitic limestone, highly dolomitized from 1251-1252 and 1256.25-1256.75. Moderately to well indurated, low permeability. Moldic and intergranular/ intercrystalline porosity. Void infilling gypsum at 1255.5.



Description: 1260-1264.25 and 1265.75-1270 – light brown dolomitic limestone (wackestone). 1264.25-1265.75 – light brown dolostone. Moderately well to well indurated, moderately low horizontal permeability with solution channels (<0.5 centimeters) at 1267. Massive to moldic porosity with some vugs from 1260-1264.25. Some calcite infilling.



Description: 1270-1280 - Light brown dolomitic limestone (wackestone). Moderately well indurated with moderate horizontal permeability. Moldic and intergranular porosity with solution channels (<1 centimeter) from 1271-1273. Some calcite infilling of solution channels and molds (euhedral crystals).

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Description: 1280-1290 - Light brown dolomitic limestone (wackestone). Moderately well indurated, moderately low permeability. Moldic, intergranular and pinpoint porosity, some vugs from 1280-1281, some calcite and gypsum void infilling. Some horizontal laminations from 1285.5-1299.5. Poorly indurated seams of dolosilt at 1282.5 and between 1288.8-1299.5.



Description: 1290-1300 - Light brown dolomitic limestone (wackestone to mudstone). Moderately well to well indurated, moderately low to low permeability. Highly dolomitized with succrosic texture from 1380-1283. Moldic and intergranular porosity with some calcite and white to opaque gypsum infilling. Some horizontal laminations throughout, lignite laminations at 1294.5, 1297.5 and 1298.5.



Description: 1300-1310 - Light brown dolomitic limestone (wackestone 1300-1302, mudstone 1302-1310). Moderately well to well indurated, low permeability. Intergranular and moldic porosity 1300-1302. Vertical fractures from 1302.5-1302.8, 1303.1-1303.75 and 1306.3-1307.5. Voids/fractures partially or completely infilled with white to opaque gypsum.



Description: 1310-1320 - Light brown dolomitic limestone (mudstone) with opaque-white medium-thick bedded white to opaque gypsum from 1310.2-1310.4, 1311.4-1312.5, 1318.75-1318.95 and 1319.5-1320. Moderately well indurated, low permeability. Intergranular and moldic porosity, infilled with gypsum.

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Description: 1320-1330 - Light brown dolomitic limestone (1320-1323 mudstone, 1323-1330 wackestone). Highly fractured (vertical and horizontal) with gypsum infilling 1320-1322.25. Moderately well indurated, low permeability. Pinpoint and moldic porosity, some vugs, gypsum infilling. Horizontal and vertical fractures infilled with gypsum from 1321.25-1330.	Description: 1330-1340 - Light brown dolomitic limestone (1330-1331.5 wackestone, 1331.5-1340 mudstone). Moderately well indurated, low permeability. Moldic and intergranular porosity with gypsum infilling. White to opaque gypsum seams and thin beds from 1330-1334, medium bedded at 1336, highly fractured with gypsum infilling 1336.5-1338, medium bedded from 1338-1339.
	
Description: 1340-1350 - Light brown dolomitic limestone (1340-1349 mudstone, 1349-1350 wackestone. Moderately well indurated, low permeability. Moldic, intergranular and pinpoint porosity with white to opaque gypsum infilling. White to opaque thin bedded gypsum at 1341, 1347.75 and 1348.5. Vertical fracture from 1343-1345.5 infilled with gypsum.	Description: 1350-1360 - Light brown dolomitic limestone (mudstone). Moderately well indurated, low permeability. Moldic, intergranular and pinpoint porosity, gypsum infilling. Thin bedded white to opaque gypsum at 1351 and 1353.5, medium bedded from 1358-1359.5 and thin bedded at 1357.5.

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Description: 1360-1370 - Light brown dolomitic limestone (1360-1366 mudstone, 1366-1370 wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Gypsum seams from 1363-1366.5 and 1368.75, medium bedded 1369.5-1370. White evaporite staining 1366.5 and 1368.5.	Description: 1370-1380 - Light brown dolomitic limestone (wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. White to opaque gypsum seams at 1370, 1370.5 and 1373.5. Thin bedded gypsum 1379-1380. Horizontal and vertical fractures from 1373-1373.5 infilled with gypsum.
	
Description: 1380-1390 - Light brown dolomitic limestone (wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. White evaporite staining 1384-1388. Horizontal fractures with white to opaque gypsum infilling at 1381.5, 1385-1386 and 1388-1390. Gypsum seam at 1385. Lignite lamination at 1286.	Description: 1390-1400 - Light brown dolomitic limestone (wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Horizontal and vertical fracturing with gypsum infilling at 1381.5 and 1391.7. Medium bedded white to opaque gypsum at 1399. Lignite laminations at 1390.2, 1395 and 1397.

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Description: 1400-1410 - Light brown dolomitic limestone (1400-1403.5 mudstone, 1403.5-1410 wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Medium bedded gypsum at 1407. Lignite laminations at 1403 and thinly bedded lignite at 1406.5.



Description: 1410-1420 - Light brown dolomitic limestone (mudstone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Medium bedded white to opaque gypsum at 1411.5 and thick bedded gypsum from 1413-1414.5. Lignite laminations at 1417.5 and 1419.5.



Description: 1420-1430 - Light brown dolomitic limestone (1420-1425.5 and 1427-1430 mudstone, 1425.5-1427 wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Lignite laminations at 1429.75. Some horizontal laminations



Description: 1430-1440 - Light brown dolomitic limestone (mudstone-wackestone). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Thinly bedded white to opaque gypsum at 1436.5. Lignite laminations from 1431.5-1433 and at 1439.2. Small vertical fracture <1 millimeter, infilled with gypsum from 1429-1429.2.

		
Description: 1440-1450 - Light brown dolomitic limestone (mudstone to wackestone) with medium bedded white to opaque gypsum and anhydrite (0.8' bed) at 1445 (fractured with micritic infilling). Moderately well indurated, low permeability. Moldic, pinpoint and intergranular porosity, gypsum infilling. Lignite laminations at 1446.5. Bivalve molds.	Description: 1450-1453.5- Light brown dolomitic limestone (mudstone to wackestone), 1453.5-1460 light brown to brown dolostone (mudstone to wackestone), thinly bedded white to opaque gypsum and anhydrite 1452.5-1452.6 and med. bedded gypsum and anhydrite 1454.9-1455.5 & 1458.2-1458.6. Mod. to well indurated, low perm. Moldic, vuggy, pinpoint & intergranular porosity, gypsum infill.	Description: 1460-1470 - Light brown to brown dolostone (mudstone to wackestone) with medium bedded white to opaque gypsum and anhydrite from 1461.9-1462.05 and 1467.8-1468.15 (fractured with micritic infilling). Well indurated, low permeability. Moldic, vuggy, pinpoint and intergranular porosity, gypsum infilling. White evaporite staining.

		
Description: 1470-1480 - Light brown to brown dolostone (mudstone to wackestone) with medium bedded white to opaque gypsum and anhydrite from 1474.4-1474.8 (massive). Well indurated, low permeability. Moldic, vuggy, pinpoint and intergranular porosity, gypsum infilling. Lignite laminations from 1474-1476.	Description: 1480-1490 - Light brown to brown dolostone (mudstone to wackestone) with thinly bedded gypsum and anhydrite and anhydrite 1489.75-1490. Moderately to well indurated, low permeability. Somewhat sucrosic texture, pinpoint and moldic porosity, gypsum infilling. Fractured with laminations to thinly bedded lignite, gypsum and anhydrite infilling from 1487.25-1487.75.	Description: 1490-1500 - Light brown to brown dolostone (mudstone-wackestone) with thinly bedded gypsum and anhydrite from 1499.6-1500. Moderately to well indurated, low permeability. Moldic to pinpoint porosity, somewhat sucrosic texture, gypsum infilling. Laminations and thinly bedded lignite from 1491.5-1492.5 and at 1500.

		
Description: 1500-1510 - Brown dolostone (wackestone-crystalline) with thinly bedded white to opaque gypsum and anhydrite from 1500-1500.5. Moderately to well indurated, low to moderately low permeability. Moldic and pinpoint porosity, vuggy with sucrosic texture from 1501.5-1510. Soft and somewhat friable from 1504-1507.5. white evaporite staining 1500.5-1501.5 and 1504-1505. Bivalve molds.	Description: 1510-1520 - Brown to gray dolostone (wackestone-crystalline) with medium bedded white to opaque gypsum and anhydrite from 1514.25-1514.5. Moderately to well indurated, low to moderately low permeability. Moldic and pinpoint porosity, vuggy with sucrosic texture 1520-1524.5, some gypsum infilling. Lignite laminations from 1519-1520. Some horizontal fracturing with gypsum infilling from 1512-1519. Bivalve molds.	Description: 1520-1530 - Brown dolostone (wackestone-crystalline) 1520-1526, light brown to gray dolomitic limestone 1526-1530. Poorly to well indurated, low to moderate permeability. Moldic and pinpoint porosity, some vugs and somewhat sucrosic 1520-1524.5. Intensely fractured 1526-1530. Lignite laminations 1520-1521.

		
Description: 1530-1540 - Light brown to brown dolomitic limestone (wackestone). Moderately well indurated, low to moderately low permeability. Friable from 1539.75-1540. Moldic and pinpoint porosity with some vugs in more highly dolomitized areas from 1532-1535. Some laminations, shell and bivalves.	Description: 1540-1547.75 - Light brown to brown dolomitic limestone (wackestone), medium bedded white to opaque gypsum and anhydrite 1547.75-1548, brown to gray dolostone 1548-1550 (crystalline). Moderately to well indurated, low permeability. Pinpoint porosity with some vugs in more highly dolomitized areas. Horizontal fractures 1548.5-1550 with gypsum infilling. Friable at 1546. Some shell, bivalves and gastropods 1540-1547.75.	Description: 1550-1560 - Light brown to brown dolomitic limestone (crystalline) with thick bedded opaque to white gypsum and anhydrite from 1556-1557.25. Well indurated, low permeability. Moldic porosity, some voids, gypsum infilling.

		
Description: 1560-1570 - Brown dolostone (crystalline) with medium bedded gypsum and anhydrite from 1561.9-1562.2 and 1564.25-1564.5. Well indurated, low permeability. Moldic and pinpoint porosity, somewhat vuggy from 1566.5-1570, partial gypsum infilling. Vertical fractures approximately 1 millimeter from 1564-1566.5, horizontal fracturing 1560-1563.5, gypsum infilling. Iron staining 1569-1570.	Description: 1570-1580 - Brown to light brown dolomitic limestone (wackestone) with brown dolostone (crystalline) from 1570-1570.5. Moderately well indurated, low permeability. Pinpoint porosity with some vugs in more highly dolomitized zones. Some shell fragments and bivalves. Some iron staining 1579-1590.	Description: 1580-1590 - Brown dolostone (crystalline). Well indurated, low permeability. Moldic and pinpoint porosity, somewhat vuggy with sucrosic texture from 1580-1582 and 1589-1590. Some gypsum infilling. Some iron staining from 1580-1582 1589-1590. Some shell and bivalves.

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Description: 1590-1600 - Brown dolostone (crystalline). Poorly (1592-1600) to well indurated (1590-1592). Intensely fractured and highly dolomitized 1592-1600. Moldic and pinpoint porosity, sucrosic texture with vugs from 1592-1600. Sandy seams from 1592-1600. Bivalves.	Description: 1600-1610 - Brown to gray dolostone (crystalline) with thickly bedded white to opaque gypsum and anhydrite from 1601.5-1604.5 and 1607.75-1609.1, medium bedded from 1606.25-1606.75. Well indurated, low permeability. Pinpoint and intercrystalline porosity with somewhat sucrosic texture from 1606.75 to 1607.75.	Description: 1610-1620 - Brown to gray dolostone (crystalline) with thinly bedded white to opaque gypsum and anhydrite at 1613.25, medium bedded from 1615.25-1615.6 and 1616.25-1616.6, thickly bedded from 1610.25-1612 and 1617-1618.75. Well indurated, very low permeability. Intercrystalline porosity. Some voids and some horizontal and vertical fracturing, infilled with gypsum and anhydrite.

		
Description: 1620-1630 - Light brown to brown dolostone (crystalline) with medium bedded white to opaque gypsum and anhydrite 1620-1620.5 and 1625-1625.8. Well indurated. Moldic and intercrystalline porosity, massive 1620-1623.5 and 1628-1630, low perm. Moldic and pinpoint porosity with sucrosic texture from 1623.5-1627.75, moderate perm., moderately to intensely fractured. Horizontal and vertical fracturing, gypsum infilling.	Description: 1630-1640 - Light brown to brown dolostone (crystalline) with medium bedded white to opaque gypsum and anhydrite from 1638.7-1639. Well indurated, low permeability. Intercrystalline and moldic porosity. Pinpoint porosity and somewhat sucrosic texture from 1633-1634. Horizontal and vertical fracturing and voids completely infilled with gypsum and anhydrite.	Description: 1640-1650 - Light brown to brown dolostone (crystalline) with thinly bedded white to opaque gypsum and anhydrite from 1648.1-1648.3. Well indurated, low permeability. Intercrystalline porosity. Horizontal and vertical fracturing and voids completely infilled with gypsum and anhydrite.

		
Description: 1650-1660 - Light brown to brown dolostone (crystalline) with thinly bedded white to opaque gypsum and anhydrite 1655-1655.2 and 1658-1658.25. Well indurated. Sucrosic texture with sandy seams, pinpoint and intercrystalline poros. 1650-1655, low to moderately low perm. Massive 1655-1670, intercrystalline and moldic poros., very low perm. Horizontal and vertical fracturing and voids completely infilled with gypsum and anhydrite.	Description: 1660-1670 - Light brown to gray dolostone (crystalline) with medium bedded white to opaque gypsum and anhydrite 1665.5-1666.1 and 1669.1-1669.5. Well indurated, low permeability. Moldic, pinpoint and intercrystalline porosity, massive, but somewhat sucrosic 1661.9-1662.1, 1664.25-1664.9, 1668.25-1669.75. Horizontal and vertical fracturing 1660-1663, gypsum and anhydrite infilled. Voids infilled with gypsum and anhydrite.	Description: 1670-1680 - Light brown to gray dolostone (crystalline) with thinly bedded white to opaque gypsum and anhydrite 1678.5-1678.7. Well indurated, low permeability. Moldic, pinpoint and intercrystalline porosity, somewhat sucrosic 1670-1676, massive 1676-1680. Some sandy seams from 1670-1674.5. Voids infilled with gypsum and anhydrite.

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Description: 1680-1690 - Light brown to gray dolostone (crystalline) with thinly bedded white to opaque gypsum and anhydrite 1690.85-1690.95, 1695.8-1696 and 1696.7-1696.9, medium bedded 1694.1-1694.5. Well indurated, low permeability. Moldic and intercrystalline porosity, massive. Horizontal and vertical fractures 1682.75-1683.75, gypsum and anhydrite infilled. Voids infilled with gypsum and anhydrite.	Description: 1690-1700 - Light brown to brown dolostone with thinly bedded white to opaque gypsum and anhydrite 1680.25-1680.5, medium bedded 1689.4-1689.9. Well indurated, low permeability. Moldic and intercrystalline porosity, massive. Horizontal and vertical fractures 1694.5-1695.25, gypsum and anhydrite infilled. Voids infilled with gypsum and anhydrite.	Description: 1700-1710 - Light brown to gray dolostone (crystalline) with thinly bedded white to opaque gypsum and anhydrite 1701.3-1701.5. Well indurated, low permeability. Moldic and intercrystalline porosity, massive. Horizontal and vertical fractures 1701 and 1709.75, gypsum and anhydrite infilled. Voids infilled with gypsum and anhydrite.

		
Description: 1710-1720 - Light brown to brown dolostone. Well indurated, low to moderate permeability. Moldic and pinpoint porosity, massive to sucrosic (1710.5-1713, 1714.75-1717 and 1717.35 to 1718.35) texture. Vertical fracture from 1714.4-1714.9, gypsum infilled. Slightly fractured, intensely fractured from 1713-1713.4. Some gypsum and anhydrite void infilling. Some sandy seams.	Description: 1720-1730 - Light brown to brown dolostone (wackestone-crystalline) with thickly bedded white to opaque gypsum and anhydrite from 1726.15-1728.2, medium bedded 1722-1722.3, thinly bedded 1720.85-1721 and 1721.1-1721.6. Well indurated, low to moderately low permeability. Massive to sucrosic texture from 1722.5-1728.5. Some shell 1722.5-1728.5. Bivalves. Void infilling gypsum and anhydrite.	Description: 1730-1740 - Light brown to brown to gray dolostone (crystalline) with thin beds of white to opaque gypsum and anhydrite 1732.3-1732.7. Mod-well indurated, low to mod. low perm. Moldic and pinpoint poros. Sandy seams and sucrosic texture 1732-1736 and 1738.5-1740, mod. to intense fracturing, somewhat friable. Some shell 1731.5-1740. Bivalves. Some calcite crystals with euhedral crystal habit in fossil molds. Voids infilled with gypsum and anhydrite

		
Description: 1740-1750 - Light brown to brown dolostone (wackestone-crystalline) w/ thinly bedded white to opaque gypsum and anhydrite 1749.5-1749.75. Well ind., low perm. Moldic to pinpoint poros., massive to somewhat sucrosic texture. Some horiz. and vert. fracturing (<.5'), gypsum and anhydrite infilled. Gypsum and anhydrite void infilling. Some shell 1740-1740.85. Bivalves. Some calcite crystals, euhedral crystal habit in fossil molds.	Description: 1750-1760 - Light brown to brown dolostone (wackestone-crystalline) with medium bedded white to opaque gypsum and anhydrite 1758.8-1759.1 and 1759.25-1759.65. Moderately to well indurated, low perm. Moldic and pinpoint poros., massive to somewhat sucrosic texture. Some shell 1750-1754, bivalves. Sandy seams at 1751.25, 1753.7, 1754.1, 1757.7, friable at 1751.25. Some calcite crystals with euhedral habit in fossil molds. Voids infilled with gypsum and anhydrite.	Description: 1760-1770 - Light brown to brown dolostone (wackestone-crystalline). Moderately to well indurated, low permeability. Moldic and intergranular/intercrystalline porosity, massive texture. Some shell 1762.75-1770, bivalves. Voids infilled with gypsum and anhydrite.

		
Description: 1770-1780 - Light brown to brown dolostone (wackestone-crystalline) with thinly bedded white to opaque gypsum and anhydrite from 1771.2-1771.4. Well indurated, low permeability. Some moldic and intercrystalline porosity. Sandy seams and apparent natural break at 1773.75. Some shell 1770.5-1774.5 and 1776.5-1778, bivalves. Voids infilled with gypsum and anhydrite.	Description: 1780-1790 - Light brown to brown dolostone (wackestone-crystalline) with thinly bedded white to opaque gypsum and anhydrite 1786-1786.25 and 1788.4-1788.6. Well indurated, very low permeability and porosity. Some moldic and intercrystalline porosity. Some shell 1783.8-1786, bivalves. Voids infilled with gypsum and anhydrite.	Description: 1790-1800 - Light brown to brown dolostone (wackestone-crystalline). Well indurated, low permeability and porosity. Massive to somewhat sucrosic from 1793.25-1796.4 and 1799.5-1800. Moldic and intercrystalline porosity. Some shell, bivalves. Voids infilled with gypsum and anhydrite. Some laminations at 1791.25. Sandy seams and apparent natural breaks at 1793.5 and 1796.2.

		
Description: 1800-1810 - Light brown to brown dolostone (wackestone-crystalline) with medium bedded white to opaque gypsum and anhydrite 1808.1-1808.8, thinly bedded 1804.7-1804.8. Well indurated, low permeability and porosity. Moldic porosity. Massive to somewhat sucrosic from 1800-1802.5. Some shell 1800-1802, bivalves. Voids infilled with gypsum and anhydrite. Apparent natural breaks at lignite laminations at 1804.15 and 1808.25.	Description: 1810-1820 - Light brown to brown dolostone (wackestone-crystalline with fractured medium bedded white to opaque gypsum and anhydrite 1814.75-1815.3, thinly bedded 1812.15-1812.35, 1813.5-1813.7, 1815.75-1815.85, 1815.95-1816.1, 1817.1-1817.3. Well indurated, low permeability and porosity. Moldic and intercrystalline porosity. Massive. Some shell, bivalves. Voids infilled with gypsum and anhydrite. Some horizontal fracturing (< 2 millimeters) 1819-1820, gypsum and anhydrite infilled.	Description: 1820-1830 - Light brown to brown to gray dolostone (wackestone crystalline -). Poorly to well indurated, very low to moderate (fracture) permeability. Very intensely fractured 1824-1824.4, 1825.4-1825.8 and 1829.5-1829.8. Somewhat sandy and friable with trace amounts of lignite 1823.5-1824.4. Moldic, intercrystalline and fracture porosity. Some iron staining 1823-1825.8. Gypsum and anhydrite void infilling. Some shell, bivalves.

		
Description: 1830-1840 - Light brown to brown dolostone (crystalline). Thinly bedded (0.02') lignite at 1833.6. Well indurated, low permeability. Intercrystalline porosity, little moldic porosity. Voids infilled with gypsum and anhydrite. Slightly to moderately (1838.75-1840) fractured.	Description: 1840-1850 - Light brown to brown dolostone (crystalline) with medium bedded white to opaque gypsum and anhydrite 1840.7-1841. Lignite laminations at 1840.7 and 1841. Well indurated, very low perm., low poros. Intercrystalline porosity, little moldic poros. Voids infilled with gypsum and anhydrite. Slightly fractured, horizontal fractures 1847.5-1848.75, gypsum and anhydrite infilled. Apparent natural breaks at 1841 and 1844.75. Some horizontal laminations 1844.25-1845.25.	Description: 1850-1860 - Light brown to brown dolostone (crystalline) with thinly bedded white to blue anhydrite and brown chert 1852-1852.25 and thinly bedded white to opaque gypsum and anhydrite 1854.3-1854.5. Well indurated, very low permeability, low porosity. Intercrystalline porosity, little moldic porosity. Voids infilled with gypsum and anhydrite. Slightly fractured. Some horizontal laminations throughout.

		
Description: 1860-1870 - Light brown dolostone (crystalline), massive. Some brown chert at 1861.3. Lignite lamination at 1862, sandy seams at 1865.25 and 1866. Well indurated, very low permeability, low porosity. Intercrystalline porosity, little moldic porosity. Voids infilled with gypsum and anhydrite. Some horizontal laminations throughout. Apparent natural breaks at 1862, 1865.25 and 1866.	Description: 1870-1880 - Light brown dolostone (crystalline), massive. Well indurated, very low permeability and porosity. Intercrystalline porosity, little moldic porosity. Voids infilled with gypsum and anhydrite. Sandy/clayey laminations and apparent natural breaks at 1872.5, 1873.5, 1874, 1878.1, 1878.9, 1879.15.	Description: 1880-1890 - 1880-1888.75 Light brown dolostone (crystalline), massive, 1888.75-1890 light brown to tan limestone (mudstone-wackestone), granular. Well indurated, very low permeability and porosity. Moldic and intergranular and intercrystalline porosity. Voids infilled with white to opaque gypsum and anhydrite. Apparent natural breaks at sandy/clayey seams at 1885.9 and 1887.2. Some bivalve molds.

		
Description: 1890-1900 - Light brown to tan limestone (mudstone-wackestone), granular. Well indurated, low permeability and porosity. Voids infilled with white to opaque gypsum and anhydrite. Intergranular porosity. Pseudophragmina and bivalve fragments.	Description: 1900-1910 - Light brown to tan limestone (mudstone-wackestone), granular. Poorly to well indurated, low to moderately low permeability and porosity. Intergranular and fracture porosity. Moderately fractured 1900-1900.5, slightly fractured 1901-1907, very intensely fractured 1900.5-1901 and 1907-1910. Voids infilled with white to opaque gypsum and anhydrite. Apparent natural break and somewhat chalky and friable at 1900.75. Bivalve fragments. Core is very dry.	Description: 1910-1920 - Light brown to tan limestone (mudstone-wackestone), granular. Poorly to well indurated, low to moderately low permeability and porosity. Intergranular and fracture porosity. Slightly fractured 1910-1915 and 1919-1920, very intensely fractured 1915-1919. Pseudophragmina and bivalves. Core is very dry.

		
Description: 1920-1930 - Light brown to tan limestone (wackestone), granular. Well indurated, low porosity and permeability. Intergranular porosity. Voids infilled with gypsum and anhydrite. Abundant Pseudophragmina.	Description: 1930-1940 - Light brown to tan limestone (mudstone-wackestone), granular with light brown crystalline dolostone 1930-1930.5, massive. Well indurated, low porosity and permeability. Intergranular porosity. Voids infilled with white to opaque gypsum and anhydrite. Dark gray thinly bedded friable micrite with some organics 1931.5-1931.6, some dark gray laminations throughout. Somewhat chalky and friable 1937.65-1937.75. Pseudophragmina and bivalve fragments.	Description: 1940-1950 - Light brown to tan limestone (mudstone-wackestone), granular. Moderately well indurated, low porosity and moderately low permeability. Fracture, intergranular and little moldic porosity. Voids infilled with white to opaque calcite, fossil molds partially infilled. Some dark gray laminations with some organics throughout, abundant laminations 1949-1950. Pseudophragmina and bivalve fragments.

		
Description: 1950-1960 - Tan to light gray limestone (mudstone-wackestone), granular. Moderately well indurated, low porosity and moderately low permeability. Fracture, intergranular and little moldic porosity. Fossil molds partially infilled with calcite. Dark gray to brown thinly bedded friable micrite with some organics 1957.5-1957.6, some dark gray to brown laminations with some organics throughout. Pseudophragmina and bivalve fragments.	Description: 1960-1970 - Tan to light gray limestone (mudstone-wackestone), granular. Moderately well indurated, low porosity and moderately low permeability. Fracture and intergranular porosity. Some dark gray to brown laminations throughout with some organics. Pseudophragmina and bivalve fragments. Moderately to intensely fractured 1960-1964.25, slightly fractured 1964.25-1970. Micritic seams 1960-1964.25 and 1969.5, apparent natural breaks.	Description: 1970-1980 - Tan to light gray limestone (mudstone-wackestone), granular. Moderately well indurated, low porosity and moderately low permeability. Fracture, intergranular and some moldic porosity. Some dark gray to brown lignite laminations throughout. Some gastropod and bivalve fragments. Slightly fractured 1970-1974, moderately to intensely fractured 1974-1980. Soft and friable at 1974.5.

		
Description: 1980-1990 - Tan to light gray limestone (mudstone-wackestone) with thinly bedded white to opaque gypsum and anhydrite 1989.45-1989.50 and thinly bedded dark brown lignite 1989.4-1989.45. Granular to massive texture. Moderately well indurated, low porosity and moderately low permeability. Fracture, intergranular and moldic porosity. Voids and fossil molds infilled with gypsum and anhydrite from 1980-1985.75.	Description: 1990-2000 - Brown to Tan to light gray limestone (mudstone), granular-chalky to massive. Mod. well indurated, low porosity and low to mod. low perm. Fracture and intergranular poros. Some organics, brown 1990-1992.6, dark brown lignite laminations 1992.6-1992.9. Voids infilled with white to opaque gypsum and anhydrite. Friable and chalky 1994-1998.2. Very intensely fractured zones and somewhat friable 1998.2-1998.4 and 1999.8-2000. Some bivalve fragments.	Description: 2000-2010 - 2000-2004.1 Tan to light brown limestone (mudstone), granular-chalky 2000-2002. 2004.1-2008 Brown- gray dolostone (mudstone-wackestone). 2008-2010 Tan-light gray limestone (mudstone-wackestone), granular to chalky 2008-2009.5. Med. bedded opaque to light blue gypsum and anhydrite 2004.85-2005.2. Brown lignite lamination at 2009.75. Mod. well to well indurated. Low poros. and perm. Intergranular, moldic and fracture porosity.

		
Description: 2010-2020 - Tan to light gray limestone (mudstone-wackestone), granular texture. Poorly to moderately well indurated, low to moderately low permeability and porosity. Moldic, intergranular and fracture porosity. Some blue to gray anhydrite 2016.5-2018.5. Clayey and intensely fractured 2019.5-2020. Dark lignite laminations 2010.25, 2011.4, 2012.15, 2016, 2016.5-2017 and 2018.	Description: 2020-2030 - Tan to light gray limestone (mudstone-wackestone) with brown to gray dolostone from 2026.5-2029.5. Granular-chalky and massive texture. Moderately well to well indurated, low to moderately low permeability and porosity. Moldic, fracture and intergranular porosity. Somewhat soft and chalky 2023.75-2024.75 and 2025.5-2026.5. Some dark laminations 2026.75-2030. Reworked 2028.9-2029.3. Dark gray, clayey with some organics 2021-2022.	Description: 2030-2040 - Tan to light gray limestone (mudstone-wackestone) with light brown to gray dolostone from 2032-2033.1, somewhat dolomitic 2030-2032. Granular-chalky and massive texture. Moderately well to well indurated, low to moderately low perm. and porosity. Moldic, fracture and intergranular porosity. Somewhat soft and chalky 2033.25-2038.5. Some dark apparent solution surfaces (stylolites) and dark laminations.

		
Description: 2040-2050 - Tan to light gray limestone (mudstone-packstone 2043-2044). Granular-chalky texture. Moderately well indurated, low to moderately low permeability and porosity. Intergranular and some fracture porosity. Somewhat soft, micritic and chalky 2044-2050. Some darker brown to gray laminations with some organics 2040-2043. Lignite lamination at 2040.25. Coskinolina at 2043. Slightly to moderately fractured.	Description: 2050-2060 - Tan to light gray limestone (mudstone-wackestone) 2050-2052.5 and 2056-2056.8, tan to light brown to gray dolomitic limestone 2052.5-2054 and 2058-2060 and light brown to gray dolostone 2054-2056. Granular-chalky and massive text. Mod. well to well indurated, low to mod. low perm. and poros. Moldic, fracture and intergranular poros. Dark, irregular and somewhat horizontal pressure solution features (stylolites). Some gypsum void and mold infilling.	Description: 2060-2070 - Interbedded tan to light gray limestone (mudstone), soft and somewhat chalky, (2060.85-2061.8, 2062.9-2064.55 and 2065.5-2066.2) and light brown to gray dolostone. Granular-chalky and massive texture. Moderately well to well indurated, low to moderately low permeability and porosity. Moldic and intergranular porosity. Dark, irregular and somewhat horizontal pressure solution features (stylolites). Some bivalve fragments.

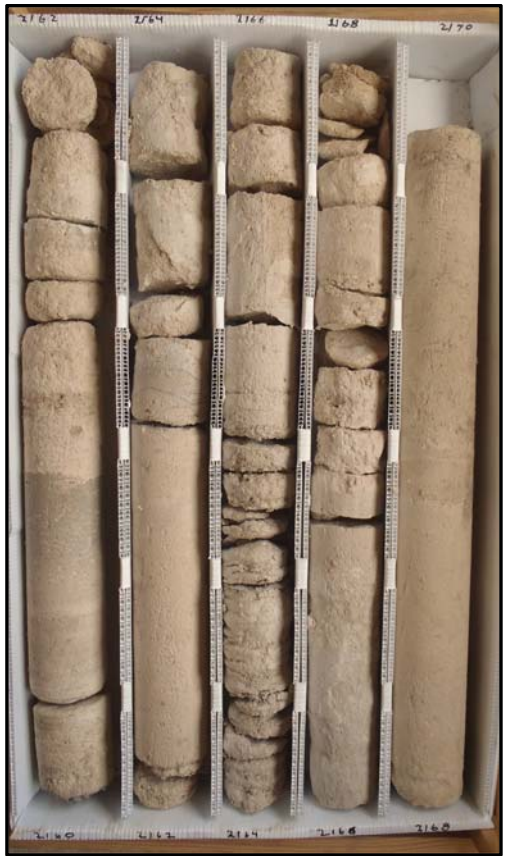
Photographic Log and Core Descriptions

P280 Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County, Florida

		
Description: 2070-2080 - Light brown to gray dolomitic limestone (wackestone) 2070-2072 and 2075-2078.75, granular, tan to light brown limestone (mudstone-wackestone) 2072-2075 and 2078.75-2080, granular, soft and somewhat chalky. Mod. well to well indurated, mod. low to mod. perm. and poros. Moldic, fracture and intergranular poros. Some gray-green clay 2070-2072 (glauconitic).	Description: 2080-2090 - Tan to light brown limestone. Granular, somewhat chalky. Moderately well indurated, moderately low porosity and permeability. Moldic, fracture and intergranular porosity. Some green clay (glauconite) at 2090 and dark green and gray clay at 2085.	Description: 2090-2100 - Tan to light brown limestone (wackestone to packstone). Granular texture. Moderately to very intensely fractured. Poorly to moderately well indurated, moderately low porosity and permeability. Intergranular and fracture porosity. Lignite lamination and some gray-green clay and green clay (glauconite) at 2099.5. Coskinolina foraminifera.

		
Description: 2100-2110 - Tan to light brown limestone (wackestone-packstone). Granular texture, poorly to moderately well indurated, somewhat friable. Intergranular and fracture porosity, moderately low permeability and porosity. Moderately to very intensely fractured. Some green clay (glauconite) at 2006.5.	Description: 2110-2120 - Tan to light brown limestone (wackestone-packstone) with some thinly to medium bedded gray chert at 2117.5. Granular texture, poorly to moderately well indurated, somewhat friable. Intergranular and fracture porosity, moderately low permeability and porosity. Moderately to intensely fractured. Some lignite at 2110 and some green clay (glauconite) at 2110 and 2118.	Description: 2120-2130 - Tan to light brown limestone (wackestone-packstone) with some gray to dark gray medium bedded gray chert at 2120.5. Poorly indurated, granular texture, friable. Low permeability and porosity, fracture and intergranular permeability. Moderately to very intensely fractured. Irregular dark pressure solution (stylolite) surfaces at 2021 and 2024.75.

		
Description: 2130-2140 - Tan to light brown limestone (wackestone). Poorly to moderately well indurated, granular texture, friable. Moderately low permeability and porosity, fracture and intergranular permeability. Moderately to very intensely fractured. Apparent fracturing along bedding planes. Gypsum void and fossil mold infilling at 2133.5 and 2136-2138. Some green clay (glauconite) 2136-2138. Bivalve molds.	Description: 2140-2150 - Tan to light brown limestone (wackestone). Poorly to moderately well indurated, granular texture, friable. Moderately low permeability and porosity, fracture and intergranular permeability. Moderately to very intensely fractured. Apparent fracturing along bedding planes. Some green clay laminations (glauconite) 2140-2140.5.	Description: 2150-2160 - Tan to light brown limestone (wackestone) and gray dolomitic limestone 2155.25-2156.75. Poorly to moderately well indurated, granular texture, friable and somewhat chalky. Moderately low permeability and porosity. Fracture, moldic and intergranular porosity. Moderately to very intensely fractured. Some gray-green clay at 2151.75 and 2153-2153.5 (glauconitic). Some gypsum void infilling and green clay (glauconite) 2155.2-2156.75.

		
Description: 2160-2170 - Tan to light brown limestone (wackestone). Poorly to moderately well indurated, granular texture, somewhat friable and somewhat chalky. Moderately low permeability and porosity. Fracture and intergranular porosity. Moderately to very intensely fractured. Some gray-green clay at 2160.5-2161 and 2161.5 (glauconitic).	Description: 2170-2180 - Tan to light brown limestone (wackestone). Poorly to moderately well indurated, granular texture, somewhat friable and chalky. Moderately low permeability and porosity. Fracture and intergranular porosity, moderately to very intensely fractured Some gray-green/green clay at 2177.5-2180 (glauconitic/ glauconite). Dark brown lignite lamination at 2179.75.	Description: 2180-2190 - Tan to light brown limestone (wackestone). Moderately well indurated, granular texture, somewhat chalky. Moderately low permeability and porosity. Intergranular and some moldic porosity, slightly fractured. Some bivalves and bivalve molds. Some gray-green clay (glauconitic) at 2180.75.

		
Description: 2190-2200 - Tan to light brown limestone (wackestone). Poorly to moderately well indurated, granular texture, somewhat chalky and friable. Moderately low permeability and porosity. Intergranular, fracture and some moldic porosity. Moderately to very intensely fractured. Some fossil molds infilled with white to opaque gypsum 2194-2195 and 2199.5-2200. Some gray-green clay (glauconitic) at 2190.5.	Description: 2200-2210 - Tan to light brown limestone (wackestone-packstone). Poorly-moderately well indurated, granular texture, somewhat chalky and friable. Moderately low permeability and porosity. Intergranular, fracture and some moldic porosity. Moderately to intensely fractured. Some fossil molds infilled with white to opaque gypsum 2208-2208.5. Dark, irregular stylolite and some thinly to medium bedded gray dolomitic limestone at 2209. Some bivalve molds.	Description: 2210-2220 - Tan to light brown limestone (wackestone). Poorly-moderately well indurated, granular texture, somewhat chalky and friable. Moderate permeability and porosity. Intergranular, fracture and some moldic porosity. Moderately to very intensely fractured. Some fossil molds infilled with white to opaque gypsum 2210-2211, 2215.75-2216.5 and 2217.5-2218.5. Some gray thinly to medium bedded dolomitic limestone 2216-2216.5 and 2217.25-2217.5

		
Description: 2220-2230 - Tan to light brown limestone (wackestone), some light brown to gray dolomitic limestone 2220-2222. Poorly to moderately well indurated, granular texture, somewhat chalky and friable. Fracture, intergranular, moldic porosity, moderate porosity and permeability. White-opaque gypsum (some selenite) and dark gray anhydrite infilling some fossil molds throughout.	Description: 2230-2240 - Tan to light brown limestone (mudstone-wackestone). Moderately well indurated, granular texture, somewhat friable and poorly indurated 2234.6-2236.3 and 2238-2240. Fracture, intergranular, moldic porosity, moderately low porosity and permeability. White-opaque gypsum infilling some fossil molds 2234-2240.	Description: 2240-2250 - Gray to tan to light brown limestone (mudstone-wackestone). Poorly to moderately well indurated, granular texture, somewhat friable and chalky. Fracture, intergranular, moldic porosity. Moderate porosity and permeability. White-opaque gypsum and dark gray anhydrite infilling some fossil molds 2249-2250.

		
Description: 2250-2260 - Tan to light brown limestone (wackestone), light brown dolomitic limestone from 2250-2251, 2255-2256 and 2257.5-2260. Poorly to well indurated, granular texture. Limestone is somewhat chalky. Slightly to very intensely fractured (fracture zone 2255.5-2255.75). Moldic, intergranular and fracture porosity. Moderately low porosity and permeability. Some white-opaque gypsum and dark gray anhydrite infilling some fossil molds.	Description: 2260-2270 - Brown thickly bedded dolostone (crystalline) 2260-2262, tan to brown thinly bedded dolomitic limestone (wackestone) 2262-2263, tan to light brown to light gray thinly-medium bedded limestone (wackestone) 2263-2270. Slightly to intensely fractured, limestone soft, granular and somewhat chalky and friable. Moldic, intergranular/intercrystalline and fracture porosity, moderately low porosity and permeability. Some moldic porosity infilled with gypsum and anhydrite.	Description: 2270-2280 - Tan to thinly to thickly bedded light brown limestone (wackestone) 2270-2275.25, Drown dolostone (crystalline) 2275.25-2280. Slightly to intensely fractured at 2274-2275. Moldic, intergranular/crystalline, and fracture porosity. Low porosity and permeability. White to opaque gypsum infilling some fossil molds. Limestone has granular somewhat chalky texture.

		
Description: 2280-2290 - Tan to brown medium bedded dolomitic limestone (wackestone) 2280-2281.5, brown to gray thickly bedded crystalline dolostone 2281.5-2290. Slightly fractured. Some moldic, intergranular and intercrystalline porosity. Very low porosity and permeability. Some iron staining 2284.25-2285.15 and 2287.5-2287.85. White-opaque gypsum infilling some of the fossil molds. Some organic-rich laminations.	Description: 2290-2300 - Thickly bedded brown crystalline dolostone 2290-2292.5 and 2294-2295.75, thickly bedded light brown dolomitic limestone (wackestone) 2292.5-2294, thickly bedded light brown limestone (mudstone) 2295.75-2300. Moderately fractured. Moderately well to well indurated. Moderately low porosity and permeability. Fracture, intergranular and intercrystalline porosity, some vugs. Granular to crystalline texture. Some gypsum infilling of vugs 2294-2295.75.	Description: 2300-2310 - Thickly bedded tan-light brown limestone (mudstone-wackestone) 2300-2301.5 and 2308.5-2310, light brown laminated-med. bedded dolomitic limestone (mudstone-wackestone) 2301.5-2303.5 2305.5-2306.75 and 2308-2308.75, thickly bedded brown crystalline dolostone 2303.5-2305.5 and 2306.75-2308. Brown lignite laminations 2301.5-2302.5, 2303.5-2306 and 2308-2308.75. Some white-opaque gypsum infilling vugs. Slightly to moderately fractured.

		
Description: 2310-2320 - Thickly bedded tan-light brown limestone (wackestone) 2310-2311 and 2317-2320, thinly to med. bedded tan-light brown dolomitic limestone (wackestone) 2311-2312.25 and 2314-2317 and brown crystalline dolostone 2312.25-2314. Mod. well to well indurated. Granular to crystalline texture. Mod. low porosity and permeability. Fracture, moldic, intergranular/ intercrystalline and some pinpoint porosity.	Description: 2320-2330 - Tan-light brown dolomitic limestone (wackestone) 2320-2321.75, 2323-2325, 2328-2328.5, tan-light brown limestone (wackestone) 2321.75-2323, brown crystalline dolostone 2325-2328 and 2328.5-2340. Granular to crystalline texture. Slightly to moderately fractured. Well indurated. Low porosity and permeability. Fracture, intergranular/intercrystalline and some moldic porosity. Some white to opaque gypsum infilling fossil molds and voids.	Description: 2330-2340 - 2330-2336.75 and 2338-2340 medium to thickly bedded tan to light brown limestone and dolomitic limestone (mudstone-wackestone), 2336.75-2338 thickly bedded brown crystalline dolostone. Well indurated. Granular to crystalline texture. Low permeability and porosity. Fracture and intergranular/ intercrystalline porosity. White to opaque gypsum infilling fossil molds and voids. Dark brown lignite laminations 2331-2331.5 and 2338-2338.5.

		
Description: 2340-2350 - Medium to thickly bedded brown to gray crystalline dolostone. Very well indurated. Crystalline texture. Very low porosity and permeability. Fracture and some moldic and pinpoint porosity. White to opaque gypsum and anhydrite infilling horizontal and vertical fractures and some fossil molds. Dark brown thinly bedded lignite 2345.75 and lignite lamination at 2347. Some iron staining 2340-2347.	Description: 2350-2360 - Medium to thickly bedded light to dark brown to gray crystalline dolostone. Slightly to moderately fractured and very well indurated. Crystalline, massive texture. Low porosity and permeability. Fracture, moldic (somewhat vuggy) and intercrystalline porosity. Vertical and horizontal fractures throughout infilled with white to opaque gypsum (some selenite).	Description:

		
Description: 2370-2380 - Thickly bedded brown to gray crystalline dolostone. Very well indurated. Massive texture. Moderately fractured, fracture zones 2377-2380 (dolostone somewhat brecciated, healed with gypsum), abundant fractures at oblique angles to drill string. Some white to opaque gypsum infilling oblique fractures. Moderate porosity and low to moderate permeability. Fracture, moldic and intercrystalline porosity. Lignite lamination 2370.25.	Description: 2380-2390 - Thickly bedded brown to gray crystalline dolostone, medium bedded white to opaque gypsum and anhydrite 2381-2382 and 2383-2384, nodule at 2382.5. Very well indurated. Massive texture. Slightly to moderately fractured, fracture zones 2380-2381 and 2389-2389.3, some fracturing at oblique angles to drill string. Some white to opaque gypsum infilling oblique fractures. Low porosity and moderately low permeability. Fracture, moldic and intercrystalline porosity.	Description: 2390-2400 - Thickly bedded brown to gray crystalline dolostone. Very well indurated. Massive texture. Slightly fractured 2390-2396, moderately fractured 2396-2400, fracture zone 2399.5-2400, some fracturing at oblique angles to drill string. Moderately low porosity and moderately low permeability. Fracture, moldic and intercrystalline porosity.

		
Description: 2400-2410 - Thickly bedded brown to gray crystalline dolostone. Very well indurated. Massive texture. Slightly to moderately fractured, fracture zone 2400-2401, some fracturing at oblique angles to drill string. Some white to opaque gypsum infilling fractures. Lignite laminations 2400-2402. Moderate porosity and permeability. Fracture, moldic and intercrystalline porosity. Some iron staining along fractures throughout.	Description: 2410-2420 - Medium to thickly interbedded light brown to gray dolostone and dolomitic limestone (wackestone-crystalline). Well indurated. Granular to massive texture. Slightly to moderately fractured. Some gray laminations 2412-2413. Some gray clay lenses 2415-2417. Low porosity and permeability. Fracture, moldic and intergranular/ intercrystalline porosity.	Description: 2420-2430 - Thickly bedded light brown to light to dark gray crystalline dolostone. Very well indurated. Massive texture. Moderately fractured. Lignite laminations 2421, 2421.5, 2425.5 and 2429. Moderately low to moderate porosity and permeability. Fracture, moldic and intercrystalline porosity. Some iron staining 2425-2427. Some apparent secondary porosity developed 2429-2430.

		
Description: 2430-2440 - Thickly bedded light brown crystalline dolostone. Very well indurated. Massive texture. Slightly to mod. fractured. Mod. low porosity and moderate permeability. Fracture, moldic and intercrystalline porosity. Some apparent secondary porosity developed 2439-2440 (losing circulation). Some iron staining 2439-2440. White to opaque gypsum and anhydrite (nodular to medium bedded fracture infilling) 2430-2430.5, 2438-2439.	Description: 2440-2450 - Thickly bedded light brown to gray crystalline dolostone. Very well indurated. Massive texture. Slightly to moderately fractured. Moderately low porosity and moderately low to moderate permeability. Fracture, moldic and intercrystalline porosity. Some apparent secondary porosity developed 2443-2444, 2445-2446 and 2448-2449 (losing circulation). White to opaque gypsum and anhydrite fracture zone infilling 2440-2441.	Description: 2450-2460 - Thickly bedded light brown to gray crystalline dolostone. Very well indurated. Massive texture. Slightly fractured. Low porosity and moderately low to moderate permeability. Fracture, moldic and intercrystalline porosity. Some apparent secondary porosity developed throughout core (lost circulation). White to opaque gypsum and anhydrite infilling moldic/secondary porosity 2554-2554.5. Dark brown lignite lamination at 2457.

		
Description: 2460-2470 - Thickly bedded light brown to gray crystalline dolostone. Very well indurated. Massive texture. Slightly to mod. fractured. Low porosity and mod. low to moderate permeability. Fracture, moldic and intercrystalline porosity. Some apparent secondary porosity developed 2460-2461 and 2468-2470. Thinly bedded white to opaque gypsum and anhydrite 2465.8, some nodular/void infilling gypsum and anhydrite 2464.75-2466.	Description: 2470-2480 - Thickly bedded light brown to gray crystalline dolostone, 2470.5-2471.5 thickly bedded light brown dolomitic limestone (mudstone). Very well indurated. Massive-granular texture. Slightly to moderately fractured. Moderately low porosity and moderate permeability. Fracture, moldic and intercrystalline porosity. Some apparent secondary porosity developed throughout. Opaque gypsum fracture infilling 2464.5. Dark brown lignite lamination 2466.	Description: 2480-2490 - 2480-2481.75 Thickly bedded light brown-gray crystalline dolostone, 2481.75-2490 thinly to thickly bedded light brown-gray dolomitic limestone (wackestone). Mod. well to very well indurated. Massive-granular texture. Mod. fractured, intensely fractured along bedding planes 2485-2487. Mod. low porosity and moderate perm. Fracture, moldic and intercrystalline/ intergranular porosity. Some apparent secondary porosity developed throughout.

		
Description: 2490-2500 - 2490-2491.5 Light brown dolomitic limestone (wackestone), 2491.5-2500 laminated to thickly interbedded light brown to gray dolomitic limestone and crystalline dolostone. Mod. well to well indurated. Massive-granular texture. Slightly fractured. Mod. low poro. and mod. low to mod. perm. Fracture, moldic and intercrystalline/ intergranular porosity. Some apparent secondary porosity developed 2495-2499.	Description: 2500-2510 - Thickly bedded light brown dolomitic limestone (wackestone), gray and more intensely dolomitized 2503-2504. Moderately well indurated. Granular texture. Moderately fractured. Low porosity and moderately low permeability. Fracture and intercrystalline/intergranular porosity.	Description: 2510-2520 - Medium to thickly interbedded light brown dolomitic limestone and light gray dolostone (wackestone-crystalline). Moderately well indurated. Granular-crystalline texture. Moderately fractured. Low porosity and moderately low to moderate permeability. Fracture and intercrystalline/ intergranular porosity. Some secondary porosity developed throughout. Dark brown lignite lamination 2514.5.

		
Description: 2520-2530 - Thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone). Mod. well indurated. Granular texture. Moderately to intensely fractured with some fracturing along bedding planes. Moderately low porosity and moderately low to moderate permeability. Fracture, moldic and intergranular porosity. Some secondary porosity developed at 2524 and 2526-2528. White-opaque gypsum infilling fracture 2529-2530.	Description: 2530-2540 - Medium to thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone). Poorly to mod. well indurated, soft 2531-2533 and 2534-2538. Granular texture. Mod. to intensely fractured with some fracturing along bedding planes. Mod. low porosity and moderately low to moderate permeability. Fracture, moldic and intergranular porosity. Some secondary porosity developed 2530-2538.5. Dark brown lignite laminations at 2532.4 and 2533.75.	Description: 2540-2550 - Thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone), gray med. bedded dolostone 2548.5-2549.25 and med. bedded white to opaque gypsum and anhydrite 2549.2-2549.4. Poorly to mod. well indurated. Granular to crystalline texture. Mod. to intensely fractured, fracture zone at 2546. Mod. low poros. and perm. Fracture, moldic and intergranular porosity. Some secondary porosity developed 2545-2549.

		
Description: 2520-2530 - Thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone). Mod. well indurated. Granular texture. Moderately to intensely fractured with some fracturing along bedding planes. Moderately low porosity and moderately low to moderate permeability. Fracture, moldic and intergranular porosity. Some vugs and secondary porosity developed at 2524 and 2526-2528.	Description: 2530-2540 - Medium to thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone). Poorly to mod. well indurated, soft 2531-2533 and 2534-2538. Granular texture. Mod. to intensely fractured with some fracturing along bedding planes. Mod. low porosity and moderately low to moderate permeability. Fracture, moldic and intergranular porosity. Some vugs and secondary porosity developed 2530-2538.5. Dark brown lignite laminations at 2532.4 and 2533.75.	Description: 2540-2550 - Thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone), gray med. bedded dolostone 2548.5-2549.25 and med. bedded white to opaque gypsum and anhydrite 2549.2-2549.4. Poorly to mod. well indurated. Granular to crystalline texture. Mod. to intensely fractured, fracture zone at 2546. Mod. low poros. and perm. Fracture, moldic and intergranular porosity. Some vugs and secondary porosity developed 2545-2549.

		
Description: 2550-2560 - Thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone), thickly bedded light brown limestone (wackestone) 2555-2557. Mod. well indurated. Granular texture. Mod. to intensely fractured, fracture zone 2559.5-2560. Mod. low poros. and mod. low to mod. perm. Fracture, moldic and intergranular poros. Secondary poros. developed in more dolomitized sections 2550.5-2552 and 2552.75-2555.	Description: 2560-2570 - Laminated to thickly bedded light brown to gray dolomitic limestone (mudstone-wackestone), more intensely dolomitized 2561-2565. Moderately well indurated. Granular texture. Moderately to very intensely fractured, fracture zone 2564-2564.5. Moderately low to moderate porosity and moderate permeability. Fracture, moldic and intergranular porosity. Some vugs and secondary porosity developed in more dolomitized sections of core 2561-2566 and 2569-2569.	Description: 2570-2580 - Med. to thickly bedded light brown-gray dolomitic limestone (mudstone-wackestone), intensely dolomitized and light-dark gray-brown 2570.5-2573.75. Mod. well indurated. Granular-crystalline texture. Mod. to very intensely fractured, fracture zone 2572.5-2573.5, 2573.7-2574, 2574.5-2576 and 2578.5-2580. Mod. to high porosity and perm. Fracture, Moldic and intergranular porosity. Some vugs and secondary porosity developed throughout.

Photographic Log and Core Descriptions

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Description: 2580-2590 - Light to dark brown dolomitic limestone (mudstone-wackestone) with medium bedded green fat clay (CH) at bottom of core (most of the clay likely washed out during coring). Poorly to moderately well indurated. Very intensely fractured. Moderate to high porosity and permeability. Fracture, intergranular, some moldic porosity. Some vugs and secondary porosity developed 2580-2580.5 and 2587.5-2588.	Description: 2590-2600 - 2590-2596.5 Thickly bedded light to dark brown to gray crystalline dolostone, 2596.5-2600 medium bedded light brown limestone (mudstone). Moderately well to well indurated. Moderately fractured. Granular to crystalline texture. Moderate to high porosity and permeability. Fracture, some moldic and intergranular/ intercrystalline porosity. Abundant vugs and secondary porosity developed 2590-2596.5.	Description: 2600-2610 - Gray-light brown thickly bedded limestone (mudstone-wackestone) 2600-2602, 2602.75-2606 and 2607.75-2610, Gray-light brown med. to thickly bedded dolomitic limestone (mudstone-wackestone) 2602-2602.75 and 2606-2607.75. Mod. well indurated. Mod. fractured. Mod. low poros. and mod. low to mod. perm. Fracture, intergranular and some moldic porosity. Some vugs and secondary porosity developed 2602-2602.5 and 2604.75-2607.75.

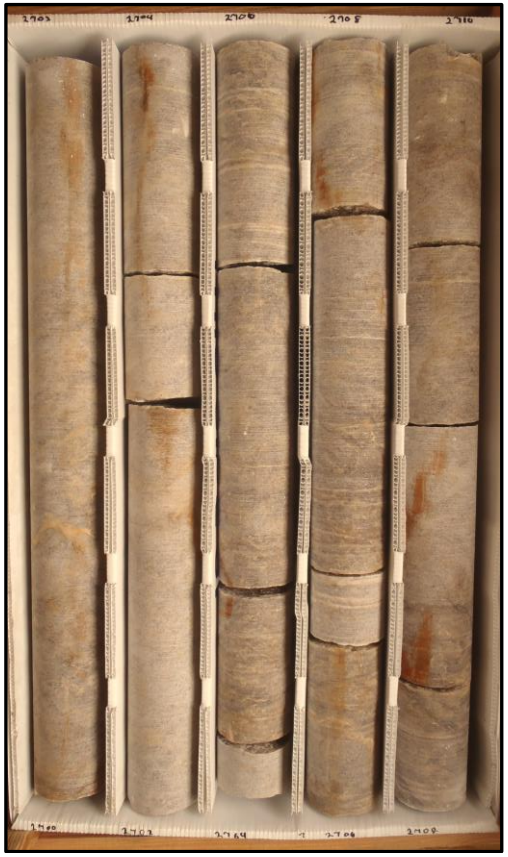
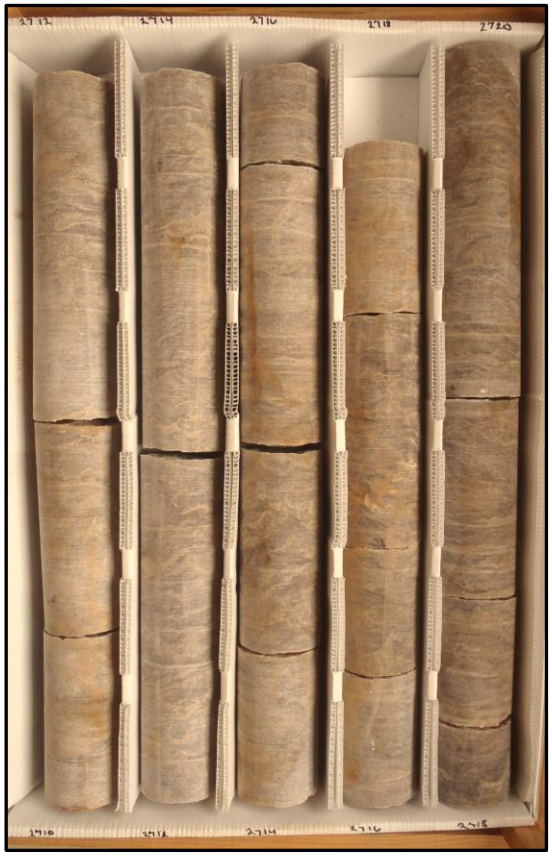
		
Description: 2610-2620 - 2610-2613.75 Gray thickly bedded limestone (mudstone to wackestone), 2613.75-2620 light brown thickly bedded dolostone (wackestone). Mod. well to well indurated. Mod. fractured, fracture zones 2614.5-2616.5, 2619-2619.5, some vertical fracturing 2616-2620. Granular texture. Mod. porosity and permeability. Moldic, fracture and intergranular porosity. Some vugs and secondary porosity developed 2613.75-2620.	Description: 2620-2630 - Light brown to gray thickly bedded dolostone (mudstone-wackestone). Moderately well to well indurated. Granular to massive texture. Moderately to very intensely fractured, fracture zones 2620-2621.75 and 2625.75-2626.25. Some gray lean clay 2625-2626.25. Moderate porosity and permeability. Fracture, moldic and intergranular porosity. Some vugs and secondary porosity developed throughout.	Description: 2630-2640 - Tan to light brown thickly bedded dolomitic limestone (mudstone to wackestone). Granular texture, moderately well indurated. Moderately fractured, fracture zone 2630-2631 and 2631.75-2633. Moderately low porosity and permeability. Fracture, moldic, intergranular and some pinpoint porosity. Some vugs and secondary porosity developed 2630-2633 and 2637-2640.

		
Description: 2640-2650 - Tan to light gray to brown thickly bedded dolomitic limestone (wackestone). Granular to somewhat sucrosic texture, somewhat chalky 2649-2650. Moderately well to well indurated. Slightly fractured, intensely fractured 2649-2650. Low porosity and permeability. Fracture, moldic, intergranular and some pinpoint porosity. Some opaque gypsum infilling primary/secondary porosity 2644-2646.	Description: 2650-2660 - Tan to light brown laminated to thickly bedded dolomitic limestone (mudstone-wackestone). Some dark brown lignite laminations 2650.75-2653. Granular texture. Moderately well to well indurated. Low porosity and permeability. Fracture, moldic and intergranular porosity. Some gray to white gypsum and anhydrite infilling primary/secondary porosity 2655-2660.	Description: 2660-2670 - Laminated to medium interbedded light brown dolomitic limestone (mudstone) and gray to white to opaque anhydrite. Granular to crystalline texture. Well indurated. Moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity. Fracturing along bedding planes does not appear natural and may be caused by mechanical action of wireline coring.

		
Description: 2670-2680 - 2670-2674.25 thickly bedded light brown-gray-white anhydrite with some light brown dolomitic infilling irregular fractures and voids, 2674.25-2680 light brown dolomitic limestone (mudstone). Mod. well to well indurated. Granular to massive texture. Somewhat brecciated 2674.25-2680 with gray-white-opaque gypsum and anhydrite infilling primary/secondary poros. Very low porosity and permeability.	Description: 2680-2690 - Laminated to medium interbedded light brown dolomitic limestone (mudstone) and gray to white to light brown to opaque anhydrite. Granular to massive texture. Well indurated. Slightly to moderately fractured. Very low porosity and permeability. Fracture intergranular and intercrystalline porosity. Dolomitic limestone bedding is irregular and appears to have infilled fractures/voids in anhydrite.	Description: 2690-2700 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white gypsum laminations throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.

Photographic Log and Core Descriptions

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Description: 2700-2710 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white gypsum laminations throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.	Description: 2710-2720 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white gypsum laminations throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.	Description: 2720-2730 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white laminated to thinly bedded gypsum throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.

		
Description: 2730-2740 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.	Description: 2740-2750 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white gypsum laminations throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.	Description: 2750-2760 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white gypsum laminations throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly to moderately fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.

		
Description: 2760-2770 - Thickly bedded light brown to gray dolomitic finely crystalline anhydrite with some white gypsum laminations throughout. Irregular bedded light brown dolomitic limestone (mudstone) laminations throughout. Well indurated. Granular to massive texture. Slightly fractured. Very low porosity and permeability. Fracture and intercrystalline porosity.	Description: 2770-2780 - 2770-2770.7 thickly bedded light brown-gray dolomitic finely crystalline anhydrite w/ some irregular bedded light brown dolomitic limestone (mudstone) laminations and thinly bedded-laminated white gypsum, 2770.7-2780 light brown-gray laminated-thickly bedded dolomitic limestone (mudstone-wackestone). Mod. well-well indurated. mod. fractured. Fracture, moldic, intergranular and some pinpoint poros. White nodular gypsum 2770.7-2774.5 and 2776.5-2779.5.	Description: 2780-2790 - Laminated to thickly bedded light-dark gray to yellow-brown dolomitic limestone (mudstone). Mod. well to well indurated. Moderately to intensely fractured. Granular texture. White-light blue-opaque nodular gypsum/anhydrite throughout infilling primary/secondary porosity, thinly bedded gypsum 2781.3, 2783.75, 2784.1, 2784.5. Some dark brown lignite laminations throughout. Low porosity and perm. Fracture, intergranular and some moldic porosity.

		
Description: 2790-2800 - Laminated-thickly bedded light brown-gray dolomitic limestone (mudstone), thin beds of white-opaque dolomitic gypsum 2792.9-2793.1 (irregular bedding), med. bedded gypsum 2973.3-2794.7, med.-thickly bedded gypsum 2796.9-2798.8. Thinly bedded dark brown lignite 2799.3, laminations 2790-2793, med. bedded 2795. Soft, friable 2794.5-2795.25. Mod. well indurated. Mod.-intensely fractured. Low porosity and permeability.	Description: 2800-2810 - 2800-2802.3 thickly bedded light brown to gray dolomitic limestone (mudstone), 2802.3-2810 thickly bedded gray to light brown dolomitic anhydrite with irregular bedding. Granular to massive texture. Moderately fractured. Moderately to well indurated. Low porosity and permeability. Fracture, intergranular and intercrystalline porosity, some moldic porosity. Some white gypsum laminations 2802.3-2810.	Description: 2810-2820 - Laminated-thickly bedded light brown-gray dolomitic limestone (mudstone-wackestone) 2810-2810.3 and 2811.5-2816.75, laminated-med. bedded dolomitic gypsum and anhydrite 2810.3-2811.5 and 2816.75-2820. Granular to massive texture. Mod. well-well indurated. Slightly-mod. fractured. Low poros. and perm. Fracture, intergranular/intercrystalline and some moldic poros. Some anhydrite infilling vugs/molds 2814-2816.75.

		
Description: 2820-2830 - Laminated-medium bedded light brown to light to dark gray dolomitic anhydrite. Slightly fractured, intensely fractured 2829-2830. Irregular bedded light brown dolomitic limestone throughout. Granular to massive texture. Well indurated. Slightly to intensely fractured. Very low porosity and permeability. Intergranular and intercrystalline porosity. Very little secondary porosity appears to be developed between 2828-2828.5.	Description: 2830-2840 - 2830-2835.5 Thickly bedded light brown dolomitic limestone (mudstone), 2835.5-2840 laminated to medium bedded white-light brown-light to dark gray dolomitic anhydrite and gypsum (irregular bedding). Mod. to well indurated. Moderately to intensely fractured. Low to v. low porosity and perm. Fracture, intergranular, intercrystalline and little moldic porosity. Some nodular and void infilling gypsum and anhydrite 2830-2835.5.	Description: 2840-2850 - Laminated to medium bedded light brown to light to dark gray dolomitic anhydrite and gypsum. Very well indurated. Very low porosity and permeability. Intercrystalline porosity. Fracture surfaces appear fresh and do not appear natural.

		
Description: 2850-2860 - Laminated-med. bedded light orange brown dolomitic limestone (mudstone-wackestone) 2850-2851.25, 2854.25-2856.5 and 2857-2860, laminated-med. irregularly bedded light brown-white-light to dark gray dolomitic anhydrite and gypsum 2851.25-2854.25 and 2856.5-2857. Mod. well to well indurated. Slightly to mod. fractured. Some nodular/void/vug infilling gypsum and anhydrite 2850-2851.25 and 2854-2856.5.	Description: 2860-2870 - Laminated to thickly bedded light to dark gray to brown dolomitic limestone (mudstone). Moderately well indurated. Slightly fractured. Fracture surfaces appear fresh and do not appear natural. Very low porosity and permeability. Some moldic and intergranular porosity. Some dark brown organic rich laminations 2863.5-2864.5 and 2867.5-2869.5. Some white to opaque nodular gypsum. Bivalve molds.	Description: 2870-2880 - Laminated to medium bedded light to dark gray to brown limestone (mudstone). Slightly fractured. Fracture surfaces appear fresh and do not appear natural. Moderately well indurated. Some dark brown lignite laminations and organic rich banding throughout. Very low porosity and permeability. Intergranular porosity.

		
Description: 2880-2890 - Laminated to medium bedded light to dark gray to yellow-brown limestone (mudstone-wackestone). Unfractured to slightly fractured. Fracture surfaces appear fresh and do not appear natural. Moderately well to well indurated. Some dark organic laminations throughout. Some white to opaque nodular/void infilling gypsum 2876-2879. Very low porosity and permeability. Intergranular porosity. Bivalve fragments.	Description: 2890-2900 - Laminated to thickly bedded light to dark gray to yellow-brown limestone (wackestone). Some dark somewhat irregular laminations throughout with some organics. Unfractured to slightly fractured. Fracture surfaces appear fresh and do not appear natural. Granular texture. Moderately well to well indurated. Very low porosity and permeability. Intergranular porosity. Some void infilling/nodular white to opaque gypsum 2907.5-2910. Bivalve fragments.	Description: 2900-2910 - Laminated to thickly bedded light to dark gray to yellow-brown limestone (mudstone-wackestone). Some dark somewhat irregular laminations throughout with some organics. Unfractured to slightly fractured. Horizontal fracture surface (1) appears fresh and does not appear natural. Granular texture. Moderately well to well indurated. Very low porosity and permeability. Intergranular porosity. Bivalve fragments.

		
Description: 2910-2920 - Laminated to thickly bedded light to dark gray to yellow-brown limestone (mudstone-wackestone). Some dark somewhat irregular laminations throughout with some organics. Unfractured to slightly fractured. Horizontal fracture surfaces (2) appears fresh and do not appear natural. Granular texture. Moderately well to well indurated. Very low porosity and permeability. Intergranular porosity. Bivalve fragments.	Description: 2920-2930 - Laminated to thickly bedded light to dark gray to yellow-brown limestone (wackestone). Some dark somewhat irregular laminations with some organics throughout. Unfractured to slightly fractured. Fracture surfaces appear fresh and do not appear natural. Granular texture. Moderately well to well indurated. Very low porosity and permeability. Intergranular porosity. Bivalve fragments.	Description: 2930-2940 - Laminated to thickly bedded light to dark gray to yellow-brown limestone (mudstone-wackestone). Some dark somewhat irregular laminations with some organics 2930-2932 and 2934.5. Unfractured to slightly fractured. Fracture surfaces appear fresh and do not appear natural. Granular texture. Moderately well to well indurated. Very low porosity and permeability. Intergranular porosity. Bivalve fragments.

		
Description: 2940-2950 -Thickly bedded light gray to gray to yellow-brown limestone (mudstone-wackestone), med. bedded w/ some organics 2946.25. Some dark somewhat irregular laminations with some organics throughout. Slightly fractured to v. intensely fractured, fracture zones 2944.5-2945.25 and 2947.5-2950. Fracture surfaces appear fresh. Mod. well indurated. Low to mod. poros. and perm. Intergranular, fracture and some moldic poros.	Description: 2950-2960 - Laminated to thickly bedded gray to light gray to yellow-brown limestone (mudstone-wackestone), dolomitic 2951-2955. Some dark laminations with some organics throughout. Slightly to moderately fractured. Fracture surfaces appear fresh. Granular texture. Moderately well to well indurated. Low porosity and permeability. Intergranular, fracture and some moldic porosity. Some white gypsum infilling voids/fossil molds 2953-2954.25. Bivalve molds.	Description: 2960-2970 - Laminated to thickly bedded gray to light gray to yellow-brown limestone (mudstone-wackestone). Slightly to intensely fractured, horizontal fracturing 2963-2965.5. Fracture surfaces appear fresh. Some dark laminations with some organics throughout. Granular to somewhat chalky texture. Moderately well indurated. Low porosity and permeability. Intergranular, fracture and some moldic porosity. Some bivalve molds.

		
Description: 2970-2980 - Laminated to thickly bedded gray to light gray to yellow-brown limestone (mudstone-wackestone). Slightly to moderately fractured, fracture surfaces appear fresh. Some dark laminations with some organics throughout. Granular texture. Moderately well to well indurated. Low porosity and permeability. Intergranular, fracture and some moldic porosity. Some bivalve molds. Some white nodular gypsum throughout.	Description: 2980-2990 - Laminated-thickly bedded gray to light gray to yellow-brown limestone (mudstone-wackestone). Slightly fractured, fracture surfaces appear fresh. Granular texture. Mod. well to well indurated. Some dark laminations with some organics throughout. Low porosity and permeability. Intergranular, fracture and some moldic porosity. Some bivalve molds. Some white nodular gypsum throughout.	Description: 2990-3000 - Laminated to thickly bedded gray to light gray to yellow-brown limestone (mudstone-wackestone). Slightly fractured, fracture surfaces appear fresh. Granular texture. Some dark laminations with some organics throughout. Moderately well to well indurated. Low porosity and permeability. Intergranular, fracture and some moldic porosity. Some bivalve molds. Some white nodular gypsum throughout.