Southwest Florida
Water Management District

Hydrogeology, Water Quality, and Well Construction at the ROMP 131.5 – Morriston Well Site in Levy County, Florida

Southwest Florida Water Management District
Geohydrologic Data Section

August 2022

Cover Photo: Permanent monitor wells at the ROMP 131.5 – Morriston Well Site in Levy County, Florida in order from left to right: *L Fldn Aq (bl MCU II & VIII) Dual Monitor*, *Surf Aq Monitor*, *L Fldn Aq (bl MCU I) Monitor,* and *U Fldn Aq Monitor.* Photograph by Jason LaRoche.

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By Jason LaRoche

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The hydrogeologic evaluations and interpretations contained in *Hydrogeology, Water Quality, and Well Construction at the ROMP 131.5 – Morriston Well Site in Levy County, Florida* have been prepared by or approved by a licensed Professional Geologist in the State of Florida, in accordance with Chapter 492, Florida Statutes.

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Date: 8-17-2022

Foreword

The Geohydrologic Data Section (GEO) administers the Regional Observation and Monitor-well Program (ROMP) at the Southwest Florida Water Management District (District). The ROMP was started in 1974 in response to the need for hydrogeologic information by the District. The focus of the ROMP is to quantify the flow characteristics and water quality of the groundwater systems that serve as the primary source of water supply within southwest Florida. The original design of the ROMP consisted of an inland 10-mile grid network composed of 122 well sites and a coastal transect network composed of 24 coastal monitor transects of two to three well sites each. The number of wells at a well site varies with specific regional needs; usually two to five permanent monitor wells are constructed at each site. The numbering system for both networks generally increases from south to north with ROMP-labeled wells representing the inland grid network and TR-labeled wells representing the coastal transect network.

In addition to the ROMP, the GEO section oversees construction of monitor wells and performs aquifer testing activities for other District programs and projects. The broad objectives at each well site are to determine the hydrogeology, water quality, and hydraulic properties of the units present, and to install wells for long-term monitoring. Site activities include exploratory coring and testing, well construction, and aquifer performance testing. These activities provide data for the hydrogeologic and groundwater quality characterization of the well sites. These characterizations are used to ensure the monitor wells are properly designed for intended hydrologic targets. At the completion of each well site, a summary report is generated and can be found at the District's website at www.watermatters.org/data. The monitor wells form the backbone of the District's long-term aquifer monitoring networks, which supply critical data for the District's regional models, hydrologic conditions reporting, and regulatory water use permitting.

M. Ted Gates

Manager

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Conversion Factors and Datums

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
acre	0.004047	square kilometer (km^2)
square foot (ft^2)	0.09290	square meter (m^2)
	Volume	
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m^3)
cubic foot (ft^3)	0.02832	cubic meter (m^3)
	Flow rate	
foot per day (ft/d)	0.3048	meter per day (m/d)
cubic foot per day (ft^3/d)	0.02832	cubic meter per day (m^3/d)
gallon per day (gal/d)	0.003785	cubic meter per day (m^3/d)
	Pressure	
atmosphere, standard (atm)	101.3	kilopascal (kPa)
bar	100	kilopascal (kPa)
	Transmissivity*	
foot squared per day (ft^2/d)	0.09290	meter squared per day (m^2/d)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

°F=(1.8×°C)+32

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

°C=(°F-32)/1.8

Vertical coordinate information is referenced to the “North American Vertical Datum of 1988 (NAVD 88).”

Elevation, as used in this report, refers to distance above the vertical datum.

*Transmissivity: The standard unit for transmissivity is cubic foot per day per square foot times foot of aquifer thickness [(ft^3/d)/ft^2]ft. In this report, the mathematically reduced form, foot squared per day (ft^2/d), is used for convenience.

Abbreviations and Acronyms

µmhos/cm	micromhos per centimeter
µS/cm	microsiemens per centimeter
Applied	Applied Engineering Drilling, Inc.
APT	aquifer performance test
Aq	aquifer
bl	below
bls	below land surface
btoc	below top of casing
CAL	caliper
Citrus	Citrus Pump Repair & Well Drilling
CME	Central Mining Equipment 85 drill rig
commun.	communication
CPS	counts per second
day^{-1}	per day (used to report leakance rate)
DEG F	degrees Fahrenheit
District	NQ
EDP	Environmental Data Portal
Fldn	Floridan
fig.	figure
ft/d	feet per day
ft/min	feet per minute
ft^2/d	foot squared per day
GAM (NAT)	natural gamma-ray
gpm	gallons per minute
HQ	3.06-inch internal diameter core drilling rod
Inc.	Incorporated
L	Lower
MCU	middle confining unit
mg/L	milligrams per liter
MMHO/M	millimhos per meter
MV	millivolts
NAVD 88	North American Vertical Datum of 1988
NDWRAP	Northern District Water Resources Assessment Project
NQ	2.38-inch internal diameter core drilling rod
Ob	observation
OHM-M	ohm-meters
PVC	polyvinyl chloride
RES	single-point resistance
RES (16N)	short-normal resistivity
RES (64N)	long-normal resistivity
ROMP	Regional Observation and Monitor-well Program
Schultes	A.C. Schultes of Florida, Inc.

Abbreviations and Acronyms (continued)

SE	southeast
SP	spontaneous potential
SP COND	specific conductance
Surf	surficial
TDS	total dissolved solids
Temp	temporary or temperature
Thompson	Thompson Well & Pump, Inc.
U	Upper
UDR	Universal Drill Rigs 200DLS drill rig

Hydrogeology, Water Quality, and Well Construction at the ROMP 131.5 – Morriston Well Site in Levy County, Florida

By Jason LaRoche

Introduction

The Southwest Florida Water Management District (District) conducted a detailed hydrogeologic investigation at the Regional Observation and Monitor-well Program (ROMP) 131.5 – Morriston well site in eastern Levy County (fig. 1). The ROMP 131.5 – Morriston (herein referred to as ROMP 131.5) well site supports the Northern District Water Resources Assessment Project (NDWRAP) and fills a gap in the ROMP 10-mile grid network. The NDWRAP was initiated to assess the impacts of groundwater withdrawals, monitor the freshwater/saltwater interface, identify areas of poor groundwater quality, determine the nature of flow to major springs, and monitor groundwater levels in the surficial and Upper Floridan aquifers in the northern District (Ron Basso, written commun., 2007). The northern District encompasses all of Hernando, Citrus, and Sumter counties as well as portions of Pasco, Polk, Lake, Marion, and Levy counties. Additionally, this site was selected to refine the subregional extents of middle confining units I and II and provide detailed characterizations of the Lower Floridan aquifers beneath each. The data collected at this well site will aid the District in making informed management decisions central to its core mission of balancing water needs of current and future users while protecting and maintaining water and related natural resources.

The ROMP 131.5 well site was developed in three phases: (1) exploratory core drilling and testing to 1,817 feet below land surface (bls), (2) well construction, and (3) aquifer performance testing. Exploratory core drilling and testing began September 29, 2015, and was completed October 5, 2016, with the District's Central Mining Equipment 85 (CME) and Universal 200DLS (UDR) core drilling rigs. Core drilling was ended 41 feet below the top of the sub-Floridan confining unit of the Floridan aquifer system. Well construction began May 2017 and ended June 2018. Aquifer performance testing began April 2018 and ended May 2018. The purpose of this report is to present all the activities performed and the data collected at the well site during the three phases.

Acknowledgements

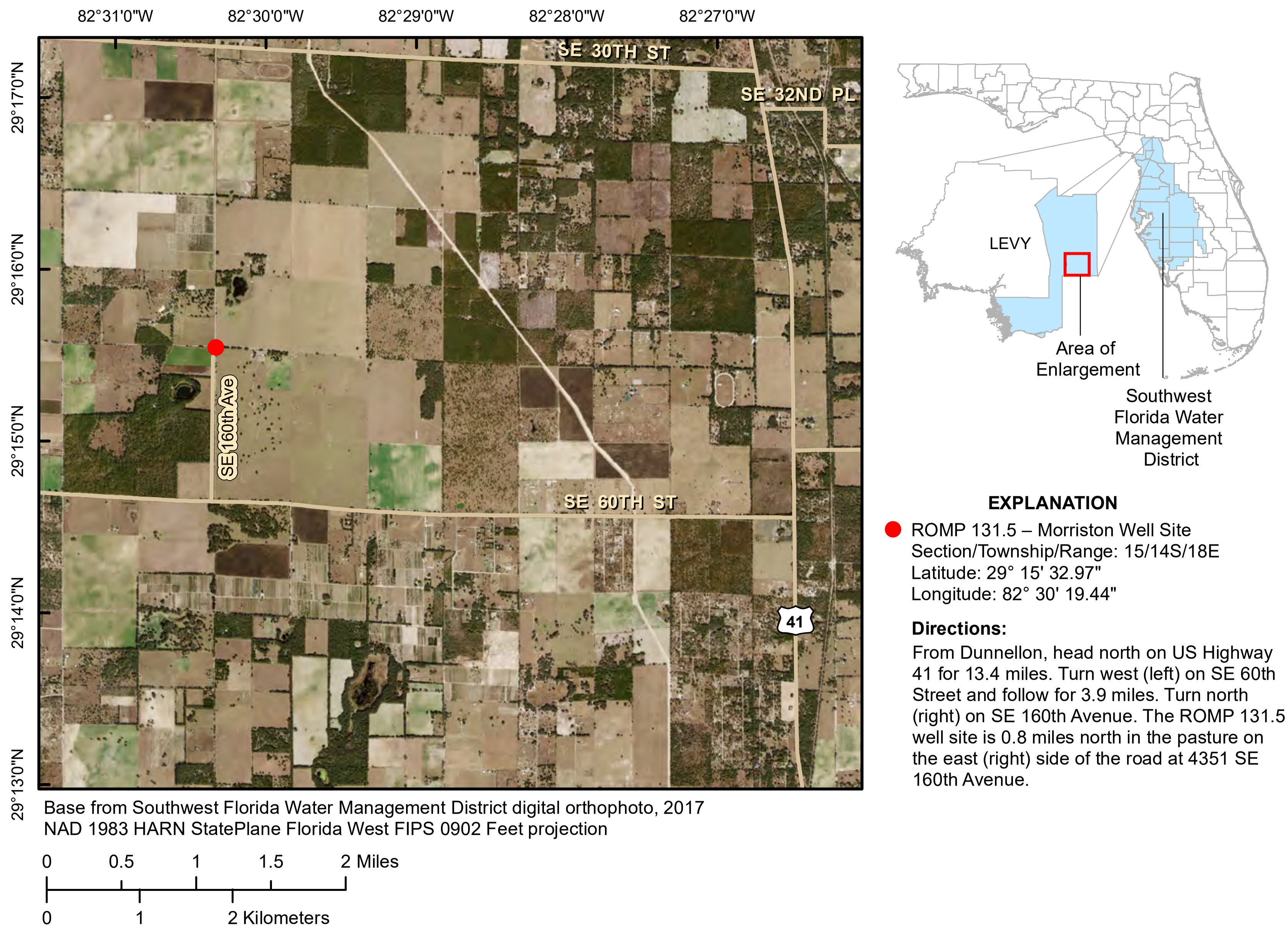
The Southwest Florida Water Management District would like to express sincere appreciation to Jewell Pollett for conveying the permanent and temporary easements, as well as Joe Garcia and Rick Hammock for providing very generous site accommodations and logistical cooperation throughout all phases of construction and testing.

Site Location

The ROMP 131.5 well site is located on a parcel of land in east-central Levy County and consists of a 10-foot by 40-foot permanent well site granted by easement agreement from Jewell D. Pollett on June 30, 2016. The well site also consisted of a 150-foot by 250-foot temporary construction area granted by license agreement from Jewell D. Pollett that expired on June 30, 2018. The well site abuts the right-of-way; therefore, an easement for ingress/egress was not necessary. It is in the southwest quarter of the southwest quarter of Section 15, Township 14 south, Range 18 east at latitude 29° 15' 32.97" north, longitude 82° 30' 19.44" west. The elevation at the ROMP 131.5 well site is approximately 81 feet above the North American Vertical Datum of 1988 (NAVD 88). District staff installed two benchmark stations near the well site and performed vertical control surveys. Figure 2 presents the layout for the ROMP 131.5 well site.

The well site can be found by heading north on US Highway 41 in Dunnellon for 13.4 miles. Turn west (left) on SE 60th Street and follow for 3.9 miles. Turn north (right) on SE 160th Avenue. The ROMP 131.5 well site is 0.8 miles north in the pasture on the east (right) side of the road at 4351 SE 160th Avenue.

The ROMP 131.5 well site is located on the southeastern edge of the northern Brooksville Ridge physiographic region of west-central Florida, between the Northern Gulf-Coastal Lowlands to the west and the Western Valley to the east (White, 1970). The well site is located near the western-most edge of the Ocklawaha River Drainage Basin. The area is predominantly cropland and pasture land with cattle grazing and hay production occurring on the well site property.



[NAD, North American Datum; HARN, High Accuracy Reference Network; FIPS, Federal Information Processing Standards; ROMP, Regional Observation and Monitor-well Program; N, north; S, south; E, east; W, west]

Figure 1. Location of the ROMP 131.5 – Morriston well site in Levy County, Florida.

[NAD, North American Datum; HARN, High Accuracy Reference Network; FIPS, Federal Information Processing Standards; ROMP, Regional Observation and Monitor-well Program; N, north; S, south; E, east; W, west; U, Upper; Fldn, Floridan; Aq, aquifer; Surf, surficial; L, Lower; bl, below; MCU, middle confining unit; Temp, temporary; Pump, pump test well; Ob, observation well; BM, benchmark]

Figure 2. Well site layout for the ROMP 131.5 – Morriston well site in Levy County, Florida.

Methods

During construction of the ROMP 131.5 well site, a variety of hydrogeologic data was collected including lithologic, hydraulic, water quality, and geophysical data. After exploratory core drilling and testing, monitor wells and temporary pump test wells were constructed by a contract drilling company. The following sections provide data collection method details specific to the ROMP 131.5 well site. Detailed descriptions of the data collection methods used by the Geohydrologic Data section are presented in appendix A. Long-term monitoring data collected at this well site are available for download from the District's website: *www.swfwmd.state.fl.us* (accessed October 26, 2021) using the Environmental Data Portal (EDP) and the Advanced Metadata Retrieval application. As of October 2021, available data include water quality and long-term water level data, well construction details, and survey information. Data including well site reports, lithologic core descriptions, geophysical logs, lithostratigraphic units, hydrostratigraphic units, and aquifer test characteristics are available to view and download from the Geohydrologic Data Map Viewer: *https://swfwmd.maps.arcgis.com/apps/webappviewer/index.html?id=5cfe38abbae84d1fadfdf0953c3126bc* (accessed October 26, 2021). Aquifer performance test (APT) and slug test raw data will be available in the future.

Lithologic Sampling

Lithologic samples were collected from land surface to the total exploration depth of 1,817 feet bls by District staff using the District's CME and UDR core drilling rigs. On September 29 and 30, 2015, staff conducted punch shoe sampling with the CME from three to 61 feet bls in the core hole. The first 3 feet of sand were dug with a post hole digger. From October 1 to November 16, 2015, staff conducted hydraulic-rotary core drilling with the CME using fresh water from 61 to 96 feet bls. The CME was then removed, and Citrus was contracted to install 12-inch steel surface casing to 80.5 feet bls from October 14 to 20, 2015. The UDR was then set up on the core hole. From November 16, 2015, to September 15, 2016, the District continued hydraulic-rotary core drilling with the UDR using fresh water from 96 to 1,817 feet bls. Core samples were continuously collected and retrieved in 5-foot intervals with the CME and 10-foot intervals with the UDR using a wireline recovery system. Samples were then boxed, labeled, described, and transported to the Florida Geological Survey (FGS) for further analysis and storage.

Hydraulic Testing

Hydraulic properties were estimated from 15 slug test suites performed during exploratory core drilling and testing. Testing began after core drilling through unconsolidated sediments of the undifferentiated sand and clay unit, undifferentiated Hawthorn Group, and part of the Ocala Limestone.

An off-bottom packer assembly was used to isolate discrete intervals of the core hole during slug testing. The packer was typically installed 35 to 50 feet off bottom. The pneumatic rising-head method was used for all slug tests. The drill rods were temporarily sealed, and a slug of air was introduced to temporarily lower the hydraulic head (water level) in the discrete test interval and then released. The water level in the test interval was measured with a pressure transducer and recorded on a datalogger as it returned to static conditions. Slug test data were analyzed to estimate horizontal hydraulic conductivity (herein referred to as hydraulic conductivity) of the isolated test intervals. Aquifer performance tests were conducted to obtain large-scale estimates of hydraulic properties of the Upper Floridan aquifer and the Lower Floridan aquifer below middle confining unit I in the area around the well site. The composite water level in the core hole (not isolated) was measured daily with an electronic water level meter before core drilling continued. Rainfall data were collected daily with a manual rain gauge. During reverse-airlift development of the core hole between coring runs, the discharge flow rate was measured using a v-notch weir to monitor relative changes in formation permeability. Apparent permeability was estimated based on the drilling discharge rate using the following scale: 5 to 15 gallons per minute (gpm) is very low, 16 to 25 gpm is low, 26 to 35 gpm is moderately low, 36 to 45 gpm is moderately high, 46 to 55 gpm is high, and greater than 55 gpm is very high.

Water Quality Sampling

Fifteen groundwater samples were collected during exploratory core drilling and testing. The samples were collected from the discrete intervals that were isolated by the off-bottom packer after conducting slug test suites. Eight samples were collected with a wireline retrievable bailer and seven samples were collected with a nested bailer. Groundwater samples were collected near the beginning and end of both APTs from the discharge at the pumped well head. A portion of each sample was analyzed in the field for temperature, specific conductance, pH, chloride, and sulfate. The remainder of each sample was prepared and delivered to the District's Chemistry Laboratory for additional water quality analyses (Southwest Florida Water Management District, 2009). The core hole was purged clean by reverse-airlifting between each core run to remove fine cuttings and an equal or greater volume of fresh water than was pumped in during the preceding run. During these purges, field readings of temperature, specific conductance, and pH were measured from the drilling discharge to monitor relative changes in water quality. Groundwater sampling was consistent with the Water Quality Monitoring Program's Standard Operating Procedures (Water Quality Monitoring Program, 2020).

Geophysical Logging

Borehole geophysical logs are used to help delineate stratigraphic units, characterize water quality, and help determine well casing points and grouting requirements. Geophysical logging was performed 11 times at varying intervals from land surface to 1,804 feet bls at the ROMP 131.5 well site using District-owned Century® geophysical logging equipment (table 1 and appendix B). The first suite of logs was performed in the core hole on February 16, 2016, with the open interval from 556 to 957 feet bls. The 8043C multifunction and the 9512C induction tools were run to 910.4 and 912.4 feet bls, respectively. The second suite of logs was performed in the core hole on February 24, 2016, with the open interval from 328 to 993 feet bls. The 9074C caliper/gamma-ray and the 8043C multifunction tools were run to 576 and 583.2 feet bls, respectively. The last successful log of the core hole was performed October 3, 2016, after core drilling and testing was complete. The 9512C induction tool was run from land surface to 1,803.6 feet bls inside steel drill rods (2.38-inch NQ) set on the core hole bottom at 1,817 feet bls. Only the gamma-ray data from the induction tool was valid inside the steel casing. After raising the rods, attempts to log the open core hole from 949 to 1,817 feet bls with the induction and multifunction tools were unsuccessful because of obstructions at 1,223 and 1,081 feet bls, respectively. A final logging attempt prior to plugging the core hole in November 2017 was also unsuccessful when the multifunction tool snagged and detached from its cable but was later retrieved with a fishing tool. Further logging attempts were not possible because of time constraints caused by the license agreement expiration date. The remaining geophysical log suites either were run during well construction before setting casing strings or after the well construction was complete for the *L Fldn Aq (bl MCU I) Temp Pump*, *U Fldn Aq Temp Pump*, *L Fldn Aq (bl MCU I) Monitor*, *U Fldn Aq Monitor*, *L Fldn Aq (bl MCU II) Monitor*, and *L Fldn Aq (bl MCU VIII) Monitor* wells.

Well Construction

The ROMP 131.5 well site consists of four permanent monitor wells located on the well site permanent easement (fig. 2). Permanent monitor wells (Station Names italicized herein refer to table 2) were constructed in the surficial sands (*Surf Aq Monitor*), Upper Floridan aquifer (*U Fldn Aq Monitor*), Lower Floridan aquifer below middle confining unit I (*L Fldn Aq [bl MCU I] Monitor*), and a dual-interval monitor of the Lower Floridan aquifer below middle confining unit II (*L Fldn Aq [bl MCU II] Monitor*) and the Lower Floridan aquifer below middle confining unit VIII (*L Fldn Aq [bl MCU VIII] Monitor*). Three temporary wells were constructed on the temporary construction area for drilling water supply and APTs. All temporary wells were plugged by District staff in June 2018 after testing was completed. The District contracted Citrus Pump Repair & Well Drilling (Citrus), Applied Drilling Engineering, Inc. (Applied), Thompson Well & Pump, Inc. (Thompson), and A.C. Schultes of Florida, Inc. (Schultes) to perform well construction at the site. The well as-built diagrams are presented in appendix C and a summary of the well construction details are presented in table 2. Daily logs for core drilling and well construction operations are available from the District's online document storage database.

From June 2 to 3, 2015, Citrus constructed the *U Fldn Aq Drilling Water Supply* on the temporary construction area. The well was used as a temporary water supply during coring and well construction activities and served as an observation well during the Upper Floridan APT. Plugging of this well was completed on June 13, 2018.

On October 16, 2015, District staff constructed the *Surf Aq Temp Ob* with the CME on the temporary construction area. The well was not used because the planned surficial APT was not conducted because of persistently dry surficial sands. Plugging of this well was completed on June 5, 2018.

From January 3 to March 7, 2017, Applied partially completed construction of the *L Fldn Aq (bl MCU I) Temp Pump* well on the temporary construction area. This well was used as the temporary production well for the Lower Floridan aquifer below middle confining unit I APT. During drilling of the bore hole, after setting 24-inch steel casing to 65 feet bls, Applied ran into difficulties dredging persistently loose sediments in the interval from approximately 114 to 137 feet bls. District exploratory core drilling in this interval noted very fast drilling with possible cavities suggested by low core recovery. Applied was eventually successful in drilling past this interval and installing 16-inch steel casing to 187 feet bls. Thompson was later contracted and completed the well from June 15, 2017, to July 31, 2017. Thompson encountered intermittent cavities between approximately 215 and 241 feet bls, which coincides with intermittent cavities noted during District exploratory core drilling from approximately 197 to 256 feet bls. A well construction variance was approved to use gravel fill in the annulus from 194 to 242 feet bls during grouting of the 10-inch steel casing. Plugging of this well was completed on May 31, 2018.

From May 15 to 16, 2017, Thompson drove 24-inch surface casing using a percussion hammer to 62 feet bls for the *U Fldn Aq Temp Pump* well. Thompson returned and completed construction from August 4 to 28, 2017, on the temporary construction area. This well was used as the temporary production well for the Upper Floridan APT. After lowering 16-inch steel casing to 86 feet bls, Thompson experienced difficulties grouting the annulus because of persistent loss of cement to the formation. After multiple attempts, a well construction variance was approved to plug the annulus in small stages using Enviroplug® Bentonite chips followed by batches of neat cement grout. Small cement fragments were noted in the drill cuttings while drilling the 15-inch open borehole between 88 and 105 feet bls. A cavity was noted from 136 to 138 feet bls while drilling the 12-inch open borehole. Plugging of this well was completed on June 5, 2018.

Table 1. Summary of geophysical logs collected at the ROMP 131.5 – Morriston well site in Levy County, Florida

[MM/DD/YYYY, month/day/year; ft, feet; bls, below land surface; ROMP, Regional Observation and Monitor-well Program; HQ, 3.06-inch internal diameter core drilling rod; NQ, 2.38-inch internal diameter core drilling rod; L, Lower; Fldn, Floridan; Aq, aquifer; bl, below; MCU, middle confining unit; Temp, temporary; Pump, pumped well; U, Upper; PVC, polyvinyl chloride; The multifunction tool includes natural gamma-ray, single-point resistance, short-normal 16-inch resistivity, long-normal 64-inch resistivity, fluid resistivity, spontaneous potential, specific conductance, and temperature parameters]

Date (MM/DD/YYYY)	Station Name	Logged Interval (ft bls)	Casing Type	Casing Depth (ft bls)	Borehole Diameter (inches)	Tool Type	Tool Number
02/16/2016	ROMP 131.5 Core-hole	0.8-910.4, 533-912.4	HQ steel	556	4/3	multifunction, induction	8043C, 9512C
02/24/2016	ROMP 131.5 Core-hole	295.2-576, 277.2-583.2	HQ steel	328	4/3	caliper/gamma-ray, multifunction	9074C, 8043C
10/03/2016	ROMP 131.5 Core-hole	0-1803.6	NQ steel	1,817	2.5	induction	9512C
07/06/2017	ROMP 131.5 L Fldn Aq (bl MCU I) Temp Pump	0-454.2	steel	187	16	caliper/gamma-ray	9165C1
07/28/2017	ROMP 131.5 L Fldn Aq (bl MCU I) Temp Pump	0.2-727.8	steel	452	10	caliper/gamma-ray	9165C1
08/28/2017	ROMP 131.5 U Fldn Aq Temp Pump	0.4-352.4	steel	85	16/12	caliper/gamma-ray	9165C1
09/06/2017	ROMP 131.5 L Fldn Aq (bl MCU I) Monitor	6.2-185	steel	61	16	caliper	9064A1
10/03/2017	ROMP 131.5 L Fldn Aq (bl MCU I) Monitor	0-653.6	steel	184	10	caliper/gamma-ray	9165C1
10/31/2017	ROMP 131.5 U Fldn Aq Monitor	0.4-233.2	steel	62	12	caliper/gamma-ray	9074C1
03/21/2018	ROMP 131.5 L Fldn Aq (bl MCU II and VIII) Monitors	0.4-1,340, 0.8-1,340.8	steel	265	10	caliper/gamma-ray, multifunction	9165C1, 8044C
04/06/2018	ROMP 131.5 L Fldn Aq (bl MCU II and VIII) Monitors	790.4-1,340.8, 0.4-1,341.2	PVC	920	10	caliper/gamma-ray	9165C1

From May 12 to 15, 2017, Thompson drove 16-inch surface casing using a percussion hammer to 61 feet bls for the *L Fldn Aq (bl MCU I) Monitor*. Thompson returned and completed construction from September 5 to October 19, 2017, on the permanent easement. This well was used as the observation well for the Lower Floridan aquifer below middle confining unit I APT. A well construction variance was approved to use gravel fill in the annulus from 155 to 303 feet bls during grouting of the 4.5-inch PVC casing.

From May 10 to 11, 2017, Thompson drove 12-inch surface casing using a percussion hammer to 61 feet bls for the *U Fldn Aq Monitor*. Thompson returned and completed construction from October 11 to November 3, 2017, on the permanent easement. This well was used as the primary observation well for the Upper Floridan APT. A cavity was noted from 121 to 136 feet bls while drilling the 12-inch open borehole. Drilling slowed when dredging loose sediments in the interval from approximately 141 to 146 feet bls. Other cavity bit drops were noted from 147 to 149 feet bls and 227 to 236 feet bls.

From September 21 to February 8, 2018, District staff back-plugged the core hole from 1,817 feet bls up to 1,020 feet bls near the bottom of temporary HQ working casing set at 949 feet bls. The working casing was then removed and back-plugging continued up to 348 feet bls from February 13 to 28, 2018. In this state, the core hole served as another observation well for the Upper Floridan APT. Plugging of the core hole up to land surface was completed on June 5, 2018.

From January 17 to April 23, 2018, Schultes constructed the *L Fldn Aq (bl MCU II) Monitor* and the *L Fldn Aq (bl MCU VIII) Monitor*. This is a dual-interval monitor well on

Table 2. Summary of well construction details at the ROMP 131.5 – Morriston well site in Levy County, Florida

[SID, station identification; ft, feet; bls, below land surface; MM/DD/YYYY, month/day/year; WCP No.(s), well construction permit number(s); ROMP, Regional Observation and Monitor-well Program; U, Upper; Fldn, Floridan; Aq, aquifer; Surf, surficial; PVC, polyvinyl chloride; --, not applicable; Temp, temporary; Ob, observation well; SDR, standard dimension ratio; Pump, pumped well; L, Lower; bl, below; MCU, middle confining unit; All PVC casing is schedule 40 unless otherwise noted]

SID	Station Name	Open Interval (ft bls - ft bls)	Casing Type	Casing Diameter (inches)	Start Date (MM/DD/YYYY)	Complete Date (MM/DD/YYYY)	Status	WCP No.(s)
903993	ROMP 131.5 U Fldn Aq Drilling Water Supply	75-95	Steel	4	06/02/2015	06/03/2015	Plugged	843344, 867552
853980	ROMP 131.5 Corehole	80.5-1,817	Steel	12	09/29/2015	10/05/2016	Plugged	843823, 851875, 863293
--	ROMP 131.5 Surf Aq Temp Ob	2-20	PVC	2	10/16/2015	10/16/2015	Plugged	846907, 867551
903476	ROMP 131.5 L Fldn Aq (bl MCU I) Temp Pump	452-743	Steel	16x10 backoff	01/03/2017	07/31/2017	Plugged	855398, 859552, 867557
905294	ROMP 131.5 U Fldn Aq Monitor	95-233	PVC (SDR17)	4.5	05/10/2017	11/03/2017	Active	855401, 859559
905297	ROMP 131.5 L Fldn Aq (bl MCU I) Monitor	445-650	PVC (SDR17)	4.5	05/12/2017	10/19/2017	Active	855400, 859557
903987	ROMP 131.5 U Fldn Aq Temp Pump	85-350	Steel	16	05/15/2017	08/28/2017	Plugged	855399, 859555, 867556
905299	ROMP 131.5 L Fldn Aq (bl MCU II) Monitor	920-1,121	PVC	10	01/17/2018	04/23/2018	Active	866093
905300	ROMP 131.5 L Fldn Aq (bl MCU VIII) Monitor	1,225-1,338 (screen)	PVC	3	01/17/2018	04/23/2018	Active	866093
906058	ROMP 131.5 Surf Aq Monitor	3-27 (screen)	PVC	3	06/07/2018	06/07/2018	Active	867754

the permanent easement. On June 7, 2018, District staff constructed the *Surf Aq Monitor* on the permanent easement.

Geology

The geology of the ROMP 131.5 well site is based on the lithologic samples collected from exploratory core drilling that was conducted from land surface to 1,817 feet bls. The geologic units encountered at the well site include, in ascending order: the Cedar Keys Formation, the Oldsmar Formation, the Avon Park Formation, the Ocala Limestone, the undifferentiated Hawthorn Group, and the undifferentiated sand and clay deposits. A column detailing the stratigraphic units encountered at the well site is presented in figure 3. The lithologic log is presented in appendix D. Digital photographs of the lithologic core samples are presented in appendix E.

Cedar Keys Formation (Late Paleocene)

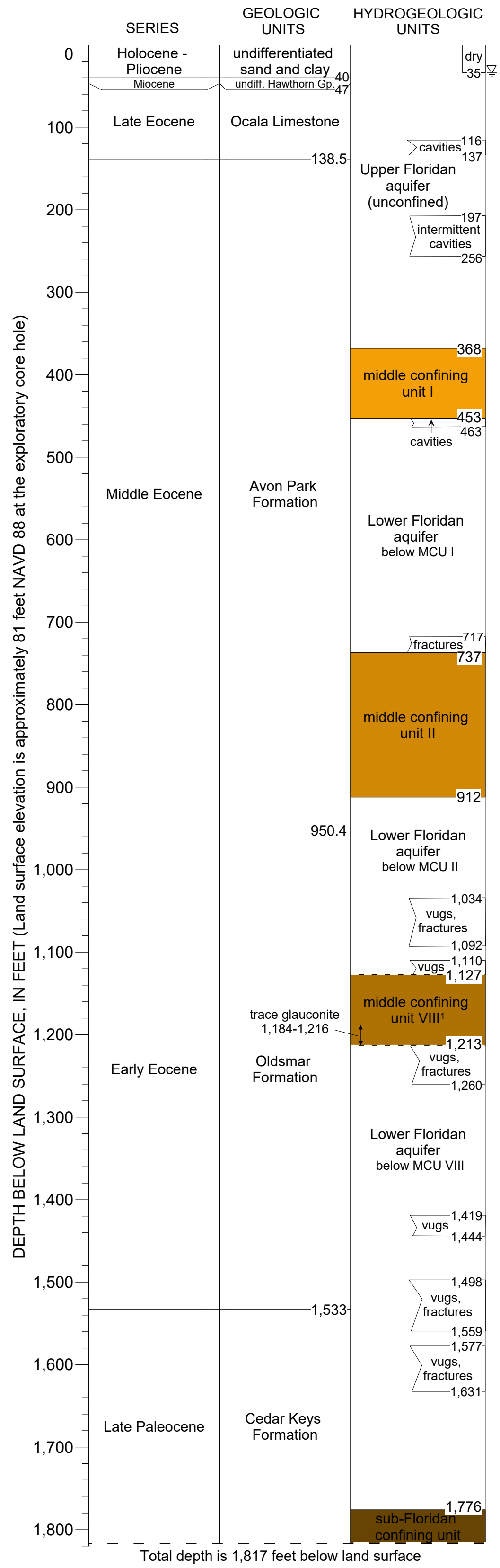
The late Paleocene age Cedar Keys Formation extends from 1,533 to beyond the total depth of exploration of 1,817 feet bls at the ROMP 131.5 well site. The top of the Cedar Keys Formation is picked at the top of sucrosic brown dolostone with anhydrite beds that coincide with a gamma-ray peak (appendix B, fig. B4). No other geophysical logs were successful at this depth. The average core recovery in the Cedar Keys Formation was 98 percent.

At the ROMP 131.5 well site, the upper portion of the Cedar Keys Formation from 1,533 to 1,631 feet bls is chiefly dolostone (82 percent). The lithology is predominantly grayish brown, well indurated sucrosic dolostone with accessory anhydrite and gypsum. Miliolid fossils were observed at 1,616 feet bls. Trace amounts of sulfides were present resembling chalcopyrite. Observable porosity, based on visual inspection of the core, is high and predominantly intergranular, vugular, and fracture. Substantial fracture and vuggy intervals are present from 1,533 to 1,631 feet bls (fig. 3). Apparent permeability, based on measured core hole purge discharge rate, is high to very high with an average purge discharge rate of 50 gpm.

At the ROMP 131.5 well site, the lower portion of the Cedar Keys Formation from 1,631 to 1,817 feet bls is a combination of limestone (62 percent), bedded gray anhydrite (33 percent), and dolostone (5 percent). From 1,631 to 1,729 feet bls, the lithology is mainly very light orange to yellowish gray, well indurated mudstone and wackestone with trace gypsum. Abundant benthic foraminifera *Borelis gunteri*, an index fossil for the Cedar Keys Formation (Arthur and others, 2008) are present with miliolids from 1,672 to 1,686 feet bls. Observable porosity is predominantly intergranular and apparent permeability is moderate to high with an average purge discharge rate of 40 gpm. From 1,729 to 1,817 feet bls, the lithology is predominantly well indurated anhydrite beds (70 percent) with intermittent limestone (30 percent). Observable porosity is intercrystalline and intergranular respectively, and apparent permeability is low with an average purge discharge rate of 20 gpm.

Oldsmar Formation (Early Eocene)

At the ROMP 131.5 well site, the early Eocene age Oldsmar Formation extends from 950.4 to 1,533 feet bls. The Oldsmar Formation unconformably overlies the Cedar Keys Formation. The contact between the Oldsmar Formation and overlying Avon Park Formation is possibly conformable (Arthur and others, 2008) and occurs across a gradual change from primarily packstone to wackestone. The top of the Oldsmar Formation coincides with fossiliferous beds containing abundant bryozoans, mollusks, and benthic foraminifera



¹ Inconclusive confinement; most data suggest the confining unit is present but long-term monitoring remains questionable

[NAVD 88, North American Vertical Datum of 1988; undiff., undifferentiated; Gp., Group; MCU, middle confining unit]

Figure 3. Stratigraphic column detailing the hydrogeologic setting at the ROMP 131.5 – Morriston well site in Levy County, Florida.

including the first occurrence of the microfossil *Helicostegina gyralis* which is common but not unique to the unit (Miller, 1986; Arthur and others, 2008). The average core recovery in the Oldsmar Formation was 95 percent.

At the ROMP 131.5 well site, the Oldsmar Formation is generally thick sections of limestone (58 percent) alternating with thick sections of dolostone (42 percent). The limestones are mostly yellowish gray, well indurated, and fossiliferous wackestone to mudstone with benthic foraminifera, bryozoans, and miliolids common throughout. Benthic foraminifera *Helicostegina gyralis* are common in the wackestones at varying intervals from 950 to 1,300 feet bls and abundant *Orbitolites soritids* are observed from 1,167 to 1,186 feet bls. Trace amounts of glauconite are persistent between 1,184 and 1,216 feet bls and can be a marker horizon for the Oldsmar Formation (Reese and Richardson, 2008; Duncan and others, 1994). Observable porosity, based on visual inspection of the core, is mainly intergranular. Apparent permeability, based on measured core hole purge discharge rate, is moderate to high with an average purge discharge rate of 38 gpm. The dolostones are grayish brown, well indurated, crystalline, and often sucrosic with minor accessory gypsum and anhydrite. Observable porosity in the dolostones is intercrystalline with thick fractured and vuggy intervals from 1,034 to 1,127 feet bls and 1,213 to 1,260 feet bls (fig. 3). These intervals coincide with increased resistivity, inverted spontaneous potential spikes, and jagged caliper response along mainly gauge-size hole (appendix B, fig. B11). Apparent permeability of the dolostones is high to very high with an average purge discharge rate of 52 gpm with some intervals exceeding 60 gpm.

Avon Park Formation (Middle Eocene)

At the ROMP 131.5 well site, the middle Eocene age Avon Park Formation extends from 138.5 to 950.4 feet bls. The Avon Park Formation conformably overlies the Oldsmar Formation. The top of the Avon Park Formation is based on the disappearance of the foraminifera *Lepidocyclina ocalana* and *Nummulites ocalanus* that are index fossils characteristic of the overlying Ocala Limestone, and the appearance of abundant foraminifera *Cushmania americana*, with rare *Spirolina coryensis* and the echinoid *Nelaganum dalli*, which are index fossils characteristic of the Avon Park Formation (Arthur and others, 2008). There is a notable decrease in bryozoa compared to the Ocala Limestone and a gradual increase in accessory organics and heavy minerals below this depth. A gamma-ray increase at about 120 feet bls and subsequent higher background counts (as compared to the Ocala Limestone) is also characteristic of the top of the Avon Park Formation (Arthur and others, 2008; Tihansky and Knochenmus, 2001) (appendix B, figs. B1 and B4). The average core recovery in the Avon Park Formation was 82 percent.

At the ROMP 131.5 well site, the Avon Park Formation from 138.5 to 464 feet bls is predominantly limestone (69 percent) with some dolostone (30 percent) and peat beds (1 percent). The lithology is predominantly yellowish gray fossiliferous wackestone and white chalky mudstone, with some yellowish gray fossiliferous dolostone. Observed fossils are bryozoa, mollusks, coral, and benthic foraminifera including miliolids and abundant *Cushmania americana*. Observable porosity, based on visual inspection of the core, is moldic and pinpoint vugular. Cavities were encountered from 197 to 256 and 453 to 463 feet bls (fig. 3). Apparent permeability, based on measured core hole purge discharge rate, is moderate to low with an average purge discharge rate of 25 gpm.

At the ROMP 131.5 well site, the Avon Park Formation from 464 to 743 feet bls is chiefly dolostone (93 percent). The lithology is typically yellowish brown, well indurated, crystalline, and often sucrosic. Trace organics and gypsum are common throughout, but accessory gypsum increases below approximately 600 feet bls. Peat beds observed at 467, 641, and 737 feet bls are coincident with increased gamma-ray counts per second (appendix B, figs. B1 and B4). Observable porosity is moldic throughout, and a small fracture interval is present from 717 to 737 feet bls (fig. 3). Apparent permeability is moderate with an average purge discharge rate of 30 gpm.

At the ROMP 131.5 well site, the Avon Park Formation from 743 to 950.4 feet bls is chiefly limestone (91 percent). The lithology is light orange to yellowish gray, well indurated, fossiliferous packstone. Observed fossils are abundant bryozoa and miliolids, with lesser amounts of foraminifera (*Cushmania americana*) and mollusks. Accessory gypsum, anhydrite, and calcite are prevalent throughout from trace amounts up to 15 percent. A peat bed is present from approximately 776 to 779 feet bls and is coincident with a gamma-ray spike (appendix B, figs. B1 and B4). Observable porosity is intergranular and moldic and apparent permeability is low with an average purge discharge rate of 19 gpm.

Ocala Limestone (Late Eocene)

At the ROMP 131.5 well site, the late Eocene age Ocala Limestone extends from 47 to 138.5 feet bls. The Ocala Limestone unconformably overlies the Avon Park Formation. The contact between the Ocala Limestone and the overlying undifferentiated Hawthorn Group sediments is picked at the first occurrence of fossiliferous chalky packstone and the absence of phosphatic sand. Index fossils characteristic of the Ocala Limestone were observed at 56.4 feet bls (benthic foraminifera *Lepidocyclina ocalana* and *Nummulites ocalanus*) and at 71.5 feet bls (*Amphistegina pinarensis cosdeni*). The average core recovery in the Ocala Limestone was 65 percent.

At the ROMP 131.5 well site, the Ocala Limestone is predominantly yellowish gray to white, fossiliferous, weathered, chalky, and moderate to poorly indurated packstone to grainstone. Observable porosity, based on visual inspection of the core, is mostly intergranular. Cavities were encountered from 116 to 137 feet bls (fig. 3). Apparent permeability, based on measured core hole purge discharge rate, is low with an average purge discharge rate of 20 gpm. However, drilling poorly consolidated limestone commonly produces significant fluid turbidity that may lower the effective discharge rate and reduce apparent permeability.

Undifferentiated Hawthorn Group (Miocene)

At the ROMP 131.5 well site, a very thin layer of Miocene age undifferentiated Hawthorn Group sediments extends from 40 to 47 feet bls and unconformably overlies the Ocala Limestone. The sediments are a buildup of soft, calcareous, clayey residuum that forms on the limestone surface as a byproduct of decomposed Hawthorn Group sediments and the intense chemical dissolution of the near-surface Ocala Limestone. The residuum is comprised of unconsolidated, white carbonate mud (decomposed limestone) with concentrated Hawthorn Group materials including phosphatic gravel and sand, quartz sand, iron-stained clay, and trace heavy minerals. The residuum often masks the pitted limestone surface that drilling and other data show is highly developed (Miller, 1986). Although the observable porosity and apparent permeability is low based on its clayey composition, Miller (1986) states the residuum is usually thin, laterally discontinuous, and commonly breached by solution channels. Drilling circulation was lost at 35 feet bls and may be the result of a solution channel within the clayey sand or residuum or both. If a solution channel is present, some of the clayey sand samples recovered between 35 to 40 (described in next section as part of the undifferentiated sand and clay) might be collapse material from above. The sediment recovery from the punch shoe sampling in this unit was 45 percent.

Undifferentiated Sand and Clay (Pliocene-Holocene)

The Pliocene to Holocene age undifferentiated sand and clay unit is the uppermost geologic unit at the ROMP 131.5 well site. The unit extends from land surface to 40 feet bls and unconformably overlies the undifferentiated Hawthorn Group sediments. The unit consists of sand from land surface to 40 feet bls with minor amounts of silt and/or clay from 20 to 40 feet bls. The sediments may be variable however, since more clay was noted in a driller's log for the *U Fldn Aq Drilling Water Supply* well approximately 100 feet away. The lithology from land surface to 5 feet bls is dark to dusky yellowish brown to dark yellowish orange, fine-grained, iron-stained quartz sand with trace organics and roots present in the first 2 feet. The lithology from 5 to 20 feet bls is predominantly light brown to dark yellowish orange, medium-grained, iron-stained quartz sand with trace silt and/or clay and heavy minerals. Punch shoe samples were not recovered from 10 to 15 feet bls. Observable intergranular porosity, based on visual inspection of the lithologic samples, is approximately 30 percent and the apparent permeability is moderate to high.

From 20 to 40 feet bls, the lithology is very light orange sand with extensive iron mottling and minor silt and/or clay. However, no samples were recovered from 30 to 35 feet bls and drilling circulation was lost at 35 feet bls. The sand recovered from 35 to 40 feet bls appeared mixed up and may include material from above that collapsed into a solution channel when circulation was lost. Observable intergranular porosity in the sand is approximately 20 percent and the apparent permeability is moderate. The total sediment recovery from the punch shoe sampling in this unit was 58 percent.

Hydrogeology

The ROMP 131.5 – Morriston well site hydrogeology was delineated based on the results of 15 slug tests collected during exploratory core drilling and testing, APTs, lithologic descriptions, water levels, water quality data, and geophysical log data. The hydrogeologic units include, in descending order: the Upper Floridan aquifer, middle confining unit I, the Lower Floridan aquifer below middle confining unit I, middle confining unit II, the Lower Floridan aquifer below middle confining unit II, middle confining unit VIII, the Lower Floridan aquifer below middle confining unit VIII, and the sub-Floridan confining unit (fig. 3). The naming convention used for the hydrogeologic units in this report is consistent with aquifer nomenclature guidelines proposed by Laney and Davidson (1986) and the North American Commission on Stratigraphic Nomenclature (2005). A comparison of the nomenclature used in this report (District nomenclature that is not site-specific) and previously published reports is presented in appendix F.

As discussed in appendix A, the hydraulic conductivities derived from the slug tests may be underestimated because of unavoidable testing errors and limitations of the analyses (Butler, 1998). Consequently, the values should be used as an approximation of the relative differences between permeable and confining intervals. The slug test results are presented in table 3. A graph of the hydraulic conductivity estimates versus core hole depth is presented in figure 4. The slug test data acquisition sheets are presented in appendix G and the slug test curve-match analyses are given in appendix H.

The water table was first encountered at approximately 35 feet bls during exploratory core drilling and testing. The near daily water level data collected during the exploratory core drilling and testing phase from the composite (non-isolated) core hole and the Upper Floridan aquifer well (*U Fldn Aq Drilling Water Supply*) are presented in appendix I. Additionally, the core hole water level data measured within isolated test intervals provide a relative profile of water level change with depth within the Upper and Lower Floridan aquifers. The composite and test interval core hole water level data recorded during exploratory core drilling are presented

Table 3. Results from the core hole slug tests performed during exploratory core drilling and testing at the ROMP 131.5 – Morriston well site in Levy County, Florida

[No., number; MM/DD/YYYY, month/day/year; ft, feet; bls, below land surface; ft/d, feet per day; Ls., Limestone; U, Upper; Fldn, Floridan; Aq, aquifer; Fm., Formation; MCU, middle confining unit; L, Lower; bl, below; KGS, Kansas Geological Survey; Shaded records indicate slug tests of confining units; All slug tests are rising-head performed using pneumatic initiation; All slug test intervals are isolated with a NQ (2.38-inch internal diameter core drilling rod) off-bottom inflatable packer; Hydraulic conductivity values are underestimated for higher K zones when using NQ packer assembly; Analytical method details can be found in: Butler, J.J., Jr., 1998, The Design, Performance, and Analysis of Slug Tests: Boca Raton, Florida, Lewis Publishers, 252 p.]

Slug Test No.	Date (MM/DD/YYYY)	Test Interval (ft bls)	Visual Lithologic Characterization	Geologic/Hydrogeologic Unit	Analytical Method	Horizontal Hydraulic Conductivity (K) (ft/d)
1	10/07/2015	65-85	Grainstone, moderate induration	Ocala Ls./U Fldn Aq	Butler-Zhan (2004) inertial (test well)	140
2	12/02/2015	162-205	Wackestone, moderate induration	Avon Park Fm./U Fldn Aq	Butler-Zhan (2004) inertial (test well)	110
3	12/15/2015	250-287	Dolostone and crystalline wackestone, good to moderate induration	Avon Park Fm./U Fldn Aq	Butler-Zhan (2004) inertial (test well)	39
4	12/30/2015	398-437	Chalky mudstone, moderate to good induration	Avon Park Fm./MCU I	Butler-Zhan (2004) inertial (test well)	17
5	01/11/2016	478-527	Moldic dolostone with organics and trace gypsum, good induration	Avon Park Fm./L Fldn Aq (bl MCU I)	Butler-Zhan (2004) inertial (test well)	42
6	01/14/2016	546-597	Moldic/sucrosic dolostone with organics, good to moderate induration	Avon Park Fm./L Fldn Aq (bl MCU I)	Butler-Zhan (2004) inertial (test well)	55
7	01/26/2016	708-757	Fractured dolostone with organics/evaporites, very good induration	Avon Park Fm./L Fldn Aq (bl MCU I)	Butler-Zhan (2004) inertial (test well)	150
8	01/27/2016	781-817	Gypsiferous, sparry grainstone/packstone, good induration	Avon Park Fm./MCU II	KGS Model (1994)	0.3
9	02/02/2016	921-957	Sparry packstone and dolostone with gypsum, good to moderate induration	Avon Park Fm./L Fldn Aq (bl MCU II)	Butler-Zhan (2004) inertial (test well)	13
10	03/09/2016	996-1,047	Packstone/grainstone and vuggy dolostone with minor evaporites, good induration	Avon Park Fm./L Fldn Aq (bl MCU II)	Butler-Zhan (2004) inertial (test well)	44
11	07/21/2016	1,128-1,177	Gypsiferous, micritic wackestone and crystalline dolostone, good induration	Oldsmar Fm./MCU VIII	KGS Model (1994)	0.3
12	07/29/2016	1,217-1,287	Fractured, vuggy crystalline dolostone with trace gypsum, good induration	Oldsmar Fm./L Fldn Aq (bl MCU VIII)	Butler-Zhan (2004) inertial (test well)	310
13	08/04/2016	1,396-1,447	Vuggy, sparry wackestone/mudstone with trace gypsum/organics, good induration	Oldsmar Fm./L Fldn Aq (bl MCU VIII)	Butler-Zhan (2004) inertial (test well)	150
14	08/26/2016	1,577-1,627	Vuggy/fractured sucrosic dolostone with trace evaporites, good induration	Oldsmar Fm./L Fldn Aq (bl MCU VIII)	Butler-Zhan (2004) inertial (test well)	270
15	09/13/2016	1,778-1,817	Bedded anyhydrite and evaporitic crystalline limestone, very good induration	Cedar Keys Fm./sub-Floridan confining unit	KGS Model (1994)	0.003

in figure 4. The permanent monitor wells were outfitted with water level monitoring equipment and a hydrograph of water levels after exploratory core drilling and testing is presented in figure 5.

Constant-rate APTs were conducted to estimate hydraulic parameters for the Upper Floridan aquifer and Lower Floridan aquifer below middle confining unit I and diagnostic radial flow plots and derivative analyses of the drawdown and recovery data were used to help characterize the type of aquifer present. The APT data collection sheets are presented in appendix J. The APT curve-match analyses are presented in appendix K.

The surficial aquifer is absent at the ROMP 131.5 well site. Apparent less permeable, finer-grained sediments present from 20 to 40 feet bls within the undifferentiated sand and clay deposits may slow vertical recharge to the Upper Floridan aquifer, but permeability appears insufficient to provide basal confinement of the shallow sands. According to Arthur and others (2008), the site is located just east of the northern Brooksville Ridge within a broad region where the surficial aquifer is not delineated due to thin, discontinuous basal confinement that is often “breached by sinkholes or fractures and precludes characterization as a laterally extensive or functional surficial aquifer by lack of hydraulic continuity.” Evidence of karst activity at the well site includes total loss of drilling fluid circulation at 35 feet and no sample recovery from 30 to 35 feet bls (presumably a karst solution channel), underlain by approximately 6 feet of poorly recovered sand with a mixed appearance (possibly includes collapsed material from above), and 6 feet of highly weathered, unconsolidated limestone mud.

During core drilling and testing in 2016, the water table fluctuated between approximately 35 to 41.5 feet bls, and long-term monitoring since 2018 shows the water table ranging from approximately 28 to 36 feet bls. Redoximorphic features observed within the sands (iron mottling and staining) corroborate the water table regularly fluctuates in the deeper sands suggesting oxygenated conditions (not fully saturated) that can be induced or enhanced by breaching and further supports the lack of effective confinement (Ron Basso, written commun., 2020). Iron-staining present in the persistently dry shallow sands, however, is presumably the result of long-term agricultural irrigation, not necessarily evidence of past water tables. The well site area is within a large pasture actively used for livestock and hay production and massive pivot-irrigation sprayers are utilized on the fields regularly.

Any local drainage from the well site is north towards a small depression known as Fourmile Pond located approximately 2,000 feet north-northeast of the well site (fig. 1) but is ultimately internally drained because recharge to the Upper Floridan aquifer is very high in this portion of the District. Water was occasionally observed in Fourmile Pond during wet periods but quickly dissipated. Also, a smaller, shallower, and persistently dry unnamed depression is located 1,200 feet north of well site between the well site and Fourmile Pond. No slug testing was performed in the shallow sands because they were dry. Periodic taped water level monitoring of the *Surf Aq Monitor* (total depth 20 feet bls) began on August 13, 2018, and has yet to record any water in the surficial sands.

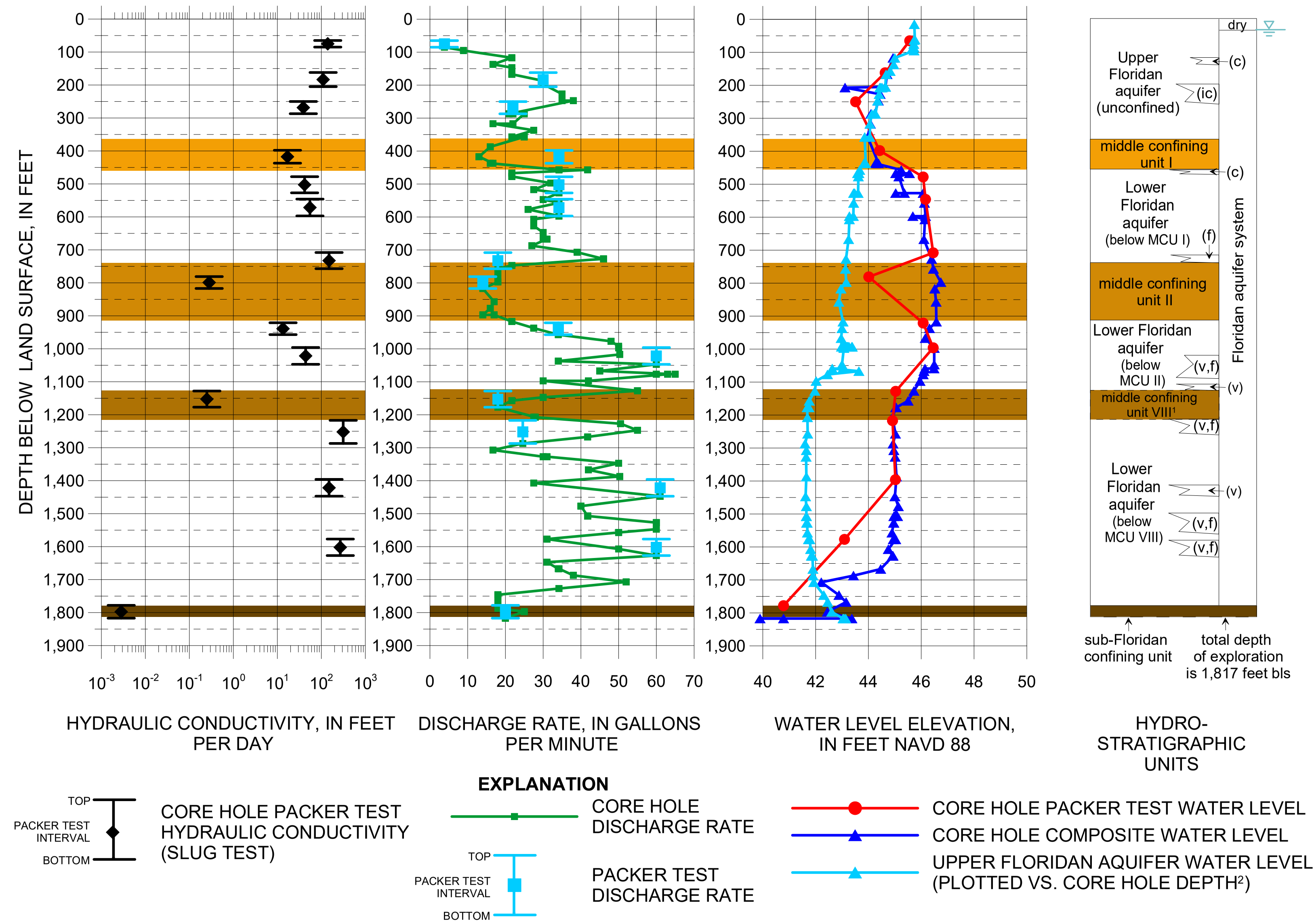
Collectively, data gathered at this site suggests effective surficial confinement is not present and supports the conceptualization that the underlying Upper Floridan aquifer is regionally unconfined and represented by the water table (Basso, 2019). Although not confirmed here because of perpetually dry sands, in some places similar low-permeability sediments may cause a brief water level separation between the shallow sands and the Upper Floridan aquifer following rainfall events, but typically realign shortly after.

Upper Floridan Aquifer (unconfined)

At the ROMP 131.5 well site, the Upper Floridan aquifer is one of four aquifers identified in the Floridan aquifer system during exploratory core drilling and testing. Because it is effectively unconfined, the top of the Upper Floridan aquifer is specifically coincident with the water table that can occur within the shallow sands, or below the top of limestone. The base of the Upper Floridan aquifer corresponds with the top of middle confining unit I at 368 feet bls (fig. 3). The Upper Floridan aquifer, as encountered at the well site, may include the undifferentiated sand and clay, undifferentiated Hawthorn Group, the Ocala Limestone, and the upper portion of the Avon Park Formation. Notably, drilling fluid circulation was lost at 35 feet bls, likely in a solution channel, indicating a substantial increase in permeability between the overlying sands, karst residuum, and Ocala Limestone. Two intervals of intermittent cavities were encountered in the Upper Floridan aquifer from 116 to 137 and 197 to 256 feet bls. The cavities made drilling difficult at times as described in the Well Construction section.

Although the Upper Floridan aquifer is a single aquifer, it can be subdivided based on local variations of hydraulic properties. Mappable intervals where permeability is not characteristic of the entire aquifer, whether substantially higher or lower, are referred to as zones (Laney and Davidson, 1986). Two zones often identified within the Upper Floridan aquifer are the Ocala low-permeability zone and the Avon Park high-permeability zone. These zones are typically found south of northern Pasco County and neither of these zones were delineated at the ROMP 131.5 well site.

Water levels were not recorded in the core hole until it was 75 feet deep. From 75 feet bls to the base of the Upper Floridan aquifer at 368 feet bls, near daily water levels in the core hole ranged between 34.64 and 41.49 feet bls, indicating the water table was present within the shallow sands (fig. 4 and appendix I). The water table in figure 3 is depicted at the shallowest depth of 35 feet bls recorded during exploratory core drilling and testing activities. Long-term monitoring of the Upper Floridan aquifer reveals that the barometric effect typical in confined aquifers is not present, and further confirms unconfined conditions (fig. 5). Figure 5 also shows that the Upper Floridan aquifer briefly recharges the Lower

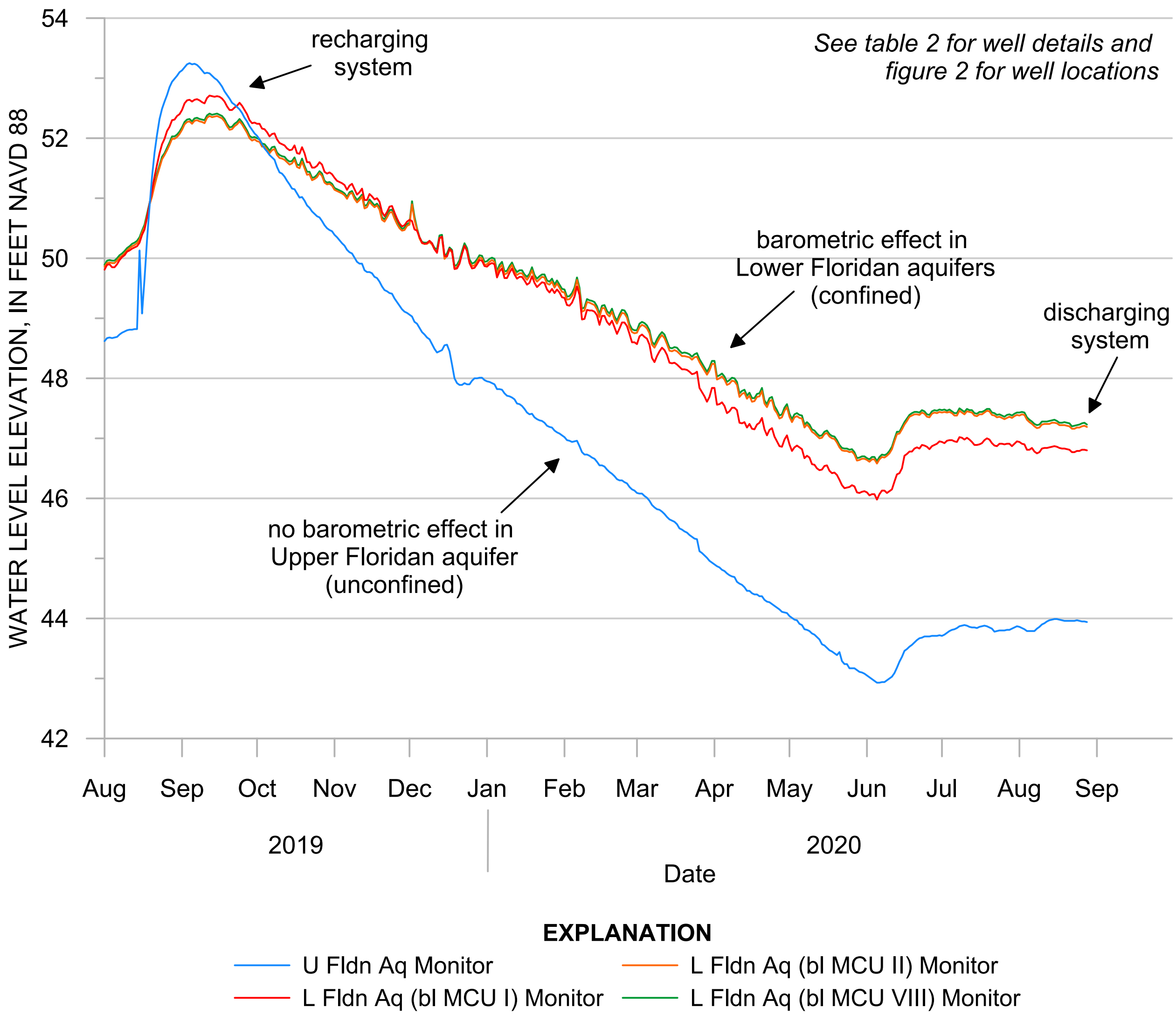


[1] Inconclusive confinement; most data suggest the confining unit is present but long-term monitoring remains questionable

[2] Water levels obtained from onsite Upper Floridan aquifer drilling water supply well measured concurrently with core hole readings

[bls, below land surface; c, cavities; f, fractures; ic, intermittent cavities; MCU, middle confining unit; NAVD 88, North American Vertical Datum of 1988; v, vugs]

Figure 4. Horizontal hydraulic conductivity estimates and static water levels collected during core drilling at the ROMP 131.5 – Morriston well site in Levy County, Florida. Note: the airline is 20 feet shorter than the total depth of the core hole for each discharge measurement up to a maximum airline length of 400 feet. Discharge measurements were taken with drill rods ten feet off bottom.



[NAVD 88, North American Vertical Datum of 1988; U, Upper; Fldn, Floridan; Aq, aquifer; L, Lower; bl, below; MCU, middle confining unit]

Figure 5. Hydrograph of the permanent monitor wells at the ROMP 131.5 – Morriston well site in Levy County, Florida.

Floridan aquifers during very wet periods, but more often the Lower Floridan aquifers discharge to the Upper Floridan aquifer. Notably, discharge conditions have persisted since August 2019 to present (April 2022) even during wet seasons.

Three slug test suites were conducted in the Upper Floridan aquifer and yielded an average hydraulic conductivity estimate of 96 feet per day (ft/d). However, no slug tests were conducted in the intermittent cavity intervals due to drilling difficulties and core hole stability; therefore, these slug tests reasonably underestimate the overall hydraulic conductivity of the Upper Floridan aquifer. Slug test 1 was conducted between 65 and 85 feet bls in the Ocala Limestone and yielded a hydraulic conductivity estimate of 140 ft/d (table 3 and fig. 4). Slug tests 2 (from 162 to 205 feet bls) and 3 (from 250 to 287 feet bls) were conducted in the Avon Park Formation and yielded hydraulic conductivities of 110 and 39 ft/d, respectively. The decrease in hydraulic conductivity between slug test 2 and slug test 3 is attributed to a change in lithology from moderately indurated wackestone to well indurated dolostone.

A constant rate APT was conducted within the Upper Floridan aquifer from May 14 through 16, 2018. Background water level data were collected before the drawdown phase (from May 7 to 14, 2018) and during the recovery phase (from May 16 to 21, 2018) to determine the regional water level trend. The *U Fldn Aq Temp Pump* well was pumped with a 10-inch turbine pump at an average rate of 3,050 gpm for approximately 45 hours. The discharge rate measurements were used in the analysis of the drawdown data to correct for small variations in flow rate. The water was discharged approximately 2,000 feet north to Fourmile Pond. The *U Fldn*

Aq Monitor was the primary observation well and was located approximately 175 feet southwest of the production well (fig. 2). The *U Fldn Aq Drilling Water Supply* well (located 97 feet southeast of the production well) and the *Corehole* (located approximately 57 feet northeast of the production well) were used as observation wells (fig. 2). The *L Fldn Aq (bl MCU I) Monitor* was used to evaluate any effects in the underlying (non-pumped) aquifer.

Prior to starting the drawdown phase on May 14, 2018, the static water level in the production well was 38.56 feet below top of casing (btoc) or 43.80 feet NAVD 88, placing it near the top of the limestone. The static water levels (hand checked with taped meter) in the three observation wells were also approximately 43.80 feet NAVD 88 (within plus or minus 0.01 foot). The maximum drawdown during pumping was approximately 0.7 feet in the production well, 0.20 feet in the *U Fldn Aq Monitor*, and 0.26 feet in the *U Fldn Aq Drilling Water Supply* well. Oddly, the *Corehole*, which is the closest observation well to the production well, had the smallest maximum drawdown of 0.16 feet when it should have been the largest. The cause is unclear but may be heterogeneity or anisotropy in the aquifer, possibly due to near-surface karst or cavity zones present in the middle portion of the aquifer (fig. 3). In addition, the *Corehole* was persistently purged for months during exploratory core drilling and might have developed enhanced permeability. No drawdown was observed in the *L Fldn Aq (bl MCU I) Monitor* during the Upper Floridan aquifer APT. A hydrograph of water levels before, during, and after the APT is presented in figure 6.

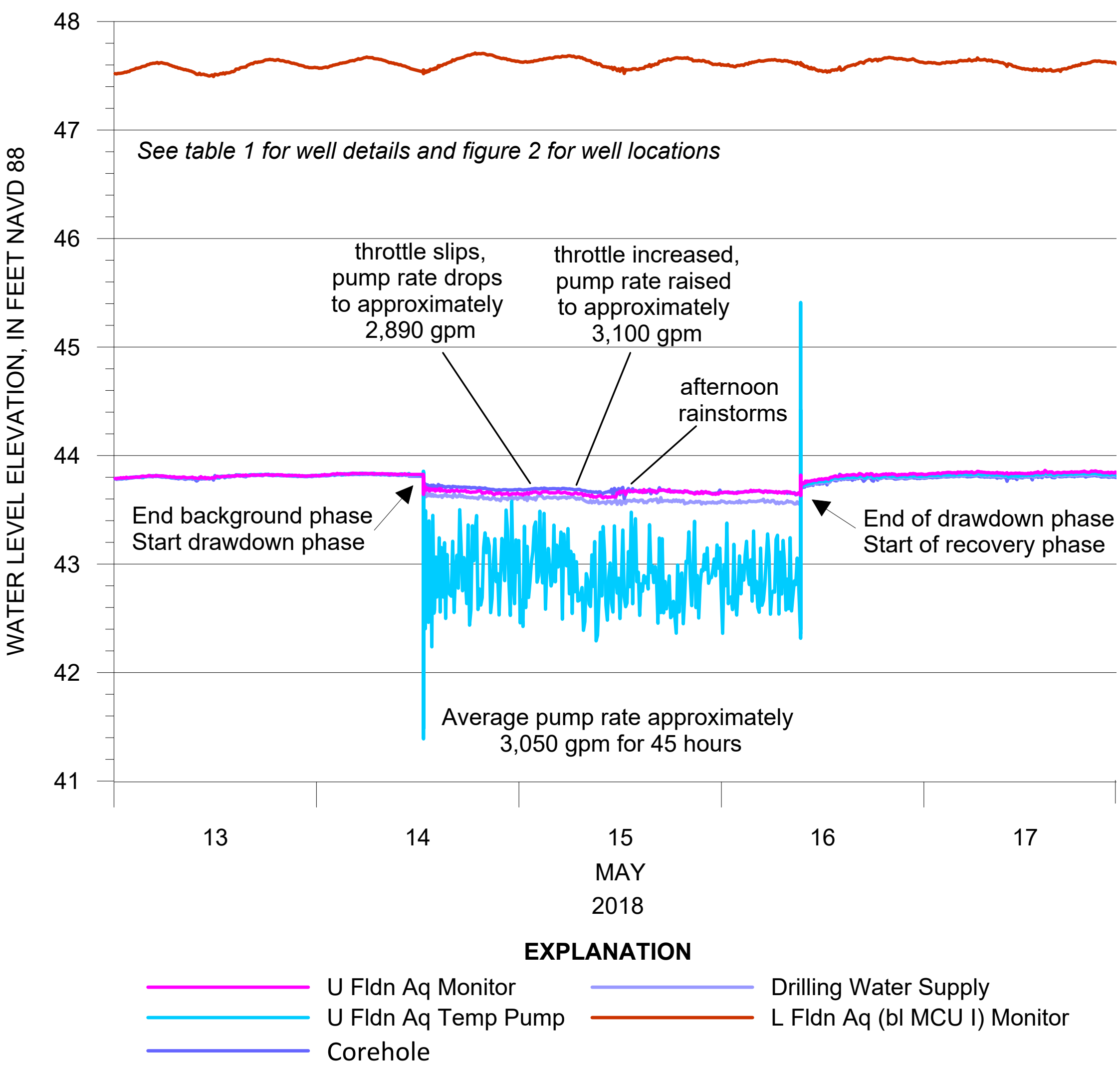
Water levels were hand-checked with a taped meter 30 minutes prior to pumping and confirmed all Upper Floridan aquifer wells were reading the same elevation (43.80 feet NAVD 88 plus or minus 0.01 foot). A small offset was made to the *Corehole* levels to account for a small disparity (0.032 feet) attributed to pressure transducer error (a larger than appropriate range pressure transducer was used for the very small displacement). At around 9:40 PM on May 14, about eight hours (480 minutes) after pumping began, a throttle locknut on the pump loosened and the pump rate decreased to around 2,890 gpm (fig. 6). To maintain optimal drawdown in the observation wells, the throttle was increased at 7:22 AM the next morning (1,123 minutes), which increased the pump rate to approximately 3,100 gpm. Rainstorms started around noon on May 15 and lasted through the afternoon, causing water level perturbances (fig. 6) but it did not affect the overall analyses. Prior to the analysis, all observation well data were corrected for a declining regional water level trend (0.0000018 feet per minute [ft/min]) delineated from background and recovery data in the *U Fldn Aq Monitor*.

Diagnostic radial flow plots and derivative analyses of the drawdown and recovery data indicate the Upper Floridan aquifer is unconfined with evidence of limestone dewatering during pumping. The *U Fldn Aq Monitor* and *Corehole* observation wells were analyzed using the Moench (1997) type curve solution for an unconfined aquifer with delayed gravity response, variable pump rate, partial penetration, and well bore storage (appendix K, figs. K1 and K4). Some well bore storage is evident by derivative humps in early time (approximately 0 to 3 minutes). In middle time (approximately 3 to 100 minutes), there is presumed limestone dewatering causing the signature S-shape derivative pattern from delayed drainage. In late time (after 100 minutes), delayed drainage ends and data joins a second type curve, and the derivative becomes more constant. In very late time (after 1,400 minutes), rainstorms rolled in, causing some water level fluctuations in all observation wells and a peculiar small jump in the *U Fldn Aq Monitor*, but it did not affect the overall analyses.

Curve-match analyses of drawdown and recovery data from the primary observation well (*U Fldn Aq Monitor*) using the Moench (1997) solution for unconfined aquifers yielded an estimated transmissivity value of 3,000,000 feet squared per day (ft^2/d), a storativity estimate of 0.004, and a specific yield estimate of 0.03 (table 4 and appendix K, fig K1). The drawdown and recovery data from the *U Fldn Aq Monitor* were also analyzed using the unconfined Cooper-Jacob (1946) and the Theis (1935) residual drawdown/recovery solutions, respectively. The results for both solutions match the results from the Moench (1997) solution for transmissivity and storativity (table 4 and appendix K, figs. K2 and K3). In addition, the drawdown and recovery data from the *Corehole* was also analyzed using the Moench (1994) solution for unconfined aquifers and also yielded a transmissivity of 3,000,000 ft^2/d (appendix K, fig. K4).

Middle Confining Unit I

At the ROMP 131.5 well site, the middle confining unit I of Miller (1986) extends from 368 to 453 feet bls in very fine grained, low permeability chalky mudstone within the middle to upper part of the Avon Park Formation. In the northernmost District, the original western extent of middle confining unit I of Miller (1986) did not include western Marion County and parts of Levy County. However, more intense deep exploration and monitoring in the decades since have shown this unit is present, and its position consistently agrees with regional mapping of new deep exploration sites. The confining unit is delineated based on core hole lithology, decreased core hole discharge rates, decreased hydraulic conductivity from discrete slug testing, and where core hole static water levels with depth depart from the concurrent static water levels in the *U Fldn Aq Drilling Water Supply* (fig. 4). Also, geophysical logs show the unit coincides with decreased electrical resistivity on geophysical logs relative to the overlying and underlying aquifers (appendix B, figs. B3 and B11). Slug test 4 was conducted in the middle confining unit I from 398 to 437 feet bls and yielded a hydraulic conductivity estimate of 17 ft/d (table 3 and fig. 4). The leakance of middle confining unit I estimated from the Lower Floridan aquifer below middle confining unit I APT (discussed in the next section) is 0.0009 day^{-1}.



[NAVD 88, North American Vertical Datum of 1988; gpm, gallons per minute; U, Upper; Fldn, Floridan; Aq, aquifer; L, Lower; bl, below; MCU, middle confining unit; Temp, temporary; Pump, pumped well]

Figure 6. Hydrograph of the wells monitored before, during, and after the Upper Floridan APT conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.

Lower Floridan Aquifer Below Middle Confining Unit I

At the ROMP 131.5 well site, the Lower Floridan aquifer below middle confining unit I, herein referred to as Lower Floridan aquifer I, extends from 453 to 737 feet bls, entirely within the Avon Park Formation. The top of the unit is delineated based on core hole lithology and substantial increases in core hole discharge rates and hydraulic conductivity relative to the overlying middle confining unit I (fig. 4). Core hole static water levels with depth show a head difference (approximately 2.5 feet) from the concurrent static water levels in the *U Fldn Aq Drilling Water Supply* (fig. 4). Also, geophysical logs show increased electrical resistivity relative to the overlying and underlying middle confining units (appendix B, figs. B3 and B11). The bottom of the unit coincides with the top of persistent, low permeability evaporitic dolostones of middle confining unit II.

A hydrograph of the permanent monitor wells since 2019 (fig. 5) demonstrates the Lower Floridan aquifer I is a separate aquifer from the Upper Floridan aquifer, with the head in the Lower Floridan aquifer I ranging from approximately 1 foot below to 3 feet above the head in the Upper Floridan aquifer. Also, water level data from the Lower Floridan aquifer I (and the other Lower Floridan aquifers) show fluctuations because of non-corrected daily barometric effects of a confined aquifer. This barometric effect is not apparent in the Upper Floridan aquifer water level data, which is more characteristic of unconfined to semi-confined aquifers (fig. 5). A small cavity

Table 4. Results from the aquifer performance tests conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida

[ft, feet; gpm, gallons per minute; ft^2/d, feet squared per day; day^{-1}, feet per day per foot; --, not applicable; U, Upper; Fldn, Floridan; Aq, aquifer; MCU, middle confining unit; L, lower; bl, below]

Aquifer Tested	Aquifer Saturated Thickness (b) (ft)	Average Pump Rate (gpm)	Pumping Duration (hours)	Analyzed Observation Well	Distance to Pumped Well (ft)	Test Phase Analyzed	Analysis Plot	Analytical Solution	Analytical Model	Transmissivity (ft^2/d)	Storativity (dimensionless)	Specific Yield (dimensionless)	Leakance (day^{-1})
						Drawdown/ Recovery	Appendix K, Figure K1	Moench (1997)	Unconfined	3,000,000	0.004	0.03	--
Upper Floridan aquifer	322	3,050	45	U Fldn Aq Monitor	175	Drawdown	Appendix K, Figure K2	Cooper-Jacob (1946)	Unconfined	3,000,000	0.004	--	--
						Recovery	Appendix K, Figure K3	Theis (1935) residual drawdown/ recovery	Confined	3,000,000	--	--	--
						Drawdown/ Recovery	Appendix K, Figure K5	Hantush-Jacob (1955)/Hantush (1964) w/o aquitard storage	Leaky	49,000	0.0008	--	0.0009
Lower Floridan aquifer below MCU I	284	998	51	L Fldn Aq (bl MCU I) Monitor	150	Drawdown	Appendix K, Figure K6	Cooper-Jacob (1946)	Confined	49,000	0.0008	--	--
						Recovery	Appendix K, Figure K7	Theis (1935) residual drawdown/ recovery	Confined	49,000	--	--	--

interval was encountered at the top of the unit from 453 to 463 feet bls and a fracture interval was encountered at the base of the unit from 717 to 737 feet bls (fig. 3). Both intervals coincide with discharge rate peaks relative to the surrounding rock (fig. 4).

Three slug test suites were conducted in the Lower Floridan aquifer I and yielded an average hydraulic conductivity estimate of 82 ft/d. Slug tests 5 (from 478 to 527 feet bls) and 6 (from 546 to 597 feet bls) were conducted in sucrosic dolostones and yielded hydraulic conductivity estimates of 42 and 55 ft/d, respectively (table 3 and fig. 4). Slug test 7 was conducted in fractured dolostone between 708 and 757 feet bls and yielded a hydraulic conductivity of 150 ft/d.

A constant rate APT was conducted within the Lower Floridan aquifer I from April 30 through May 2, 2018. Background water level data were collected before the drawdown phase (from April 25 to 30, 2018) and during the recovery phase (from May 2 to 7, 2018) to determine the regional water level trend. The *L Fldn Aq (bl MCU I) Temp Pump* well was pumped with a 6-inch turbine pump at an average rate of 998 gpm for approximately 51 hours. The discharge rate measurements were used in the analysis of the drawdown data to correct for small variations in flow rate. The water was discharged approximately 2,000 feet north to Fourmile Pond. The *L Fldn Aq (bl MCU I) Monitor* was the observation well and was located approximately 150 feet southwest of the production well (fig. 2).

Prior to starting the drawdown phase on April 30, 2018, the static water level in the production well was 32.80 feet btoc or 47.77 feet NAVD 88. The static water level (hand checked with taped meter) in the observation well was approximately 41.05 feet btoc or 47.54 feet NAVD 88. The maximum drawdown during pumping was approximately 10.3 feet in the production well and approximately 2.3 feet in the observation well. No drawdown was observed in the *U Fldn Aq Monitor* during the Lower Floridan aquifer I APT. A hydrograph of water levels before, during, and after the APT is presented in figure 7. Prior to the analysis, all observation well data were corrected for a declining regional water level trend (0.000027 ft/min) delineated from background data in the *L Fldn Aq (bl MCU I) Monitor*.

Diagnostic radial flow plots and derivative analyses of the drawdown and recovery data indicate the Lower Floridan aquifer I is confined with evidence of minor leakage from the overlying middle confining unit I. The *L Fldn Aq (bl MCU I) Monitor* was analyzed using the Hantush-Jacob (1955)/Hantush (1964) type curve solution for a leaky confined aquifer with no storage in the aquitard, variable pump rate, and partial penetration (appendix K, fig. K5). The data fit the Theis type curve very well in early and middle time, but deviate around 200 minutes since pumping began because of leakage from the overlying middle confining unit I.

Curve-match analyses of drawdown and recovery data from the observation well using the Hantush-Jacob (1955)/Hantush (1964) solution for leaky confined aquifers yielded an estimated transmissivity value of 49,000 ft^2/d, a storativity estimate of 0.0008, and a leakance estimate of 0.0009 day^{-1} (appendix K, fig. K5 and table 4). The drawdown and recovery data from the *L Fldn Aq (bl MCU I) Monitor* was also analyzed using the confined Cooper-Jacob (1946) and the Theis (1935) residual drawdown/recovery solutions, respectively. The results for both solutions match the results from the Hantush-Jacob (1955)/Hantush (1964) solution for transmissivity and storativity (appendix K, figs. K6 and K7 and table 4).

Middle Confining Unit II

At the ROMP 131.5 well site, the middle confining unit II of Miller (1986) extends from 737 to 912 feet bls within persistent, low permeability, evaporitic packstones and dolostones in the lower portion of the Avon Park Formation. The confining unit is delineated based on core hole lithology, decreased core hole discharge rates, decreased hydraulic conductivity from discrete slug testing, and observed changes in core hole static water levels with depth (fig. 4). At this location, middle confining unit II seems less densely dolomitic and interstitial evaporites do not appear as prevalent as typically encountered. This is likely because the well site is close to the northern extent of the unit mapped by Miller (1986) and the properties of the unit are in a facies transition. Geophysical logs show the unit coincides with decreased and less erratic electrical resistivity relative to the overlying and underlying aquifers. Also, shifts in spontaneous potential occur near the top and bottom of the unit where it transitions with adjacent aquifers (appendix B, figs. B1, B2, and B11). Slug test 8 was conducted in the middle confining unit II from 781 to 817 feet bls and yielded a low hydraulic conductivity estimate of 0.3 ft/d (table 3 and fig. 4). The leakance of middle confining unit II was not estimated since no APT was conducted in the Lower Floridan aquifer below middle confining unit II.

Lower Floridan Aquifer Below Middle Confining Unit II

At the ROMP 131.5 well site, the Lower Floridan aquifer below middle confining unit II, herein referred to as Lower Floridan aquifer II, extends from 912 to 1,127 feet bls, partly in the very bottom of the Avon Park Formation but mostly in the upper Oldsmar Formation. The top of the unit is delineated based on core hole lithology and substantial increases in core hole discharge rates and hydraulic conductivity relative to the overlying middle confining unit II (fig. 4). Core hole static water levels are relatively stable across the unit at approximately 46 feet NAVD 88 (appendix I and fig. 4). Also, geophysical logs show increased electrical resistivity relative to the overlying and underlying middle confining units (appendix B, fig. B11). A vuggy, fractured interval from 1,034 to 1,092 feet bls and a vuggy interval from 1,110 to 1,127 feet bls occur in the bottom half of the unit that coincides with substantial discharge rate increases and higher apparent permeability (figs. 3 and 4). The bottom of the unit coincides with the top of evaporitic, micritic wackestone and crystalline dolostone of middle confining unit VIII.

A hydrograph of the permanent monitor wells since 2019 (fig. 5) demonstrates the Lower Floridan aquifer II is a separate aquifer from the overlying Lower Floridan aquifer I, with the head in the Lower Floridan aquifer II ranging from approximately 0.25 feet below to 0.5 feet above the head of the Lower Floridan aquifer I. The Lower Floridan aquifer II water level data also show fluctuations because of non-corrected daily barometric effects of a confined aquifer (fig. 5).

Two slug test suites were conducted in the Lower Floridan aquifer II and yielded an average hydraulic conductivity estimate of 29 ft/d. Slug tests 9 (from 921 to 957 feet bls) and 10 (from 996 to 1,047 feet bls) were conducted in well indurated sparry packstones and yielded hydraulic conductivity estimates of 13 and 44 ft/d, respectively (table 3 and fig. 4). No APT was conducted in the Lower Floridan aquifer II. However, a short duration specific capacity test was conducted on the completed Lower Floridan aquifer II monitor (April 25, 2018) by pumping approximately 43 gpm for 15 minutes. Drawdown was negligible (only 0.02 foot) in the Lower Floridan aquifer II monitor and no drawdown was observed in the Lower Floridan aquifer VIII monitor (both monitors are part of a single dual-monitor well, appendix C, fig. C5) resulting in a very high specific capacity of approximately 2,150 gpm/foot. Although permeability is appreciable, this value is suspected to be overestimated and might be significantly lower if larger pumping rates were feasible.

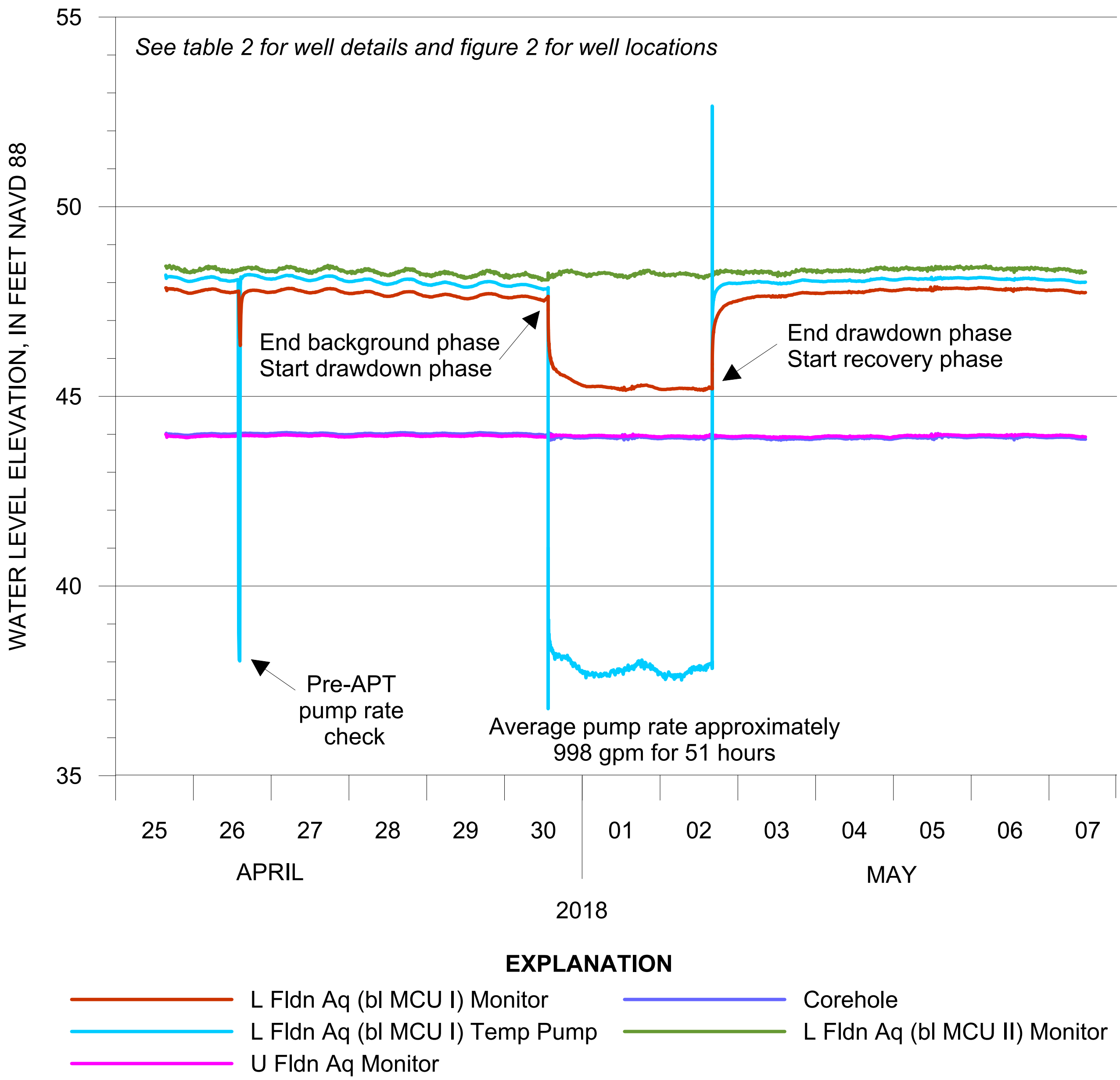
Middle Confining Unit VIII

At the ROMP 131.5 well site, most data support the middle confining unit VIII of Miller (1986) is present and extends from 1,127 to 1,213 feet bls in the middle part of the (early Eocene) Oldsmar Formation. But long-term monitoring since 2018 remains inconclusive, and thus precludes proof that the unit is still effectively present at this location (more details in next section). The lithology is very fine grained, micrite cemented, gypsiferous wackestone with lesser amounts of interbedded crystalline dolostone and trace glauconite below 1,184 feet bls, which is consistent with Miller's (1986) description of middle confining unit VIII. Originally, middle confining unit VIII of Miller (1986) was only mapped in south Florida and a portion of east-central Florida where sufficient deep exploration data were available. The unit directly overlies the Boulder zone in south Florida, which is historically used for treated municipal wastewater injection and where data from several deep test wells show that middle confining unit VIII is an effective confining unit in that region (Miller, 1986). Williams and Kuniansky (2016) expanded Miller's middle confining unit VIII across the entire peninsula. The expansion was based on the discovery of a glauconite geophysical marker horizon (Reese and Richardson, 2008) that is unique to middle confining unit VIII and a much broader region. The entire low permeability unit was referred to as the 'Glauconite marker unit' in Williams and Kuniansky (2016) and described as 'possibly semi-confining' in areas beyond Miller's (1986) mapped extent. The glauconite marker horizon is identified at several deep exploration sites across the District (including this site) and consistently occurs within a mapped low permeability unit correlating to Miller's middle confining unit VIII when extrapolated into the District. The age (early Eocene) and general lithology of the unit are also consistent with Miller's description (1986) for middle confining unit VIII.

The middle confining unit VIII was delineated based on core hole lithology, decreased core hole discharge rates, and decreased hydraulic conductivity (fig. 4). Although water levels decreased by approximately 1 foot across the unit, they are inconclusive since coincident water levels from the Upper Floridan aquifer showed a similar decrease during this period and may be attributed to the overall regional trend (fig. 4). Geophysical logs show the unit coincides with reduced electrical resistivity and shifts in spontaneous potential near the top and bottom of the unit where it transitions with adjacent aquifers (appendix B, fig. B11). Also, the signature glauconite marker horizon (described above) is identified by a substantial gamma-ray peak that coincides with trace glauconite in the core from 1,184 to 1,216 feet bls (appendix B, fig. B4). Slug test 11 was conducted in the middle confining unit VIII from 1,128 to 1,177 feet bls and yielded a low hydraulic conductivity estimate of 0.3 ft/d (table 3 and fig. 4). The leakance of middle confining unit VIII was not estimated since no APT was conducted in the Lower Floridan aquifer below middle confining unit VIII.

Lower Floridan Aquifer Below Middle Confining Unit VIII

At the ROMP 131.5 well site, the Lower Floridan aquifer below middle confining unit VIII, herein referred to as Lower Floridan aquifer VIII, presumably extends from 1,213 to 1,776 feet bls, within the lower Oldsmar Formation and the upper Cedar Keys Formation. However, presence of Lower Floridan aquifer VIII is dependent on verification of middle confining unit VIII confinement. The top of the unit is delineated based on core hole lithology, substantial increases in core hole discharge rates, and an increased hydraulic conductivity estimate relative to the overlying middle confining unit VIII (fig. 4). Also, static core hole water levels stabilize below middle confining unit VIII at approximately 45 feet NAVD 88 (fig. 4 and appendix I). A vuggy, fractured interval is present from 1,213 to 1,260 feet bls. Three more intervals are present between 1,419 and 1,631 feet bls and coincide with substantial discharge rate increases and higher apparent permeability (figs. 3 and 4). Geophysical logs show some increased electrical resistivity, primarily within the higher permeability fracture intervals (appendix B, fig. B11) and slightly higher background levels on gamma-ray logs relative to Lower



[NAVD 88, North American Vertical Datum of 1988; APT, aquifer performance test; gpm, gallons per minute; L, Lower; Fldn, Floridan; Aq, aquifer; bl, below; MCU, middle confining unit; Temp, temporary; Pump, pumped well; U, Upper]

Figure 7. Hydrograph of the wells monitored before, during, and after the Lower Floridan aquifer below middle confining unit I APT conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.

Floridan aquifer II (appendix B, fig. B4). The bottom of the unit coincides with the top of dense anhydrite beds of the sub-Floridan confining unit.

A hydrograph of the permanent monitor wells since 2019 (fig. 5) demonstrates the Lower Floridan aquifer VIII water levels remain nearly coincident with Lower Floridan aquifer II, which questions the effectiveness of middle confining unit VIII at this location. However, a specific capacity test was conducted on the completed *Lower Floridan aquifer VIII monitor* (June 20, 2018) by pumping approximately 30 gpm for 2 hours. Drawdown was approximately 4.7 feet in the Lower Floridan aquifer VIII monitor after 2 hours of pumping, while only 0.1 foot of drawdown was recorded in the Lower Floridan aquifer II monitor above (both monitors are part of a single dual-monitor well, [appendix C, fig. C5]), which suggests some degree of confinement is present.

Three slug test suites were conducted in the Lower Floridan aquifer VIII and yielded an average hydraulic conductivity estimate of 250 ft/d. Slug tests 12 (from 1,217 to 1,287 feet bls) and 14 (from 1,577 to 1,627 feet bls) were conducted in well indurated, vuggy, fractured dolostone and yielded hydraulic conductivity estimates of 310 and 270 ft/d, respectively. Slug test 13 was conducted in well indurated, vuggy wackestone from 1,396 to 1,447 feet bls and yielded a hydraulic conductivity estimate of 150 ft/d (table 3 and fig. 4). No APT was conducted in the Lower Floridan aquifer VIII.

Sub-Floridan Confining Unit

At the ROMP 131.5 well site, the top of the sub-Floridan confining unit of the Floridan aquifer system was encountered at 1,776 feet bls and continues beyond the total depth of exploration at 1,817 feet bls. Contour maps from Miller (1986) estimate the base of the Floridan aquifer system at approximately 1,781 feet bls at this location. The unit was identified at the top of thick crystalline anhydrite beds with interbedded very low permeability evaporitic limestones. Slug test 15 was conducted from 1,778 to 1,817 feet bls and yielded a hydraulic conductivity estimate of 0.003 ft/day (table 3 and fig. 4).

Groundwater Quality

The ROMP 131.5 well site groundwater quality characterization is based on the results from 15 discrete groundwater samples collected from 65 to 1,817 feet bls. No sampling was conducted above 65 feet because the sediments were either dry or unconsolidated. The water quality data collection field sheets are provided in appendix L. The field analyses results, laboratory analyses results, equivalent weights and water types, and select molar ratio calculations are in appendix M, tables M1, M2, M3, and M4, respectively. The U.S. Environmental Protection Agency's National Secondary Drinking Water Regulations (herein referred to as secondary drinking water standards) for total dissolved solids (TDS), sulfate, chloride, and iron are 500 milligrams per liter (mg/L), 250 mg/L, 250 mg/L, and 0.3 mg/L (300 micrograms per liter), respectively (Hem, 1985; U.S. Environmental Protection Agency, 2012).

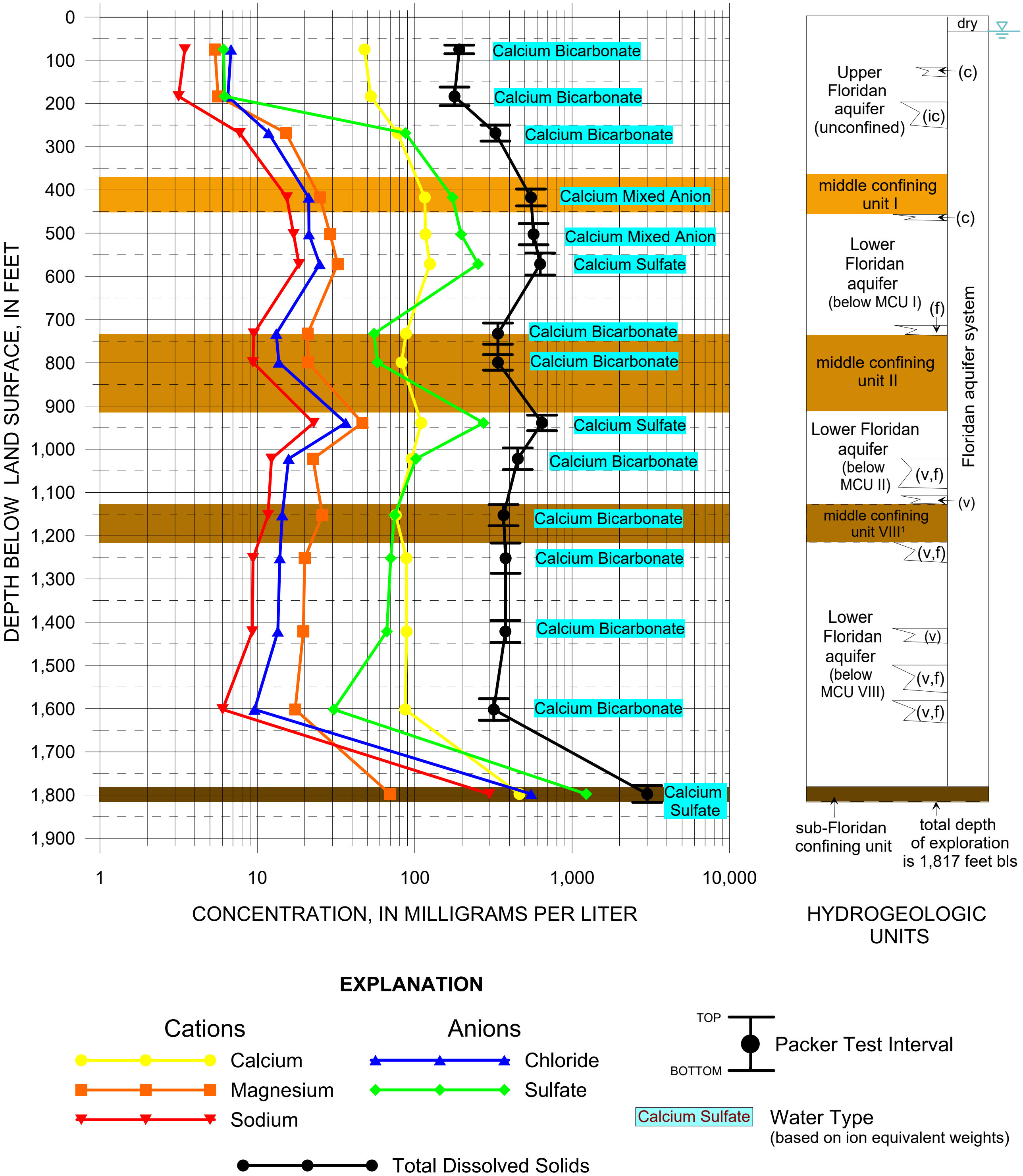
The results of the first three water quality samples collected within the Upper Floridan aquifer at the ROMP 131.5 well site indicate that groundwater is fresh (TDS concentrations are less than 1,000 mg/L) and does not exceed secondary drinking water standards (TDS concentrations less than 500 mg/L). The TDS values in water quality samples 1 and 2, collected within the Ocala Limestone and Avon Park Formation above 205 feet bls, were fresh with TDS values of 192 and 179 mg/L, respectively (fig. 8 and appendix M, table M2). The TDS value for water quality sample 3, collected from within the Avon Park Formation between 250 and 287 feet bls, was 326 mg/L. The TDS increase between samples 2 and 3 is a result of increases in all constituents, but primarily sulfate, which increases from 6.2 to 87.3 mg/L (fig. 8 and appendix M, table M2). Trace amounts of organics and chalcopyrite were observed intermittently in this interval that may contribute to the increased sulfate. Also, the increase in constituents in water quality sample 3 are likely the result of poorer quality water from the Lower Floridan aquifer I discharging into the Upper Floridan aquifer, which is reasonable because the long-term hydrograph shows the Lower Floridan aquifer I water level is most often higher than the Upper Floridan aquifer water level (fig. 5).

The results of water quality sample 4 collected within the middle confining unit I between 398 and 437 feet bls indicate the groundwater is fresh but exceeds secondary drinking water standards for TDS (548 mg/L) and iron (0.669 mg/L) (fig. 8 and appendix M, table M2). Water quality sample 4 was collected within chalky mudstones with trace organic content. Trace amounts of chalcopyrite were observed in the deeper portion of the overlying Upper Floridan aquifer, but it is unclear if they are related to the increased iron content in middle confining unit I.

The results of three water quality samples collected within the Lower Floridan aquifer I at the ROMP 131.5 well site indicate the groundwater is fresh but exceeds secondary drinking water standards. Water quality sample 5, collected between 478 and 527 feet bls, exceeds secondary drinking water standards for TDS (569 mg/L) and iron (0.795 mg/L) (fig. 8 and appendix M, table M2) and was collected in an interval of moldic dolostone with moderate organic content. Water quality sample 6, collected between 546 and 597 feet bls, exceeds secondary drinking water standards for TDS (627 mg/L), sulfate (253 mg/L), and iron (0.445 mg/L) and was collected within an interval of sucrosic dolostone with more organic content. Water quality sample 7, collected between 708 and 757 feet bls, exceeds secondary drinking water standards for iron only (0.501 mg/L) and was collected in an interval of fractured dolostone that overlaps middle confining unit II by 20 feet and might explain the dissimilarity with the rest of the aquifer (fig. 8).

The results of water quality sample 8 collected within the middle confining unit II at the well site indicate that groundwater is fresh but exceeds secondary drinking water standards with respect to iron only (0.402 mg/L) (fig. 8 and appendix M, table M2). Water quality sample 8 was collected between 781 and 817 feet bls, where gypsiferous limestone with trace organics are present. In most areas, the water quality of middle confining unit II is typically highly mineralized because of abundant interstitial and nodular evaporites. The groundwater may be less mineralized at this location because of the proximity to the northern edge of the unit as mapped by Miller (1986) and could be in a facies transition.

The results of two water quality samples collected within the Lower Floridan aquifer II at the well site indicate groundwater quality is fresh but exceeds secondary drinking water standards. Water quality sample 9, collected in the upper portion of the aquifer, exceeds secondary drinking water standards for TDS (644 mg/L) and sulfate (273.65 mg/L) (fig. 8 and appendix M, table M2). Water quality sample 10 exceeds secondary drinking water standards for iron only (0.482 mg/L). Water quality sample 9 (from 921 to 957 feet bls)



[1] Inconclusive confinement; most data suggest the confining unit is present but long-term monitoring remains questionable

[bls, below land surface; c, cavities; ic, intermittent cavities; MCU, middle confining unit; f, fractures; v, vugs]

Figure 8. Select cations and anions, and total dissolved solids concentrations for groundwater quality samples collected at the ROMP 131.5 – Morriston well site in Levy County, Florida. Depth represents the middle of the discrete open interval at the time of sampling.

was collected at the base of the Avon Park Formation, within highly variable, sucrosic, vuggy dolostones and intermittent dolosands rich in interstitial organics that may contribute to the poorer water quality (figs. 3 and 8, and appendix D). Water quality sample 10 (from 997 to 1,047 feet bls) was collected in the Oldsmar Formation within less evaporitic limestones and no observed organics.

The results of water quality sample 11, collected within the middle confining unit VIII at the ROMP 131.5 well site, indicate that groundwater is fresh but exceeds secondary drinking water standards for iron only (0.464 mg/L) (fig. 8 and appendix M, table M2). The water quality of middle confining unit VIII is not well evaluated throughout the peninsula. Water quality sample 11 was collected in the upper part of the unit from 1,128 to 1,177 feet bls, within an interval of gypsiferous limestone and dolostone, above intermittent glauconite seams observed in the bottom 29 feet of the unit.

The results of three water quality samples collected within the Lower Floridan aquifer VIII at the ROMP 131.5 well site indicate that groundwater is fresh and mostly meets secondary drinking water standards. Water quality samples 12 (from 1,217 to 1,287 feet bls) and 13 (from 1,396 to 1,447 feet bls), collected in the upper and middle portions of the aquifer, respectively, do not exceed secondary drinking water standards (fig. 8 and appendix M, table M2). Water quality sample 14, collected in the lower portion of the aquifer between 1,577 and 1,627 feet bls, exceeds secondary drinking water standards for iron only (0.791 mg/L). The increased iron content is likely a result of trace amounts of sulfides resembling chalcopyrite present in the test interval. Overall, the aquifer contains highly permeable and less permeable intervals, but all water quality samples were collected in vuggy, fractured intervals.

The results of water quality sample 15, collected within the sub-Floridan confining unit between 1,778 and 1,817 feet bls, indicate that groundwater is brackish and exceeds secondary drinking water standards with respect to TDS (3,000 mg/L), sulfate (1,230 mg/L), chlorides (549 mg/L), and iron (3.7 mg/L) (fig. 8 and appendix M, table M2). Water quality sample 15 was collected in bedded anhydrite and dense evaporitic limestone, which substantially degrade water quality.

Equivalent weights are often used in groundwater water quality analyses to evaluate relative ion dominances and to determine a specific water type. Water type is determined using a 50 percent dominance criteria for percent milliequivalents of major cations (Na^+, K^+, Ca^{2+}, Mg^{2+}) and major anions (Cl^-, HCO_3^-, SO_4^{2-}) (Hem, 1985). The equivalent weights and water types were determined for each groundwater quality sample and are presented in appendix M, table M3. The water types are also depicted in figure 8. The results of water quality samples 1 through 3 indicate the water type is calcium bicarbonate in the Upper Floridan aquifer (fig. 8 and appendix M, table M3). Water quality samples 4 through 6 indicate the water type is calcium mixed-anion to calcium sulfate in the middle confining unit I and the Lower Floridan aquifer I because of gradually increasing amounts of sulfate (fig. 8 and appendix M, tables M2 and M3). Water quality samples 7 and 8 indicate the water type is calcium bicarbonate because of uncharacteristically fresher water encountered in the middle confining unit II at this location. Water quality samples 9 and 10 indicate the water type of the Lower Floridan aquifer II is part calcium sulfate (sample 9 affected by gypsum and possibly organics) and part calcium bicarbonate. Water quality samples 11 through 14 indicate the water type is calcium bicarbonate in the middle confining unit VIII and the Lower Floridan aquifer VIII. Water quality sample 15 in the sub-Floridan confining unit is calcium sulfate because of substantial increases in sulfate attributed to abundant evaporites. Sodium and chloride are the second most abundant ions indicating the emerging influence of seawater.

The trends of the relative abundances of each major cation and anion species analyzed for in the groundwater quality samples collected at the ROMP 131.5 well site are presented on a Piper (1944) diagram in figure 9 as percent milliequivalents. With increasing depth, groundwater samples collected from the Upper Floridan aquifer, middle confining unit I, and Lower Floridan aquifer I plot along the deepwater mixing trend line of Tihansky (2005) but stops short of reaching the deepwater endmember (fig. 9). The groundwater sample representing middle confining unit II plots near the freshwater endmember. The first groundwater sample collected from the Lower Floridan aquifer II plots almost exactly with the last sample from Lower Floridan aquifer I (above middle confining unit II). The remaining groundwater sample in the Lower Floridan aquifer II and groundwater samples in middle confining unit VIII and Lower Floridan aquifer VIII freshen with depth, progressively working backward along the deepwater mixing trend towards the freshwater endmember. The last sample collected from the Lower Floridan aquifer VIII is the freshest and plots near the first sample of the Upper Floridan aquifer. The groundwater sample collected from the sub-Floridan confining unit plots on the deepwater-seawater mixing line (Tihansky, 2005), closer to the deepwater endmember but with emerging influence of seawater.

Select molar ratios were calculated to investigate groundwater quality changes with depth (fig. 10 and appendix M, table M4). The evaporite track illustrates the interaction between fresh water and evaporites. The dolomite track identifies fresh water affected by dolomite. The sodium chloride track depicts effects from connate or seawater. The chloride to sulfate molar ratio on the evaporite track decreases below approximately 250 feet bls because of increasing sulfate with depth (fig. 10 and appendix M, tables M2 and M4). The calcium to bicarbonate and the sulfate to bicarbonate molar ratios generally do not vary suggesting there is limited influence from evaporites on the groundwater. The small increases shown on the evaporite track correlate to samples with calcium sulfate water types in the Lower Floridan aquifer I and Lower Floridan aquifer II. A substantial increase in all three evaporite track ratios for the last sample in the sub-Floridan confining unit is likely the result of the bedded evaporites. The calcium to magnesium molar ratio on the dolomite track decreases below 250 feet bls in conjunction with the onset of

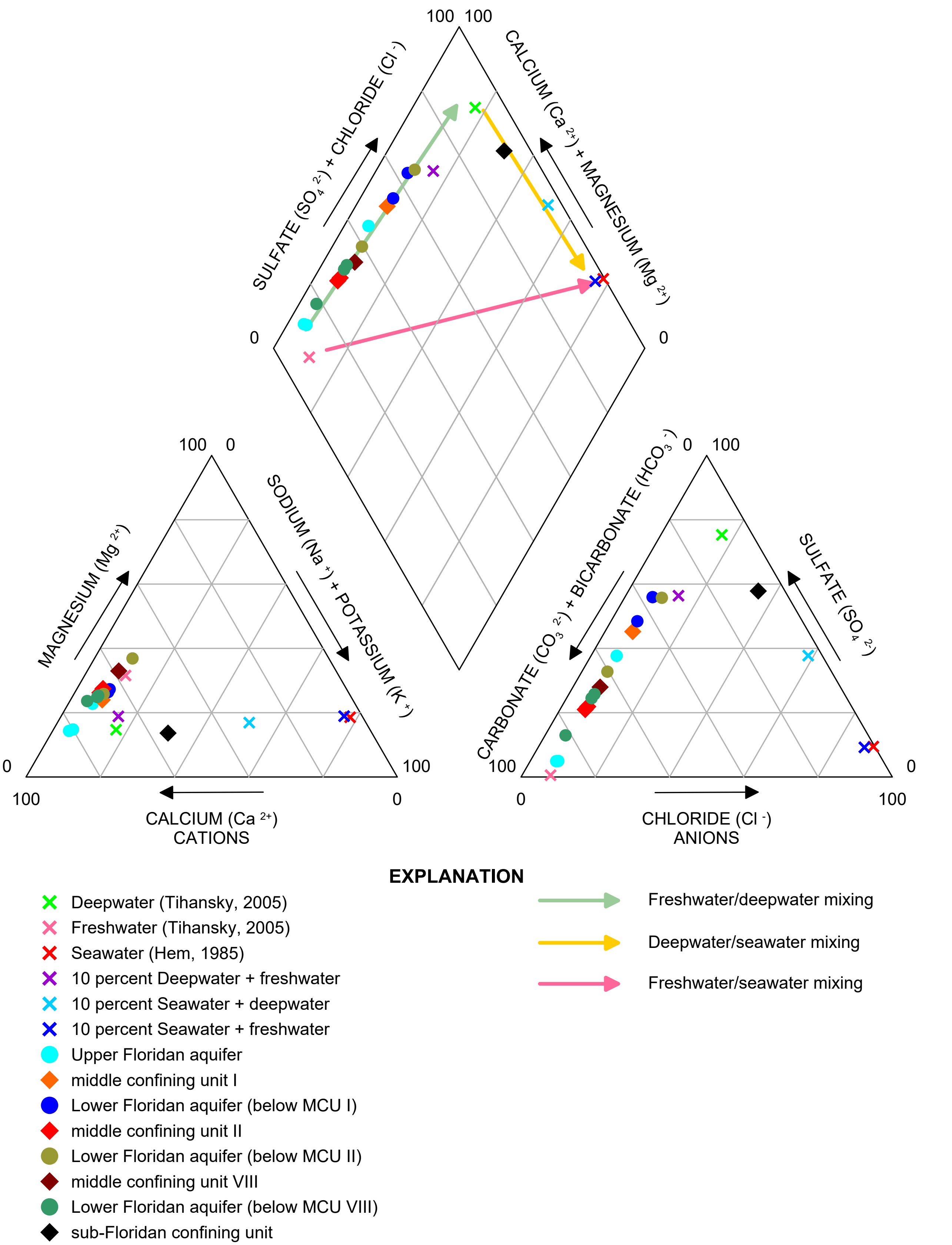
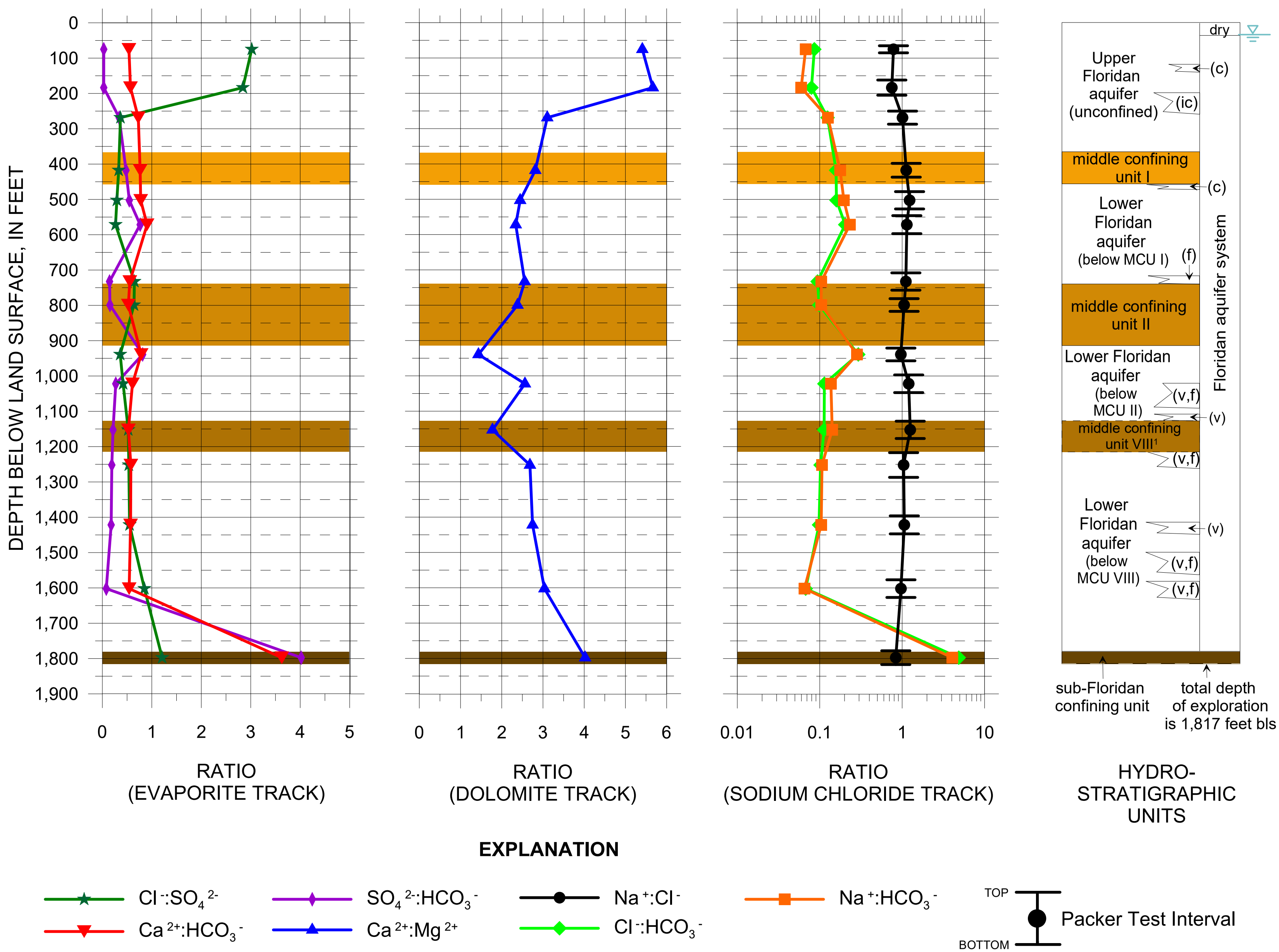


Figure 9. Piper diagram of groundwater quality samples collected at the ROMP 131.5 – Morriston well site in Levy County, Florida.



[1] Inconclusive confinement; most data suggest the confining unit is present but long-term monitoring remains questionable

[bls, below land surface; c, cavities; ic, intermittent cavities; MCU, middle confining unit; f, fractures; v, vugs; Cl^-, chloride; SO_4^{2-}, sulfate; Ca^{2+}, calcium; HCO_3^-, bicarbonate; Mg^{2+}, magnesium; Na^+, sodium]

Figure 10. Select molar ratios with depth for groundwater quality samples collected at the ROMP 131.5 – Morriston well site in Levy County, Florida. Depth represents the middle of the discrete open interval at the time of sampling.

persistent dolostones, with larger decreases in water quality samples 9 and 11 in the Lower Floridan aquifer II and middle confining unit VIII, respectively (fig. 10 and appendix M, table M4). Little variation is seen on the sodium chloride track ratios apart from minor increases that correlate to samples with calcium sulfate water types (fig.10 and appendix M, tables M3 and M4), and a large increase in the sub-Floridan confining unit indicating influence from connate seawater (fig.10 and appendix M, tables M3 and M4).

During both APTs, water quality samples were collected from the well head of the production well at the beginning and end of each test (appendix M, table M2). The purpose of these samples was to evaluate potential effects of changes to water quality from pumping. One water quality sample was collected in the first 1 to 2 hours of pumping and the other water quality sample was collected after approximately 48 hours of pumping. Changes in all constituents tested were the same or negligible between early and late samples for both APTs and were similar when compared to groundwater quality results from samples collected during exploratory core drilling and testing (appendix M, table M2).

Summary

The ROMP 131.5 – Morriston well site, located in east Levy County, was developed in three phases from September 2015 to May 2018. The phases included exploratory core drilling and testing, well construction, and aquifer performance testing. The well site was selected to support the NDWRAP and to fill in a gap in the ROMP 10-mile grid network. The site also provided much needed data on the geographic extent of the middle confining units I, II, and VIII, and the Lower Floridan aquifers. Geohydrologic data including core samples, slug testing, aquifer performance testing, groundwater quality sampling, and geophysical logging were collected at the site during the three phases. The five permanent monitors constructed include the *Surf Aq Monitor*, *U Fldn Aq Monitor*, *L Fldn Aq (bl MCU I) Monitor*, and a dual-well monitoring the *L Fldn Aq (bl MCU II) Monitor* and the *L Fldn Aq (bl MCU VIII) Monitor*. The latter two are part of the same dual-interval monitor well.

The geologic units encountered at the well site include, in ascending order: the Cedar Keys Formation, Oldsmar Formation, Avon Park Formation, Ocala Limestone, undifferentiated Hawthorn Group, and undifferentiated sand and clay deposits. The Cedar Keys Formation extends from 1,533 to beyond the total depth of exploration of 1,817 feet bls. The portion from 1,533 to 1,631 feet bls is predominantly sucrosic dolostone with minor evaporites and substantial vuggy and fractured intervals. The portion from 1,631 to 1,817 feet bls is a combination of evaporitic limestone and bedded gray anhydrite. The Oldsmar Formation extends from 950.4 to 1,533 feet bls and contains generally thick sections of well indurated limestone alternating with thick sections of crystalline dolostone. Trace amounts of glauconite are present between 1,184 and 1,216 feet bls, and vuggy, fractured intervals are present from 1,034 to 1,127 feet bls and 1,213 to 1,260 feet bls. The Avon Park Formation extends from 138.5 to 950.4 feet bls and is highly variable. The portion from 138.5 to 464 feet bls is predominantly fossiliferous wackestone and chalky mudstone with some dolostone, the portion from 464 to 743 feet bls is crystalline, often sucrosic dolostone, and the portion from 743 to 950.4 feet bls is mostly fossiliferous packstone. Interstitial and thin bedded organics were common and intermittent cavities were encountered from 197 to 256 feet bls and from 453 to 463 feet bls. The Ocala Limestone extends from 47 to 138.5 feet bls and is predominantly fossiliferous, weathered, chalky, and moderate to poorly indurated packstone to grainstone. Some cavities were encountered from 116 to 137 feet bls. A thin layer of Miocene age undifferentiated Hawthorn Group sediments extends from 40 to 47 feet bls. The sediments are a carbonate mud residuum that forms on the limestone surface as a byproduct of decomposing Hawthorn Group sediments through time with concentrated phosphatic gravel and sand, quartz sand, and iron-stained clay. The undifferentiated sand and clay unit consists of sand from land surface to 40 feet bls with minor amounts of silt and/or clay from 20 to 40 feet bls.

The hydrogeologic units encountered at the well site include, in descending order: the (unconfined) Upper Floridan aquifer, middle confining unit I, the Lower Floridan aquifer below middle confining unit I, middle confining unit II, the Lower Floridan aquifer below middle confining unit II, middle confining unit VIII, the Lower Floridan aquifer below middle confining unit VIII, and the sub-Floridan confining unit. No surficial aquifer is present because shallow sands are dry year-round and deeper, apparently less permeable sands extending from 20 to 40 feet bls do not provide effective basal confinement for a surficial aquifer. As a result, the underlying Upper Floridan aquifer is unconfined and represented by the water table. Redoximorphic features observed in the deeper sands and long-term monitoring of the Upper Floridan aquifer show the water table freely fluctuates within and at times below the less permeable sands. The shallowest water table recorded during exploratory core drilling and testing was approximately 35 feet bls. The Upper Floridan aquifer and three Lower Floridan aquifers separated by middle confining unit I (368 to 453 feet bls), middle confining unit II (737 to 912 feet bls), and middle confining unit VIII (1,127 to 1,213 feet bls) comprise the Floridan aquifer system at the well site.

Three slug test suites were conducted in the Upper Floridan aquifer and yielded an average hydraulic conductivity estimate of 96 ft/d. However, no slug tests were conducted within the intermittent cavity intervals and underestimate the overall hydraulic conductivity. Diagnostic radial flow plots and derivative analyses from a constant rate APT indicate the Upper Floridan aquifer is unconfined with evidence of limestone dewatering during pumping. Curve-match analyses of drawdown and recovery data using the Moench (1997) solution for unconfined aquifers yielded an estimated transmissiv-

ity value of 3,000,000 ft^2/d, a storativity estimate of 0.004, and a specific yield estimate of 0.03.

Although the original western extent of middle confining unit I mapped by Miller (1986) did not extend to Levy County, deep exploration and monitoring at this site and others reveal this unit is present and consistent with regional mapping. One slug test suite was conducted in middle confining unit I that yielded a hydraulic conductivity estimate of 17 ft/d. The leakance of middle confining unit I estimated from the Lower Floridan aquifer below middle confining unit I APT is 0.0009 day^{-1}.

Long-term monitoring since 2019 indicates the Lower Floridan aquifer below middle confining unit I is a separate aquifer from the Upper Floridan aquifer because differences in head during this period range from approximately 1 foot below to 3 feet above the Upper Floridan aquifer. Three slug test suites were conducted in the Lower Floridan aquifer below middle confining unit I and yielded an average hydraulic conductivity estimate of 82 ft/d. Diagnostic radial flow plots and derivative analyses from an aquifer performance test indicate the Lower Floridan aquifer below middle confining unit I is confined with evidence of minor leakage from the overlying middle confining unit I. Curve-match analyses of drawdown and recovery data using the Hantush-Jacob (1955)/Hantush (1964) solution for leaky confined aquifers yielded an estimated transmissivity value of 49,000 ft^2/d, a storativity estimate of 0.0008, and a leakance estimate of 0.0009 day^{-1}.

At this location, middle confining unit II is close to the northern limit mapped by Miller (1986) and the properties are in a facies transition. The unit is less densely dolomitic and interstitial evaporites are not as prevalent as typically encountered elsewhere. One slug test suite was conducted in middle confining unit II and yielded a low hydraulic conductivity estimate of 0.3 ft/d. The leakance of middle confining unit II was not estimated since no APT was conducted in the Lower Floridan aquifer below middle confining unit II.

Long-term water level monitoring since 2019 indicates the Lower Floridan aquifer below middle confining unit II is a separate aquifer from the Lower Floridan aquifer below middle confining unit I because differences in head during this period range from approximately 0.25 feet below to 0.5 feet above the Lower Floridan aquifer below middle confining unit I. Two slug test suites were conducted in the Lower Floridan aquifer below middle confining unit II and yielded an average hydraulic conductivity estimate of 29 ft/d. No APT was conducted in the Lower Floridan aquifer below middle confining unit II.

Originally, middle confining unit VIII of Miller (1986) was only mapped in south Florida and a portion of east-central Florida where sufficient deep exploration data were available. The unit was expanded across the peninsula in later years with new available data and the discovery of a glauconitic geophysical marker horizon that is unique to middle confining unit VIII and its expansion. One slug test suite was conducted in the middle confining unit VIII that yielded a hydraulic conductivity estimate of 0.3 ft/d. The leakance of middle confining unit VIII was not estimated since no APT was conducted in the Lower Floridan aquifer below middle confining unit VIII.

Long-term water level monitoring since 2019 indicates Lower Floridan aquifer below middle confining unit VIII water levels are nearly coincident with Lower Floridan aquifer below middle confining unit II, suggesting the effectiveness of middle confining unit VIII is weak at this location. Three slug test suites were conducted in the Lower Floridan aquifer below middle confining unit VIII that yielded an average hydraulic conductivity estimate of 250 ft/d, the largest average of all aquifers at this location. Multiple vuggy, fractured intervals with apparently high permeability were encountered in this unit. No APT was conducted in the Lower Floridan aquifer below middle confining unit VIII.

The sub-Floridan confining unit underlies the Floridan aquifer system and is comprised of very low permeability crystalline anhydrite with interbedded evaporitic limestones. One slug test suite was conducted in the sub-Floridan confining unit that yielded a hydraulic conductivity estimate of 0.003 ft/d.

Fifteen groundwater quality samples were collected and analyzed for the ROMP 131.5 well site. The groundwater quality sample results indicate groundwater is fresh (TDS concentrations are less than 1,000 mg/L) from the water table to the base of the Floridan aquifer system at 1,776 feet bls, but the concentrations of the constituents variably exceeded U.S. Environmental Protection Agency's National Secondary Drinking Water Regulation standards. The results of groundwater quality samples within the Upper Floridan aquifer did not exceed secondary drinking water standards. Groundwater quality samples from the Lower Floridan aquifer below middle confining unit I were mixed, with two samples exceeding the standard for TDS, one exceeding for sulfate, and all samples exceeding the standard for iron. Groundwater quality samples from the Lower Floridan aquifer below middle confining unit II were also mixed, with one sample exceeding secondary standards for TDS and sulfate and the other exceeding for iron. Groundwater quality samples from the Lower Floridan aquifer below middle confining unit VIII did not exceed secondary standards with the exception of one sample exceeding the standard for iron. The groundwater quality sample from the sub-Floridan confining unit was not fresh with a TDS concentration of 3,000 mg/L, and exceeding the secondary standards for chloride, sulfate, and iron. The water type is calcium bicarbonate throughout most of the Floridan aquifer system. Exceptions caused by the influence of evaporite minerals include calcium mixed anion in middle confining unit I; calcium mixed anion and calcium sulfate in the Lower Floridan aquifer below middle confining unit I; and calcium sulfate in a portion of the Lower Floridan aquifer below middle confining unit II and the sub-Floridan confining unit. On a Piper diagram, groundwater samples collected from the Upper Floridan aquifer, middle confining unit I, and the Lower Floridan aquifer below middle confining unit I follow a trend typical of bicarbonate water types influenced by deepwater mixing, plotting along the freshwater/deepwater mixing trend line but not reaching the deepwater endmember. Groundwater samples temporarily reverse direction in middle confining unit II toward the freshwater endmember, then back toward the deepwater endmember in the Lower Floridan aquifer below middle confining unit II, then back toward the freshwater endmember in the middle confining unit VIII and the Lower Floridan aquifer below middle confining unit VIII. Finally, the sample from the sub-Floridan confining unit plots along the deepwater/seawater mixing trend line nearer the deepwater endmember indicating an emerging influence of connate seawater. Molar ratios indicative of evaporite interaction show moderate variability in association with calcium sulfate water types in the Lower Floridan aquifers below middle confining units I and II, and a substantial increase in the sub-Floridan confining unit, which is influenced by bedded evaporites. A molar ratio indicative of connate seawater interaction was only apparent in the sub-Floridan confining unit.

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Appendix A. Methods of the Geohydrologic Data Section

The Southwest Florida Water Management District (District) collects the majority of the hydrogeologic data during the exploratory core drilling phase of the project. Lithologic samples will be collected during the core drilling process. Hydraulic and water quality data are collected primarily during packer tests as the core hole is advanced. Geophysical logging will be conducted on the core hole providing additional hydrogeologic data. After well construction, an aquifer performance test (APT) will be conducted on each of the major freshwater aquifers or producing zones encountered at the project site. These data will be uploaded to the District's Environmental Data Portal (EDP) or the Geohydrologic Data Map Viewer.

Collection of Lithologic Samples

The District conducts hydraulic rotary core drilling, referred to as diamond drilling, with a Central Mining Equipment (CME) 85 core drilling rig and an Universal Drilling Rigs (UDR) 200D LS. The basic techniques involved in hydraulic rotary core drilling are the same as in hydraulic rotary drilling (Shuter and Teasdale, 1989). The District applies a combination of HQ, HW, NW, and PW gauge working casings along with NQ or NRQ core drilling rods, associated bits, and reaming shells from Boart Longyear®. The HQ, HW, NW, and PW working casings are set and advanced as necessary to maintain a competent core hole. The NQ and NRQ size core bits produce a nominal 3-inch hole. The HQ, HW, NW, and PW working casings and NQ and NRQ coring rods are removed at the end of the project. Details on the core drilling activities are recorded on daily drilling logs completed by the District's drilling crew and hydrogeologists.

Recovery of the core samples is accomplished using a wireline recovery system (fig. A1). The District's drilling crew uses the Boart Longyear® NQ wireline inner barrel assembly. This system allows a 1.87-inch by 5 or 10-foot section and a 1.99-inch by 10-foot section of core to be retrieved with the CME 85 rig and UDR 200D LS rig, respectively. The core is retrieved without having to remove the core rods from the core hole. Grab samples of core hole cuttings are collected and bagged where poor core recovery occurs because of drilling conditions or where the formation is unconsolidated or poorly indurated. The core samples are placed in core boxes, depths marked, and recovery estimates calculated. Core descriptions are made in the field using standard description procedures. Rock color names are taken from the "Rock-Color Chart" of the National Research Council (Goddard and others, 1948). The textural terms used to characterize carbonate rocks are based on the classification system of Dunham (1962). The core samples are shipped to the Florida Geological Survey for detailed lithologic descriptions of core, cuttings, and unconsolidated sediments. All lithologic samples will be archived at the Florida Geological Survey in Tallahassee, Florida.

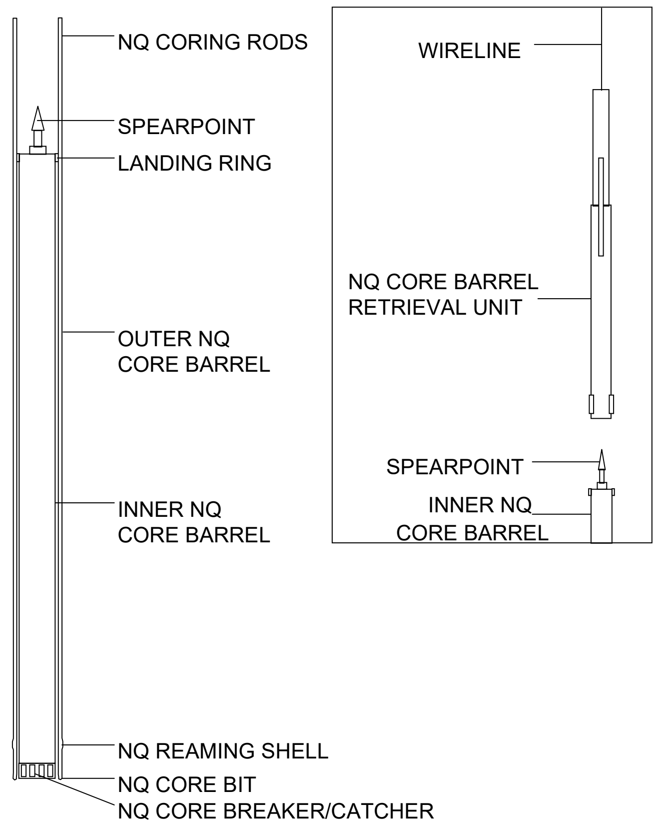


Figure A1. Boart Longyear® NQ Wireline Coring Apparatus.

Unconsolidated Coring

Various methods exist for obtaining unconsolidated material core samples, which is extremely difficult as compared to rock coring (Shuter and Teasdale, 1989). To ensure maximum sample recovery, the District drilling crew utilizes a punch shoe adapter on the bottom of the inner barrel along with an unconsolidated core catcher. The punch shoe extends the inner barrel beyond the bit allowing collection of the sample prior to disturbance by the bit or drilling fluid. A variety of bottom-discharge bits are used during unconsolidated coring. A thin bentonite mud may be used to help stabilize the unconsolidated material.

Rock Coring

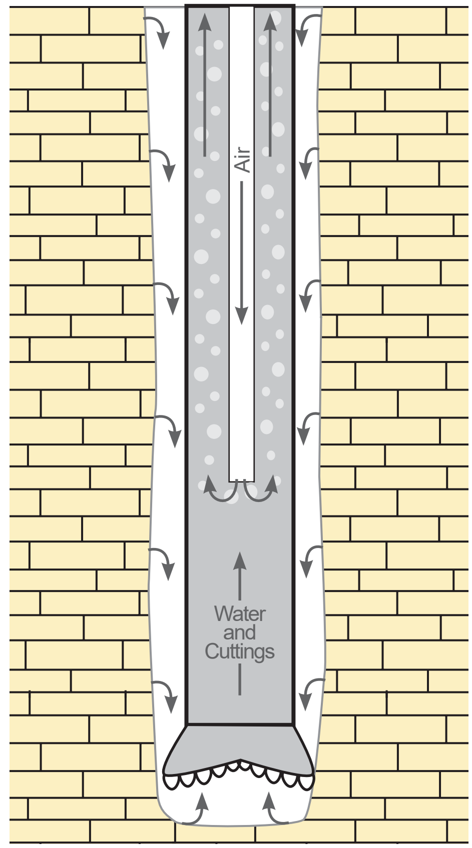
During rock coring, the District drilling crew utilizes HQ, HW, NW, and PW working casings as well as permanent casings to stabilize the core hole. NQ and NRQ core drilling rods and associated products are employed during the core drilling process. Core drilling is conducted by direct-circulation rotary methods using fresh water for drilling fluid. Direct water is not effective in removing the cuttings from the core hole, therefore, a reverse-air (air-lift) pumping discharge method (fig. A2) is used to develop the core hole every 20 feet or as necessary. The District typically uses face-discharge bits for well indurated rock core drilling.

Formation Packer Testing

Formation (off-bottom) packer testing allows discrete testing of water levels, water quality, and hydraulic parameters. A competent core hole is necessary for packer testing, meaning unconsolidated sediments and some of the shallow weathered limestone cannot be tested using this technique. The packer assembly (fig. A3) is employed by raising the NQ or NRQ coring rods to a predetermined point, lowering the packer to the bottom of the rods by using a combination cable/air inflation line, and inflating the packer with nitrogen gas. This process isolates the test interval, which extends from the packer to the total depth of the core hole. Sometimes, the working casing may be used in place of the packer assembly. Test intervals are selected based on a regular routine of testing or at any distinct hydrogeologic change that warrants testing.

Collection of Water Level Data

Water level data is collected daily before core drilling. Additionally, water levels are recorded during each formation packer test after the necessary equilibration time. Equilibration is determined when the change in water level per unit time is negligible. Water levels are measured using a Solinst® water level meter. The water level is measured relative to an arbitrary datum near land surface, which is maintained throughout the project. These data provide a depiction of water level with core hole depth. However, these data are normally collected over several months and will include temporal variation.



Reverse-air pumping
Reverse-air pumping allows cuttings to be removed without the introduction of man-made drilling fluids. As air bubbles leave the airline and move up inside the rods, they expand and draw water with them, creating suction at the bit. Groundwater comes from up-hole permeable zones and is natural formation water. Suction at the bit draws water and drill cuttings up the rods to be discharged at the surface.

Figure A2. Reverse-air drilling and water sampling procedure.

Collection of Water Quality Data

Water quality samples are collected during each formation packer test. Sampling methods are consistent with the "Standard Operating Procedures for the Collection of Water Quality Samples" (Water Quality Monitoring Program, 2020). The procedure involves isolating the test interval with the off-bottom packer (fig. A3) as explained above, and air-lifting the water in the NQ or NRQ coring rods. To ensure a representative sample is collected, three core hole volumes of water are removed and temperature, pH, and specific conductance are monitored for stabilization using a YSI® multi-parameter meter. Samples are collected either directly from the air-lift discharge point, with a wireline retrievable stainless steel bailer (fig. A4), or with a nested bailer. When sampling a poorly producing interval, the purge time may be substantial. The nested bailer is an alternative that is attached directly to the packer orifice thereby reducing the volume of water to be evacuated from the core hole because it collects water directly from the isolated interval through the orifice. Bailers are better for obtaining non-aerated samples, which are more representative because aerated samples may have elevated pH and consequently iron precipitation.

Once the water samples are at the surface, they are transferred into a clean polypropylene beaker. A portion of the sample is bottled according to standard District procedure for laboratory analysis (SWFWMD, 2020). A 500 ml bottle is filled with unfiltered water. Two bottles, one 250 ml and one 500 ml, are filled with water filtered through a 0.45-micron filter. A Masterflex® console pump is used to dispense the water into the bottles. The sample in the 250 ml bottle is acidified with nitric acid to a pH of 2 in order to preserve metals for analysis. The remainder is used to collect field parameters including specific conductance, temperature, pH, and chloride

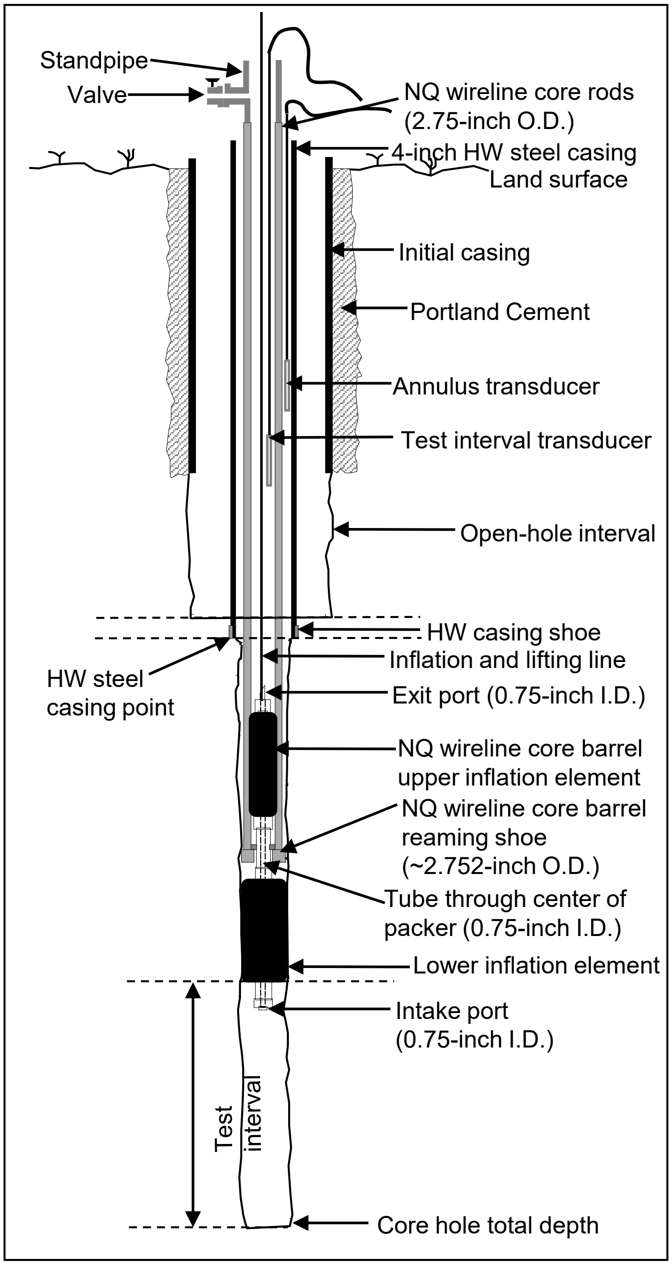


Figure A3. Formation (off-bottom) packer assembly deployed in the core hole.

and sulfate concentrations. Temperature, specific conductance, and pH are measured using a YSI® multi-parameter hand-held meter. Chloride and sulfate concentrations are analyzed with a YSI® 9300 photometer. The samples are delivered to the District's chemistry laboratory for additional analysis. A "Standard Complete" analysis that includes pH, calcium, chloride, ion balance, iron, magnesium, potassium, silica, sodium, strontium, specific conductance, sulfate, total dissolved solids (TDS), and total alkalinity is performed on each set of samples (SWFWMD, 2020). Chain of Custody forms are used to track the samples.

The analysis of the water quality data includes the evaluation of relative ion abundance and ion or molar ratios, and the determination of water type(s). The laboratory data are used to calculate milliequivalents per liter (meq/L) and percent meq/L. Using the criteria of 50 percent or greater of relative abundance of cations and anions, the water type for each sample is determined (Hem, 1985). The data are plotted on a Piper (1944) diagram to give a graphical depiction of the relative abundance of ions in an individual sample (Domenico and Schwartz, 1998) as well as how the individual samples compare to each other. Select ion ratios are calculated for each sample to further evaluate chemical similarities or differences among waters and to help explain why certain ions change with depth. Field pH is used in analyses because it is more likely to represent the actual conditions in the water since pH is sensitive to environmental changes (Driscolll, 1986; Fetter, 2001). Additionally, total alkalinity is used as bicarbonate concentration because hydroxyl ions generally are insignificant in natural groundwater and carbonate ions typically are not present in groundwater with a pH less than 8.3 (Fetter, 2001).

Collection of Slug Test Data

Some hydraulic properties can be estimated by conducting a series of slug tests. During slug tests, the static water level in the test interval is suddenly displaced, either up or down, and the water level response is recorded as it returns to a static state. Typically, the slug tests are conducted using the off-bottom packer assembly to isolate test intervals as the core hole is advanced. KPSI® pressure transducers are used to measure the water level changes in the test interval and the annulus between the HQ or HW casing and the NQ or NRQ coring rods. The annulus pressure transducer is used as a quality control device to detect water level changes indicative of a poorly seated packer or physical connection (i.e. fractures or very permeable rocks) within the formation. A third pressure transducer is used to measure air pressure during pneumatic slug testing. All pressure transducer output is recorded on a Campbell Scientific, Inc. CR800 datalogger. Prior to all slug tests, the test interval is thoroughly developed.

Slug tests can be initiated several ways. The primary methods used by the District are the pneumatic slug method and the drop slug method. Core hole conditions and apparent formation properties dictate which method is used. The pneumatic slug method is used for moderate to high hydraulic conductivity formations because of the near instantaneous slug initiation. The pneumatic slug method uses a NQ rod modified to include a pressure gauge and regulator, and an electronic or manual valve. The opening is sealed with compression fittings. Air pressure is used to depress the static water level. The water level is monitored for equilibration and once it returns to the initial static water level the test is initiated. The electronic or manual valve is opened to release the air pressure causing the water level to rise (rising head test). The water level is recorded until it reaches the initial static water level. The drop

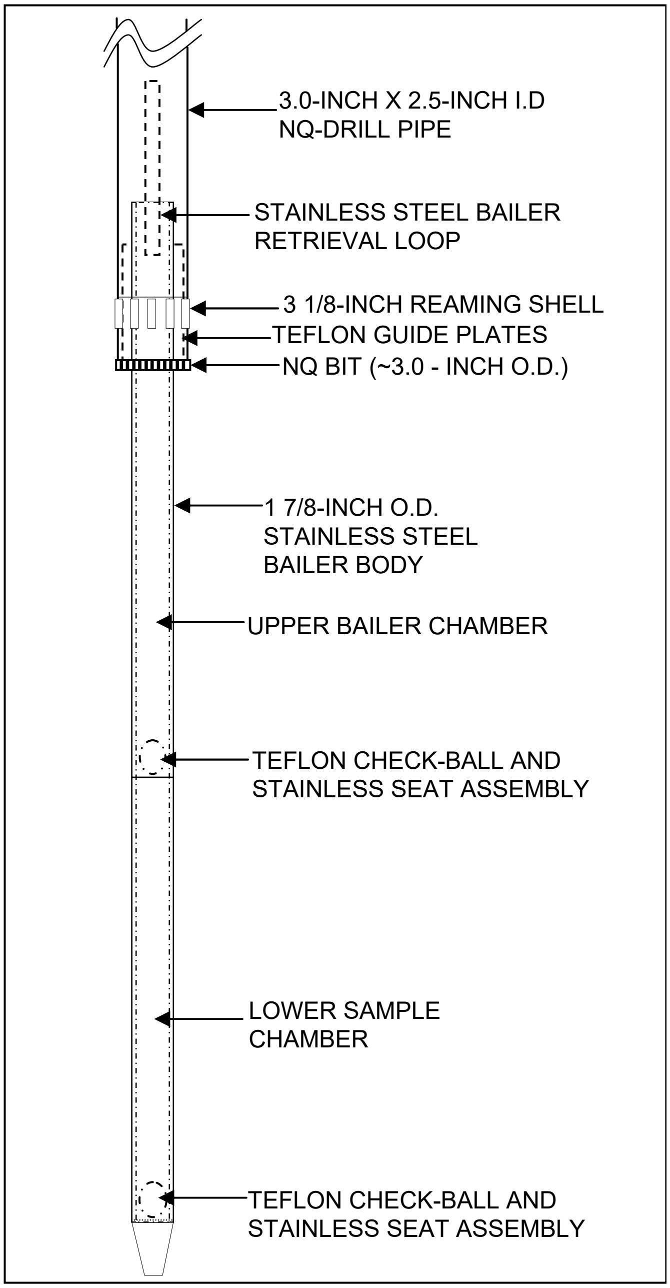


Figure A4. Diagram of the wireline retrievable bailer.

slug method is used for low hydraulic conductivity formations because of the slow slug initiation. This test initiation method is slower than the pneumatic method because the water has to travel down the core hole before reaching the test interval. The drop slug method involves adding a predetermined volume of water into the NQ or NRQ rods raising the static water level. A specially designed PVC funnel fitted with a ball valve placed over the NQ or NRQ rods is used to deliver the water. The valve is opened releasing the water causing the water level to rise. The water level is recorded until the raised level falls (falling head test) back to static level.

Several quality assurance tests are conducted in the field in order to identify any potential sources of error in the slug test data. The quality assurance tests include evaluation of the discrepancy between the expected and observed initial displacements (Butler, 1998), evaluation of the normalized plots for head dependence and evolving skin effects, and the evaluation of the annulus water level for movement. Lastly, estimates of the hydraulic conductivity values are made based on the slug test data using AQTESOLV® (Duffield, 2007) software by applying the appropriate analytical solution.

Slug tests in which the formation packer assembly is used all have one common source of error resulting from the orifice restriction (fig. A3). The water during the slug tests moves through NQ or NRQ coring rods with an inner diameter of 2.38 inches, the orifice on the packer assembly that has an inner diameter of 0.75 inch, and the core hole that has a diameter of approximately 3 inches. The error associated with this restriction is evident as head dependence in the response data of multiple tests conducted on the same test interval with varying initial displacements. The error associated with the orifice restriction will result in an underestimation of the hydraulic conductivity values. In order to reduce the error associated with the orifice restriction, the District inserts a spacer within the zone of water level fluctuation thereby reducing the effective casing radius from 1.19 inches to 0.81 inch. A second technique used to minimize the effects caused by the orifice restriction is the use of initial displacements (slugs) of less than 1.5-feet in height. Also, if the working casing is used instead of the packer, the error is eliminated.

Geophysical Logging

Geophysical logs are useful in determining subsurface geologic and groundwater characteristics (Fetter, 2001). Geophysical logs provide three major types of information from water wells: hydrologic (water quality, aquifer characteristics, porosity, and flow zone detection), geologic (lithology, formation delineation), and physical characteristics (depth, diameter, casing depth, texture of well bore, packer points, and integrity of well construction).

Geophysical logging entails lowering the geophysical tool into the monitor well on a wireline and measuring the tool's response to the formations and water quality in and near the core hole during retrieval. Core hole geophysical logs are run during various stages of core drilling. When feasible, geophysical logs are run prior to casing advancements, while the core hole is still open to the formation.

The District uses Century® and Mount Sopris geophysical logging equipment. The three types of geophysical probes used are the caliper/gamma, induction, and multifunction. The multifunction tool measures natural gamma-ray [GAM (NAT)], spontaneous potential (SP), single-point resistivity (RES), short [RES(16N)], long [RES(64N)] normal resistivity, fluid temperature (TEMP) and fluid specific conductance (SP COND). Each log type is explained below.

Caliper (CAL)

Caliper logs are used to measure the diameter of the borehole. This log can identify deviations from the nominal borehole diameter and, in turn, locate cavities, washouts, and build-up. This log is useful for determining packer and casing placement because competent, well-indurated layers can be located. The caliper log also aids in calculating volumes of material such as cement, gravel, sand, and bentonite needed when installing casing during well construction and filling open hole intervals for abandonment.

Gamma [GAM(NAT)]

Natural gamma-ray logs measure the amount of natural radiation emitted by materials surrounding the borehole. Natural gamma radiation is emitted from decaying radioactive elements present in certain types of geologic materials, thus specific rock materials can be identified from the log. Some of these materials include clays that trap radioactive isotopes as they migrate with groundwater, organic deposits, and phosphates. Clays contain high amounts of radioactive isotopes in contrast to more stable rock materials like carbonates and sands, therefore, can be identified easily. One advantage using natural gamma-ray radiation is that it can be measured through PVC and steel casing, although it is subdued by steel casing. Gamma-ray logs are used chiefly to identify rock lithology and correlate stratigraphic units because gamma-ray radiation can be measured through casing and is relatively consistent.

Spontaneous Potential (SP)

Spontaneous potential logs measure the electrical potential (voltages) that result from chemical and physical changes at the contacts between different types of geological materials (Driscoll, 1986). They must be run in fluid-filled, uncased boreholes, and function best when the fluid in the borehole is different from that in the formation. They are useful in identifying contacts between different lithologies and stratigraphic correlation.

Single-Point Resistance (RES)

Single-point resistance logs measure the electrical resistance, in ohms, from rocks and fluids in the borehole to a point at land surface. Electrical resistance of the borehole materials is a measure of the current drop between a current electrode placed in the borehole and the electrode placed on land surface. The log must be run in a fluid-filled, uncased borehole. They are used for geologic correlation, such as bed boundaries, changes in lithology, and identification of fractures in resistive rocks (Keys and MacCary, 1971).

Short-Normal [RES (16N)] and Long-Normal [RES (64N)]

Short-normal and long-normal resistivity logs measure the electrical resistivity of the borehole materials and the surrounding rocks and water by using two electrodes. The 16 and 64 refers to the space, in inches, between the potential electrodes on the logging probe. The short-normal curve indicates the resistivity of the zone close to the borehole and the long-normal has more spacing between the electrodes, therefore measures the resistivity of materials further away from the borehole (Fetter, 2001). Short-normal and long-normal logs are useful in locating highly resistive geologic materials such as limestone, dolostone, and pure, homogenous sand and low resistivity materials like clay or clayey, silty sand. Also, the logs indicate water quality changes because fresh water has high resistivity whereas poor quality water has low resistivity. Resistivity logs must be run in fluid-filled, open boreholes.

Temperature (TEMP)

Temperature logs record the water temperature in the borehole. Temperature variations may indicate water entering or exiting the borehole from different aquifers. Thus, the log is useful in locating permeable zones. The log must be run in fluid-filled boreholes.

Specific Conductance (SP COND)

Specific Conductance logs measure the capacity of borehole fluid to conduct an electrical current with depth. The log indicates the total dissolved solids concentration of the borehole fluid. The specific conductance log may be useful in determining permeable zones because zones of increased inflow or outflow may show a change in water quality.

Aquifer Performance Tests

An APT is a controlled field experiment conducted to determine the hydraulic properties of water-bearing (aquifers) units (Stallman, 1976). APTs can be either single-well or multi-well and may partially or fully penetrate the aquifer. An APT involves pumping the aquifer at a known rate and monitoring the water level response. The general procedure, applied by the District, for conducting an APT involves design, field observation, and data analysis. Test design is based on the geologic and hydraulic setting of the site, such as knowledge of the aquifer thickness, probable range in transmissivity and storage, the presence of uncontrolled boundaries (sources/sinks), and any practical limitations imposed by equipment. Field observations of the discharge and water levels are recorded to ensure a successful test. The District measures the discharge rate using an impeller meter and circular orifice weir. The District measures water levels using pressure transducers and an electric tape. All the recording devices are calibrated and traceable to the National Institute of Standards and Technology.

Data analysis includes first making estimates of drawdown observed during the test and then using analytical and numerical methods to estimate hydraulic properties of the aquifer and adjacent confining units. Diagnostic radial flow plots and derivative analyses of APT data are valuable tools in characterizing the type of aquifer present and specific boundary conditions that may be acting on the system during an APT.

Single-Well Aquifer Performance Test

Single-well APTs includes one test (pumped) well within the production zone used for both pumping and monitoring the water level response. A single-well APT may include monitoring the background water level in the test well for a duration of at least twice the pumping period (Stallman, 1976). Background data collection may not be necessary if the duration of the single-well test is short and the on-site hydrogeologist does not consider background data necessary. After background data collection is complete and it is determined that a successful test can be accomplished, pumping is started. During the test, the discharge rate is monitored and controlled to less than 10 percent fluctuation to ensure a constant rate test. The water level is recorded in the test well during the drawdown (pumping) and recovery phases. Other wells outside of the production zone may be monitored in order to provide additional information on the flow system. The response data are used to estimate drawdown and then analyzed using analytical methods to estimate the hydraulic properties of the aquifer and adjacent confining units. Typically, response data is analyzed using AQTESOLV® (Duffield, 2007) software by applying the appropriate analytical solution.

Multi-Well Aquifer Performance Test

Multi-well APTs involve a test (pumped) well and at least one observation well for monitoring the water level response in the production zone. Background water level data is collected for a period of at least twice the planned pumping period (Stallman, 1976). The background data allows for the determination of whether a successful test can be conducted and permits the estimation of drawdown. After the background data collection period is complete and it is determined that a successful test can be completed, pumping is started. During the test, the discharge rate is monitored and controlled to less than 10 percent fluctuation. The water level response is recorded in both the test well and the observation well(s) during the drawdown (pumping) and recovery phases. Other wells outside of the production zone may be monitored in order to provide additional information on the flow system. The response data are used to estimate drawdown and then analyzed using analytical or numerical methods to estimate the hydraulic properties of the aquifer and adjacent confining units. Typically, response data is analyzed using AQTESOLV® (Duffield, 2007) software by applying the appropriate analytical solution.

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Appendix B. Geophysical Log Suites for the ROMP 131.5 – Morriston Well Site in Levy County, Florida

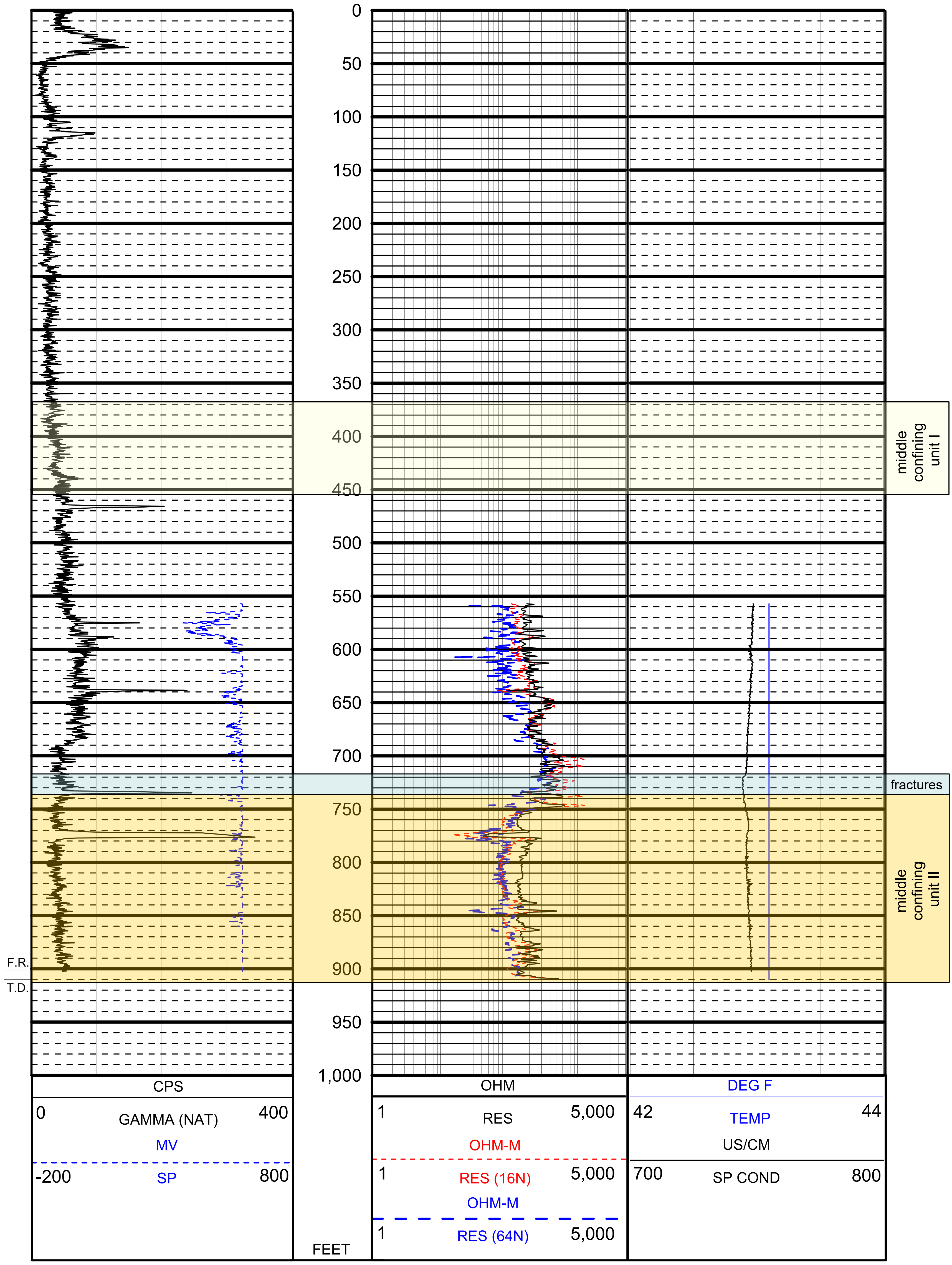


Figure B1. Multifunction log for the *Corehole* from land surface to 910.4 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on February 16, 2016, using the 8043C (multifunction) tool. Temporary steel casing (3-inch HQ) was at approximately 556 feet below land surface, with 4-inch nominal open hole to 920 feet, and 3-inch nominal open hole to 957 feet below land surface at the time of logging. Log curves are clipped above 556 feet below land surface except for the gamma-ray curve, which are valid data inside the steel casing. The log scale is 1-inch per 100 feet. Tracks 1 and 3 are linearly scaled and track 2 is in logarithmic scale. The F.R. is 902.4 feet below land surface.

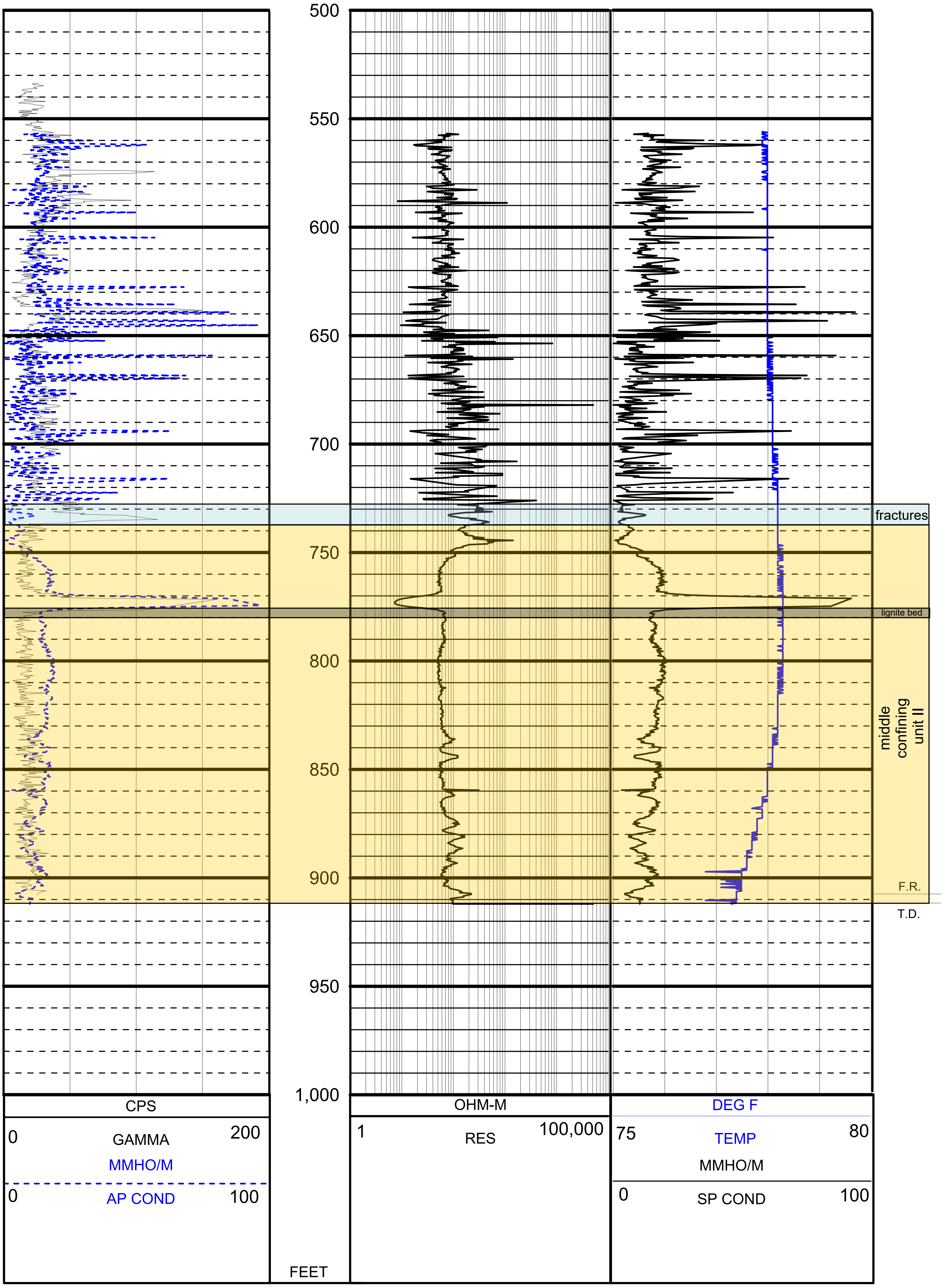


Figure B2. Induction log for the *Corehole* from 533.2 to 912 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on February 16, 2016, using the 9512C (induction) tool. Temporary steel casing (3-inch HQ) was at approximately 556 feet below land surface, with 4-inch nominal open hole to 920 feet, and 3-inch nominal open hole to 957 feet below land surface at the time of logging. Log curves are clipped above 556 feet below land surface except for the gamma-ray curve, which are valid data inside the steel casing. The log scale is 2-inch per 100 feet. Tracks 1 and 3 are linearly scaled and track 2 is in logarithmic scale. The F.R. is 908 feet below land surface.

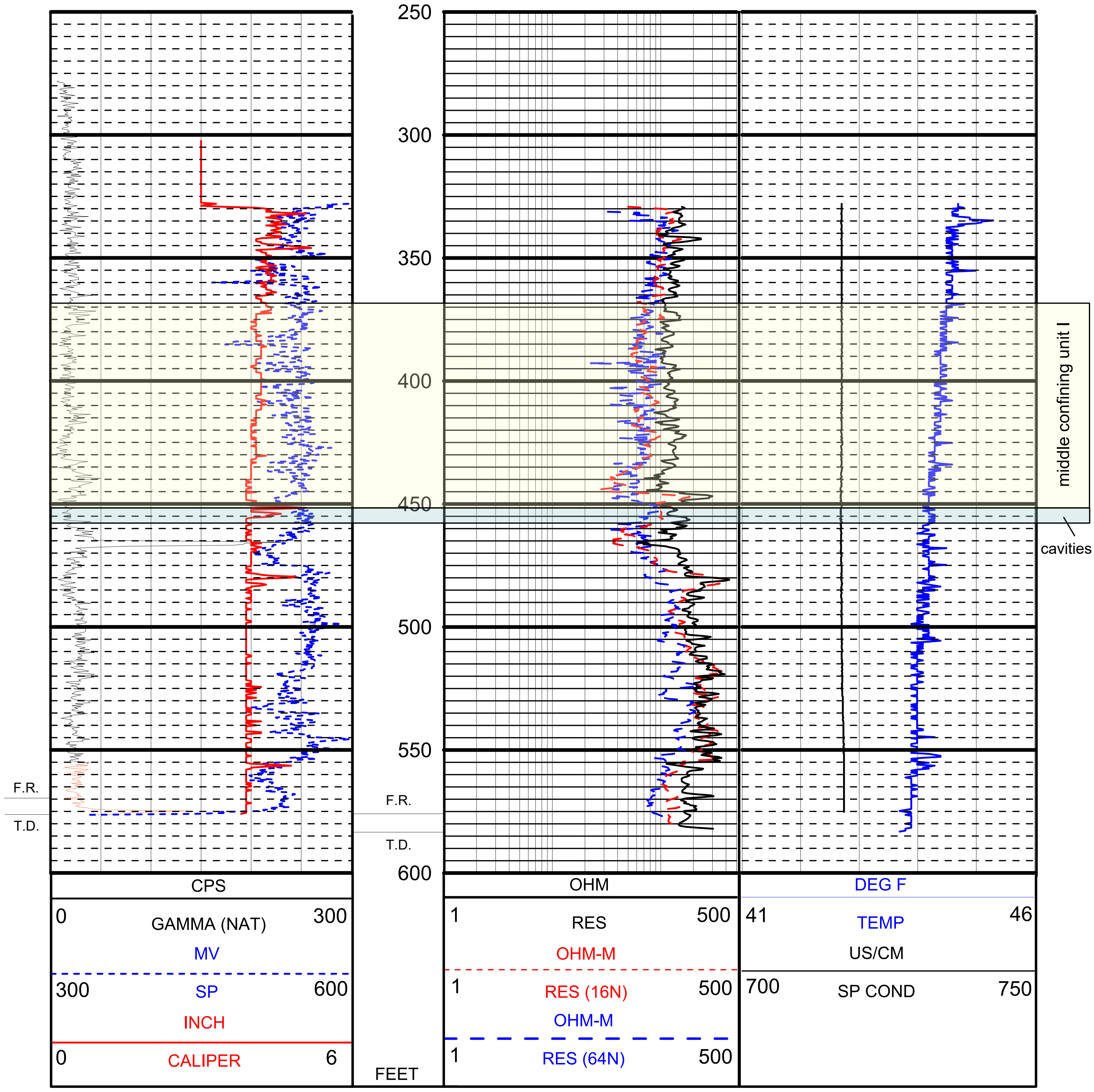
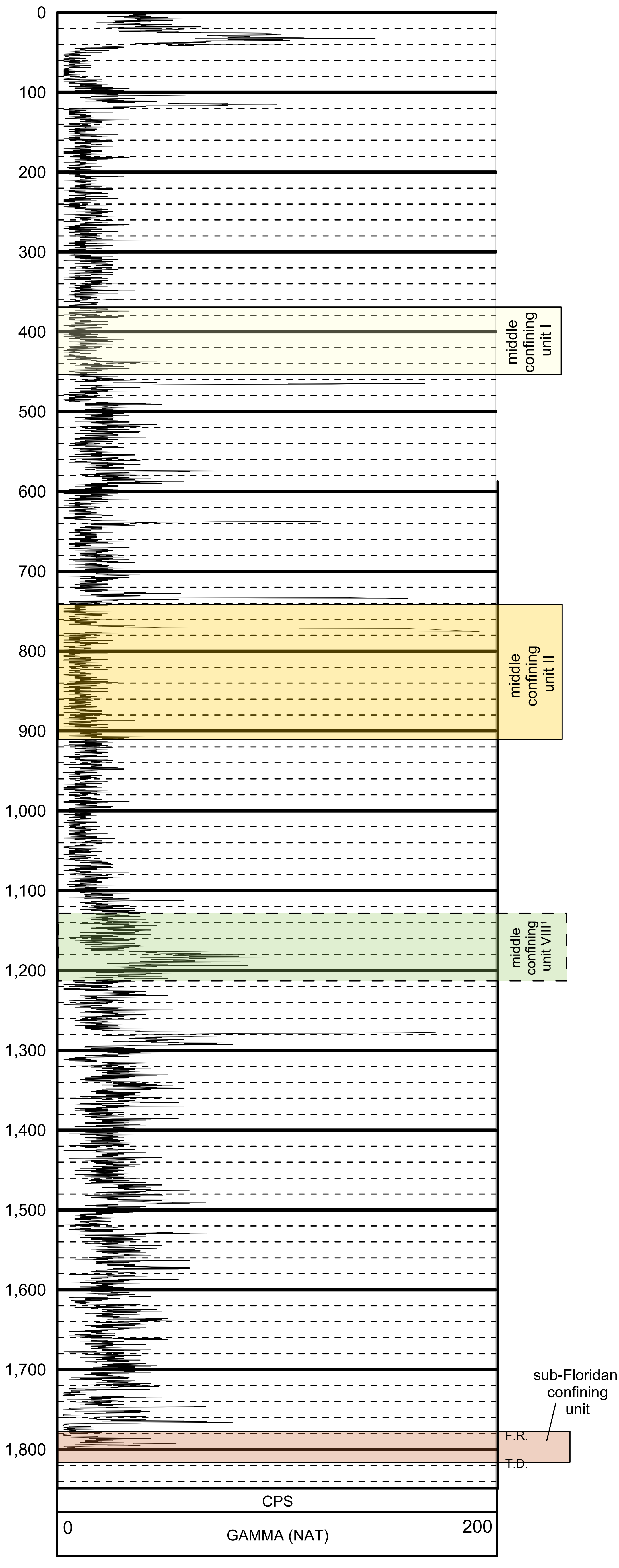
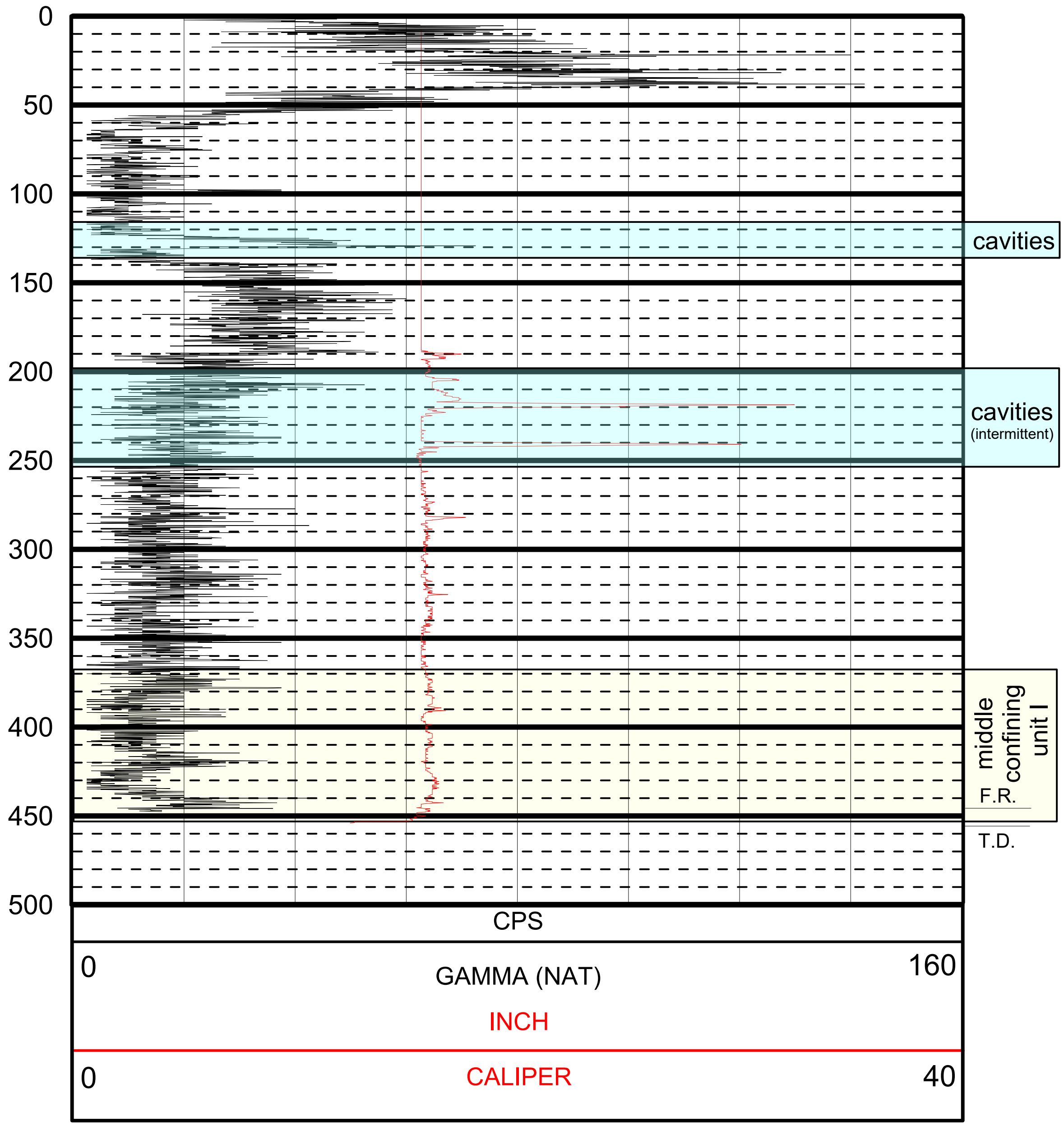


Figure B3. Geophysical log suite for the *Corehole* from 277.2 to 583.2 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on February 24, 2016, using the 9074C (caliper/gamma-ray) and 8043C (multifunction) tools. Temporary steel casing (3-inch HQ) was at approximately 328 feet below land surface, with 4-inch nominal open hole to 920 feet, and 3-inch nominal open hole to 993 feet below land surface at the time of logging. Log curves are clipped above 328 feet below land surface except for the caliper and gamma-ray curves, which are valid data inside the casing. The log scale is 2-inch per 100 feet. Tracks 1 and 3 are linearly scaled and track 2 is in logarithmic scale. The F.R. is 569.2 feet below land surface on track 1, and 575 feet below land surface on tracks 2 and 3.



[1] Inconclusive confinement; most data suggest the confining unit is present but long-term monitoring remains questionable

Figure B4. Induction log for the *Corehole* from land surface to 1803.6 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on October 3, 2016, using the 9512C (induction) tool for gamma-ray only (valid data inside steel casing). The tool was run inside steel core rods (2.38-inch NQ) set on hole bottom at total depth of 1,817 feet below land surface at the time of logging. The log scale is 0.75-inch per 100 feet and is linearly scaled. The F.R. is 1,796 feet below land surface.



[1]Ineffective confinement; low-permeability sediments are regionally thin, discontinuous, and hydraulically breached

Figure B5. Gamma-ray and caliper log for the *L Fldn Aq (bl MCU I) Temp Pump* well from land surface to 454.2 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on July 6, 2017, using the 9165C1 (caliper/gamma-ray) tool. The tool was run inside 16-inch steel casing at approximately 187 feet below land surface, with 16-inch nominal open hole to 452 feet below land surface at the time of logging. The log scale is 1-inch per 100 feet and is linearly scaled. The F.R. is 447.6 feet below land surface. Depths of hydrostratigraphic units depicted are from the exploratory core hole, not the logged well.

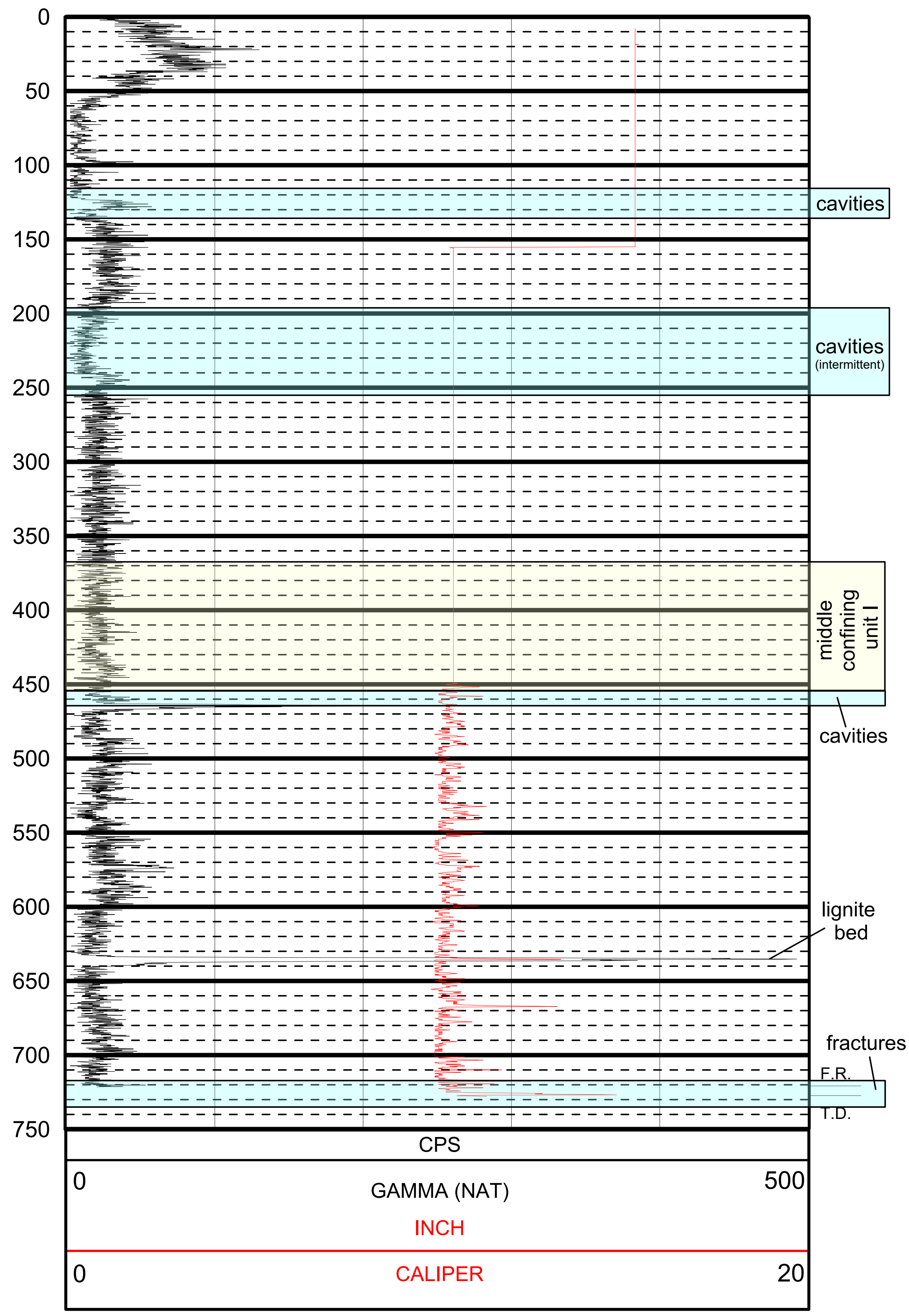


Figure B6. Gamma-ray and caliper log for the *L Fldn Aq (bl MCU I) Temp Pump* well from land surface to 727.8 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on July 28, 2017, using the 9165C1 (caliper/gamma-ray) tool. The tool was run inside 16-inch steel casing at approximately 187 feet below land surface, with 10-inch steel casing (back-off) from 157 to 452 feet below land surface, and 10-inch nominal open hole to 743 feet below land surface at the time of logging. The log scale is 1-inch per 100 feet and is linearly scaled. The F.R. is 721.4 feet below land surface. Depths of hydrostratigraphic units depicted are from the exploratory core hole, not the logged well.

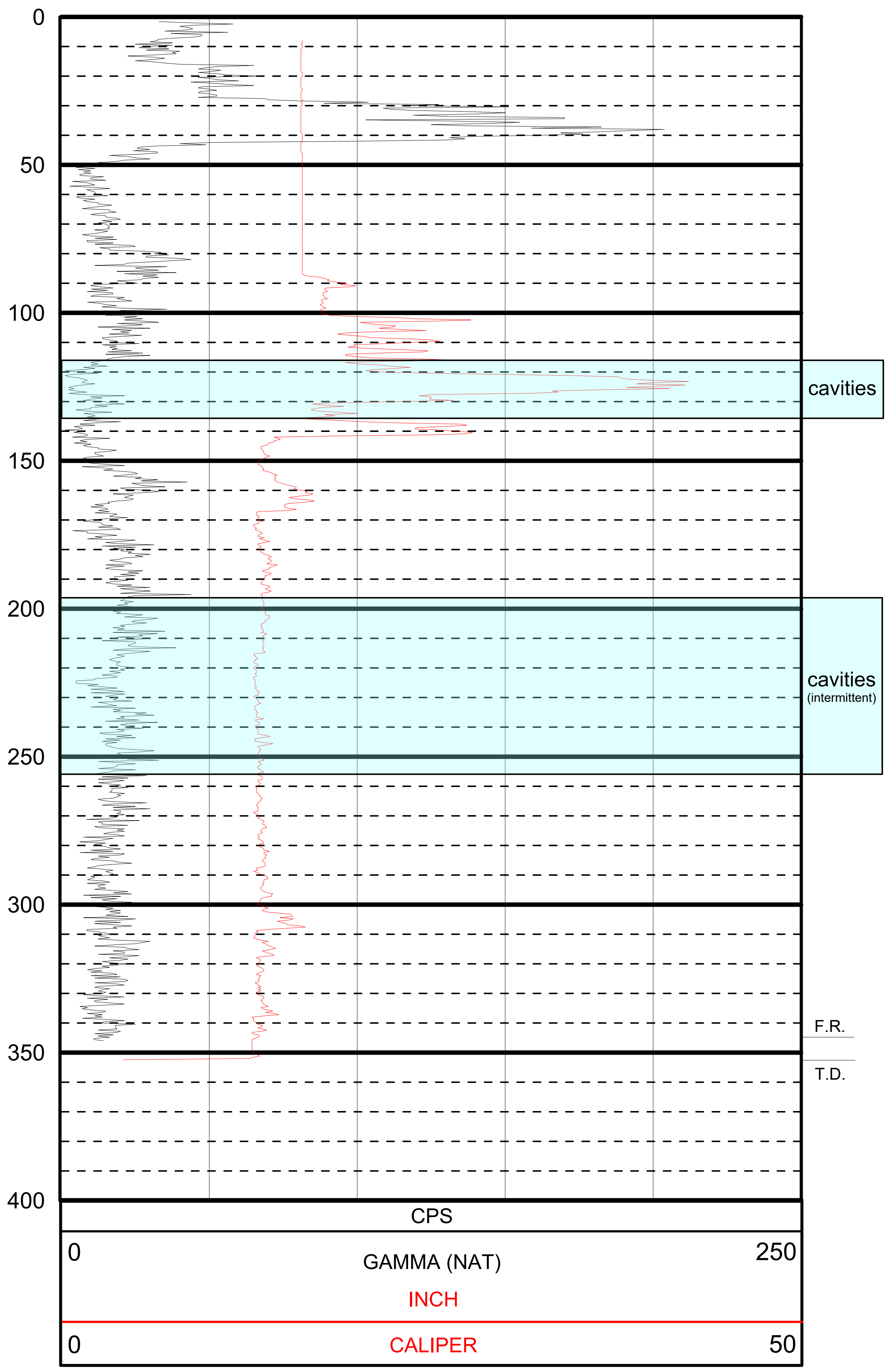


Figure B7. Gamma-ray and caliper log for the *U Fldn Aq Temp Pump* well from land surface to 352.4 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on August 28, 2017, using the 9165C1 (caliper/gamma-ray) tool. The tool was run inside 16-inch steel casing at approximately 85 feet below land surface, with 16-inch nominal open hole to 122 feet below land surface, and 12-inch nominal open hole to 350 feet below land surface at the time of logging. The log scale is 2-inch per 100 feet and is linearly scaled. The F.R. is 345.6 feet below land surface. Depths of hydrostratigraphic units depicted are from the exploratory core hole, not the logged well.

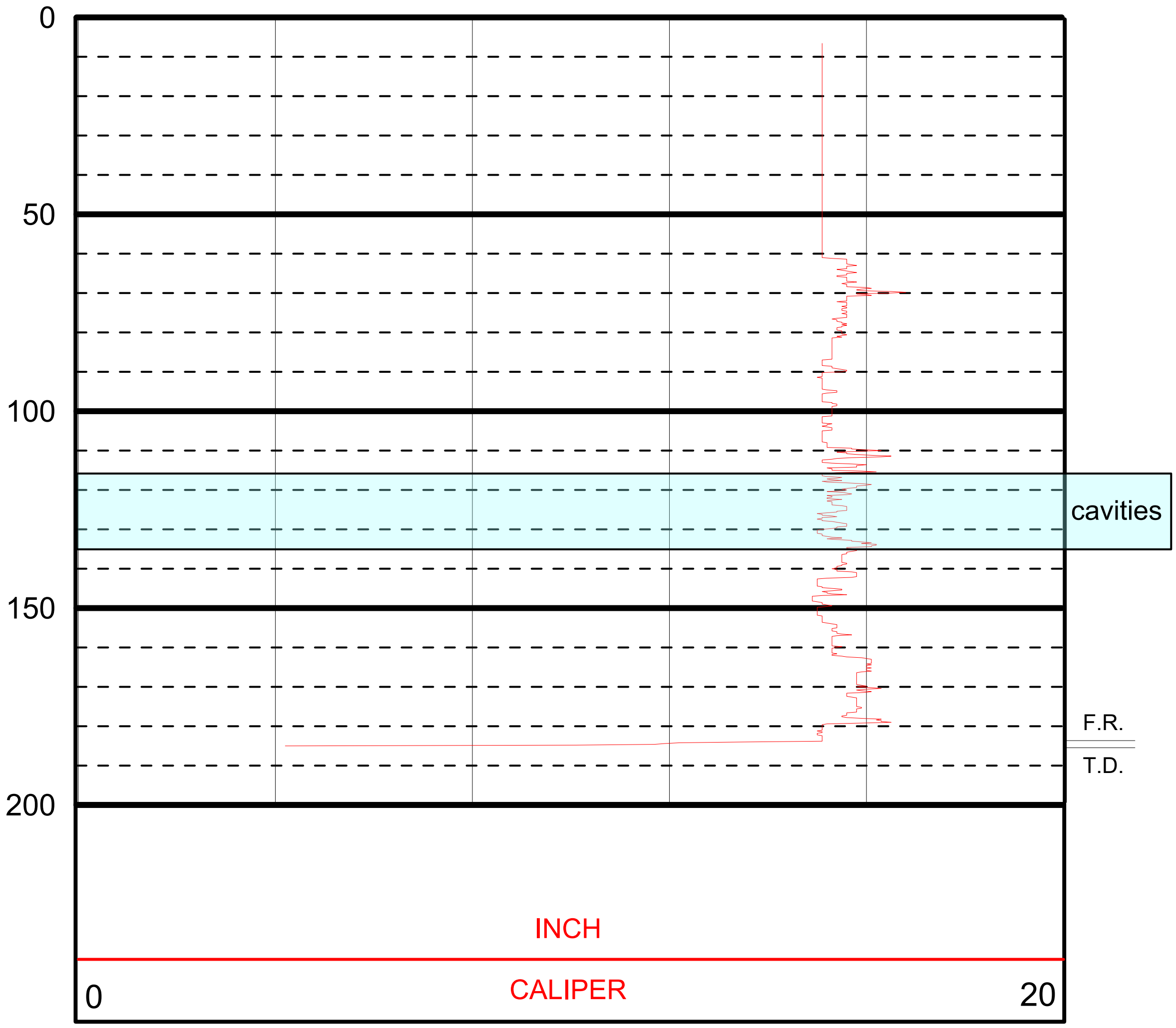


Figure B8. Caliper log for the *L Fldn Aq (bl MCU I) Monitor* well from 6.2 to 185 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on September 6, 2017, using the 9064A1 (caliper) tool. The tool was run inside 16-inch steel casing at approximately 61 feet below land surface, with 16-inch nominal open hole to 184 feet below land surface at the time of logging. The log scale is 2-inch per 100 feet and is linearly scaled. The F.R. is 183.8 feet below land surface. Depths of hydrostratigraphic units depicted are from the exploratory core hole, not the logged well.

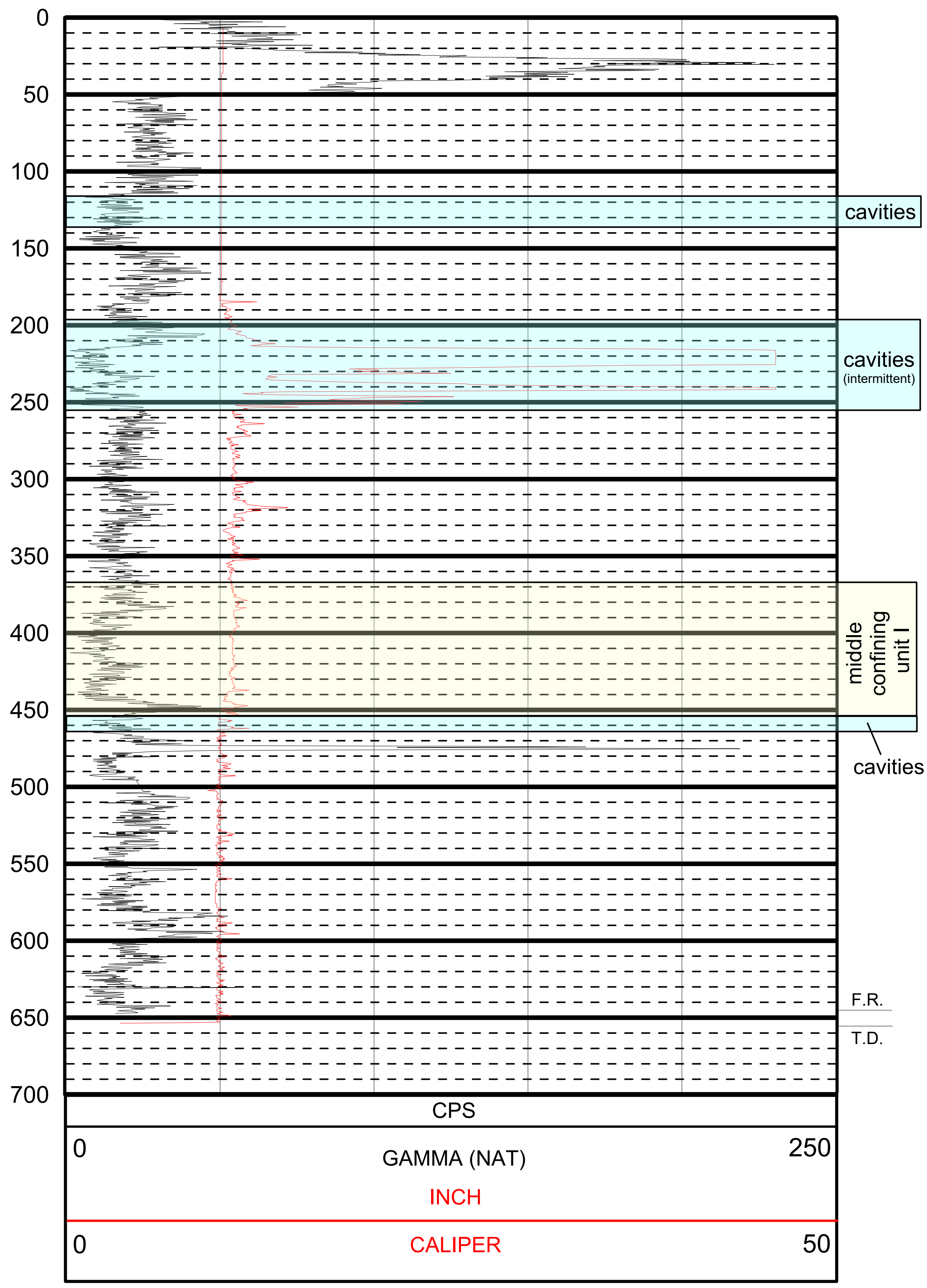


Figure B9. Gamma-ray and Caliper log for the *L Fldn Aq (bl MCU I) Monitor* well from land surface to 653.6 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on October 3, 2017, using the 9165C1 (caliper/gamma-ray) tool. The tool was run inside 10-inch steel casing at approximately 184 feet below land surface, with 10-inch nominal open hole to 650 feet below land surface at the time of logging. The log scale is 1-inch per 100 feet and is linearly scaled. The F.R. is 647.2 feet below land surface. Depths of hydrostratigraphic units depicted are from the exploratory core hole, not the logged well.

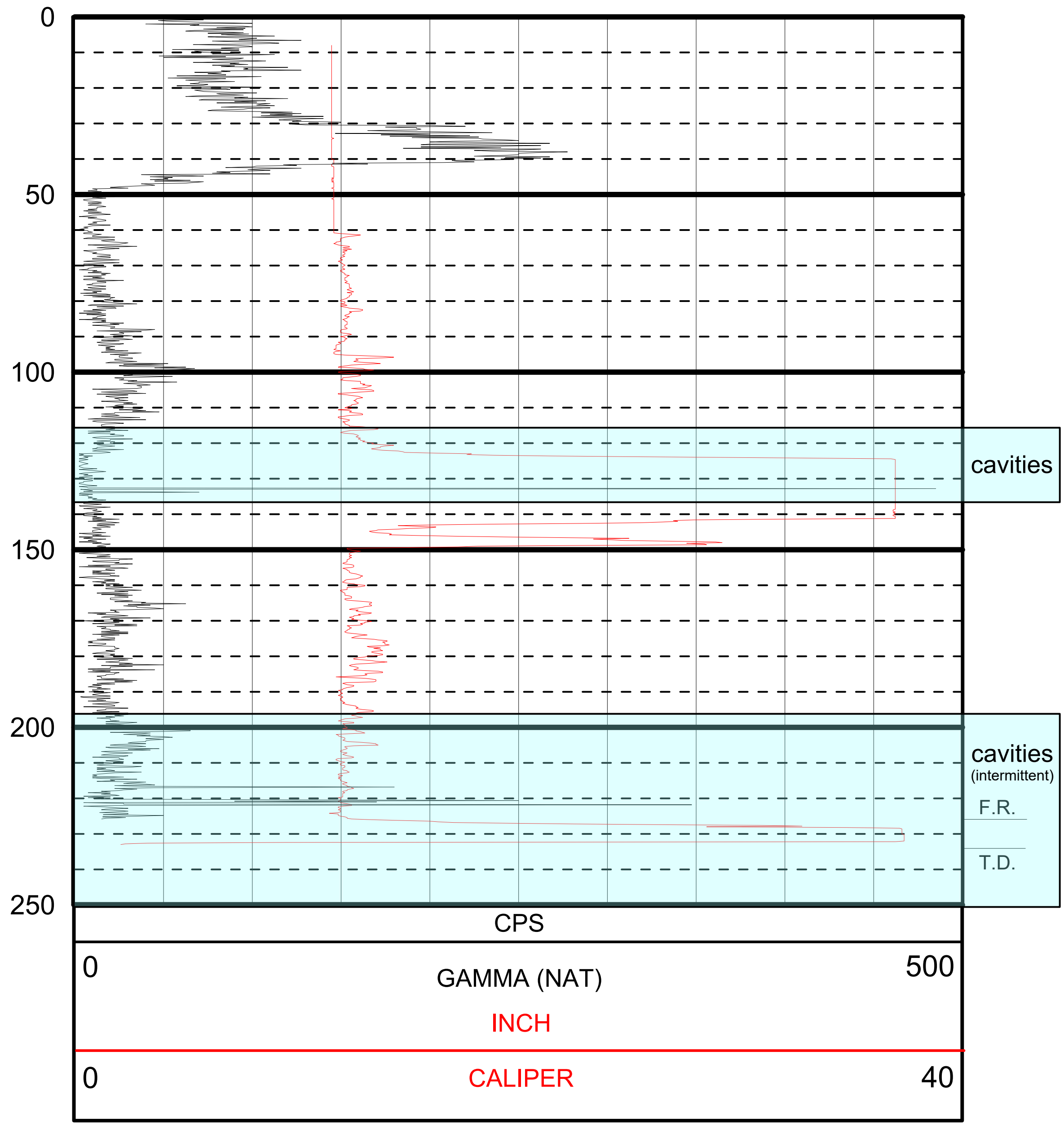


Figure B10. Gamma-ray and Caliper log for the *U Fldn Aq Monitor* well from land surface to 233.2 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on October 31, 2017, using the 9074C1 (caliper/gamma-ray) tool. The tool was run inside 12-inch steel casing at approximately 62 feet below land surface, with 12-inch nominal open hole to 233 feet below land surface at the time of logging. The log scale is 2-inch per 100 feet and is linearly scaled. The F.R. is 225.8 feet below land surface. Depths of hydrostratigraphic units depicted are from the exploratory core hole, not the logged well.

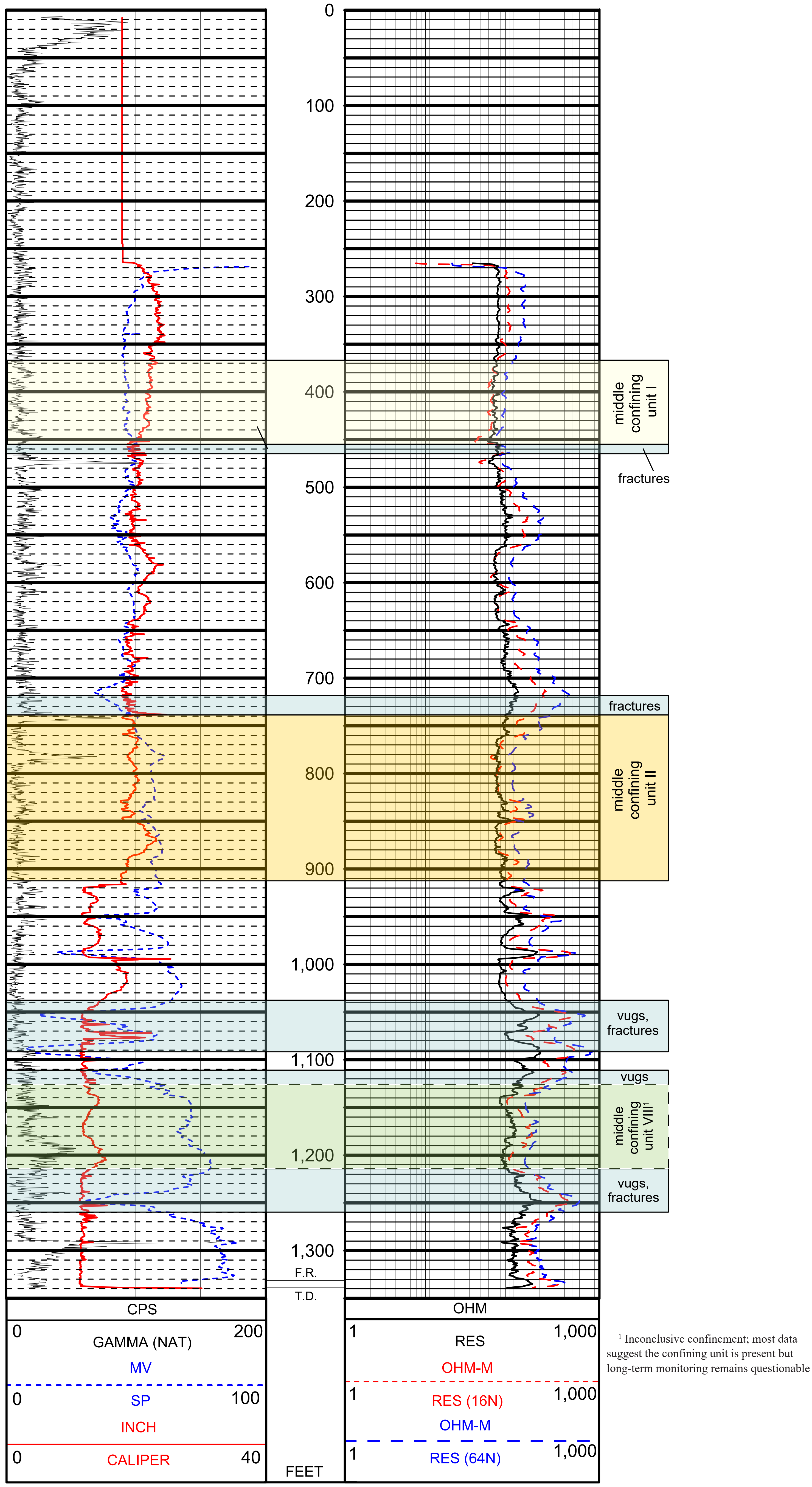
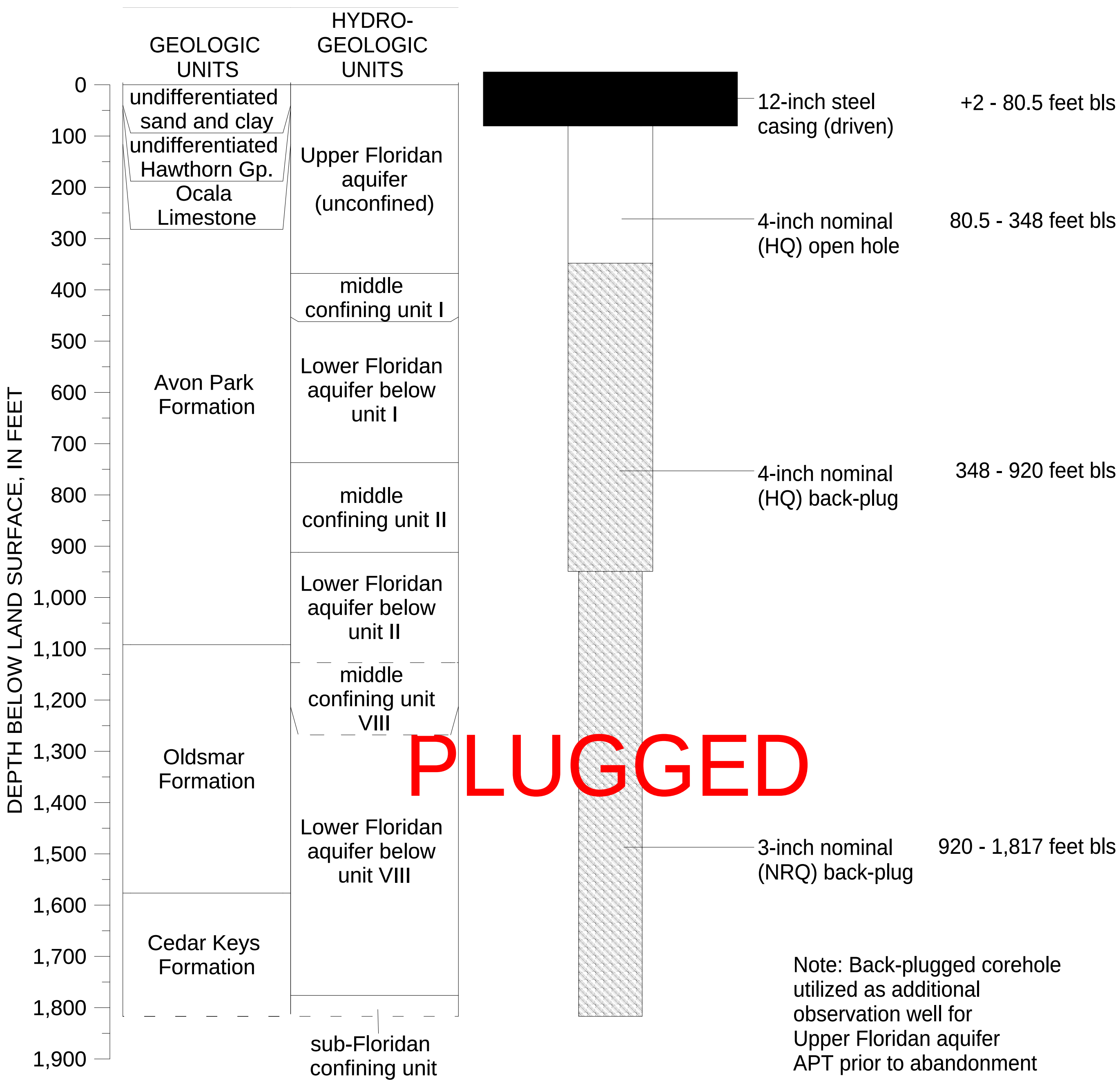


Figure B11. Geophysical log suite for the *L Fldn Aq (bl MCU II/MCU VIII) Monitor* from land surface to 1,340.8 feet below land surface conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida. The log was performed on March 21, 2018, using the 9165C1 (caliper/gamma-ray) and 8044C (multifunction) tools. The tools were run inside 18-inch steel casing at 265 feet below land surface, with 10-inch nominal open borehole to 1,340 feet below land surface at the time of logging. Log curves are clipped above 265 feet below land surface except for the caliper and gamma-ray curves, which are valid data inside the casing. The log scale is 0.9-inch per 100 feet. Track 1 is linearly scaled and track 2 is in logarithmic scale. The F.R. is 1,333.6 feet below land surface for the caliper/gamma-ray log and is 1,332.8 feet below land surface for the multifunction log.

Appendix C. Well As-Built Diagrams for the ROMP 131.5 – Morriston Well Site in Levy County, Florida



Well Name:	ROMP 131.5 Corehole
SID:	853980
WCP:	843823, 851875, 863293
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 33.90
Longitude:	82 30 17.10
Reporting Category:	MORR
Const. Began:	9/29/2015
Const. Complete:	10/5/2016

EXPLANATION

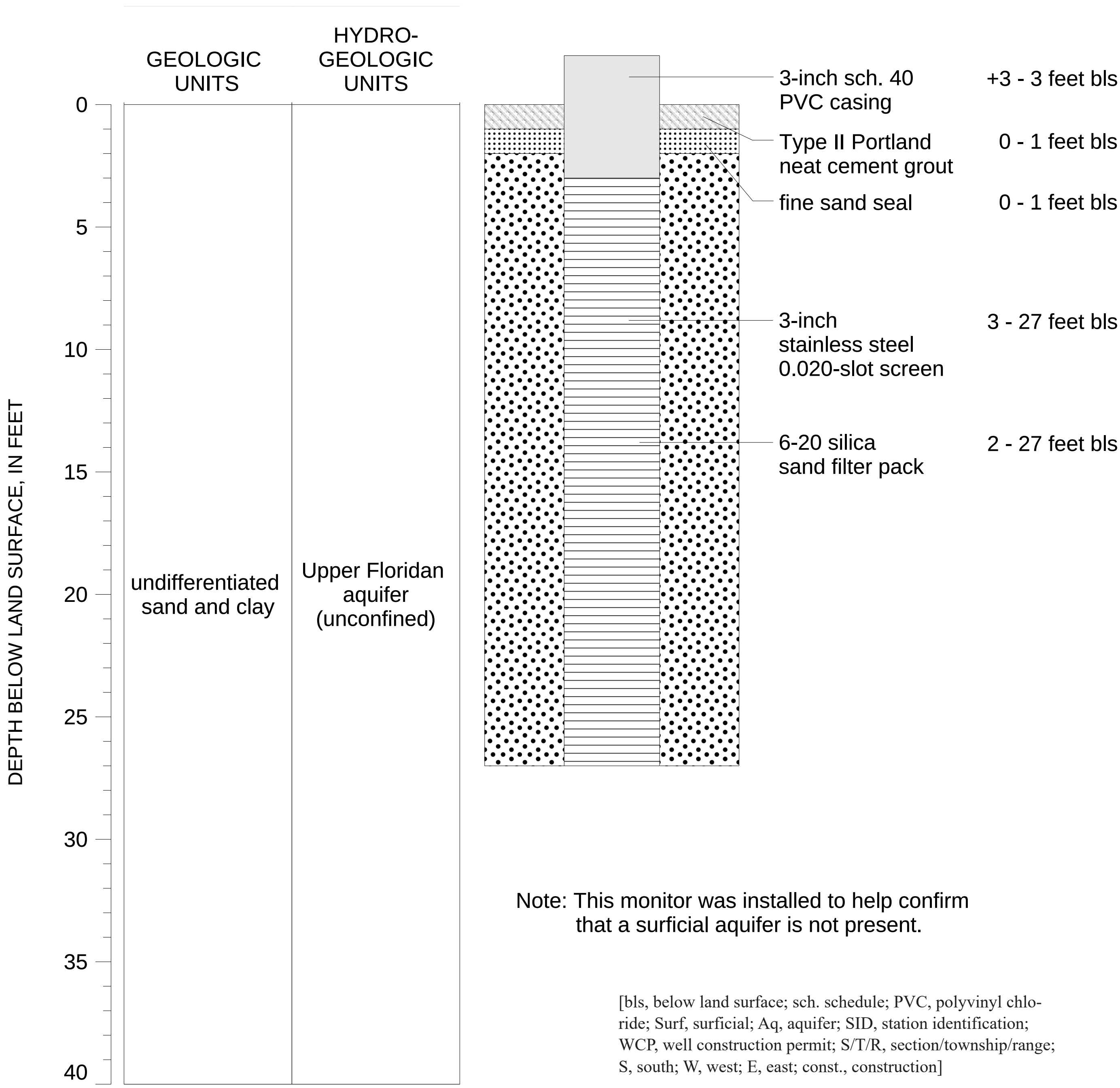
Black steel casing

Open hole

Neat cement grout

[Gp., Group; bls, below land surface; HQ, 3.06-inch internal diameter core drilling rod, NRQ, 2.38-inch internal diameter core drilling rod; SID, station identification; WCP, well construction permit; S/T/R, section/township/range; S, south; W, west; E, east; const., construction]

Figure C1. As-built diagram for the exploratory *Corehole* at the ROMP 131.5 – Morriston well site in Levy County, Florida.



Well Name:	ROMP 131.5 Surf Aq Monitor
SID:	906058
WCP:	867754
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 32.86
Longitude:	82 30 19.12
Reporting Category:	MORR
Const. Began:	6/7/2018
Const. Complete:	6/7/2018

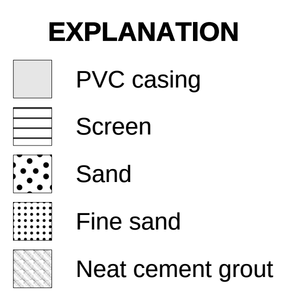
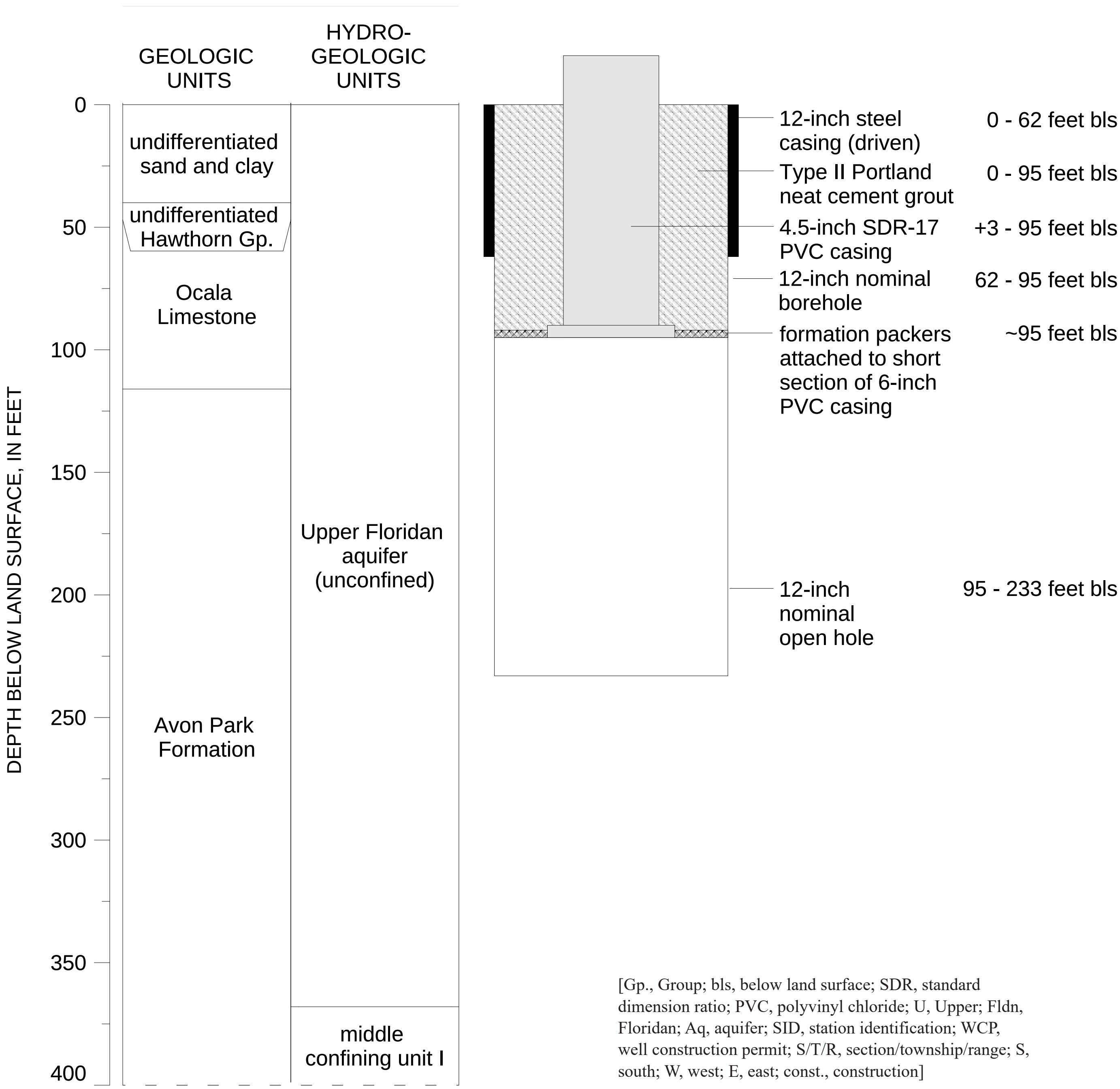


Figure C2. As-built diagram for the *Surf Aq Monitor* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



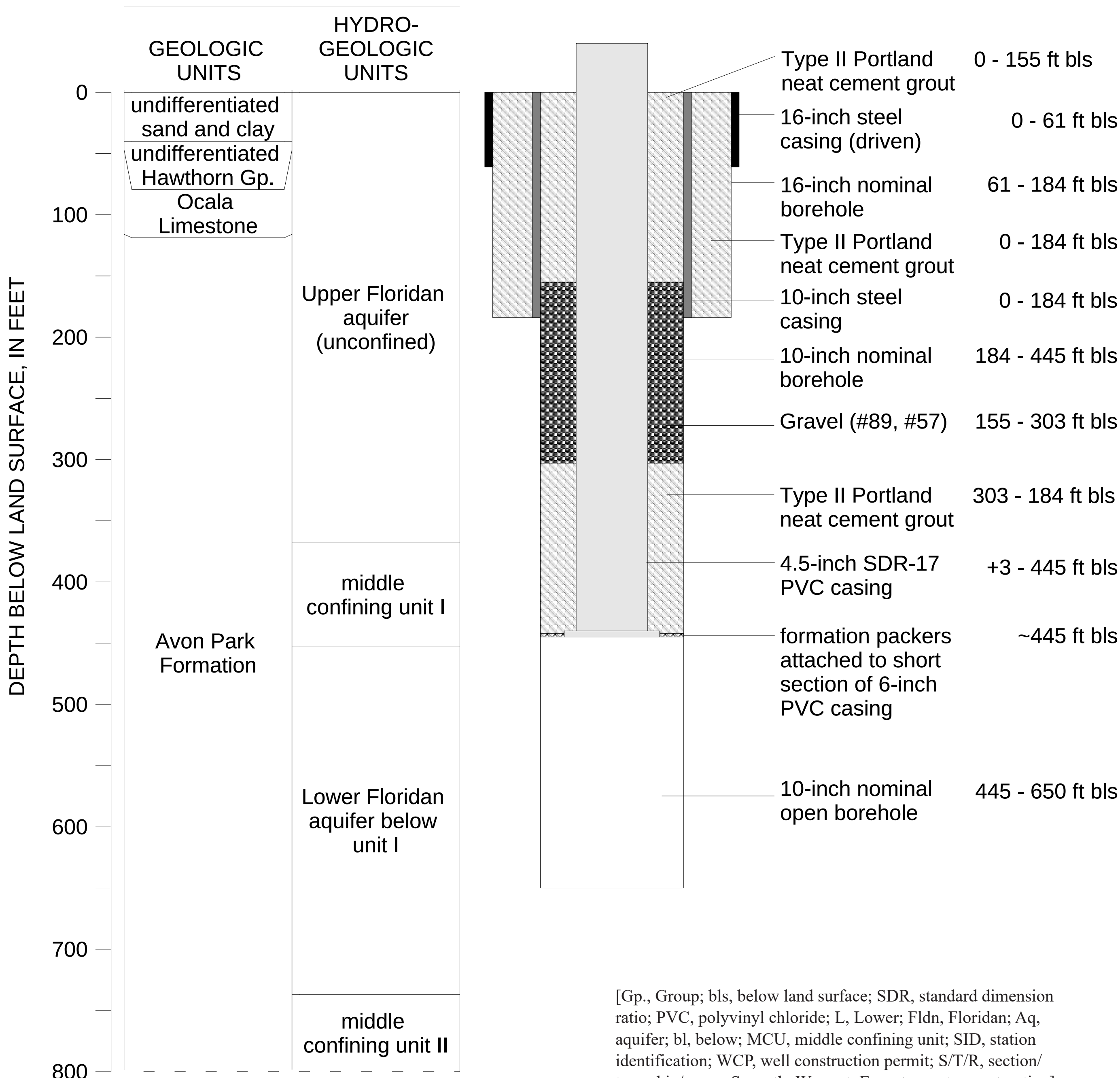
[Gp., Group; bls, below land surface; SDR, standard dimension ratio; PVC, polyvinyl chloride; U, Upper; Fldn, Floridan; Aq, aquifer; SID, station identification; WCP, well construction permit; S/T/R, section/township/range; S, south; W, west; E, east; const., construction]

Well Name:	ROMP 131.5 U Fldn Aq Monitor
SID:	905294
WCP:	855401, 859559
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 32.82
Longitude:	82 30 19.35
Reporting Category:	MORR
Const. Began:	5/10/2017
Const. Complete:	11/3/2017

EXPLANATION

- Black steel casing
- PVC casing
- Neat cement grout
- Formation packers
- Open hole

Figure C3. As-built diagram for the *U Fldn Aq Monitor* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



[Gp., Group; bls, below land surface; SDR, standard dimension ratio; PVC, polyvinyl chloride; L, Lower; Fldn, Floridan; Aq, aquifer; bl, below; MCU, middle confining unit; SID, station identification; WCP, well construction permit; S/T/R, section/township/range; S, south; W, west; E, east; const., construction]

Well Name:	ROMP 131.5 L Fldn Aq (bl MCU I) Monitor
SID:	905297
WCP:	855400, 859557
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 32.86
Longitude:	82 30 19.21
Reporting Category:	MORR
Const. Began:	5/12/2017
Const. Complete:	10/19/2017

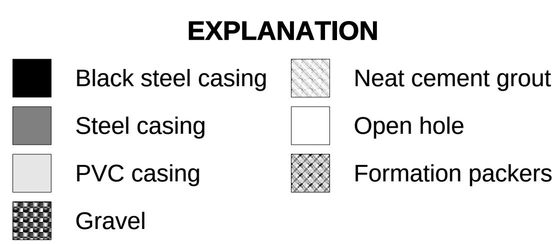
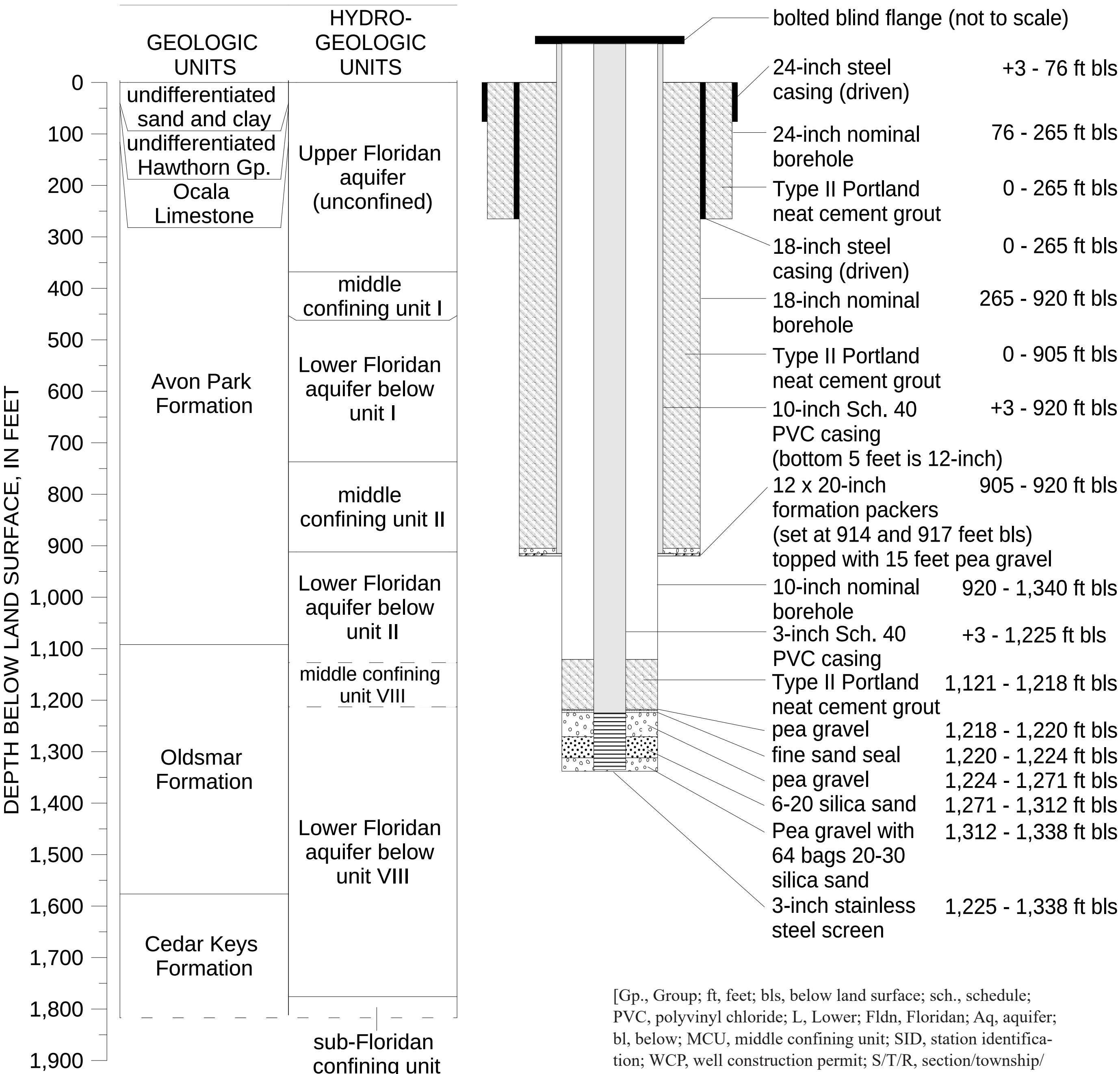


Figure C4. As-built diagram for the *L Fldn Aq (bl MCU I) Monitor* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



[Gp., Group; ft, feet; bls, below land surface; sch., schedule; PVC, polyvinyl chloride; L, Lower; Fldn, Floridan; Aq, aquifer; bl, below; MCU, middle confining unit; SID, station identification; WCP, well construction permit; S/T/R, section/township/range; S, south; W, west; E, east; const., construction]

Well Name:	ROMP 131.5 L Fldn Aq (bl MCU II & VIII) Monitors
SID:	905299 and 905300
WCP:	866093
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 32.85
Longitude:	82 30 19.03
Reporting Category:	MORR
Const. Began:	1/17/2018
Const. Complete:	4/23/2018

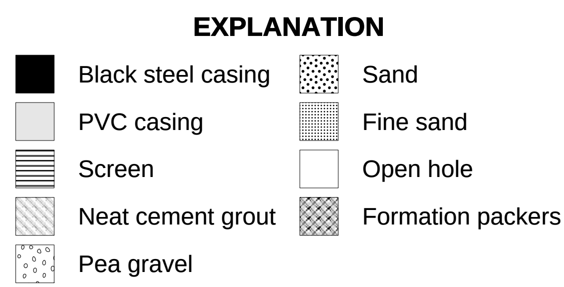
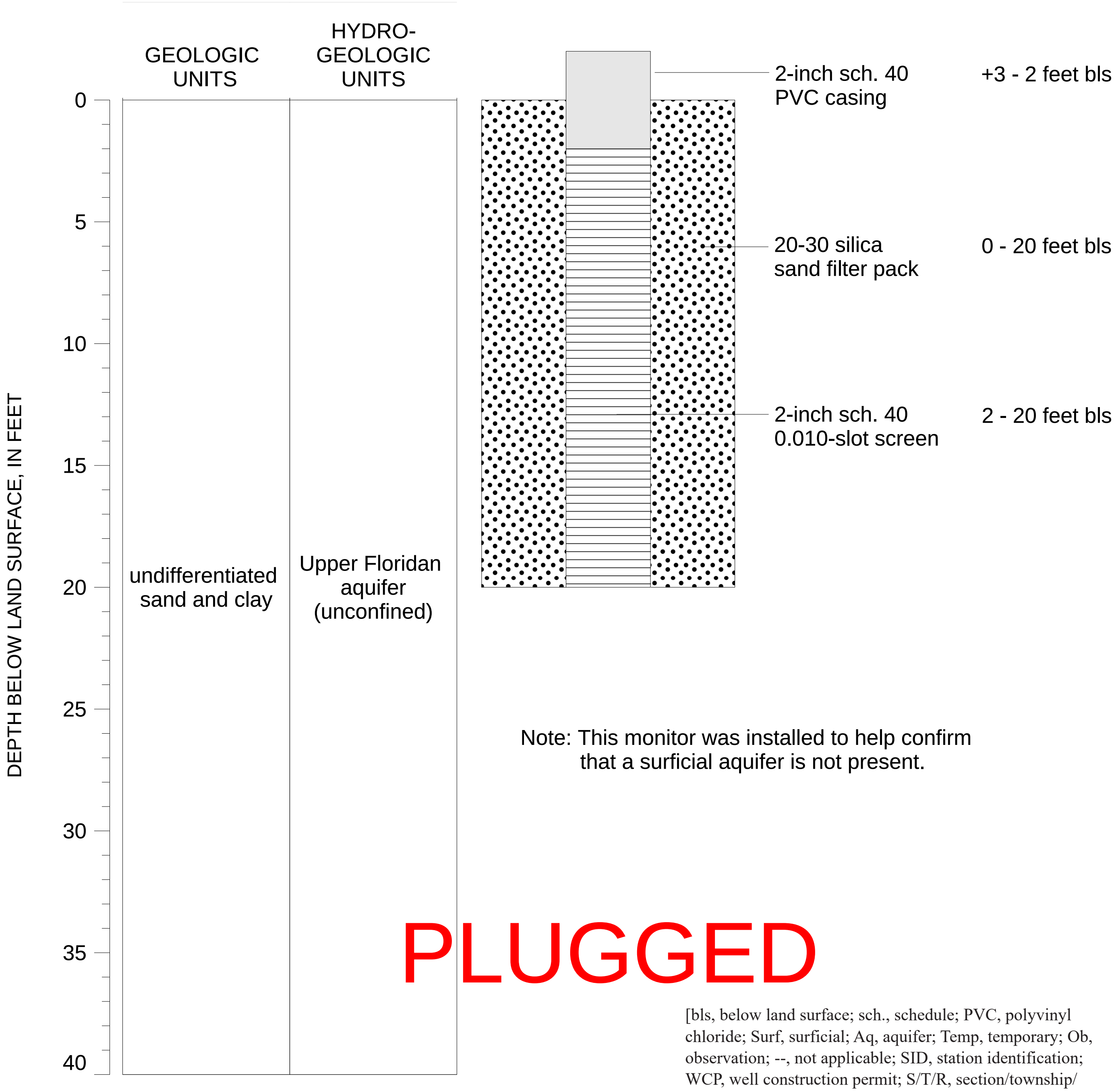


Figure C5. As-built diagram for the *L Fldn Aq (bl MCU II-A & II-B) Dual Monitor* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



[bls, below land surface; sch., schedule; PVC, polyvinyl chloride; Surf, surficial; Aq, aquifer; Temp, temporary; Ob, observation; --, not applicable; SID, station identification; WCP, well construction permit; S/T/R, section/township/range; S, south; W, west; E, east; const., construction]

Well Name:	ROMP 131.5 Surf Aq Temp Ob
SID:	--
WCP:	846907, 867551
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 32.86
Longitude:	82 30 17.65
Reporting Category:	MORR
Const. Began:	10/16/2015
Const. Complete:	10/16/2015

EXPLANATION

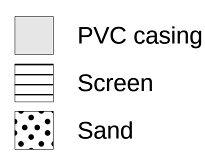
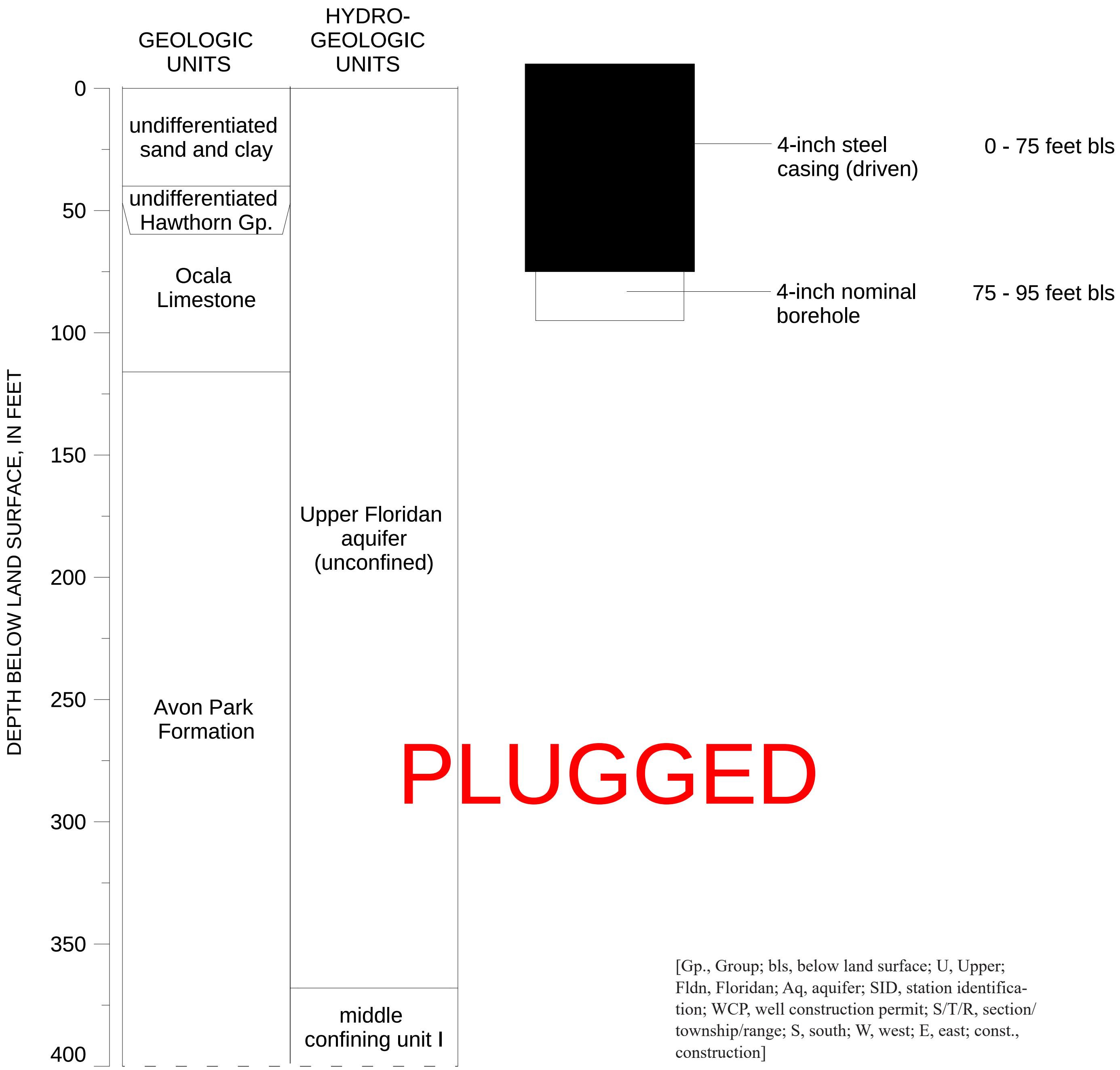


Figure C6. As-built diagram for the *Surf Aq Temp Ob* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



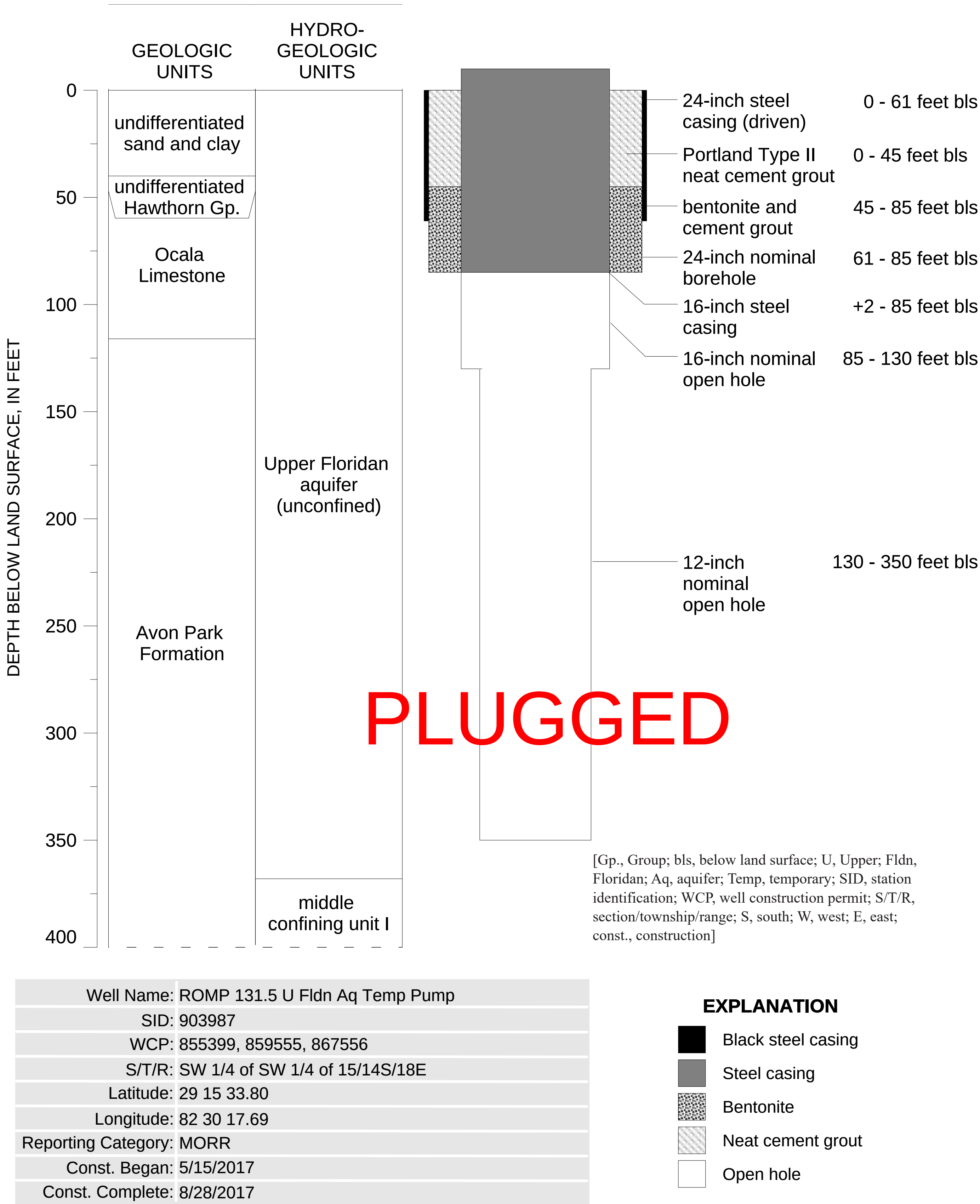
Well Name:	ROMP 131.5 U Fldn Aq Drilling Water Supply
SID:	903993
WCP:	843344, 867552
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 32.86
Longitude:	82 30 17.32
Reporting Category:	MORR
Const. Began:	6/2/2015
Const. Complete:	6/3/2015

EXPLANATION

Black steel casing

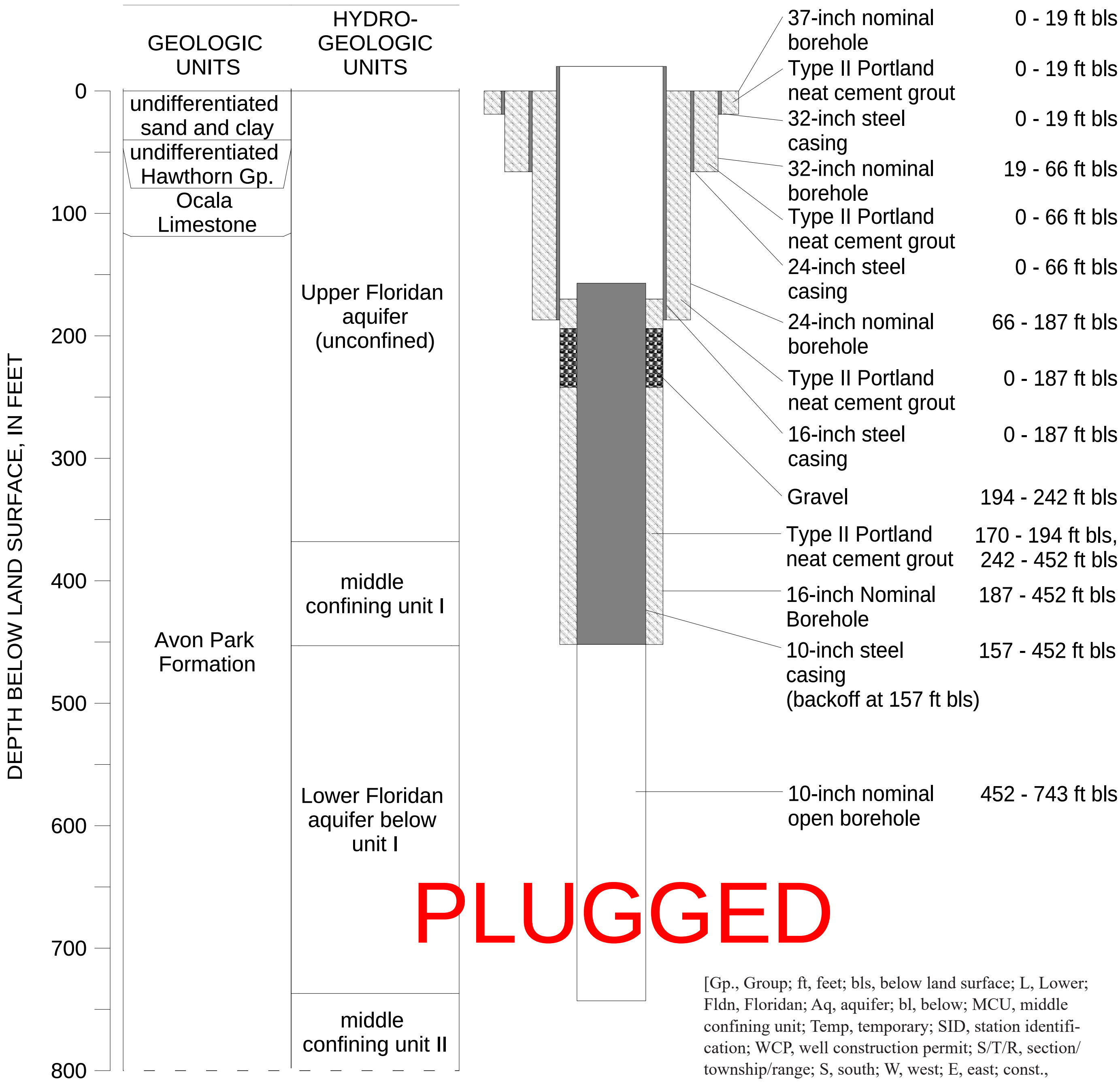
Open hole

Figure C7. As-built diagram for the *U Fldn Aq Temp Drilling Water Supply* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



Well Name:	ROMP 131.5 U Fldn Aq Temp Pump
SID:	903987
WCP:	855399, 859555, 867556
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 33.80
Longitude:	82 30 17.69
Reporting Category:	MORR
Const. Began:	5/15/2017
Const. Complete:	8/28/2017

Figure C8. As-built diagram for the *U Fldn Aq Temp Pump* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.



[Gp., Group; ft, feet; bls, below land surface; L, Lower; Fldn, Floridan; Aq, aquifer; bl, below; MCU, middle confining unit; Temp, temporary; SID, station identification; WCP, well construction permit; S/T/R, section/township/range; S, south; W, west; E, east; const., construction]

Well Name:	ROMP 131.5 L Fldn Aq (Below MCU I) Temp Pump
SID:	903476
WCP:	855398, 859552, 867557
S/T/R:	SW 1/4 of SW 1/4 of 15/14S/18E
Latitude:	29 15 34.04
Longitude:	82 30 18.22
Reporting Category:	MORR
Const. Began:	1/3/2017
Const. Complete:	7/31/2017

EXPLANATION

- Steel casing
- Gravel
- Neat cement grout
- Open hole

Figure C9. As-built diagram for the *L Fldn Aq (bl MCU I) Temp Pump* well at the ROMP 131.5 – Morriston well site in Levy County, Florida.

Appendix D. Lithologic Logs for the Samples Collected at the ROMP 131.5 – Morriston Well Site in Levy County, Florida

Florida Department of Environmental Protection

Florida Geological Survey GEODES

Well Number: W-19633 (ROMP 131.5 - Morriston)

Total Depth: 1817	**Elevation:**	**County:** Levy
Location: Sec T..,R..	**Drill Completion Date:**	**Other Logs:**
USGS Quad:	**Lat/Long:** 29° 15' 33.9" N; 82° 30' 17.1" W	**Owner/Driller:** UNKNOWN
Described By: BEN L. DAVIS	**Verified By PG:** C. Kromhout	**Comments:** SPT: 0'-72'; Continuous Core: 0'-1817' The SPT is from a different hole approximately 90' away from the core hole. SWFWMD sent the samples with the same station ID. The SPT is aka W19682.
Verification: Is Verified		

Geological Formation Picks

0 - 40 ft	UDSC	Undifferentiated Sand and Clay
40 - 47 ft	HTRN	Hawthorn Group, Undifferentiated
47 - 138.5 ft	OCAL	Ocala Limestone
138.5 - 950.4 ft	AVPK	Avon Park Formation
950.4 - 1533 ft	OLDM	Oldsmar Formation
1533 - 1817 ft	CDRK	Cedar Keys Formation

0 - 2 ft	Sand; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - 2%, Organics - 4%, Plant Remains - 4%; General Fossils: No Fossils, Organics; Comments: Unconsolidated sand and soil present. Ground surface to 1' is darker in color than 1' to 2'.
2 - 4 ft	Sand; Color: Dark Yellowish Orange (10YR 6/6) to Moderate Yellowish Brown (10YR 5/4); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - 1%, Organics - 1%; General Fossils: No Fossils, Organics; Comments: Noticably less organics present than in previous interval.
4 - 6 ft	Sand; Color: Light Brown (5YR 5/6) to Dark Yellowish Orange (10YR 6/6); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - 1%, Organics - 1%; General Fossils: No Fossils, Organics
6 - 8 ft	Sand; Color: Light Brown (5YR 5/6) to Dark Yellowish Orange (10YR 6/6); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - 1%, Organics - 1%; General Fossils: No Fossils, Organics
8 - 10 ft	Sand; Color: Light Brown (5YR 5/6) to Dark Yellowish Orange (10YR 6/6); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - 1%, Organics - 1%; Comments: Poor recovery for this interval.
10 - 15 ft	No Sample
15 - 15.9 ft	Sand; Color: Light Brown (5YR 5/6) to Dark Yellowish Orange (10YR 6/6); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - 1%, Organics - 1%
15.9 - 18 ft	Sand; Color: Dark Yellowish Orange (10YR 6/6) to Grayish Orange (10YR 7/4); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Clay - <1%, Heavy Minerals - <1%, Organics - <1%; General Fossils: No Fossils, Organics; Comments: Heavy minerals present throughout interval.

18 - 20 ft Sand; Color: Dark Yellowish Orange (10YR 6/6) to Grayish Orange (10YR 7/4); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%, Organics - <1%; General Fossils: No Fossils, Organics; Comments: Interval contains trace amounts of heavy minerals.

20 - 22 ft Sand; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%, Organics - <1%; General Fossils: No Fossils, Organics; Comments: Trace amounts of heavy minerals present. Noticable color change from previous interval.

22 - 24 ft Sand; Color: Very Light Orange (10YR 8/2); Grain Size: Fine; Range: Fine to Very Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%; General Fossils: No Fossils, Organics; Comments: Trace amounts of heavy minerals present. Lighter in color than previous interval.

24 - 30 ft Sand; Color: Very Light Orange (10YR 8/2); Grain Size: Fine; Range: Medium to Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%; General Fossils: No Fossils, Organics; Comments: Very poor recovery from 24'-30'. Unable to identify what depth unconsolidated sample came from.

30 - 35 ft No Sample

35 - 35.9 ft Sand; Color: Very Light Orange (10YR 8/2); Grain Size: Fine; Range: Medium to Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%; General Fossils: No Fossils, Organics; Comments: Trace amounts of heavy minerals present.

35.9 - 40 ft Sand; Color: Very Light Orange (10YR 8/2); Grain Size: Fine; Range: Medium to Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%; General Fossils: No Fossils, Organics; Comments: Very poor recovery from 35.9' to 40'. Unable to identify what depth unconsolidated sample came from. Trace amounts of heavy minerals present.

40 - 41 ft Sand; Color: Dark Yellowish Orange (10YR 6/6) to Moderate Brown (5YR 4/4); Grain Size: Medium; Range: Medium to Fine; Roundness: Sub-rounded to Sub-angular; Sphericity: Medium; Unconsolidated; Accessory Minerals: Heavy Minerals - <1%, Phosphatic Sand - <1%; General Fossils: No Fossils, Organics; Comments: Interval consists of medium grained sands in a clayey matrix. Trace amounts of heavy minerals present. First occurance of phosphate.

41 - 45 ft Calcilutite; Color: White (N9); Unconsolidated; Cement Type: Calcilutite Matrix; Accessory Minerals: Heavy Minerals - <1%, Quartz Sand - <1%; Other Features: Calcareous; General Fossils: No Fossils, Organics; Comments: Very calcareous. Poor recovery from 41'-45'. Unable to identify what depth unconsolidated sample came from. Trace amounts of heavy minerals present.

45 - 45.5 ft Calcilutite; Color: Very Light Orange (10YR 8/2); Unconsolidated; Cement Type: Calcilutite Matrix; Accessory Minerals: Heavy Minerals - <1%, Phosphatic Gravel - 4%, Phosphatic Sand - 2%, Quartz Sand - 2%; Other Features: Calcareous; General Fossils: No Fossils, Organics; Comments: Very calcareous with phosphate ranging in size from coarse grained to pebbles. Trace amounts of heavy minerals present.

45.5 - 47 ft Calcilutite; Color: White (N9); Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Phosphatic Sand - 1%, Quartz Sand - <1%, Shell - 4%; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Molds; Comments: Very calcareous interval conatining shell fragments and molds.

47 - 49 ft Packstone; Color: White (N9); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments; Comments: Chalky packstone with fossil frgaments throughout.

49 - 51 ft Packstone; Color: White (N9); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments; Comments: Chalky packstone with fossil fragments throughout.

51 - 53 ft Packstone; Color: White (N9); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Heavy Minerals - <1%, Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments; Comments: Chalky packstone with fossil frgaments throughout. Trace amounts of heavy minerals present.

53 - 55 ft Packstone; Color: White (N9); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments; Comments: Chalky packstone with small fossil fragments throughout.

55 - 56.4 ft Packstone; Color: White (N9) to Grayish Orange (10YR 7/4); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments; Comments: Tan and white chalky packstone with small fossil fragments.

56.4 - 58 ft Packstone; Color: White (N9); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Index Fossils: Nummulites ocalanus, Lepidocyclina ocalana; Comments: Moderately indurated chalky packstone with Ocala Limestone index fossils present.

58 - 60 ft Packstone; Color: White (N9); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - <1%, Quartz Sand - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Index Fossils: Nummulites ocalanus, Lepidocyclina ocalana; Comments: Contains fragmented index fossils and miliolids. Some shell fragments have been replaced with calcite.

60 - 62 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Noticable change from packstone to grainstone.

62 - 64 ft Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

64 - 65 ft Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Comments: Bryozoan-rich interval.

65 - 67 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Index Fossils: Lepidocyclina ocalana
67 - 68 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
68 - 70 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments
70 - 71.5 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Small bryozoans and miliolids are abundant.
71.5 - 73 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Index Fossils: Amphistegina pinarensis cosdeni
73 - 75 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Shell fragments have been replaced with calcite.
75 - 77 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Fine grained and more sorted than previous intervals.
77 - 79 ft	Grainstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - 2%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Contains zones of recrystallized shell frgaments with calcite.
79 - 81 ft	Grainstone; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - 3%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Slightly more recystrallized than the previous interval.
81 - 83 ft	Packstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - 4%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Slightly more recrystallized than the previous interval.
83 - 85 ft	Packstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - 5%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds
85 - 87 ft	Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Spar - 2%; Other Features: Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: First occurance of dolostone.
87 - 89 ft	Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Spar - 3%; Other Features: Low Recrystallization, Sucrosic, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Pinpoint vugs throughout interval, some of which are sucrosic.
89 - 91.2 ft	Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Spar - 3%; Other Features: Low Recrystallization, Sucrosic, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Contains large bryozoans (~ 1") compared to previous intervals.
91.2 - 93 ft	Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Spar - 3%; Other Features: Low Recrystallization, Sucrosic, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Small sample size due to poor recovery.
93 - 95 ft	Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Calcite - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Nummulites ocalanus; Comments: Small sample size of calcareous packstone due to poor recovery.
95 - 97 ft	Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Low Recrystallization, Fossiliferous, Brown Anhydrite Crystals; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.
97 - 99 ft	Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 4%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.
99 - 101 ft	Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 4%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Samples size is small due to poor recovery.

101 - 103 ft Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 5%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.

103 - 105 ft Grainstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.

105 - 107 ft Grainstone; Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.

107 - 109.5 ft Grainstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Clay - <1%, Spar - 3%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery. 1" section of platy clay found within this interval.

109.5 - 111 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.

111 - 113 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.

113 - 115 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

115 - 117 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

117 - 119 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Index Fossils: Nummulites ocalanus; Comments: Ocala Limestone index fossils present.

119 - 121 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

121 - 123 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Pelloid, Calcilutite; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

123 - 125 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

125 - 127 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

127 - 128 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Sample size small due to poor recovery.

128 - 137 ft Packstone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Very poor recovery.

137 - 138.5 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

138.5 - 140 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Spar - <1%; Other Features: Medium Recrystallization; General Fossils: No Fossils

140 - 142 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Spar - <1%; Other Features: Medium Recrystallization, Sucrosic; General Fossils: No Fossils

142 - 144 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Spar - <1%; Other Features: Medium Recrystallization, Sucrosic; General Fossils: No Fossils

144 - 147 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Spar - <1%; Other Features: Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Very poor recovery.

147 - 148 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Spar - 1%; Other Features: Medium Recrystallization, Sucrosic; General Fossils: No Fossils

148 - 150 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Sample conatins Avon Park Formation forams throughout.

150 - 157 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: Miliolids; Comments: Very poor recovery.

157 - 159 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

159 - 161.3 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 38%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

161.3 - 163 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

163 - 165 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

165 - 167 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds; Comments: Very poor recovery. Noticably less allochems than previous intervals.

167 - 169 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Spirolina coryensis, Cushmania (Dictyoconus) americana

169 - 171 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

171 - 177 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Very poor recovery.

177 - 177.9 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

177.9 - 180 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

180 - 182 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

182 - 187 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Very Poor recovery.

187 - 197 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Very poor recovery. 2' of core represent this 187'-197' interval.

197 - 205 ft No Sample

205 - 207 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Sucrosic, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds

207 - 209 ft Packstone; Color: Yellowish Gray (5Y 8/1); Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 60%; Grain Size: Medium; Range: Medium to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

209 - 211 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Sucrosic, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

211 - 213 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 20%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids; Comments: Finer grained than previous interval.

213 - 217 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 25%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Miliolids, Fossil Molds; Comments: Very poor recovery. 213'-217' consists of ~6-8" of core.

217 - 219 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 25%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Molds

219 - 220 ft Wackestone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 45%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Comments: Orange (10YR 8/6) staining present throughout interval.

220 - 222.3 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 45%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Molds

222.3 - 224 ft Packstone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 45%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Orange (10YR 8/6) staining throughout interval.

224 - 227 ft Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 1%; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Small sample size due to poor recovery.

227 - 228 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 20%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Miliolids, Fossil Molds

228 - 230 ft Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

230 - 231 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 25%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Very chalky compared to previous interval.

231 - 237 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Chalky; General Fossils: Fossil Molds; Comments: Very poor recovery. 231'-237' consists of ~8-10" of core.

237 - 247 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Chalky; General Fossils: Fossil Molds; Comments: Very poor recovery. 237'-247' consists of ~ 1' of core.

247 - 249.8 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Silt-Size Dolomite - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Small amounts of silt-sized dolomite present throughout interval.

249.8 - 252 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

252 - 254 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: Miliolids, Fossil Molds

254 - 257 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: Miliolids, Fossil Molds; Comments: Poor recovery. 254'-257' consists of ~1' of core.

257 - 259 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

259 - 260 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Vugs increase towards the lower section of the interval.

260 - 261 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: No Fossils; Comments: Interval is slightly laminated.

261 - 263.5 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

263.5 - 265 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Light Gray (N7); Grain Type: Calcilutite; Allochemical Constituents: 12%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Heavy Minerals - <1%, Organics - <1%, Spar - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Trace amounts of chalcopyrite present. Lightly laminated throughout the interval.

265 - 267 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Low Recrystallization; General Fossils: No Fossils; Comments: Lightly laminated throughout interval.

267 - 269 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

269 - 271 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Gray (N7); Porosity: Moldic; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Slightly laminated throughout interval

271 - 273 ft Packstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Mollusks, Fossil Fragments, Fossil Molds

273 - 275 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Mollusks, Fossil Fragments, Fossil Molds

275 - 276 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Mollusks, Fossil Fragments, Fossil Molds

276 - 277 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic; Grain Type: Calcilutite; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Heavy Minerals - <1%, Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Slightly laminated throughout interval. Trace amounts of chalcopyrite present.

277 - 278.2 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Benthic Foraminifera, Mollusks, Fossil Fragments, Fossil Molds

278.2 - 279 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Dolomitic, Low Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Mollusks, Fossil Fragments, Fossil Molds

279 - 280 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Finer grained than previous interval.

280 - 281 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

281 - 283 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

283 - 285 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

285 - 287 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds

287 - 289 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

289 - 292.4 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Very poor recovery.

292.4 - 294 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils

294 - 297 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Very poor recovery. 294'-297' consists of 1' of core.

297 - 298 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: Coral, Echinoid, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Neolaganum dalli

298 - 298.5 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils

298.5 - 300 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds

300 - 307 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 300'-307' consists of 2' of core.

307 - 311.4 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Coral, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 307'-311.4' consists of < 2' of core.

311.4 - 313 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

313 - 317 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 313'-317' consists of 6" of core.

317 - 319 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds

319 - 321 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery.

321 - 327 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 321'-327' consists of ~6" of core.

327 - 329 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Noticable color change from previous intervals.

329 - 332.7 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Poor recovery. 329'-332.7' consists of < 2' of core.

332.7 - 335 ft Silt-Size Dolomite; Color: Light Gray (N7) to Very Light Gray (N8); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Trace amounts of chalcopyrite present throughout interval.

335 - 337 ft Silt-Size Dolomite; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Heavy Minerals - <1%, Organics - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Trace amounts of chalcopyrite present throughout. Slightly laminated with organic matter.

337 - 337.5 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Coral, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Half foot of calcareous packstone with abundant fossil molds and fragments.

337.5 - 339.5 ft Silt-Size Dolomite; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Very silty and contains trace amounts of chalcopyrite.

339.5 - 341 ft Dolostone; Color: Light Gray (N7) to Very Light Gray (N8); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Contains very small clusters of trace amounts of chalcopyrite throughout interval.

341 - 347 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 30%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Coral, Mollusks, Fossil Molds; Comments: Poor recovery. 341'-347' contains ~1' of sample.

347 - 348.6 ft Dolostone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Noticably more indurated than previous interval.

348.6 - 350 ft Wackestone; Color: Very Light Gray (N8) to White (N9); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Heavy Minerals - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Contains very small clusters of trace amounts of chalcopyrite.

350 - 352 ft Wackestone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 45%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Coral, Mollusks, Fossil Fragments, Fossil Molds; Comments: Fossil molds are abundant.

352 - 353 ft Wackestone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 45%; Grain Size: Fine; Range: Fine to Very Fine; Poor Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Coral, Mollusks, Fossil Fragments, Fossil Molds; Comments: Poorly indurated compared to previous interval.

353 - 357 ft Wackestone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 20%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Coral, Mollusks, Fossil Fragments, Fossil Molds; Comments: Sample size is small due to poor recovery. More indurated than previous interval and contains very few mollusk molds.

357 - 359 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Slightly laminated with organics.

359 - 360 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 12%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Bryozoa, Coral, Mollusks, Fossil Fragments, Fossil Molds

360 - 361.6 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds

361.6 - 363 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 30%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana

363 - 363.9 ft Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Nodular; Accessory Minerals: Chert - <1%, Organics - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Contains small amounts of chert nodules.

363.9 - 365 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

365 - 367 ft Wackestone; Color: Light Gray (N7) to Very Light Gray (N8); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 365'-367' contains 9" of moldic core. Abundant mollusk molds are present.

367 - 368 ft Wackestone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Less mollusk molds present than in previous interval. Poor recovery. 367'-368' contains 6" of core.

368 - 370 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils

370 - 372 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

372 - 374.1 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils

374.1 - 375 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Molds

375 - 376 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 12%; Grain Size: Fine; Range: Fine to Very Fine; Poor Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Mollusks, Fossil Molds

376 - 377 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Poor recovery. 376'-377' consists of 5" of core.

377 - 378.5 ft Silt-Size Dolomite; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Slightly laminated with organic matter.

378.5 - 380.5 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Nodular; Accessory Minerals: Chert - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Contains small nodules of chert.

380.5 - 382.5 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 8%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

382.5 - 384.8 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 7%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils

384.8 - 386 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 8%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
386 - 387 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 8%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Very poor recovery. 386'-387' consists of ~4" of core.
387 - 389 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: More chalky than previous intervals.
389 - 391 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
391 - 393 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
393 - 394.8 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
394.8 - 396 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Abundant pinpoint vugs throughout interval.
396 - 397 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
397 - 399 ft	Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
399 - 401 ft	Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
401 - 403 ft	Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
403 - 405.2 ft	Mudstone; Color: White (N9); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky; General Fossils: No Fossils
405.2 - 407 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Trace amounts of organics scattered throughout the interval.
407 - 409 ft	Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Mollusks, Fossil Fragments, Fossil Molds
409 - 411 ft	Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Mollusks, Fossil Fragments, Fossil Molds; Comments: Small bryozoan fragments scattered throughout the interval.
411 - 413 ft	Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils
413 - 415.8 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Slightly laminated with organics.
415.8 - 417 ft	Mudstone; Color: White (N9); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Poor recovery. 415.8'-417' consists of ~1.5' of core.
417 - 417.8 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 45%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Abundant pinpoint vugs present.
417.8 - 419 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils
419 - 419.8 ft	Wackestone; Color: White (N9) to Light Gray (N7); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

419.8 - 421 ft Mudstone; Color: White (N9); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils

421 - 423 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 12%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds

423 - 427 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 12%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 423'-427' consists of ~8" of vuggy core.

427 - 428.3 ft Mudstone; Color: White (N9); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds

428.3 - 430 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Fossil Fragments, Fossil Molds; Comments: Small bryozoan fragments scattered throughout the interval.

430 - 432 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Fossil Fragments, Fossil Molds

432 - 434 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 20%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Echinoid, Fossil Fragments, Fossil Molds; Comments: Increase in vugs from previous interval. Small bryozoans and echinoid fragments present.

434 - 436 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Fossil Fragments, Fossil Molds

436 - 437 ft Wackestone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Chalky, Fossiliferous; General Fossils: Bryozoa, Fossil Fragments, Fossil Molds

437 - 439 ft Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils

439 - 439.8 ft Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils

439.8 - 441 ft Mudstone; Color: White (N9) to Light Gray (N7); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Increase in vugs from previous interval.

441 - 443 ft Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 2%; Other Features: Calcareous, Chalky; General Fossils: No Fossils; Comments: Noticable increase in organic matter from previous intervals.

443 - 445 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Mudtsone that is slightly dolomitic.

445 - 447 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Fissile, Laminated; Accessory Minerals: Organics - 5%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Organic-rich interval that is slightly dolomitic. Poor recovery. 445'-447' consists of ~1.5' of core.

447 - 448 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 2%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Poor recovery. 447'-448' consists of ~9" of core.

448 - 450 ft Dolostone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils

450 - 452 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Vugs filled with gypsum present.

452 - 453 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 8%, Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils

453 - 454 ft Gypsum; Color: Yellowish Gray (5Y 8/1) to White (N9); Unconsolidated; Comments: This interval consists of unconsolidated gypsum gravels.

454 - 457 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Poor recovery. 454'-457' consists of ~1' of core.

457 - 458 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 1%, Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Increase in vugs from previous interval.

458 - 460 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 1%, Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils

460 - 462 ft Mudstone; Color: Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 3%; Other Features: Calcareous; General Fossils: No Fossils; Comments: Vuggy and laminated throughout interval. Increase in organics.

462 - 464 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous; General Fossils: No Fossils

464 - 466 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils

466 - 467 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils

466 - 467 ft Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils

467 - 467.8 ft Peat; Color: Greenish Black (5GY 2/1); Porosity: Not Observed; Poor Induration; Sedimentary Structures: Fissile; Accessory Minerals: Dolomite - 3%; Other Features: Poor Sample, Platy, Weathered; General Fossils: No Fossils

467 - 467.8 ft Peat; Color: Greenish Black (5GY 2/1); Porosity: Not Observed; Poor Induration; Sedimentary Structures: Fissile; Accessory Minerals: Dolomite - 3%; Other Features: Poor Sample, Platy, Weathered; General Fossils: No Fossils

467.8 - 469.6 ft Dolostone; Color: Greenish Black (5GY 2/1) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Sedimentary Structures: Fissile; Accessory Minerals: Organics - 15%, Peat - 20%; Other Features: Poor Sample, Weathered; General Fossils: No Fossils

467.8 - 469.6 ft Dolostone; Color: Greenish Black (5GY 2/1) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Sedimentary Structures: Fissile; Accessory Minerals: Organics - 15%, Peat - 20%; Other Features: Poor Sample, Weathered; General Fossils: No Fossils

469.6 - 471 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils

469.6 - 471 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic; General Fossils: No Fossils

471 - 473 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic; General Fossils: No Fossils

471 - 473 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic; General Fossils: No Fossils

473 - 474 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 1%; Other Features: Dolomitic; General Fossils: No Fossils

473 - 474 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 1%; Other Features: Dolomitic; General Fossils: No Fossils

474 - 475 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic; General Fossils: No Fossils

474 - 475 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic; General Fossils: No Fossils

475 - 477 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Poor recovery. 475'-477' consists of ~1' of core. Increase in pinpoint vugs compared to previous intervals.

475 - 477 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Poor recovery. 475'-477' consists of ~1' of core. Increase in pinpoint vugs compared to previous intervals.

477 - 479 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Similar pinpoint vug content as previous interval.

477 - 479 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Similar pinpoint vug content as previous interval.

479 - 480.5 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Increase in amount of pinpoint vugs compared to previous intervals.

479 - 480.5 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Increase in amount of pinpoint vugs compared to previous intervals.

480.5 - 482 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Sucrosic dolostone containing fair amount of fossil fragments and molds.

480.5 - 482 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Sucrosic dolostone containing fair amount of fossil fragments and molds.

482 - 484 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

482 - 484 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

484 - 487 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Poor recovery. 484'-487' consists of ~1.5' of core. Noticable increase in pinpoint vugs from previous intervals.

484 - 487 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Poor recovery. 484'-487' consists of ~1.5' of core. Noticable increase in pinpoint vugs from previous intervals.

487 - 489 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Orange (10YR 6/6); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

487 - 489 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Orange (10YR 6/6); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

489 - 491.3 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Coral, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: More fossiliferous than previous intervals.

489 - 491.3 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Coral, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: More fossiliferous than previous intervals.

491.3 - 493 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Nodular; Accessory Minerals: Gypsum - 2%, Organics - 1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

491.3 - 493 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Nodular; Accessory Minerals: Gypsum - 2%, Organics - 1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

493 - 494 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Nodular; Accessory Minerals: Gypsum - 2%, Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

493 - 494 ft — Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Nodular; Accessory Minerals: Gypsum - 2%, Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

494 - 495 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%, Quartz - 3%; Other Features: Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Contains pockets of quartz crystals that are found throughout the interval.

494 - 495 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%, Quartz - 3%; Other Features: Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Contains pockets of quartz crystals that are found throughout the interval.

495 - 496.5 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 1%, Quartz - 3%; Other Features: Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Contains pockets of quartz crystals same as above. Also has more vugs than previous interval.

495 - 496.5 ft Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 2%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 1%, Quartz - 3%; Other Features: Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Contains pockets of quartz crystals same as above. Also has more vugs than previous interval.

496.5 - 497 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

496.5 - 497 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

497 - 499 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

497 - 499 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

499 - 501.3 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Increase in the amount of vugs present.

499 - 501.3 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Increase in the amount of vugs present.

501.3 - 503 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

501.3 - 503 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

503 - 505 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Nodular; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: More vuggy than previous interval.

503 - 505 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Nodular; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: More vuggy than previous interval.

505 - 507 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: More vuggy than previous interval.

507 - 509 ft Silt-Size Dolomite; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 4%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils; Comments: More fine grained than previous intervals. Slightly calcareaous.

509 - 511 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 4%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

511 - 513 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils

513 - 515 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Abundant fossil molds of cones present.

515 - 517 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

517 - 519 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Fair amount of cone-shaped fossil molds present.

519 - 521.3 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Very fine grained with really good induration.

521.3 - 522 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 1%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Molds

522 - 523 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 1%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Molds; Comments: Abundant fossil molds of cones and soritids present.

523 - 524 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 1%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Molds

524 - 525 ft Mudstone; Color: Grayish Orange (10YR 7/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous; General Fossils: Fossil Molds

525 - 527 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Molds; Comments: Abundant fossil molds are present consisting mainly of cones and soritids.

527 - 528 ft Dolostone; Color: Grayish Orange (10YR 7/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Molds; Comments: Much finer grained than previous interval.

528 - 530 ft Dolostone; Color: Grayish Orange (10YR 7/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Increase in the amount of vugs from previous interval.

530 - 532.1 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Molds; Comments: Noticable color change from previous intervals.

532.1 - 534 ft Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Other Features: Calcareous, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

534 - 536 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Slightly laminated with organics.

536 - 537 ft Dolostone; Color: Grayish Orange (10YR 7/4) to Very Light Orange (10YR 8/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Slightly laminated with organics.

537 - 538 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Orange (10YR 6/6); Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Molds; Comments: Increase in vugs from previous interval.

538 - 540 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: Fossil Molds

540 - 542.6 ft Silt-Size Dolomite; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Molds; Comments: Fine grained dolo-silt with an increase in organics.

542.6 - 544 ft Mudstone; Color: Very Light Orange (10YR 8/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Dolomite - <1%, Organics - 5%; Other Features: Dolomitic, Low Recrystallization; General Fossils: No Fossils; Comments: Recrystallized mudstone that is slightly dolomitic.

544 - 546 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Other Features: Dolomitic, Low Recrystallization; General Fossils: No Fossils; Comments: Noticable color change and very dolomitic compared to previous interval.

546 - 547 ft No Sample

547 - 548 ft Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Dolomite - <1%, Organics - <1%; Other Features: Dolomitic, Low Recrystallization; General Fossils: No Fossils; Comments: Recrystallized mudstone that is slightly dolomitic.

548 - 550 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 3%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils

550 - 552 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Abundant pinpoint vugs present throughout interval.

552 - 554 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery. 552'-554' consists of ~1' of core.

554 - 556 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

556 - 557.4 ft Dolostone; Color: Very Light Orange (10YR 8/2) to Grayish Brown (10YR 6/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Darker pods of more sucrosic dolomite found throughout interval.

557.4 - 559 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Low Recrystallization, Sucrosic, Fossiliferous; General Fossils: Coral, Mollusks, Miliolids, Fossil Fragments, Fossil Molds; Comments: Very fossiliferous and slightly laminated with organics.

559 - 561 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Brown (10YR 6/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Low Recrystallization, Fossiliferous; General Fossils: Mollusks, Miliolids, Fossil Fragments, Fossil Molds

561 - 563 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Fossiliferous; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

563 - 564.6 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Fossiliferous; General Fossils: Mollusks, Miliolids, Fossil Fragments, Fossil Molds

564.6 - 566 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils; Comments: Very sucrosic interval.

566 - 567 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 566'-567' consists of ~4" of core.

567 - 569 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

569 - 571 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

571 - 573 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

573 - 574.1 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

574.1 - 576 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Very sucrosic interval.

576 - 577 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

577 - 577.4 ft Silt-Size Dolomite; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 5%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Very fine grained dolo-silt.

577.4 - 579 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 7%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Very sucrosic with organic pods throughout the interval.

579 - 581 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 5%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

581 - 586.5 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 5%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Very poor recovery. 581'-586.5' consists of < 2' core.

586.5 - 587 ft Silt-Size Dolomite; Color: Dark Yellowish Brown (10YR 4/2) to Dark Yellowish Brown (10YR 2/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 10%; Other Features: Dolomitic; General Fossils: No Fossils; Comments: Interval is laminated with organics.

587 - 589 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 5%; Other Features: Dolomitic; General Fossils: Fossil Fragments, Fossil Molds

589 - 591 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 5%; Other Features: Dolomitic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Organic laminations throughout interval.

591 - 593 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 5%; Other Features: Dolomitic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Organic lamintions present.

593 - 595 ft Silt-Size Dolomite; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Molds

595 - 597 ft Silt-Size Dolomite; Color: Dark Yellowish Brown (10YR 4/2) to Grayish Red (5R 4/2); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 4%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Molds

597 - 597.2 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Poor recovery. 597'-597.2' consists of 8 gravels of sample.

597.2 - 599 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 4%; Other Features: Dolomitic, Sucrosic; General Fossils: Bryozoa, Coral, Mollusks, Fossil Fragments, Fossil Molds; Comments: Very sucrosic and fossiliferous interval. Bryozoans range in size from mm-3 cm.

599 - 601 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils; Comments: Much finer grained than previous interval with accessory gypsum fround throughout.

601 - 603 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 3%; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils

603 - 605 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%, Organics - 4%; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils; Comments: Slightly laminated with organics.

605 - 607 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%, Organics - 6%; Other Features: Dolomitic, Sucrosic; General Fossils: No Fossils; Comments: Thin, faint organic laminations are found throughout.

607 - 607.4 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils

607.4 - 608 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 1%, Organics - 5%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Very fine grained interval.

608 - 609 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 4%, Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Recrystallized dolostone with fair amounts of accessory gypsum present.

609 - 611 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Low (0-10%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - 2%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Lower recrystallization than previous interval.

611 - 613 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 9%, Organics - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Increase in amount of gypsum present.

613 - 615 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Increase in amount of gypsum present, especially inside vugs.

615 - 617 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery. 615'-617' consists of ~8" of core.

617 - 618.4 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

618.4 - 620 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 7%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

620 - 622 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

622 - 627 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Unconsolidated; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Very poor recovery. Unconsolidated samples from 622'-627' consists of ~2' of core.

627 - 629 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 15%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Increase in amount of gypsum present.

629 - 631 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Small fragmented mullosks are found throughout this interval.

631 - 633 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Bryozoa, Fossil Fragments, Fossil Molds; Comments: Small fragments of bryozoans are found throughout interval.

633 - 635 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - 7%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Increase in organics from previous intervals.

635 - 637 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 11%, Organics - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

637 - 639 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Grayish Red (5R 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

639 - 640.6 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - 4%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

640.6 - 641 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - 4%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

641 - 641.6 ft Peat; Color: Black (N1) to Greenish Black (5G 2/1); Porosity: Not Observed; Poor Induration; Sedimentary Structures: Fissile; Other Features: Poor Sample, Platy, Weathered; General Fossils: No Fossils; Comments: Interval consists of ~6" of peat.

641.6 - 642 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - 10%, Organics - 8%; Other Features: Dolomitic, Low Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds, Organics; Comments: Heavily laminated with organics throughout the interval.

642 - 644 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Grayish Red (5R 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - 10%, Organics - 6%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds, Organics; Comments: Slightly laminated with organics.
644 - 646 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - 10%, Organics - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds, Organics; Comments: Slightly laminated with organics.
646 - 648 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds
648 - 649.2 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds
649.2 - 651 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 12%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds
651 - 653 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Fossil molds are abundant throughout the interval.
653 - 655 ft	Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Grayish Red (5R 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 8%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds; Comments: Poor recovery. 653'-655' consists of ~1.5' of fragmented core.
655 - 657 ft	Dolostone; Color: Yellowish Gray (5Y 7/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Noticable change in color from previous intervals.
657 - 658.1 ft	Dolostone; Color: Yellowish Gray (5Y 7/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 8%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Mollusks, Fossil Fragments, Fossil Molds
658.1 - 660 ft	Dolostone; Color: Yellowish Gray (5Y 7/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Noticable change in color from previous intervals.
660 - 662 ft	Dolostone; Color: Yellowish Gray (5Y 7/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 6%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds
662 - 664 ft	Dolostone; Color: Yellowish Gray (5Y 7/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds
664 - 666 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: More fine grained than previous intervals.
666 - 667 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
667 - 667.8 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Yellowish Gray (5Y 7/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Very fine grained and noticably lighter in color than previous intervals.
667.8 - 668 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
668 - 670 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments
670 - 672 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

672 - 673 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds

673 - 674 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Poorly indurated gravels of dark colored dolostone.

674 - 675 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Similar to above interval with better induration.

675 - 676 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 5%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Lighter in color than previous interval.

676 - 677.8 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

677.8 - 678.4 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

678.4 - 679 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Pinpoint vugs are sucrosic throughout interval.

679 - 679.8 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Mollusks, Fossil Fragments, Fossil Molds

679.8 - 680.2 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Lighter in color and finer grained than previous interval.

680.2 - 680.7 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Abundant pinpoint vugs present throughout the interval.

680.7 - 682 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Broken and fragmented core.

682 - 687 ft No Sample

687 - 689 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 15%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Clusters of accessory gypsum are found throughout the interval.

689 - 690.9 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 12%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Contains both gypsum and anhydrite with abundant pinpoint vugs.

690.9 - 692 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Noticably lighter in color than previous intervals.

692 - 694 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Echinoid, Miliolids, Mollusks, Cones, Fossil Molds; Comments: Fossil molds are abundant throughout the interval.

694 - 696 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds

696 - 698 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 7%, Organics - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Abundant pinpoint vugs are present throughout the interval.

698 - 699.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Clusters of accessory gypsum crystals are found throughout.
699.4 - 701 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds
701 - 703 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 7%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Abundant pinpoint vugs present throughout the interval.
703 - 705 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Calcilutite; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 10%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Recrystallized wackestone with a noticable color change from previous intervals.
705 - 707 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Poor recovery. 705'-707' consists of ~1.5' of core.
707 - 708.9 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
708.9 - 710 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
710 - 712 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Moldic, Pinpoint; Grain Type: Calcilutite; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Recrystallized wackestone with abundant pinpoint vugs.
712 - 714 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 4%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds
714 - 715 ft	Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Brown (10YR 6/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds; Comments: Noticable color change from previous interval.
715 - 715.8 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - 4%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Plant Remains, Fossil Fragments, Fossil Molds; Comments: Organic matter found throughout the interval.
715.8 - 717 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - <1%, Organics - 4%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments, Fossil Molds
717 - 719 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Very sucrosic interval.
719 - 721 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Molds
721 - 723 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Molds; Comments: Vugs are filled with organics.
723 - 727 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery. 723'-727' consists of ~1' of core.
727 - 729.7 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: More moldic than previous intervals.
729.7 - 731 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Organics - 8%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Molds; Comments: Organic-rich interval.
731 - 733 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Lighter in color than previous interval.

733 - 735 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Molds; Comments: More sucrosic than previous intervals.

735 - 737 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Molds; Comments: Very sucrosic and darker in color than previous interval.

737 - 737.5 ft Peat; Color: Black (N1) to Greenish Black (5GY 2/1); Porosity: Not Observed; Poor Induration; Cement Type: Organic Matrix; Sedimentary Structures: Fissile, Laminated; Other Features: Poor Sample, Platy; General Fossils: No Fossils; Comments: Peat layer interbedded within sucrosic dolostone.

737.5 - 739 ft Dolostone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 15%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Dolostone with abundant organic laminations.

739 - 741 ft Dolostone; Color: Dark Yellowish Brown (10YR 2/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 5%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Abundant organic laminations throughout interval.

741 - 742.8 ft Dolostone; Color: Dark Yellowish Brown (10YR 2/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 5%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils

742.8 - 745 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic; Grain Type: Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 4%, Gypsum - 4%, Organics - 3%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Medium recrystallized packstone laminated with organics and contains equal trace amounts of anhydrite and gypsum.

745 - 747 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic; Grain Type: Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 5%, Gypsum - 6%, Organics - 4%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Medium recrystallized packstone containing evaporites and slightly laminated with organics.

747 - 748.3 ft Grainstone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Orange (10YR 6/6); Porosity: Moldic, Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Gypsum - <1%, Organics - 5%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Darker in color than previous intervals. More recrystallized than the previous interval.

748.3 - 750 ft Grainstone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Gypsum - 2%, Organics - 5%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Dark colored, recrystallized packstone with fair amounts of bryozoans.

750 - 751 ft Grainstone; Color: Moderate Yellowish Brown (10YR 5/4) to Dark Yellowish Brown (10YR 4/2); Porosity: Moldic, Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Gypsum - 2%, Organics - 5%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Bryozoa, Miliolids, Fossil Fragments

751 - 752 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Not Observed; Grain Type: Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 3%, Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Lighter colored limestone with fragments of Avon Park index fossils throughout.

752 - 754 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

754 - 756 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments

756 - 757.6 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 3%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Fragments of Avon Park index fossils throughout.

757.6 - 759 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

759 - 761 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: More fossiliferous than previous interval.

761 - 763 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 7%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

763 - 765 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

765 - 767 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Pinpoint; Grain Type: Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 6%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

767 - 769 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 10%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: More fossiliferous than previous interval.

769 - 771 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 10%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

771 - 773 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 5%, Calcite - 3%, Gypsum - 5%, Organics - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Very fine grained recrystallized grainstone with thin organic laminations.

773 - 775 ft Grainstone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Calcite - 10%, Gypsum - 6%, Organics - 5%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Interval contains calcite ranging in size from mm-2cm. Laminated throughout with organics.

775 - 775.8 ft Grainstone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Calcite - 8%, Gypsum - 5%, Organics - 6%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Increase in amount of organics.

775.8 - 776.5 ft Peat; Color: Black (N1) to Greenish Black (5GY 2/1); Porosity: Not Observed; Poor Induration; Sedimentary Structures: Fissile, Laminated; Other Features: Poor Sample, Platy; General Fossils: No Fossils, Organics; Comments: Interval consists of ~7" of peat.

776.5 - 779 ft Peat; Color: Black (N1) to Greenish Black (5GY 2/1); Porosity: Not Observed; Poor Induration; Sedimentary Structures: Fissile, Laminated; Other Features: Poor Sample, Platy; General Fossils: No Fossils, Organics; Comments: Interval consists of ~1.5' of peat.

779 - 781 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Calcite - 5%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Abundant miliolids present throughout interval.

781 - 783 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Abundant miliolids present throughout interval.

783 - 785 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Calcite - 6%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

785 - 786.4 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - 4%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

786.4 - 789 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 6%, Gypsum - 5%, Organics - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Abundant bryozoans present.

789 - 791 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 92%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments, Fossil Molds; Comments: Much finer grained than previous interval and far less fossil fragments present.

791 - 793 ft Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds

791 - 793 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds
793 - 794 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 78%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds
794 - 795.8 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
795.8 - 797.4 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - 8%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
797.4 - 799 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 7%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
799 - 801 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 6%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
801 - 803 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 6%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
803 - 805.3 ft	Grainstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 90%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 7%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
805.3 - 807 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 3%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
807 - 809 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 1%, Gypsum - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
809 - 811 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
811 - 813 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Gunteria floridana; Comments: Avon Park index fossils present.
813 - 815 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
815 - 817 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 3%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments; Comments: Abundant miliolids present.
817 - 819 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
819 - 821 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
821 - 823 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
823 - 824.3 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 73%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - 3%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments

824.3 - 826 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - 1%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments; Comments: Abundant miliolids present.

826 - 828 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments

828 - 830 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

830 - 832 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

832 - 833.4 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

833.4 - 835 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 7%, Gypsum - <1%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments; Comments: Noticably more moldic than previous intervals. Shell fragments have been replaced with calcite.

835 - 837 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 8%, Gypsum - 1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Avon Park index fossils present.

837 - 839 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 7%, Gypsum - 1%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

839 - 841 ft Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 3%, Calcite - 8%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments

841 - 842.4 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 12%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Noticable darker shade of color compared to previous intervals. Avon Park index fossils present.

842.4 - 846 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

846 - 848 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 73%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Fragments of Avon Park index fossils are found throughout the interval.

848 - 850 ft Packstone; Color: Dark Yellowish Brown (10YR 4/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - 5%, Spar - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds; Comments: Highly recrystallized packstone with fossils frgaments that have been replaced with calcite.

850 - 851.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

851.8 - 853.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 2%, Calcite - 3%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Abundant miliolids present throughout interval.

853.8 - 855.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Calcite - 3%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

855.8 - 857 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Calcite - 3%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

857 - 859 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Calcite - 4%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Avon Park index fossils present.

859 - 861 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Calcite - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

861 - 861.7 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 1%, Calcite - 3%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: More moldic than previous intervals.

861.7 - 863.7 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 5%, Calcite - 2%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Increase in amount of accesory anhdrite. Also contains Avon Park index fossils.

863.7 - 865 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%, Calcite - 7%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

865 - 867 ft Packstone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Brown (10YR 6/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Calcite - 10%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Accessory evaporites and calcite are forund throughout the interval.

867 - 868 ft Packstone; Color: Moderate Yellowish Brown (10YR 5/4) to Grayish Brown (10YR 6/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%, Calcite - 10%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

868 - 869 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%, Calcite - 10%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Change in color from previous intervals.

869 - 871 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%, Calcite - 10%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

871 - 873 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 5%, Organics - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

873 - 875 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Glauconite - <1%, Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Abundant bryozoans are present throughout interval.

875 - 877 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

877 - 879 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

879 - 880.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

880.8 - 882.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

882.8 - 884.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - <1%, Gypsum - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

884.8 - 886.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Abundant miliolids and shell fragments throughout interval.

886.8 - 888.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 6%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

888.8 - 889.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

889.8 - 891 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 10%, Gypsum - 10%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Increase in evaporites throughout the interval. Also change from packstone to wackestone.

891 - 893 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - 8%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Abundant bryozoans throughout the interval. Change from wackestone back to packstone.

893 - 895 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 2%, Glauconite - 2%, Gypsum - 3%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Accessory glauconite is found throughout the interval. Change from packstone back to wackestone is noted.

895 - 897 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Glauconite - 3%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Decrease in fossil content and slightly more accessory glauconite than previous interval.

897 - 899.3 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 8%, Gypsum - 10%; Other Features: Calcareous, High Recrystallization; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: More recrystallized than previous intervals.

899.3 - 901 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 8%, Gypsum - 8%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Abundant cone fragments throughout the interval.

901 - 903 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 8%, Gypsum - 10%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments, Fossil Molds; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Cone fragments still present throughout interval.

903 - 905 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

905 - 907 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 3%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana; Comments: Abundant miliolids present throughout this interval.

907 - 908.9 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 4%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

908.9 - 910 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 6%, Gypsum - 10%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments; Index Fossils: Cushmania (Dictyoconus) americana

910 - 911 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 7%, Gypsum - 8%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Cones, Fossil Fragments; Comments: Abundant cones and miliolid fragments.

911 - 912 ft Wackestone; Color: Dark Yellowish Brown (10YR 4/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 15%, Calcite - 10%, Organics - <1%; Other Features: Brown Anhydrite Crystals, Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Noticable color change and an increase in the amount of accessory evaporite present.

912 - 914 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 15%, Calcite - <1%, Organics - 6%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Highly recrystallized sucrosic dolostone.

914 - 916 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 10%, Calcite - <1%, Organics - 8%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils

916 - 918 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 12%, Calcite - <1%, Organics - 10%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils

918 - 918.4 ft Dolostone; Color: Dark Yellowish Brown (10YR 4/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 10%, Calcite - <1%, Organics - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils

918.4 - 920 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Grayish Brown (10YR 6/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Interbedded; Accessory Minerals: Calcite - <1%, Dolomite - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds; Comments: Interbedded with medium recrystallized dolostone throughout the interval.

920 - 922 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 85%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Abundant miliolid fragments throughout the interval.

922 - 924 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

924 - 926 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

926 - 928 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

928 - 930 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 85%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

930 - 932 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 85%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Bryozoan fragments are abundant throughout the interval.

932 - 934 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 85%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

934 - 936 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 85%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Very small fossil fragments present.

936 - 937.2 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 85%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 5%, Gypsum - <1%, Organics - 3%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments

937.2 - 939 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 4%, Gypsum - 3%, Organics - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments

939 - 941 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Calcite - 3%, Gypsum - 10%, Organics - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments; Comments: More recrystallized than previous intervals.

941 - 943 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 8%, Organics - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

943 - 945 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

945 - 946.6 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Moldic, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

946.6 - 948 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Moldic, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

948 - 950 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Moldic; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - 1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils

950 - 950.4 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Moldic; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

950.4 - 952 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Very fossiliferous with abundant bryozoans. Index fossil presence indicates Oldsmar Formation.

952 - 954 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 15%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Organics - 1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Very small Oldsmar Formation index fossils present throughout interval.

954 - 956 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 4%, Organics - 2%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Noticable change from wackestone to packstone. Oldmar Formation index fossils present.

956 - 957 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Organics - 3%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Helicostegina gyralis

957 - 959 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 4%, Organics - 2%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments

959 - 961 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Medium; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Organics - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: Abundant mullosks present throughout the interval.

961 - 963 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Medium; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

963 - 965 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Organics - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Very fine grained and marks a change from packstone to grainstone.

965 - 966.4 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds

966.4 - 967 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Poor recovery. 966.4'-967' consists of ~6" of core. Noticable change from grainstone back to packstone.

967 - 969 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

969 - 971 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Noticable change from packstone to a finer grained wackestone.

971 - 973 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Fossiliferous; General Fossils: Fossil Fragments

973 - 975.5 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
975.5 - 977 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
977 - 979 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
979 - 981 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Change from wackestone to dolostone is noted.
981 - 983 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
983 - 985 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
985 - 987 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
987 - 988.2 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
988.2 - 990.2 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 3%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments
990.2 - 990.7 ft	Packstone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils found throughout the interval.
990.7 - 992 ft	Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds
992 - 994 ft	Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Abundant Miliolids are present throughout the interval. Oldsmar Formation index fossils are present.
994 - 994.5 ft	Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds
994.5 - 996 ft	Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils are present.
996 - 998 ft	Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 95%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Abundant bryozoan fragments are present throughout the interval.
998 - 1000 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments
1000 - 1001.8 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Bryozoa, Fossil Fragments
1001.8 - 1002 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 3%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval.

1002 - 1003.7 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 3%, Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Pinpoint vugs filled with brown anhydrite crystals found throughout the interval.

1003.7 - 1005 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 95%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds

1005 - 1007 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

1007 - 1009 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

1009 - 1011 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis floridanus; Comments: Oldsmar Formation index fossils present throughout the interval.

1011 - 1013.4 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments

1013.4 - 1015 ft Grainstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 90%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

1015 - 1017 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

1017 - 1019 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 80%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

1019 - 1021 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 75%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Mollusks, Fossil Fragments; Comments: Abundant bryozoan and miliolid fragments thoughout the interval.

1021 - 1022.8 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 70%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

1022.8 - 1024 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

1024 - 1026 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 2%, Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

1026 - 1027 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Comments: Poor recovery. 1026'-1027' consists of ~8" of core.

1027 - 1029 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Much finer-grained than previous intervals.

1029 - 1031 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments

1031 - 1031.9 ft Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 55%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments

1031.9 - 1033 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - 2%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Fossil Fragments; Comments: Interbedded with thin (mm-2cm) dolostones throughout the interval.
1033 - 1035 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - 3%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Interbedded with thin (mm-2cm) dolostones throughout the interval.
1035 - 1037 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Noticeable change from interbedded wackestones with dolostones to vuggy dolostone. Large sucrosic vugs are present. Poor recovery; 1035'-1037' consists of ~1' of core.
1037 - 1039 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 3%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments; Comments: Very sucrosic and vuggy.
1039 - 1041.2 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 4%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments
1041.2 - 1043 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 4%, Gypsum - 3%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments
1043 - 1045 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 3%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Very fine-grained dolostone.
1045 - 1047 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 3%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery. 1045'-1047' consists of ~6" of core.
1047 - 1049 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments
1049 - 1051 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1051 - 1051.9 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 2%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1051.9 - 1053 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments
1053 - 1055 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1055 - 1057 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery. 1055'-1057' consists of ~4" of core.
1057 - 1058 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1058 - 1059.5 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1059.5 - 1060 ft	Dolostone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Not Observed; Alteration: Highly (50-90%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Very Fine; Good Induration; Cement Type: Silica; General Fossils: No Fossils; Comments: Interval consists of 7" of silicified dolostone.
1060 - 1061.7 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils

1061.7 - 1063 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Banded; Accessory Minerals: Anhydrite - 6%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Much darker in color than previous intervals.
1063 - 1067 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Banded; Accessory Minerals: Anhydrite - 6%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Poor recovery. 1063'-1067' consists of ~1' of core.
1067 - 1068 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Banded; Accessory Minerals: Anhydrite - 5%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1068 - 1070 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Banded; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1070 - 1072 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Banded; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1072 - 1077 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Banded; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Very poor recovery. 1072'-1077' consists of less than 2' of core.
1077 - 1077.7 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1077.7 - 1078.1 ft	No Sample
1078.1 - 1079 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1079 - 1081 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1081 - 1083 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Increase in accessory gypsum throughout the interval.
1083 - 1085 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 4%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Increase in accessory gypsum.
1085 - 1087 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery. 1085'-1087' consists of ~1' of core.
1087 - 1087.8 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 1%, Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1087.8 - 1089 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 4%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Interval contains vugs ranging in size from mm-3cm.
1089 - 1090.2 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Small clusters of accessory gypsum crystals present throughout the interval.
1090.2 - 1090.4 ft	No Sample
1090.4 - 1091 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Euhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 10%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Vugs are filled with sucrosic dolomite crystals and accessory gypsum crystals.
1091 - 1092.6 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: Fossil Fragments; Comments: Noticeable color change and very sucrosic.

1092.6 - 1093 ft	Dolostone; Color: Grayish Orange (10YR 7/4) to White (N9); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Calcilutite - 5%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Calcilutite coating medium recrystallized dolostone with small fossil fragments.
1093 - 1093.8 ft	Dolostone; Color: Grayish Orange (10YR 7/4) to White (N9); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Interbedded; Accessory Minerals: Anhydrite - <1%, Calcilutite - 8%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Comments: Medium recrystallized dolostone interbedded with wackestone.
1093.8 - 1095 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Noticeable change from dolostone to wackestone.
1095 - 1097 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
1097 - 1097.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
1097.4 - 1099 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
1099 - 1101 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
1101 - 1103 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 7%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds; Comments: Increase in accessory gypsum.
1103 - 1105 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 8%, Spar - 5%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
1105 - 1107 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 10%, Spar - 5%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds
1107 - 1109 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1109 - 1110 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1110 - 1111 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Noticeable change from wackestone to medium recrystallized dolostone.
1111 - 1113 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 4%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Somewhat poor recovery. 1111'-1113' consists of less than 1.5' of core.
1113 - 1115 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 6%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1115 - 1115.6 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 8%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Increase in clusters of accessory gypsum.
1115.6 - 1117 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 6%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1117 - 1119 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

1119 - 1121 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1121 - 1123 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1123 - 1123.8 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1123.8 - 1126.2 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present throughout the interval. Change from dolostones to wackestones.
1126.2 - 1127 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Chalky, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Poor recovery. 1126.2'-1127' consists of less than 8" of core. Oldsmar Formation index fossils are present throughout the interval.
1127 - 1128 ft	Wackestone; Color: Light Olive Gray (5Y 6/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Chalky, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present throughout interval.
1128 - 1130 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Fair amount of Oldsmar Formation index fossils present.
1130 - 1132 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1132 - 1134 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1134 - 1135.2 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments
1135.2 - 1137 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Very fine-grained with Oldsmar Formation index fossils present.
1137 - 1139 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds
1139 - 1141 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments, Fossil Molds
1141 - 1143 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds; Comments: Fair amount of bryozoan fragments throughout the interval.
1143 - 1144.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments, Fossil Molds
1144.4 - 1146 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 4%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present.
1146 - 1147 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Fossil Fragments; Comments: Poor recovery; 1146'-1147' consists of ~8" of core.

1147 - 1148 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 4%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments

1148 - 1150 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present throughout.

1150 - 1152 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 4%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: Multiple ~2" gastropods found throughout the interval.

1152 - 1153.5 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Less fossiliferous than previous intervals.

1153.5 - 1155 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: Slicken lines present in various sections of th einterval. Also there is an increase in accessory gypsum.

1155 - 1157 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments

1157 - 1159 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossil fragments are present throughout the interval.

1159 - 1161 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossil fragments are present throughout.

1161 - 1163.3 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: More recrystallized than previous intervals.

1163.3 - 1165 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 6%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils

1165 - 1167 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - 5%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils, Organics; Comments: Thin laminations of organics found throughout.

1167 - 1169 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present. Abundant orbitolites soritids present.

1169 - 1170 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Interbedded with medium recrystallized dolostone. Abundant orbitolites soritids present. Oldsmar Formation index fossils present throughout.

1170 - 1170.6 ft Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Abundant orbitolites soritids present. Oldsmar Formation index fossils present throughout.

1170.6 - 1171 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 6%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils

1171 - 1173 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 8%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Clusters and vugs of accessory gypsum found throughout the interval.

1173 - 1175 ft Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 6%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils

1175 - 1176 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 4%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1176 - 1177 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Abundant orbitolites soritids and Oldsmar Formation index fossils present throughout the interval.
1177 - 1179 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Abundant orbitolites soritids and Oldsmar Formation index fossils present throughout the interval.
1179 - 1181 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Abundant orbitolites soritids and Oldsmar Formation index fossils present throughout the interval.
1181 - 1181.8 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - 2%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Index Fossils: Helicostegina gyralis; Comments: Abundant orbitolites soritids and Oldsmar Formation index fossils present throughout the interval.
1181.8 - 1182.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Very fine-grained with less fossils than previous intervals.
1182.4 - 1184 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to White (N9); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - 3%, Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments
1184 - 1186 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments, Fossil Molds; Comments: Abundant orbitolites soritids present.
1186 - 1188 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous intervals.
1188 - 1190 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous intervals.
1190 - 1191.7 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous intervals.
1191.7 - 1193 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Gypsum - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1193 - 1195 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - 2%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1195 - 1197 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
1197 - 1199 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Comments: Abundant bryozoan fragments found throughout the interval.
1199 - 1200.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments

1200.4 - 1201.6 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
1201.6 - 1203 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments
1203 - 1205 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments
1205 - 1207 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Poor recovery; 1205'-1207' consists of ~1' of core.
1207 - 1209 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 55%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
1209 - 1209.6 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
1209.6 - 1211 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Spar - 3%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Comments: Abundant bryozoan fragments throughout the interval.
1211 - 1213 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Glauconite - <1%, Spar - 5%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Bryozoa, Miliolids, Mollusks, Fossil Fragments; Comments: Abundant bryozoan fragments present throughotu the interval.
1213 - 1215 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Dolomite - <1%, Spar - 4%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Interbedded with dark colored (N6) medium recrystallized dolostone.
1215 - 1216 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Glauconite - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Interbedded with dark colored (N6) medium recrystallized dolostone.
1216 - 1217 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1217 - 1217.8 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Interbedded with medium recrystallized dolostone (N6).
1217.8 - 1218.6 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1218.6 - 1220 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1220 - 1221 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1221 - 1222.6 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Dolomite - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Interbedded with medium recrystallized dolostone (N6).
1222.6 - 1224 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments; Comments: Abundant miliolids present throughout interval.
1224 - 1226 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments

1226 - 1227 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Very poor recovery; 1226'-1227' consists of ~5" of core.
1227 - 1229.2 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Poor recovery; 1227'-1229.2' consists of ~1.7' of core.
1229.2 - 1231 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1231 - 1233 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1233 - 1237 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Very poor recovery; 1233'-1237' consists of less than 2' of core.
1237 - 1239 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1239 - 1240.9 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1240.9 - 1242.9 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1242.9 - 1244 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1244 - 1246 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1246 - 1248 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1248 - 1250 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1250 - 1250.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1250.4 - 1252 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1252 - 1254 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Chert - <1%, Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1254 - 1256 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1256 - 1257 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Very poor recovery; 1256'-1257' consist of ~6" of core.
1257 - 1258.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Chert - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1258.4 - 1260 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1260 - 1260.5 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1260.5 - 1262 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils

1262 - 1264 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Chert - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1264 - 1266 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Chert - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1266 - 1267.6 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1267.6 - 1268 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Interbedded with thin (<1") of peat.
1268 - 1269.1 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: Very fossiliferous dolostone that is slightly calcareous.
1269.1 - 1271 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Heavy Minerals - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Heavy mineral flakes resembling chalcopyrite are present throughout the interval.
1271 - 1273 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 12%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 5%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
1273 - 1275 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%, Spar - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Sulfides present resembling chalcopyrite.
1275 - 1276 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Sulfides present resembling chalcopyrite.
1276 - 1278.2 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Sulfides present resembling chalcopyrite.
1278.2 - 1280 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1280 - 1282 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1282 - 1284 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1284 - 1285.4 ft	Peat; Color: Black (N1) to Greenish Black (5GY 2/1); Poor Induration; Sedimentary Structures: Fissile, Interbedded; Other Features: Poor Sample, Platy; General Fossils: No Fossils
1285.4 - 1287 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 4%, Gypsum - <1%, Organics - 2%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Small organic clasts found throughout the interval.
1287 - 1288.3 ft	Dolostone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 10%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Vugs are filled with accessory gypsum crystals ranging in size from mm-4cm.
1288.3 - 1290 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Organics - 5%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: Organics; Comments: Organic-rich interval.
1290 - 1291 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 5%, Organics - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1291 - 1293 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils

1293 - 1295 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 7%, Spar - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present.
1295 - 1297 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present.
1297 - 1299 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - 3%, Organics - 8%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Index Fossils: Helicostegina gyralis; Comments: Oldsmar Formation index fossils present.
1299 - 1301 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 5%, Organics - 3%, Spar - <1%; Other Features: Calcareous, Brown Anhydrite Crystals, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: Gastropod-rich interval.
1301 - 1303 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 5%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1303 - 1305 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1305 - 1306.6 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - 2%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1306.6 - 1308 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 12%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments
1308 - 1310 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 5%, Spar - 3%; Other Features: Calcareous, High Recrystallization; General Fossils: Miliolids, Fossil Fragments
1310 - 1312 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Anhydrite - 4%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments
1312 - 1314 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - <1%, Organics - 3%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Thinly laminated with organics.
1314 - 1315.4 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 3%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1315.4 - 1317 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval.
1317 - 1319 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Comments: Less fossiliferous than previous intervals.
1319 - 1321 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Less fossiliferous than previous intervals.
1321 - 1321.5 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1321.5 - 1322 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils

1322 - 1323 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1323 - 1324.7 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1324.7 - 1326 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1326 - 1327 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Poor recovery; 1326'-1327 consists of ~7" of core.
1327 - 1327.8 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1327.8 - 1329 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1329 - 1331 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Medium recrystallized dolostone interbedded with ~4" of recrystallized wackestone.
1331 - 1333 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Medium recrystallized dolostone interbedded with recrystallized wackestone.
1333 - 1334.8 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1334.8 - 1335.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1335.4 - 1337 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1337 - 1339 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1339 - 1341 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1341 - 1343 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 3%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1343 - 1343.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1343.4 - 1344.2 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1344.2 - 1346 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids
1346 - 1347 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments; Comments: Recrystallized wackestone interbedded with ~2" medium recrystallized dolostone.
1347 - 1348 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Interbedded; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids; Comments: Recrystallized wackestone interbedded with ~3.5" medium recrystallized dolostone.

1348 - 1349.6 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1349.6 - 1350.8 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments
1350.8 - 1351.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1351.4 - 1352.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids
1352.4 - 1353.8 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1353.8 - 1355.8 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Pinpoint vugs are sucrosic throughout the interval.
1355.8 - 1357 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1357 - 1359 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1359 - 1361 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1361 - 1362.9 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - 2%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1362.9 - 1364 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - 3%, Gypsum - 2%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1364 - 1366 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to White (N9); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1366 - 1367 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1366'-1367' consists of ~5" of core.
1367 - 1369 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - 2%, Gypsum - 1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1369 - 1371 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1371 - 1372.6 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1372.6 - 1374 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Speckled; General Fossils: No Fossils; Comments: Speckled with white colored (N8 and 5Y 8/1) dolomite.
1374 - 1376 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Yellowish Brown (10YR 5/4); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Speckled; General Fossils: No Fossils; Comments: Speckled with white colored (N8 and 5Y 8/1) dolomite.

1376 - 1376.8 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1376.8 - 1378 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1378 - 1380 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1380 - 1381.6 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1381.6 - 1383 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1383 - 1385 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Brown Anhydrite Crystals, Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1385 - 1387 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1385'-1387' consists of less than 1.5' of core.
1387 - 1389 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: More sucrosic than previous intervals.
1389 - 1390.8 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils
1390.8 - 1391 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Grayish Orange (10YR 7/4); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Interbedded; Accessory Minerals: Organics - 5%; Other Features: Dolomitic, Platy, Medium Recrystallization, Sucrosic; General Fossils: No Fossils, Organics; Comments: Interbedded sucrosic dolostone with a thin layer of peat.
1391 - 1393 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1393 - 1395 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Dolomite - <1%, Gypsum - <1%; Other Features: Calcareous, Dolomitic, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Recrystallized wackestone with slightly dolomitized sections of interval.
1395 - 1397 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments; Comments: Very poor recovery; 1395'-1397' consists of less than 8" of core.
1397 - 1399 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments
1399 - 1401 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1401 - 1402 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1402 - 1404 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Fragments
1404 - 1406 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Fragments

1406 - 1407 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1407 - 1409 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1409 - 1410.8 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous recrystallized intervals.
1410.8 - 1412 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1412 - 1414 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - 2%, Organics - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: Laminated with darker (N7) wackestone.
1414 - 1416 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Granule (2-4 mm); Moderate Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils; Comments: Laminated with slightly darker (N8) mudstone.
1416 - 1418 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1418 - 1419.4 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1419.4 - 1421 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated, Mottled; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval. Slightly laminated with darker (N8) wackestone.
1421 - 1423 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1423 - 1425 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1425 - 1427 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1427 - 1428.1 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1428.1 - 1429.8 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1429.8 - 1431 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Low Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous intervals.
1431 - 1432 ft	Mudstone; Color: Light Olive Gray (5Y 6/1) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Slightly laminated with (10YR 8/2) tan calcareous laminations.
1432 - 1432.4 ft	Mudstone; Color: Light Olive Gray (5Y 6/1) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments

1432.4 - 1434 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1434 - 1436 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1436 - 1437.4 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1437.4 - 1439 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%, Organics - 4%; Other Features: Calcareous, Low Recrystallization; General Fossils: Miliolids, Fossil Fragments
1439 - 1441 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%, Organics - 2%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1441 - 1443 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%, Organics - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: Slightly laminated with organics throughout the interval.
1443 - 1445 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 50%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1445 - 1446.5 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1446.5 - 1447 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Poor recovery; 1446.5'-1447' consists os less than 6" of core.
1447 - 1448 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1448 - 1449.8 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Organics - 2%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments; Comments: Slightly laminated with organics.
1449.8 - 1450 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments; Comments: Slightly laminated with organics.
1450 - 1452 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous intervals.
1452 - 1454 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 45%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1454 - 1455.1 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Fossil Fragments
1455.1 - 1457 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1457 - 1459 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments

1459 - 1461 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Benthic Foraminifera, Mollusks, Fossil Fragments
1461 - 1463 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1463 - 1465 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Mollusks, Fossil Fragments
1465 - 1465.5 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Mollusks, Fossil Fragments
1465.5 - 1467 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 50%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments; Comments: More fossiliferous than previous intervals.
1467 - 1469 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments
1469 - 1471 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1471 - 1473 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1473 - 1474.6 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 10%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Organics - 3%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1474.6 - 1475 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1475 - 1477 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Interbedded; Accessory Minerals: Organics - 5%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments, Organics; Comments: Interbedded with thin layers of organics.
1477 - 1479 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Interbedded; Accessory Minerals: Organics - 4%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments, Organics; Comments: Interebedded with thin layers of organics.
1479 - 1481 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - 2%; Other Features: Calcareous, Low Recrystallization; General Fossils: Fossil Fragments
1481 - 1481.3 ft	No Sample
1481.3 - 1482.5 ft	Wackestone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1482.5 - 1483 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1483 - 1485 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Gray (N8); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments
1485 - 1487 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Mollusks, Fossil Fragments

1487 - 1489 ft	Wackestone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Moldic, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Organics - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Fossil Fragments, Fossil Molds
1489 - 1491 ft	Mudstone; Color: Grayish Brown (10YR 6/2) to Very Light Gray (N8); Porosity: Intergranular, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1491 - 1491.9 ft	Mudstone; Color: Grayish Brown (10YR 6/2) to Very Light Gray (N8); Porosity: Intergranular, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1491.9 - 1493 ft	Mudstone; Color: Light Olive Gray (5Y 6/1) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Molds
1493 - 1495 ft	Mudstone; Color: Light Olive Gray (5Y 6/1) to Moderate Light Gray (N6); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Molds
1495 - 1497 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Glauconite - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Molds
1497 - 1499 ft	Mudstone; Color: Light Olive Gray (5Y 6/1) to Very Light Gray (N8); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Glauconite - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Molds
1499 - 1500.1 ft	Mudstone; Color: Very Light Gray (N8) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%, Spar - 3%; Other Features: Calcareous, High Recrystallization, Crystalline; General Fossils: Fossil Molds
1500.1 - 1502 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Highly (50-90%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - 3%, Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1502 - 1504 ft	Dolostone; Color: Very Light Gray (N8) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Highly (50-90%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 5%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1504 - 1506 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 3%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1506 - 1507 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Subhedral; Grain Size: Fine; Range: Fine to Very Fine; Unconsolidated; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1507 - 1509 ft	Dolostone; Color: Very Light Gray (N8) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - 2%, Gypsum - 3%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1509 - 1511 ft	Dolostone; Color: Very Light Gray (N8) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 2%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1511 - 1512.8 ft	Mudstone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 1%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Anhydrite - 10%, Gypsum - 15%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1512.8 - 1514.5 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Highly (50-90%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 7%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1514.5 - 1517 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Highly (50-90%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%, Organics - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1514.5'-1517' consists of less than 2' of core.
1517 - 1519 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Highly (50-90%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - 2%, Gypsum - 3%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils

1519 - 1521 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Highly (50-90%); Crystallinity: Subhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1521 - 1525.3 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - 3%; Other Features: Dolomitic, Medium Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1521'-1525.3' consists of only 2' of core.
1525.3 - 1527 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 4%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1525.3'-1527' consists of less than 1.5' of core.
1527 - 1529 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - 5%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1529 - 1531 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - 4%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1531 - 1533 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Very Light Orange (10YR 8/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 4%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1533 - 1537 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 2%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: More sucrosic than previous interval. Poor recovery; 1533'-1537' consists of 2' of core.
1537 - 1539 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Dark Yellowish Brown (10YR 4/2); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 5%, Gypsum - 3%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1539 - 1541 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 3%, Gypsum - 2%; Other Features: Brown Anhydrite Crystals, Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1541 - 1543 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1543 - 1545 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1545 - 1546.6 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: More fine grained than previous intervals.
1546.6 - 1547 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1547 - 1549 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1549 - 1551 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1551 - 1553 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1553 - 1554.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1554.4 - 1554.5 ft	No Sample
1554.5 - 1557 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 4%, Gypsum - 2%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1554.5'-1557' consists of less than 6" of core.

1557 - 1558.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1558.4 - 1560 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1560 - 1562 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1562 - 1564 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Slightly laminated with darker (N5) dolostone.
1564 - 1566 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils; Comments: Slightly laminated with darker (N5) dolostone.
1566 - 1567 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Poor Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1567 - 1569.1 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1569.1 - 1571 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1571 - 1573 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1573 - 1575 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1575 - 1577 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1577 - 1578.4 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - 3%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1578.4 - 1580.4 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Olive Gray (5Y 4/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling chalcopyrite.
1580.4 - 1582.4 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling chalcopyrite.
1582.4 - 1584.4 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Olive Gray (5Y 4/1); Porosity: Intergranular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Heavy Minerals - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling chaclopyrite.
1584.4 - 1587 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Heavy Minerals - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1584.4'-1587' consists of less than 7" of core.
1587 - 1589 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1589 - 1589.9 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Olive Gray (5Y 4/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1589.9 - 1591 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Brecciated; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%, Heavy Minerals - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Interval is brecciated with tan (10YR 6/2) and dark (5B 5/1) dolostone. Trace amounts of chalcopyrite are present.
1591 - 1593 ft	Dolostone; Color: Grayish Brown (10YR 6/2) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Laminated; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Slightly laminated with darker (5B 5/1) dolostone. Trace amounts of chalcopyrite are present.

1593 - 1595 ft	Mudstone; Color: Grayish Brown (10YR 6/2) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, High Recrystallization, Sucrosic; General Fossils: No Fossils
1595 - 1597 ft	Dolostone; Color: Light Olive Gray (5Y 6/1) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1597 - 1598.7 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1598.7 - 1600 ft	Dolostone; Color: Moderate Light Gray (N6) to Moderate Bluish Gray (5B 5/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1600 - 1602 ft	Mudstone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1602 - 1604 ft	Mudstone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Gypsum - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1604 - 1606 ft	Mudstone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - <1%, Gypsum - 2%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1606 - 1607.9 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1607.9 - 1609.2 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Heavy Minerals - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling chalcopyrite.
1609.2 - 1611 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Heavy Minerals - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling chalcopyrite.
1611 - 1613 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%, Heavy Minerals - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling chalcopyrite.
1613 - 1614.6 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1614.6 - 1616 ft	Wackestone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 20%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1616 - 1617.4 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Mollusks, Fossil Fragments, Fossil Molds; Comments: More fossiliferous than previous intervals.
1617.4 - 1619 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - 3%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Very sucrosic interval.
1619 - 1621 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 2%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1621 - 1623 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 10%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1623 - 1625 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 10%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1625 - 1627 ft	Dolostone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Anhydrite - <1%, Gypsum - 8%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils; Comments: Poor recovery; 1625'-1627' consists of less than 1.5' of core.

1627 - 1627.5 ft	Dolostone; Color: Moderate Dark Gray (N4) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Dolomite; Accessory Minerals: Anhydrite - 2%, Gypsum - 5%; Other Features: Dolomitic, High Recrystallization, Sucrosic; General Fossils: No Fossils
1627.5 - 1629.5 ft	Dolostone; Color: Moderate Dark Gray (N4) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1629.5 - 1631.5 ft	Dolostone; Color: Moderate Dark Gray (N4) to Light Olive Gray (5Y 6/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Unconsolidated; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, High Recrystallization; General Fossils: No Fossils
1631.5 - 1633 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1633 - 1635 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1635 - 1637 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1637 - 1637.8 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 4%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1637.8 - 1639.4 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1639.4 - 1641.7 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1641.7 - 1643 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 4%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1643 - 1645 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1645 - 1647 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 4%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1647 - 1647.4 ft	Mudstone; Color: White (N9) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1647.4 - 1649 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 3%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1649 - 1651 ft	Mudstone; Color: Very Light Gray (N8) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Brecciated; Accessory Minerals: Anhydrite - <1%, Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1651 - 1653 ft	Dolostone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1653 - 1655 ft	Dolostone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Sedimentary Structures: Mottled; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1655 - 1657 ft	Dolostone; Color: Light Gray (N7) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Moderate Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Poor recovery; 1655'-1657' consist of less than 1.5' of core.
1657 - 1657.3 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Heavy Minerals - <1%, Spar - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling pyrite.

1657.3 - 1659 ft	Mudstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 6%; Grain Size: Very Fine; Range: Very Fine to Fine; Moderate Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Heavy Minerals - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling pyrite.
1659 - 1660 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Low Recrystallization; General Fossils: No Fossils
1660 - 1661 ft	Dolostone; Color: Moderate Light Gray (N6) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils
1661 - 1663 ft	Mudstone; Color: Very Light Gray (N8) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 6%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1663 - 1665 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1665 - 1666.3 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1666.3 - 1668 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1668 - 1670 ft	Dolostone; Color: Very Light Gray (N8) to Light Gray (N7); Porosity: Intergranular, Pinpoint; Alteration: Medium (10-50%); Crystallinity: Anhedral; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Dolomite; Accessory Minerals: Heavy Minerals - <1%; Other Features: Dolomitic, Medium Recrystallization; General Fossils: No Fossils; Comments: Trace amounts of sulfides present resembling pyrite.
1670 - 1672 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint, Vugular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 75%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Laminated; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization; General Fossils: Fossil Fragments; Comments: Slightly laminated with darker shades of (5Y 8/1) recrystallized packstone.
1672 - 1674 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1674 - 1675.7 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1675.7 - 1677.4 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Light Gray (N7); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1677.4 - 1679 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Light Gray (N7); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1679 - 1681 ft	Packstone; Color: Yellowish Gray (5Y 8/1) to Very Light Orange (10YR 8/2); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 65%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1681 - 1683 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1683 - 1685 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Light Gray (N7); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.
1685 - 1686.1 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 40%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%, Spar - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Abundant recrystallized Cedar Keys Formation index fossils present.

1686.1 - 1688 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments
1688 - 1690 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 35%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1690 - 1692 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments
1692 - 1693 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1693 - 1695 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1695 - 1697 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Vugular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1697 - 1699 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Unconsolidated; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1699 - 1701 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1701 - 1703 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1703 - 1705 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1705 - 1707 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1707 - 1707.4 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1707.4 - 1708 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1708 - 1710 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 8%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1710 - 1712 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1712 - 1714 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1714 - 1716 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 25%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Fossil Fragments
1716 - 1717 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 8%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1717 - 1719 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1719 - 1721 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 30%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils

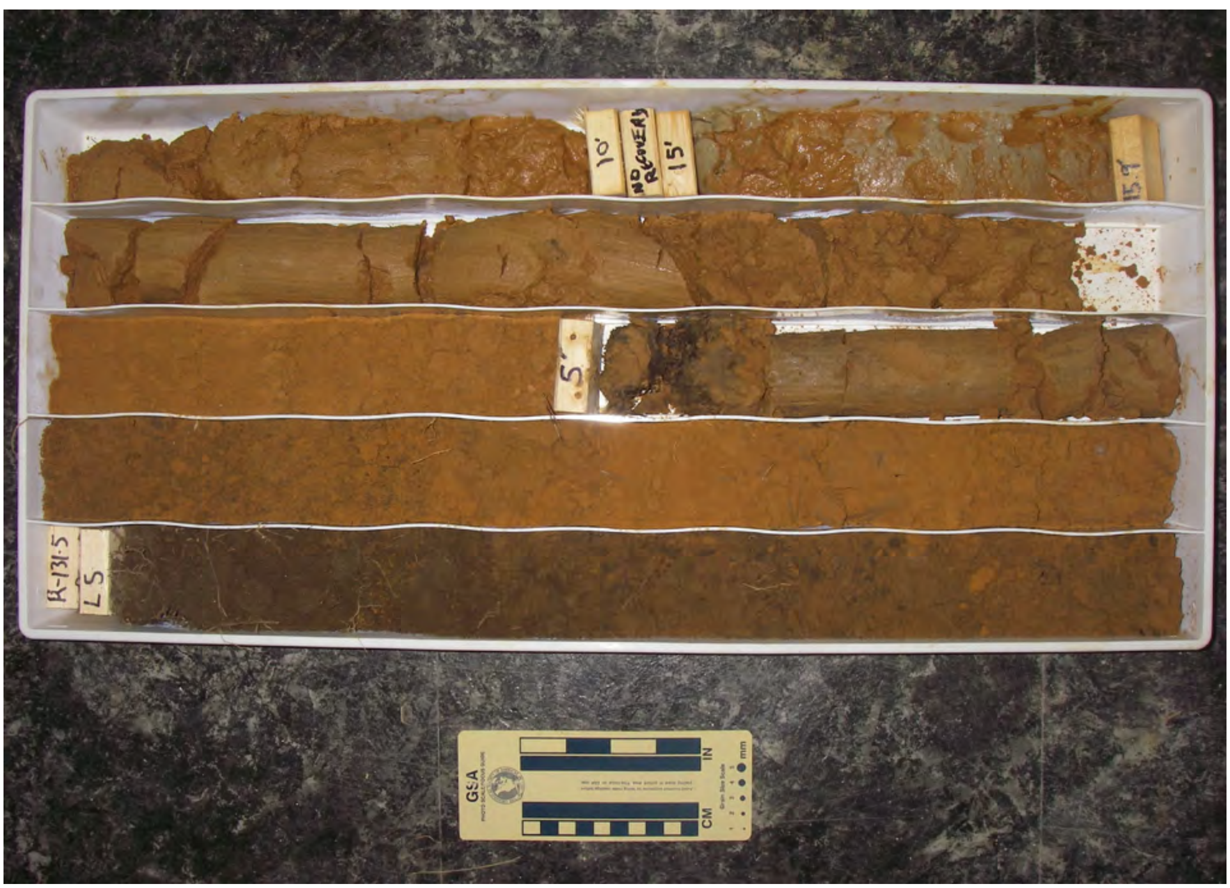
1721 - 1723 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 35%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: Miliolids, Fossil Fragments
1723 - 1725 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 8%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Slightly laminated with darker (N6) mudstone.
1725 - 1726.6 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 8%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Calcilutite Matrix; Sedimentary Structures: Laminated; Accessory Minerals: Spar - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils; Comments: Slightly laminated with darker (N6) mudstone.
1726.6 - 1727 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1727 - 1729 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Calcilutite, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - <1%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1729 - 1731 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1731 - 1733 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1733 - 1734 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1734 - 1735.2 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1735.2 - 1737 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1737 - 1737.5 ft	No Sample
1737.5 - 1739 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1739 - 1741 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1741 - 1743 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1743 - 1744 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 8%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1744 - 1745.5 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 8%; Other Features: Calcareous, Medium Recrystallization; General Fossils: No Fossils
1745.5 - 1747 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 10%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Cedar Keys Formation index fossils present throughout the interval.
1747 - 1749 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 10%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments
1749 - 1751 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 8%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Benthic Foraminifera, Miliolids, Fossil Fragments; Index Fossils: Borelis gunteri; Comments: Cedar Keys Formation index fossils present throughout the interval.
1751 - 1753 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 55%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 10%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1753 - 1754.8 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular, Pinpoint; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Fine; Range: Fine to Very Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Gypsum - 10%; Other Features: Calcareous, Medium Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments
1754.8 - 1756 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%, Gypsum - 5%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils

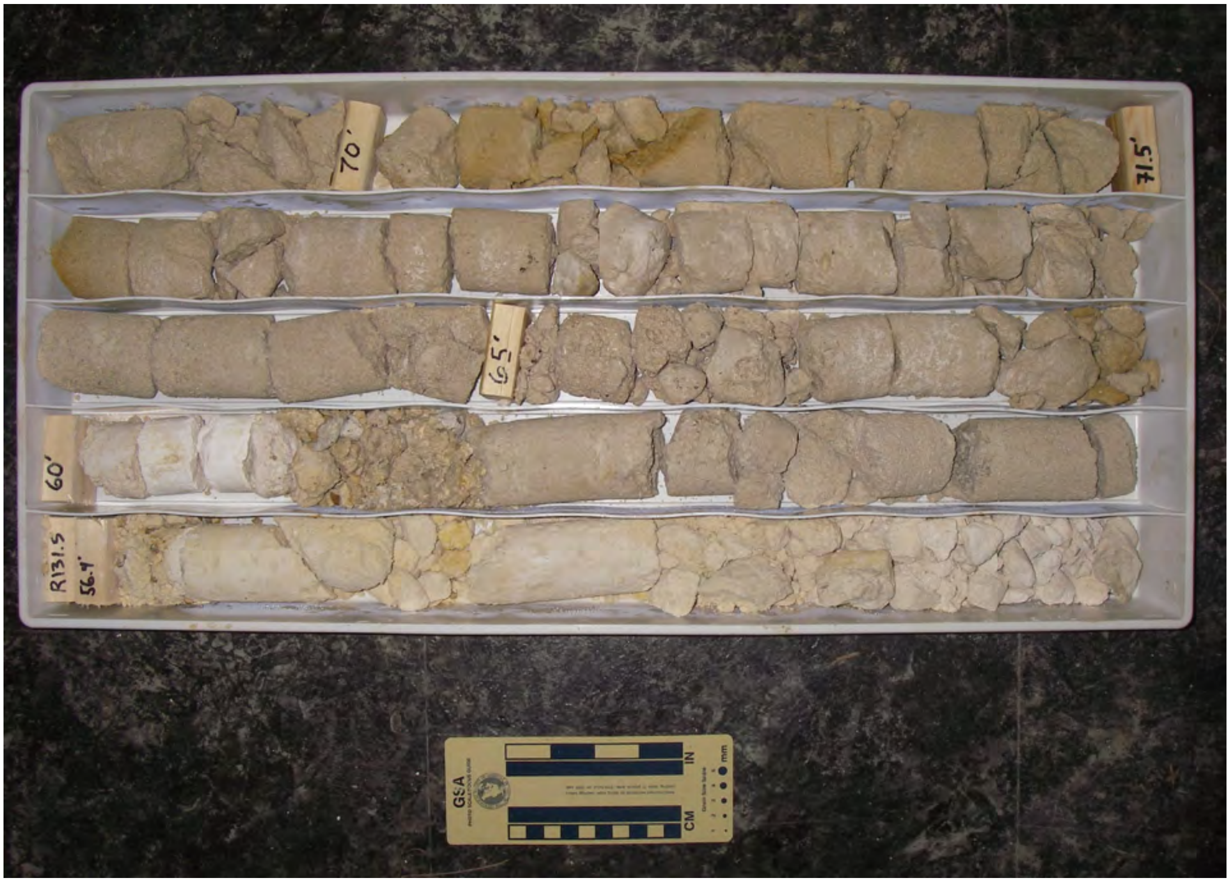
1756 - 1757 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils; Comments: Poor recovery; 1756'-1757' consists of ~7" of core.
1757 - 1759 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1759 - 1761 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1761 - 1763 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1763 - 1763.9 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1763.9 - 1765.5 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1765.5 - 1767 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1767 - 1769 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1769 - 1771 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1771 - 1773 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1773 - 1773.3 ft	Anhydrite; Color: Light Olive Gray (5Y 6/1) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1773.3 - 1775 ft	Mudstone; Color: Yellowish Gray (5Y 7/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Gypsum - 10%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1775 - 1776.4 ft	Mudstone; Color: Yellowish Gray (5Y 7/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Microcrystalline; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Gypsum - 8%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils
1776.4 - 1778.5 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1778.5 - 1780.5 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1780.5 - 1782.3 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1782.3 - 1784 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1784 - 1786 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 15%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1786 - 1788 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1788 - 1790 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 12%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1790 - 1791.7 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 15%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1791.7 - 1793.5 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1793.5 - 1794.8 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1794.8 - 1796.5 ft	Wackestone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 15%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval.
1796.5 - 1798 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 15%, Gypsum - 5%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval.
1798 - 1800 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 65%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 10%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval.

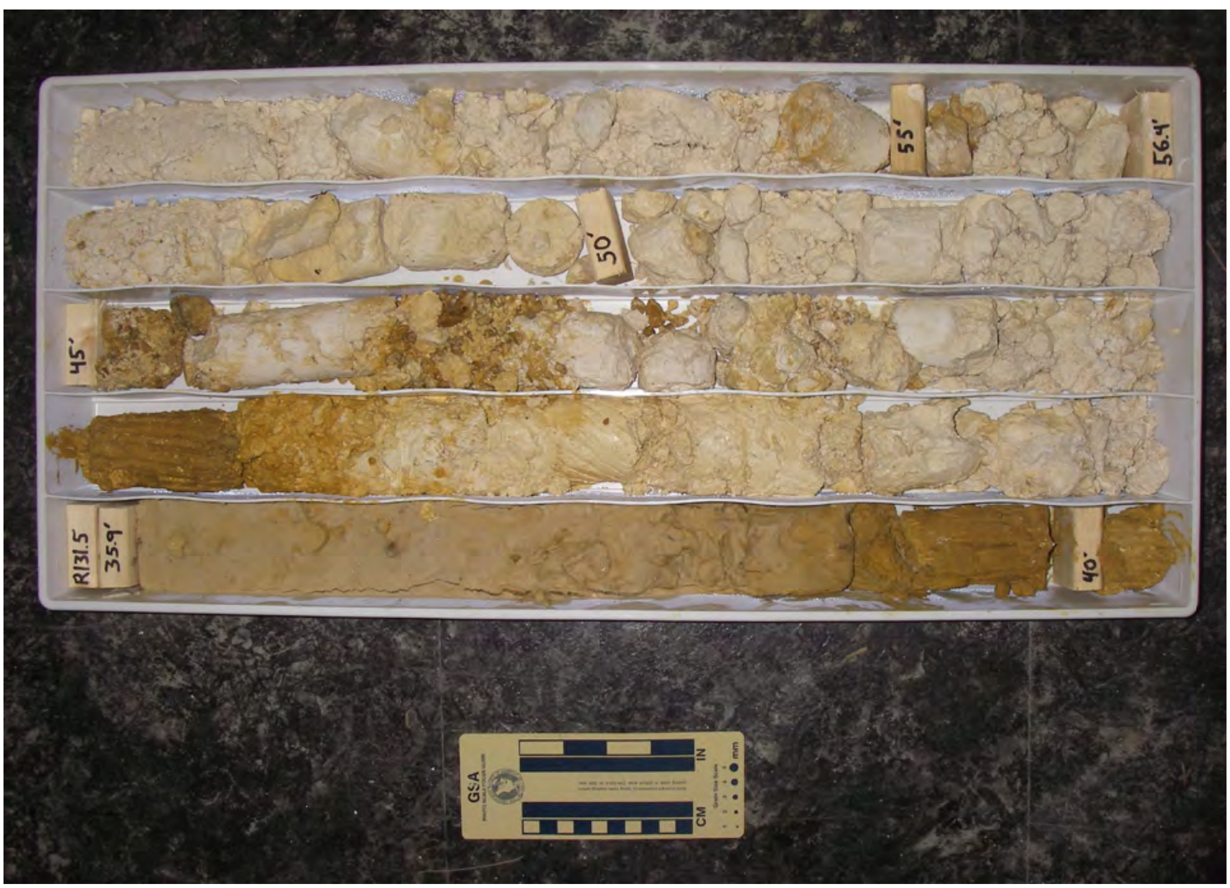
1800 - 1801 ft	Packstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 60%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Accessory Minerals: Anhydrite - 5%; Other Features: Calcareous, High Recrystallization, Fossiliferous; General Fossils: Miliolids, Fossil Fragments; Comments: Abundant miliolids present throughout the interval.
1801 - 1803 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Brecciated; Accessory Minerals: Anhydrite - 15%, Gypsum - 10%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils; Comments: Slightly brecciated with anhydrite clasts.
1803 - 1805 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 5%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Brecciated; Accessory Minerals: Anhydrite - 15%, Gypsum - 10%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils; Comments: Slightly brecciated with anhydrite clasts.
1805 - 1807 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1807 - 1809 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1809 - 1810.3 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1810.3 - 1811.8 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 5%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1811.8 - 1812 ft	Mudstone; Color: Very Light Orange (10YR 8/2) to Yellowish Gray (5Y 8/1); Porosity: Intergranular; Grain Type: Biogenic, Crystals, Pellet; Allochemical Constituents: 2%; Grain Size: Very Fine; Range: Very Fine to Fine; Good Induration; Cement Type: Sparry Calcite; Sedimentary Structures: Brecciated; Accessory Minerals: Anhydrite - 15%, Gypsum - 10%; Other Features: Calcareous, High Recrystallization; General Fossils: No Fossils; Comments: Slightly brecciated with anhydrite clasts.
1812 - 1814 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 10%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1814 - 1816 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils
1816 - 1817 ft	Anhydrite; Color: Moderate Light Gray (N6) to Brownish Gray (5YR 4/1); Porosity: Intercrystalline; Good Induration; Cement Type: Anhydrite; Accessory Minerals: Gypsum - 8%; Other Features: Brown Anhydrite Crystals, Crystalline; General Fossils: No Fossils; Comments: Total Depth.

Appendix E. Digital Photographs of Core Samples Retrieved at the ROMP 131.5 – Morriston Well Site in Levy County, Florida


2.5'
30'
NO RECOVERY
35'
35.9'
20'
15.9'
GSA
IN
CM


10'
NO RECOVERY
15'
15.9
5'
R-131.5
GSA
IN
CM


70'
71.5'
65'
60'
R131.5
56.4'
GSA
IN
CM


55'
56.4'
50'
45'
R131.5
35.9'
40'
GSA
IN
CM


90'
91.2
85'
R131.5
81'
GSA
IN
CM
mm


80'
81'
75'
R131.5
71.5'
GSA
IN
CM


137'
138.5'
127'
117'
R 131.5
109.5
GSA
IN
CM
mm


107'
109.5'
97'
R131.5
91.2'
GSA
IN
CM


177'
177.9'
167'
R131-5
161.3'
GSA
IN
CM


161.3'
157'
147'
R131.5
138.5'
GSA
IN
CM


222.3'
217'
R131.5
207'
GSA
IN
CM


205'
207'
197'
NO
RECOVERY
187'
R131.5
177.9'
GSA
IN
CM


263.5'
257'
R131.5
249.8
GSA
IN
CM

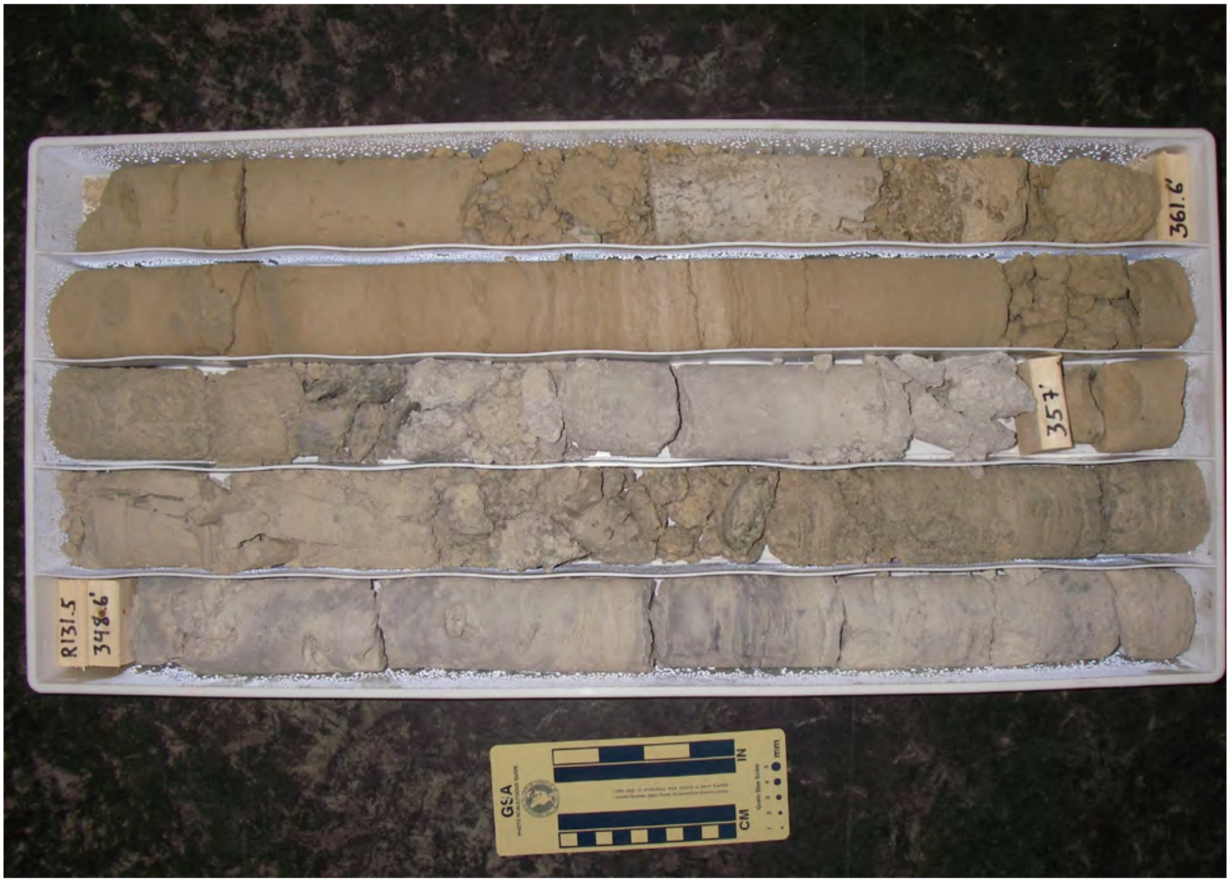

247'
249.8'
237'
227'
R131.5
222.3'
GSA
IN
CM

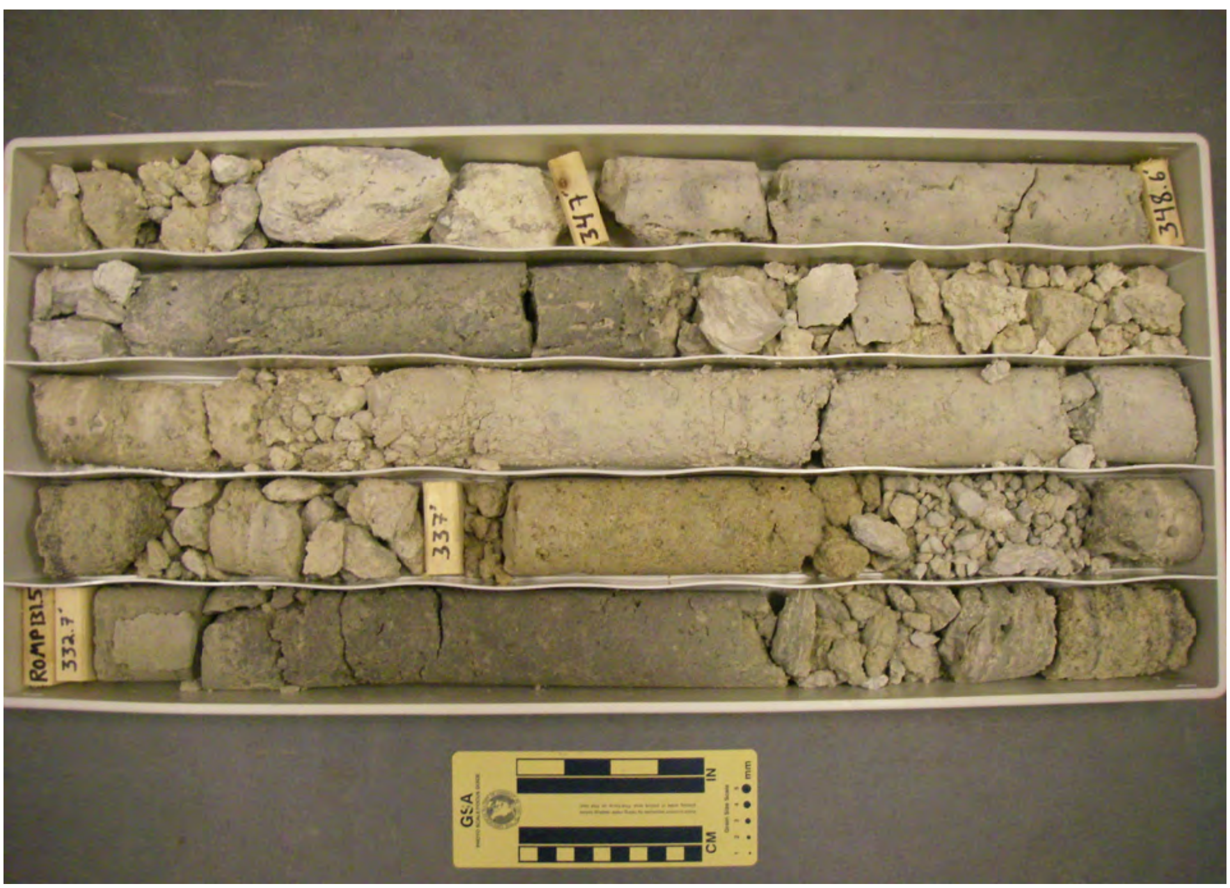

R131.5
278.2'
GSA
IN
CM

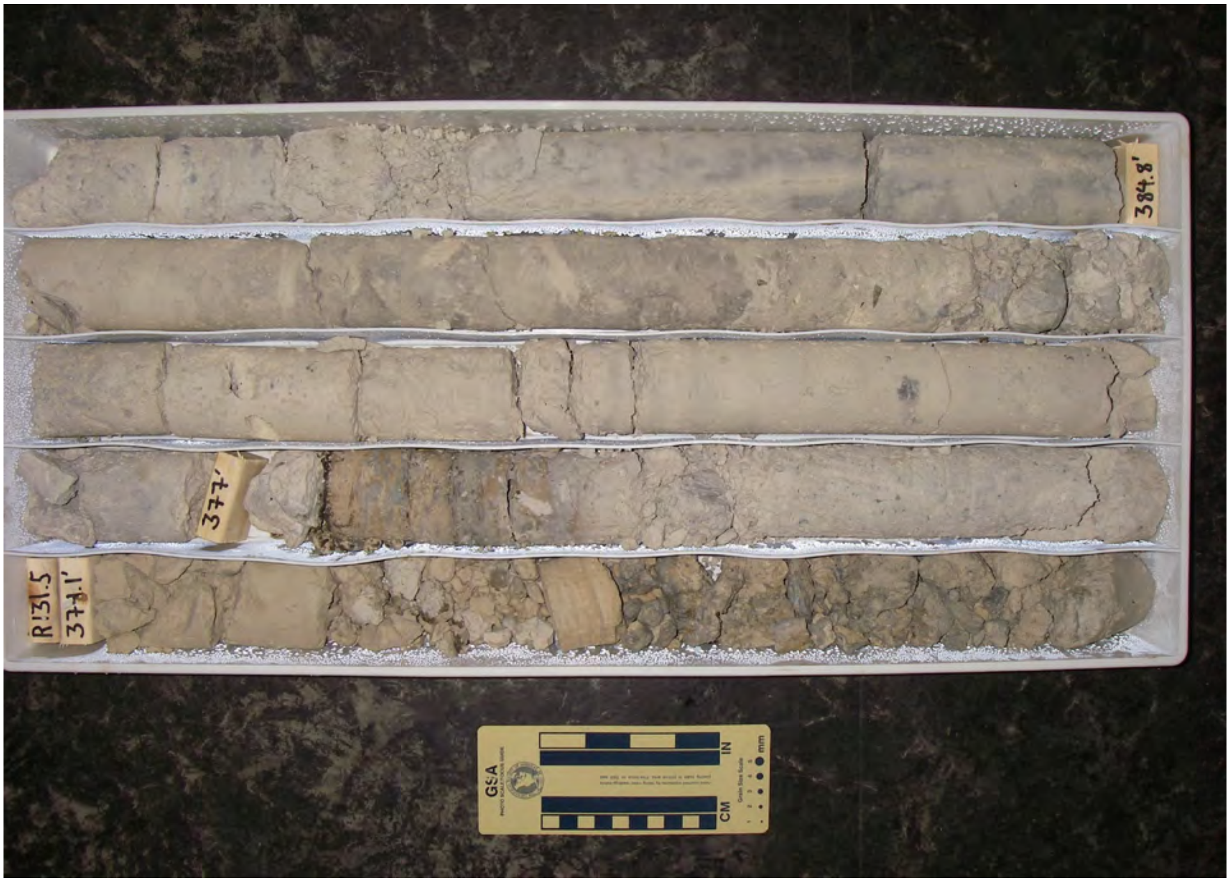

278.2'
R131.5
263.5'
GSA
IN
CM

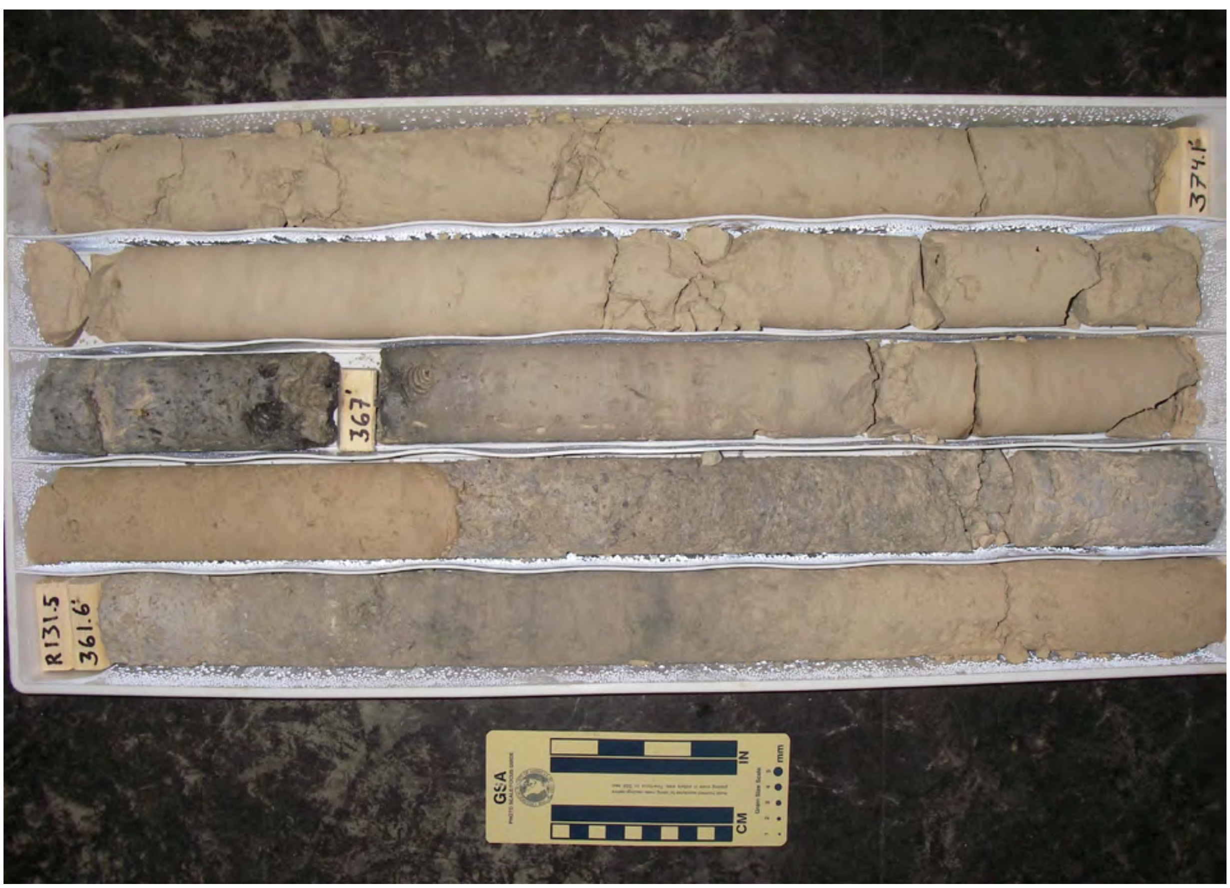

332.7'
327'
317'
R131-5
311.4'
GSA
IN
CM


311.4'
307'
297'
R131-5
292.4'
GSA
IN
CM

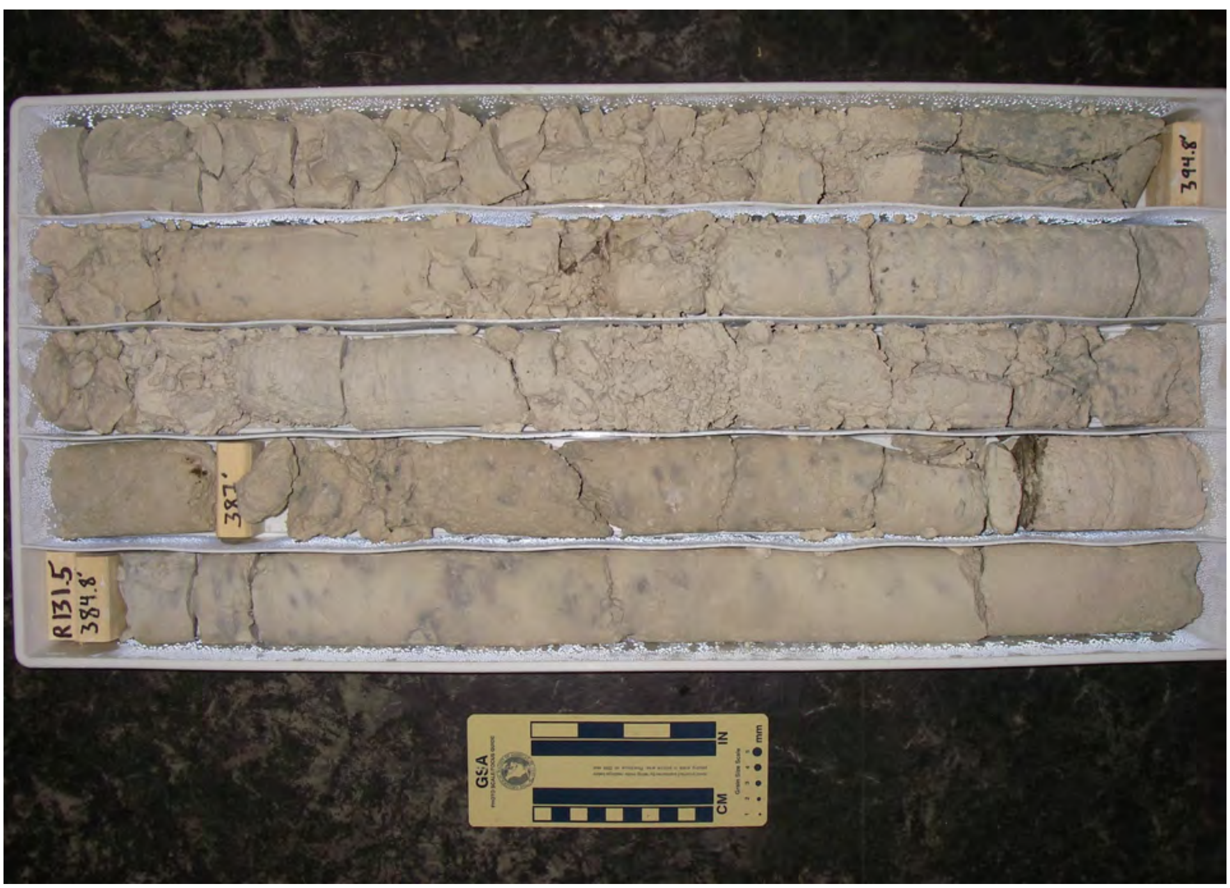

361.6'
357'
R131.5
348.6'
IN
CM
GSA


347'
348.6'
337'
ROMP 131.5
332.7'
IN
CM
GSA

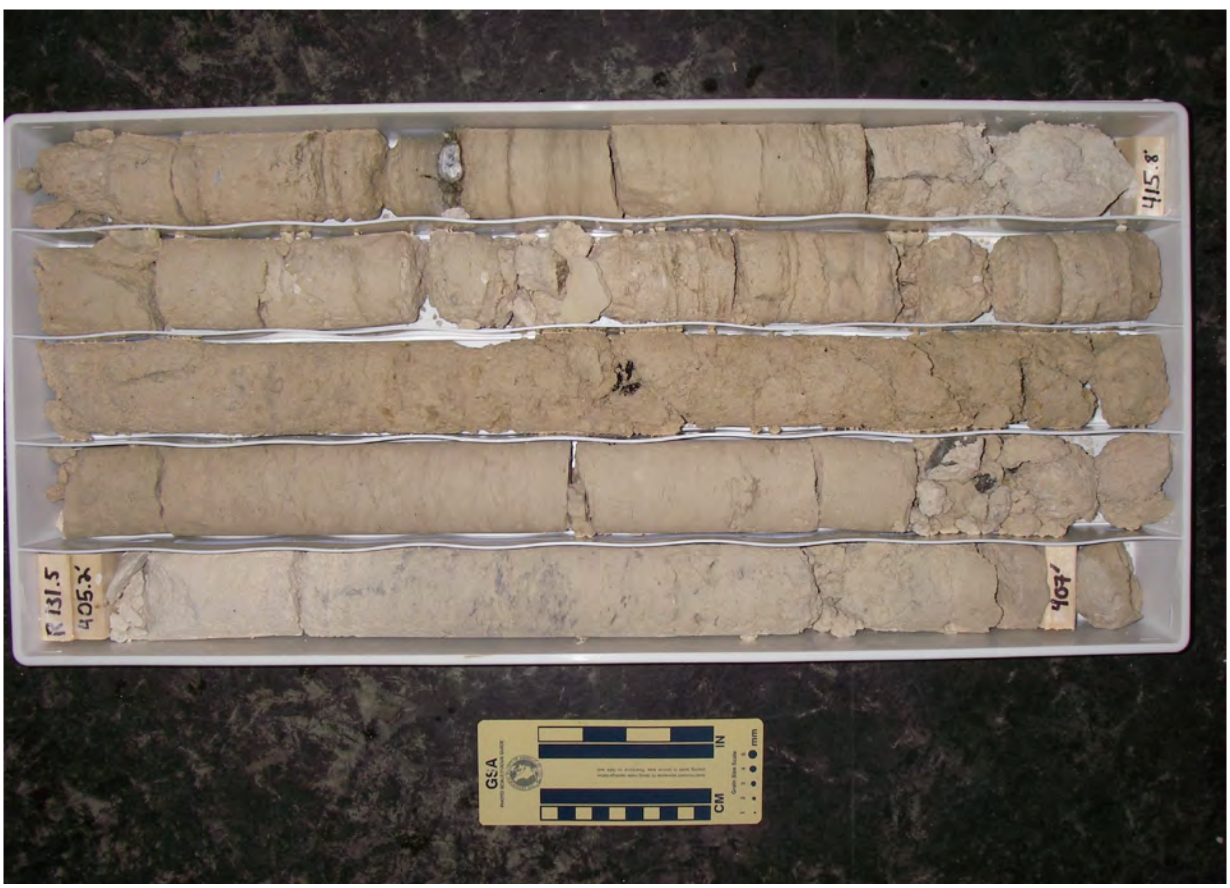

384.8'
377'
R131.5
374.1'
GSA
IN
CM


374.1'
367'
R131.5
361.6'
GSA
IN
CM


405.2'
397'
R131.5
394.8'
GSA
IN
CM

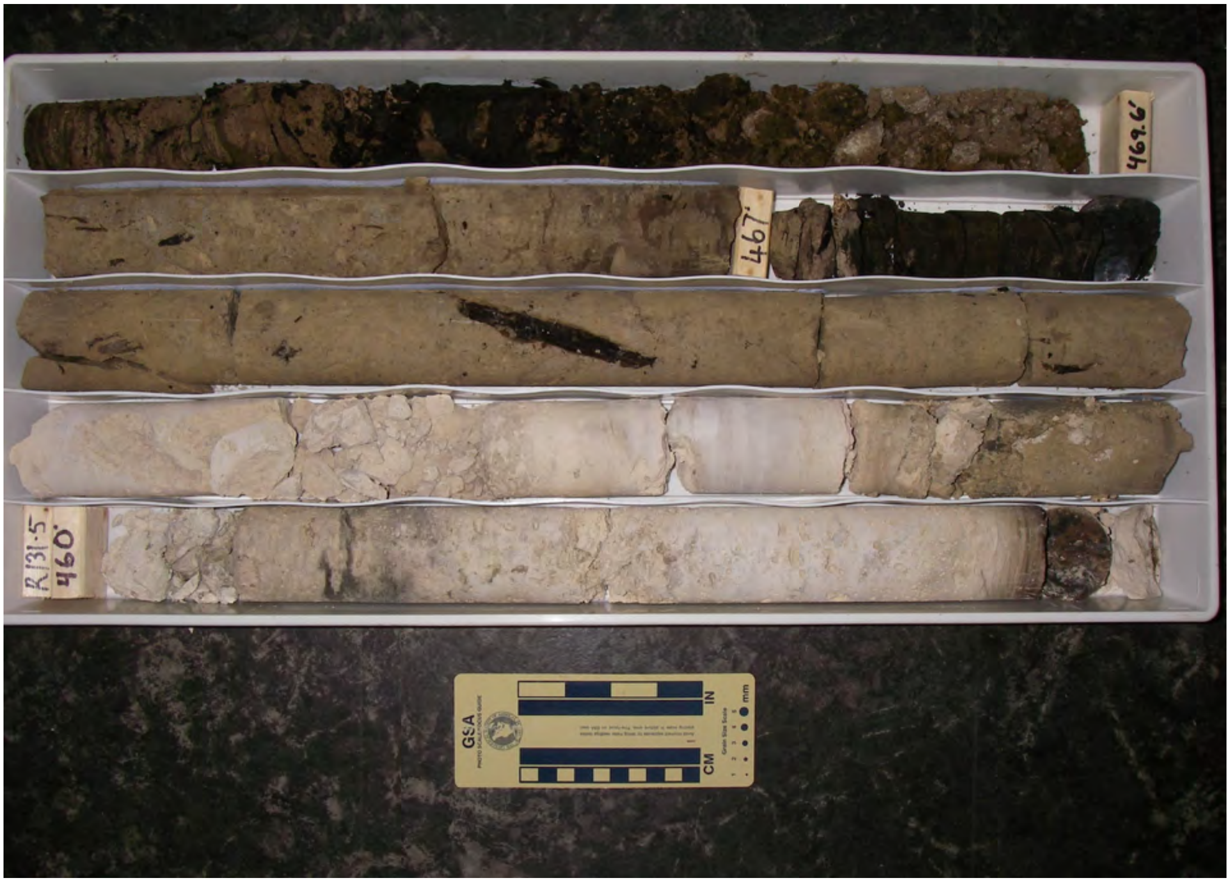

394.8'
387'
R131.5
384.8'
GSA
IN
CM


427'
428.3'
R131.5
415.8'
417'
GSA
IN
CM


415.8'
R131.5
405.2'
407'
GSA
IN
CM


447'
448.0'
R131.5
437'


437'
R131.5
428.3'


469.6'
467'
R131.5
460'
GSA
IN
CM

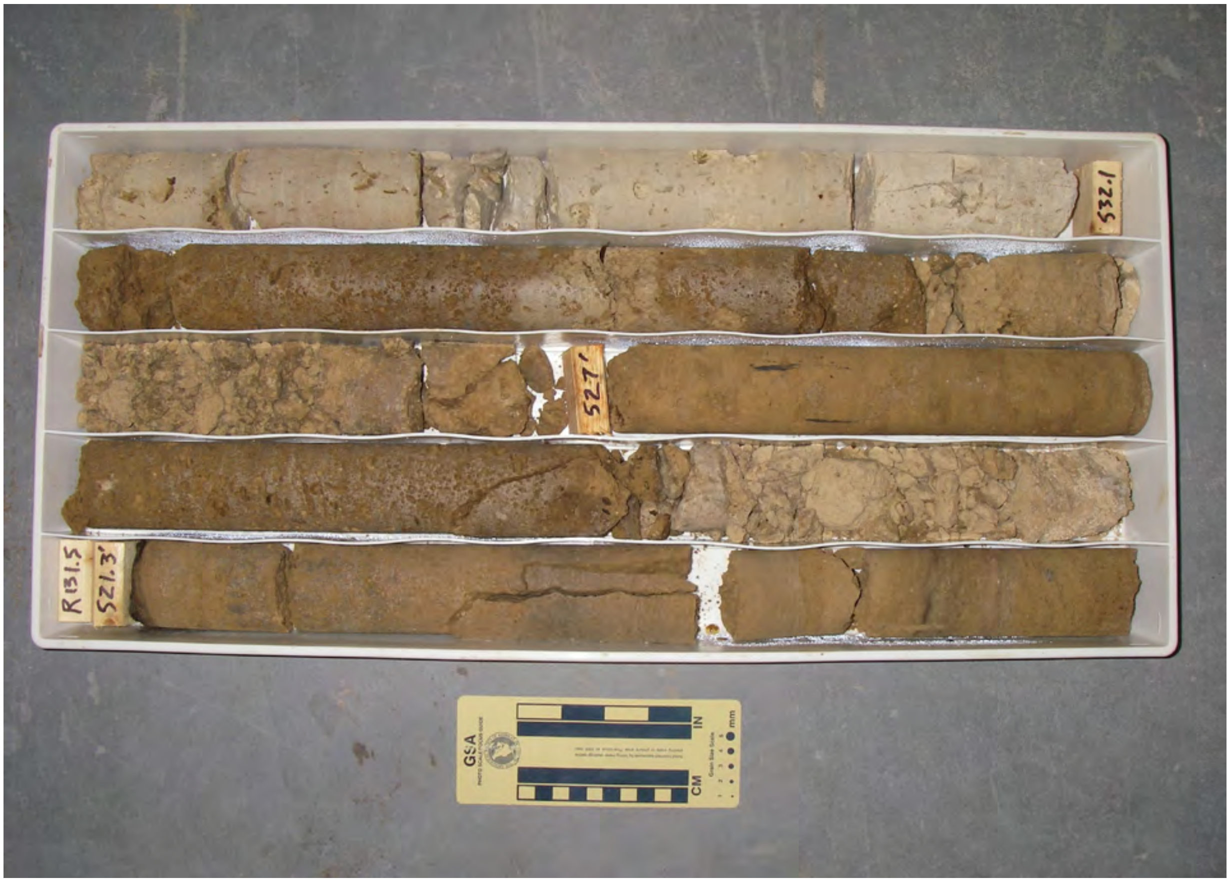

460'
457'
R131.5'
448.0'
GSA
IN
CM


491.3'
487'
R131.5
480.5'
GSA
IN
CM

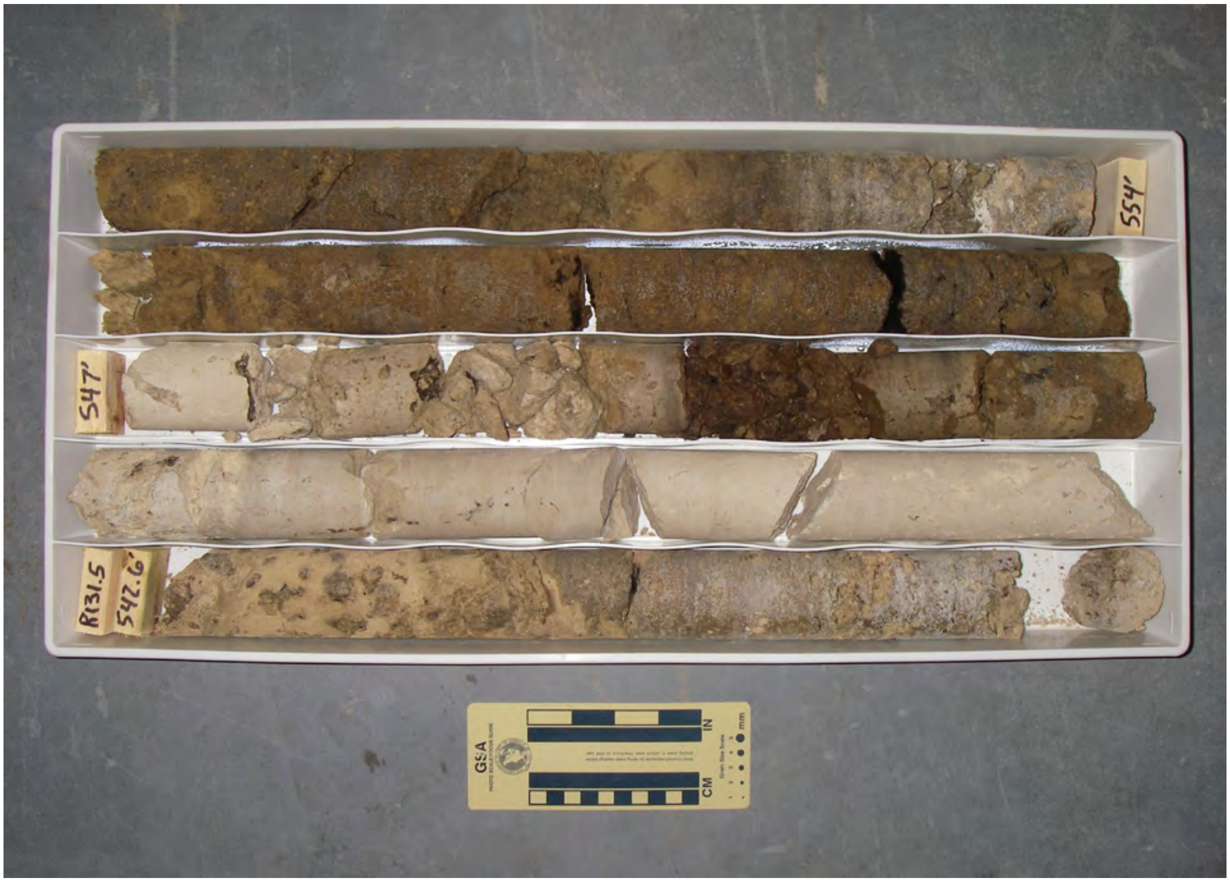

477'
R131.5
469.6'
GSA
IN
CM


511'
507'
R 131.5
501.3'
GSA
IN
CM


501.3'
497'
R131.5'
491.3'
GSA
IN
CM


532.1
527'
R131.5
521.3'
GSA
IN
CM

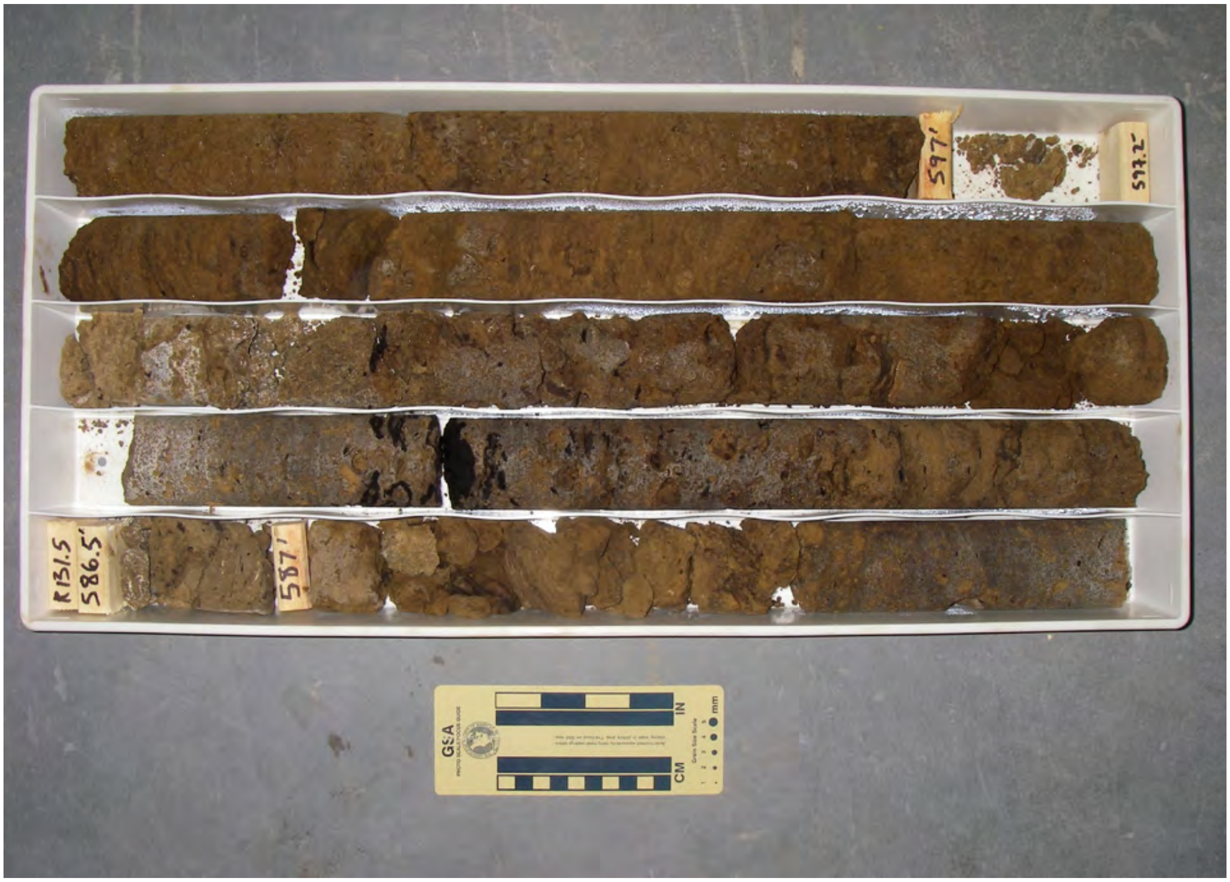

521.3'
517'
R131.5
511'
GSA
IN
CM


554'
547'
R131.5
542.6'
GSA
IN
CM
mm
Grain Size Scale


542.6'
537'
R131.5
532.1'
GSA
IN
CM
Grain Size Scale

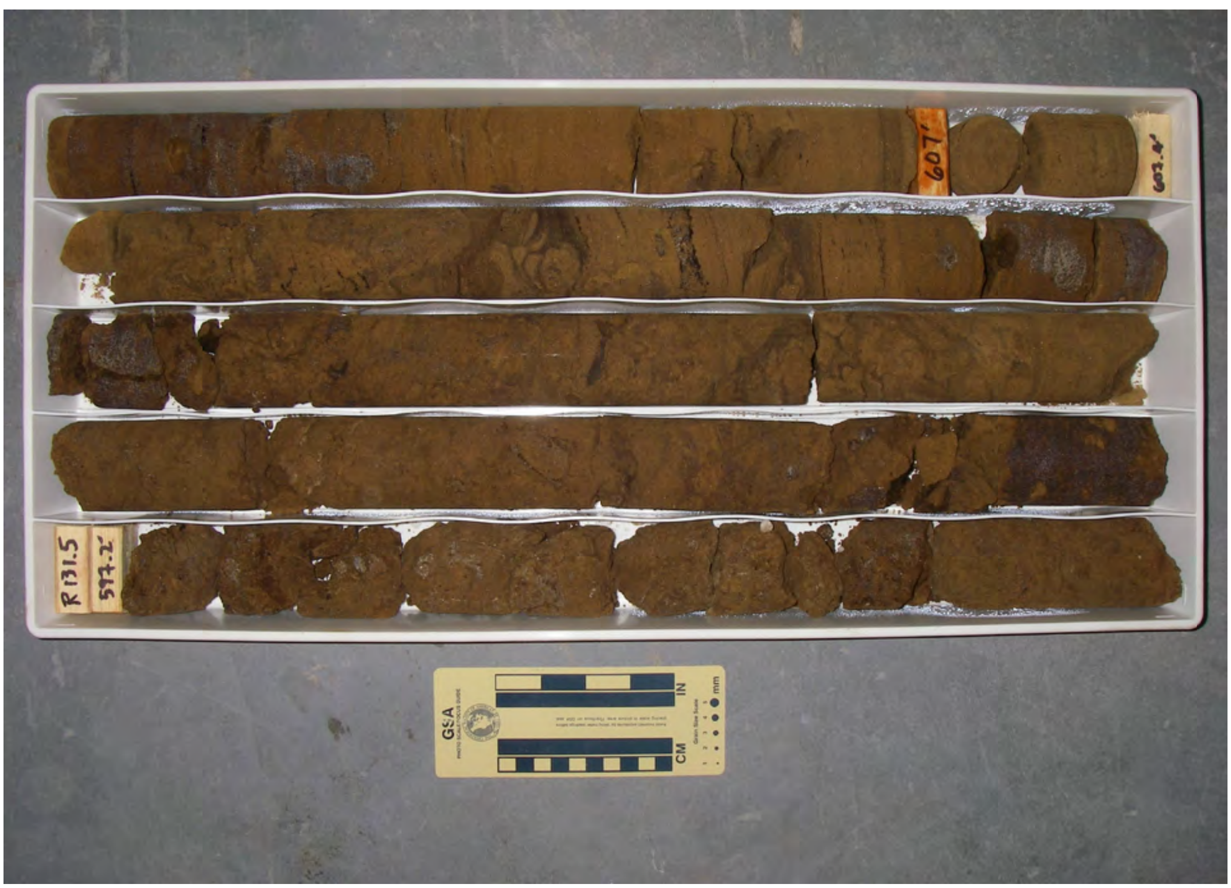

574.1
567'
R131.5
564.6'
GSA
IN
CM

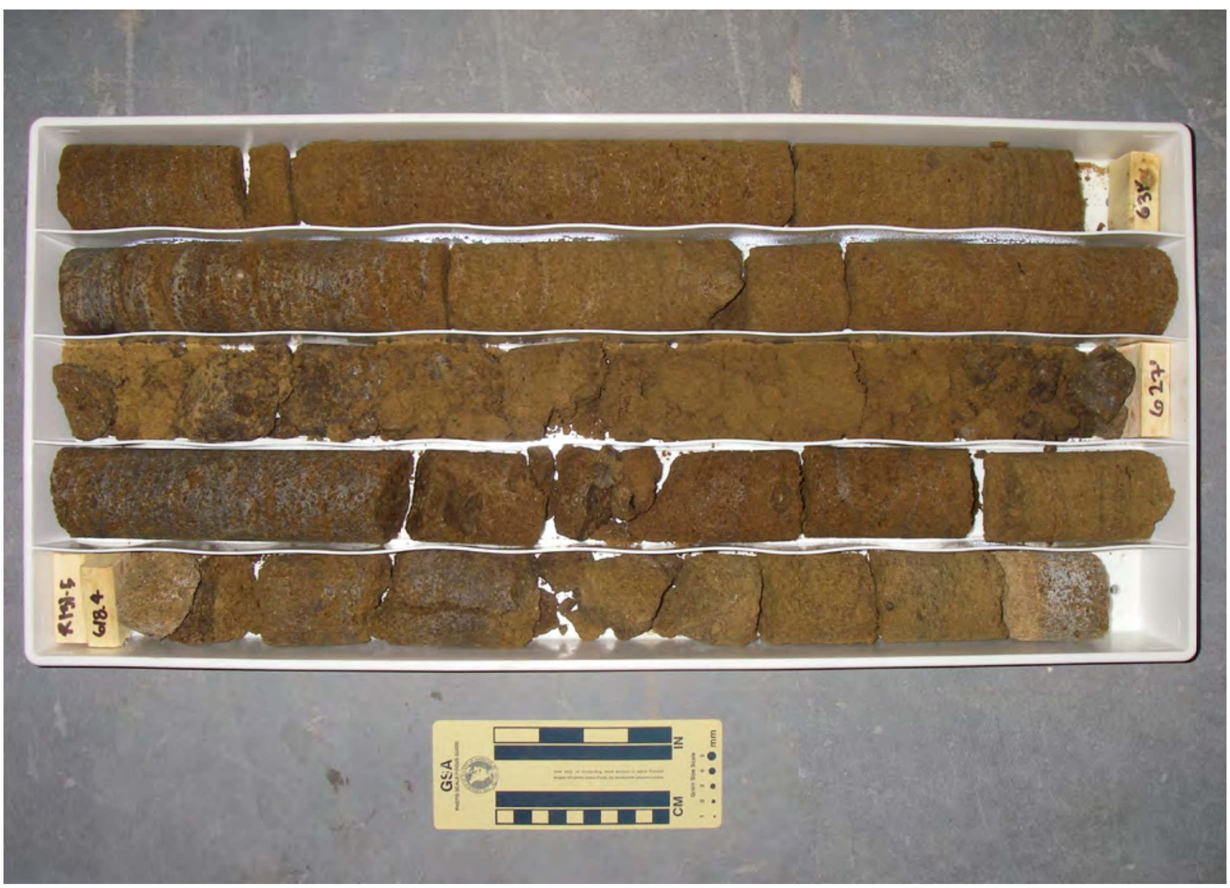

564.6'
557'
R131.5
554'
GSA
IN
CM


597'
597.2'
R131.5
586.5'
587'
GSA
IN
CM
mm

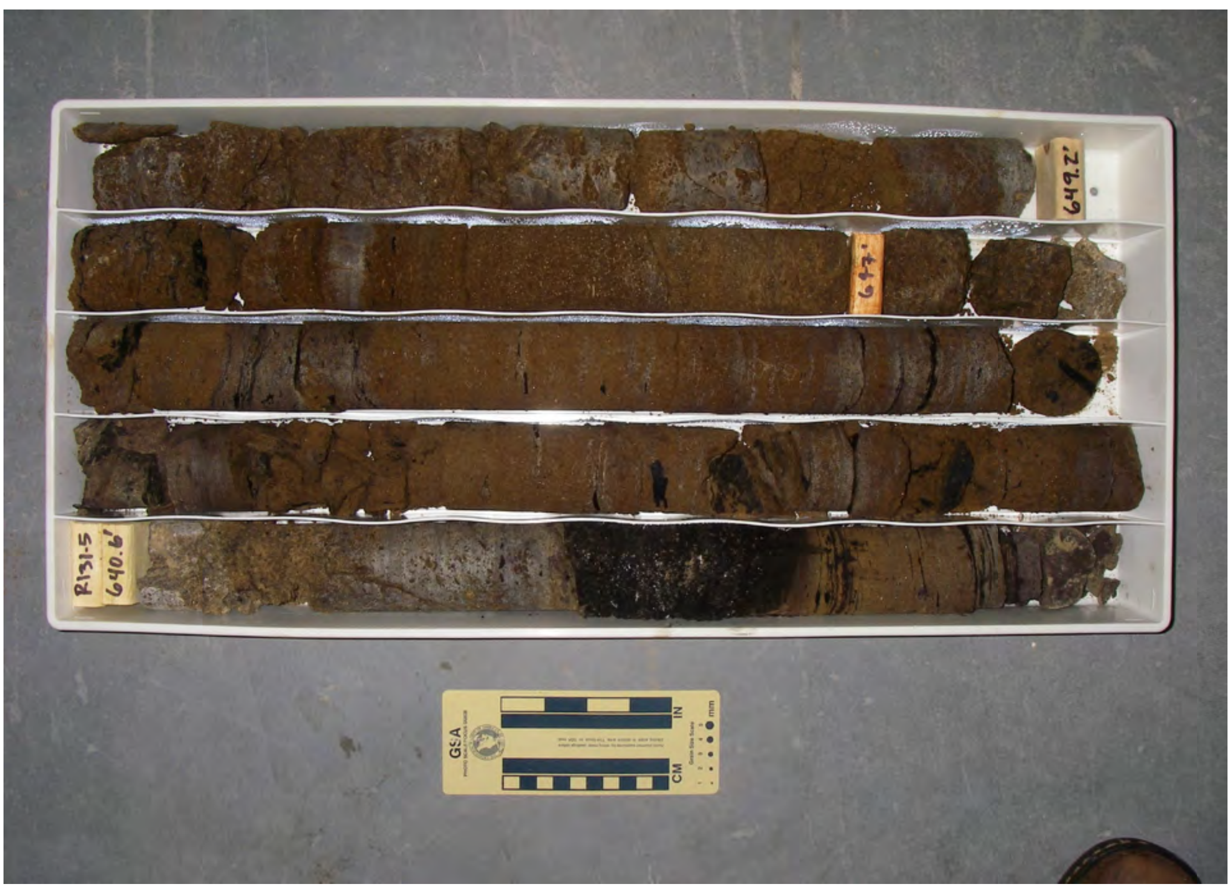

586.5'
577'
R131.5
574.1'
GSA
IN
CM
mm

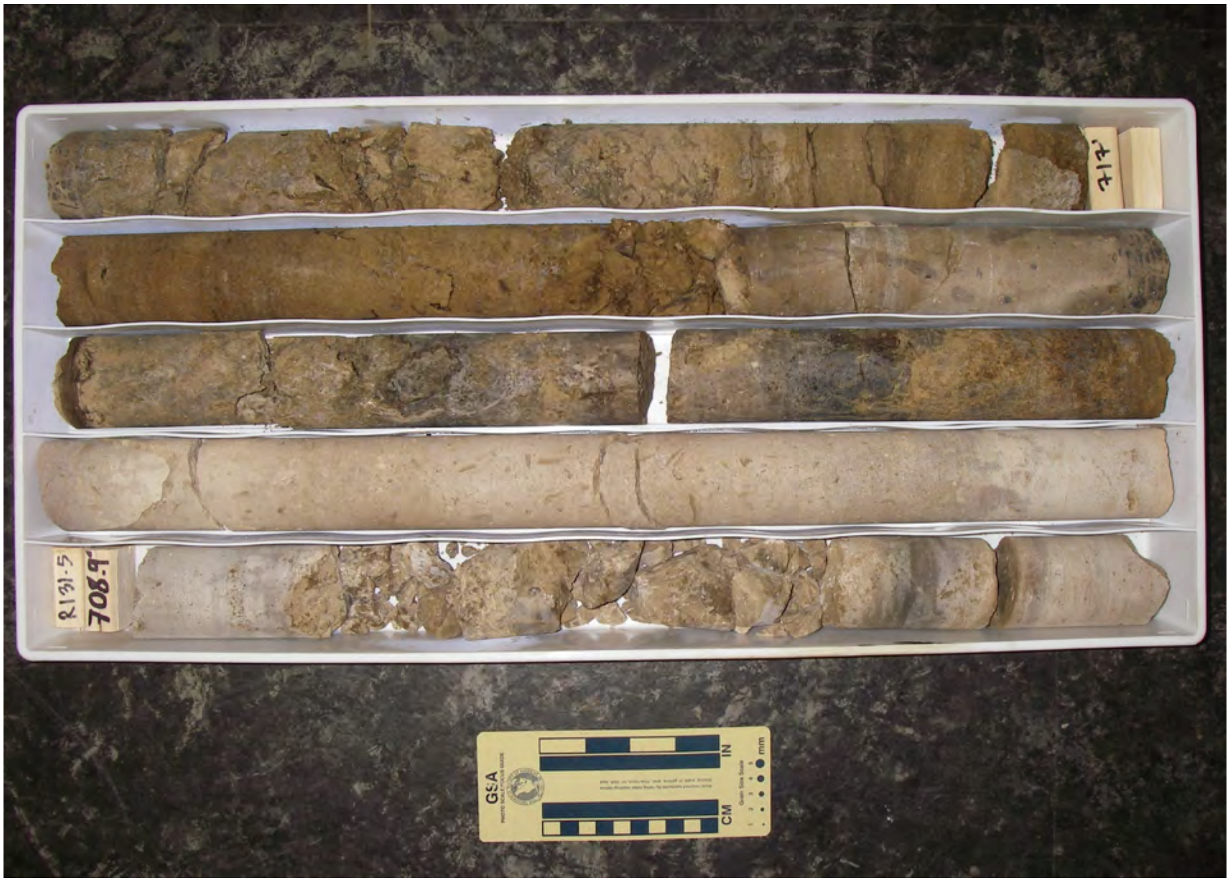

617'
618.4
R131.5
607.4'
GSA
IN
CM
mm


607'
607.4'
R131.5
597.2'
GSA
IN
CM
mm

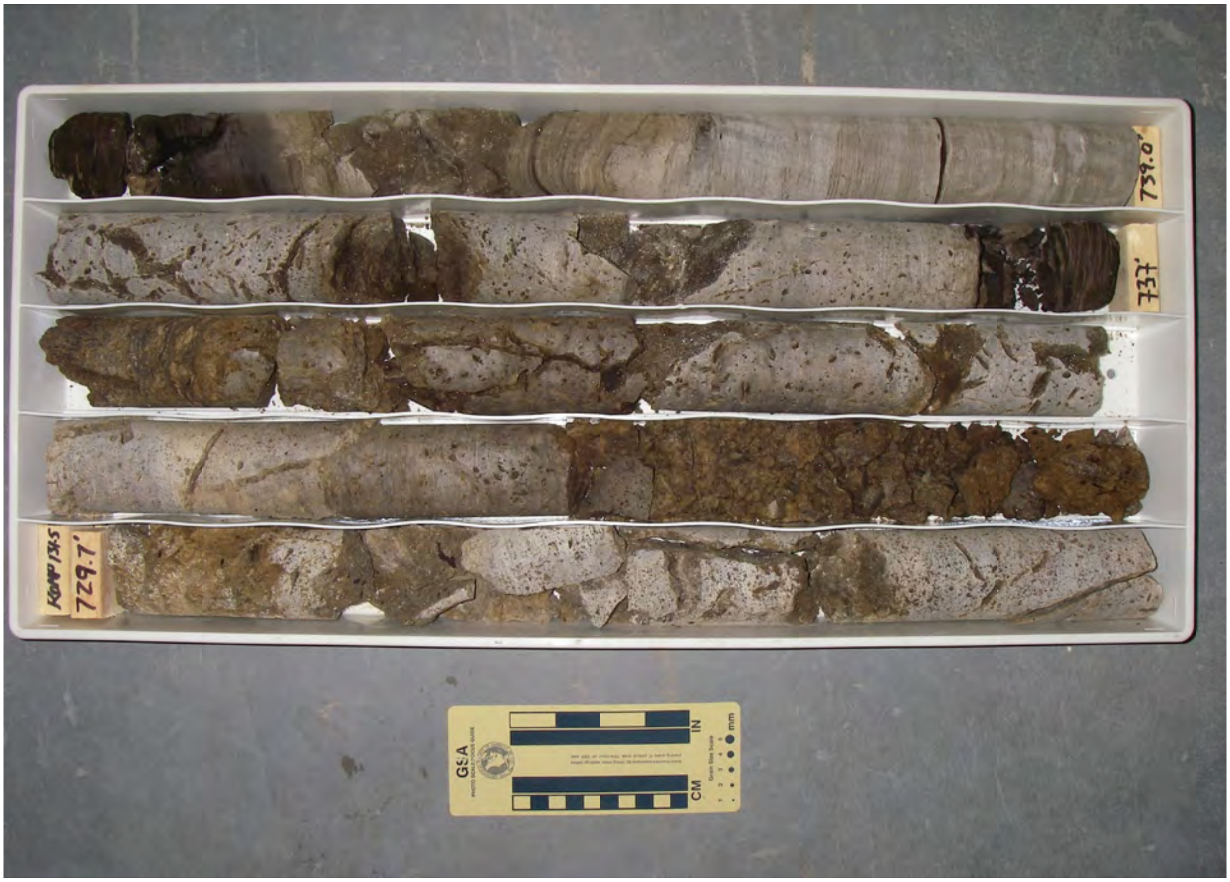



657'
658.1'
R131-5
649.2'
GSA
IN
CM

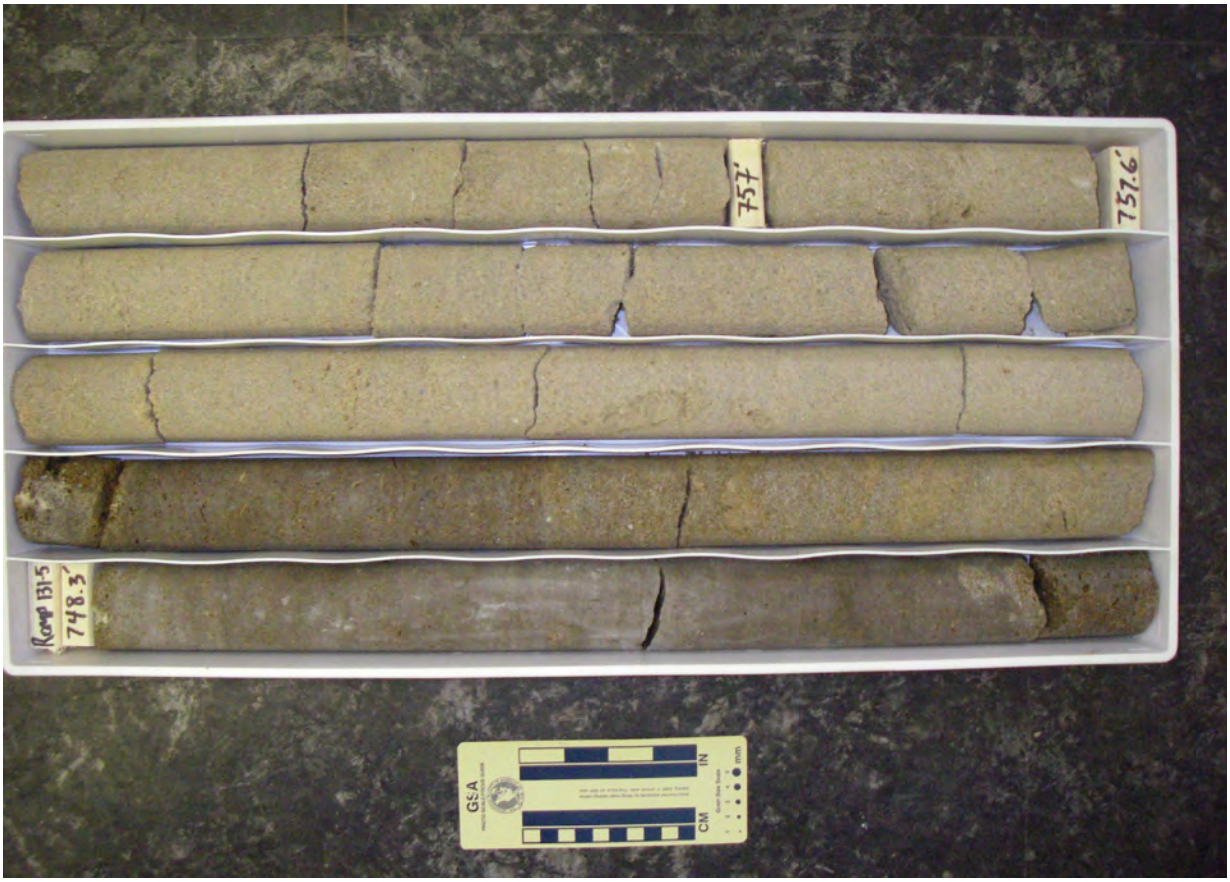

649.2'
647'
R131-5
640.6'
GSA
IN
CM

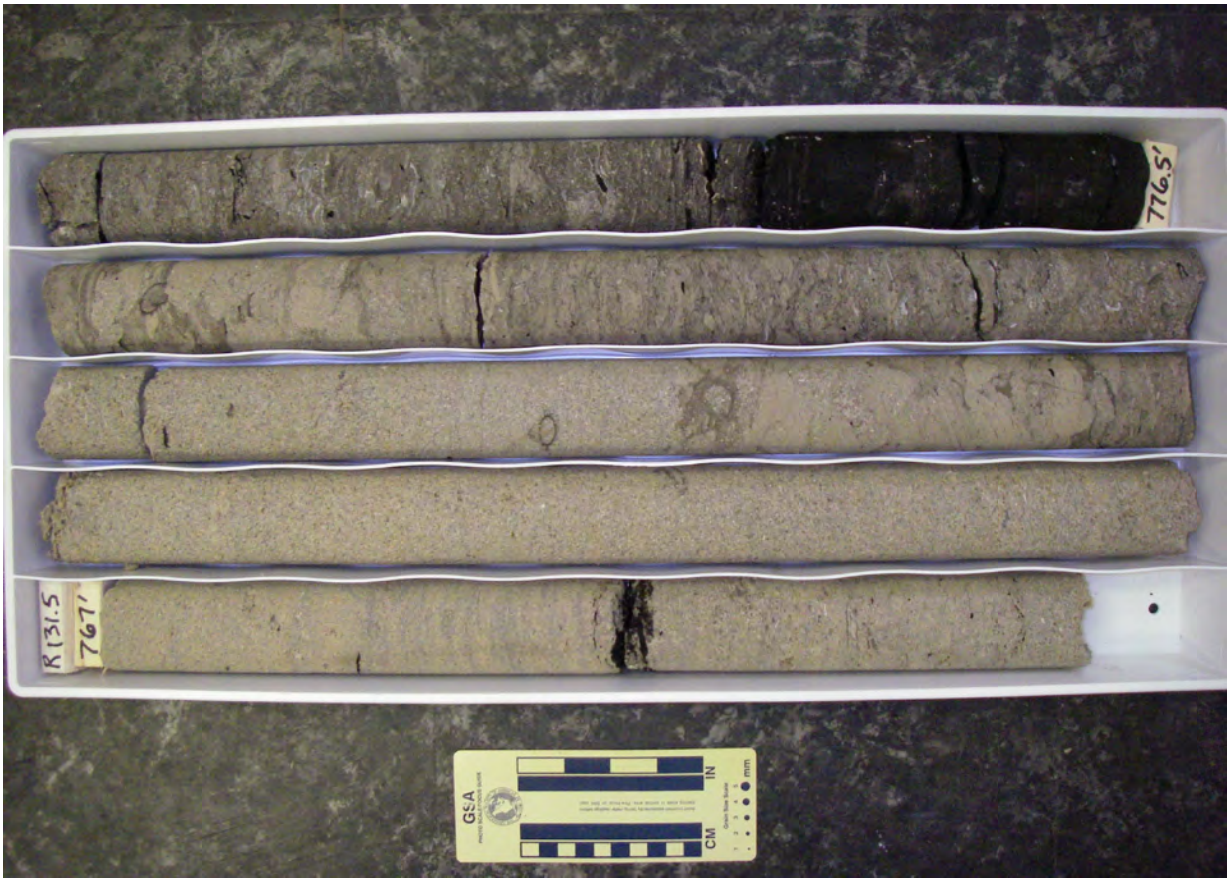

717'
R131.5
708.9'
GSA
IN
CM
mm


708.9'
R131.5
699.4'
GSA
IN
CM
mm


739.0'
737'
729.7'


729.7'
727'
R131.5
717'




776.5'
R 131.5
767'
GSA
IN
CM


767'
Romp 131.5
757.6'
GSA
IN
CM


795.8'
R131.5
786.4'
787'
GSA
IN
CM

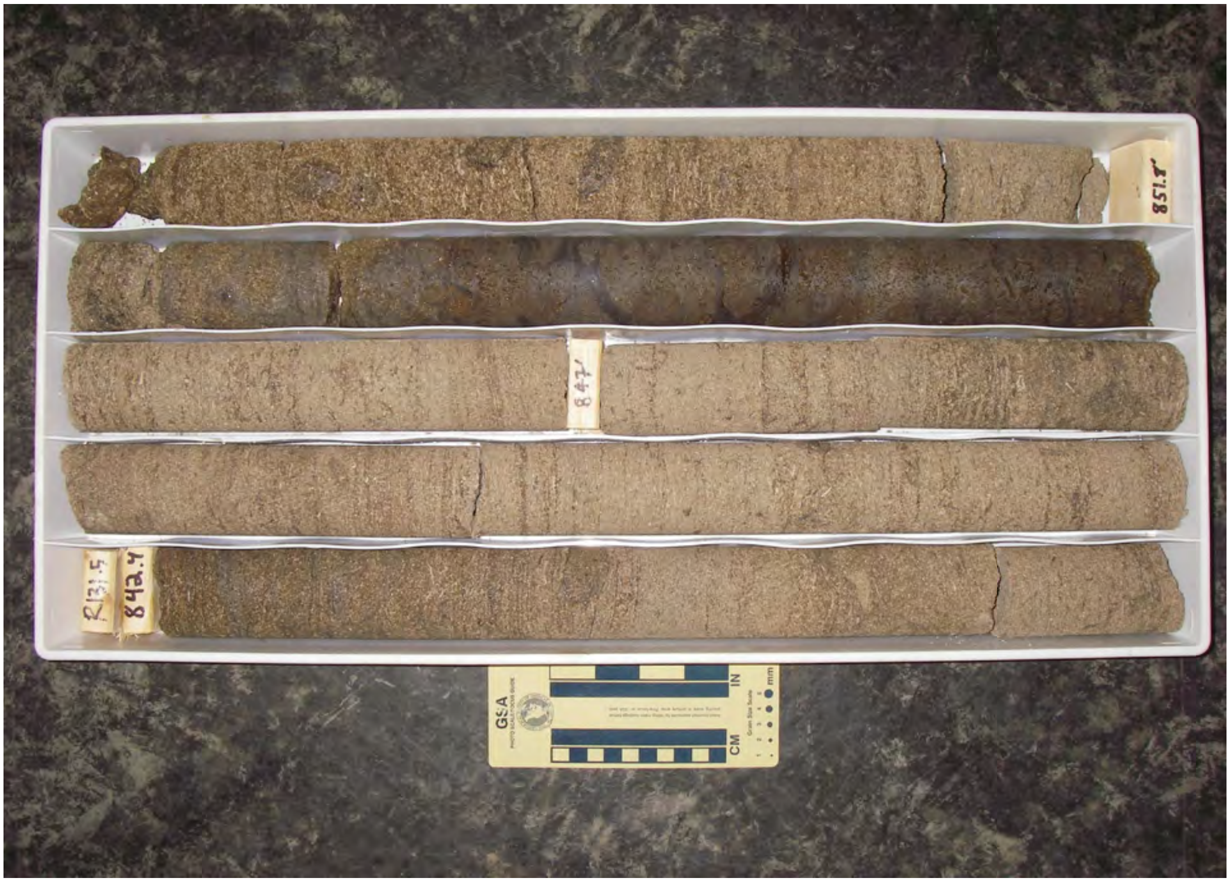

786.4'
R131.5
776.5'
777'
GSA
IN
CM


815'
R 131.5
805.5'
807'
GSA
IN
CM

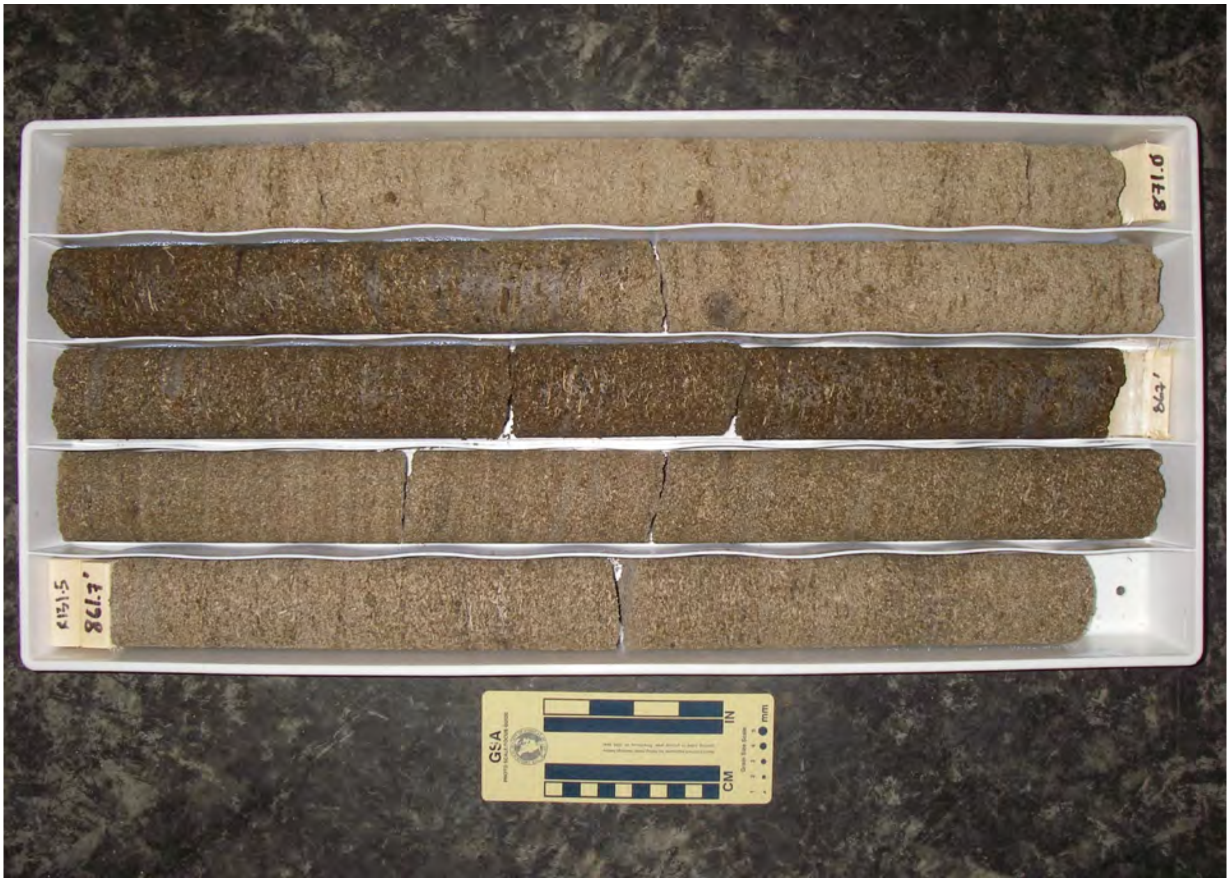

805.5'
R131.5
795.8'
797'
GSA
IN
CM


833.4'
827'
R 131.5
824.3'
GSA
CM
IN
mm

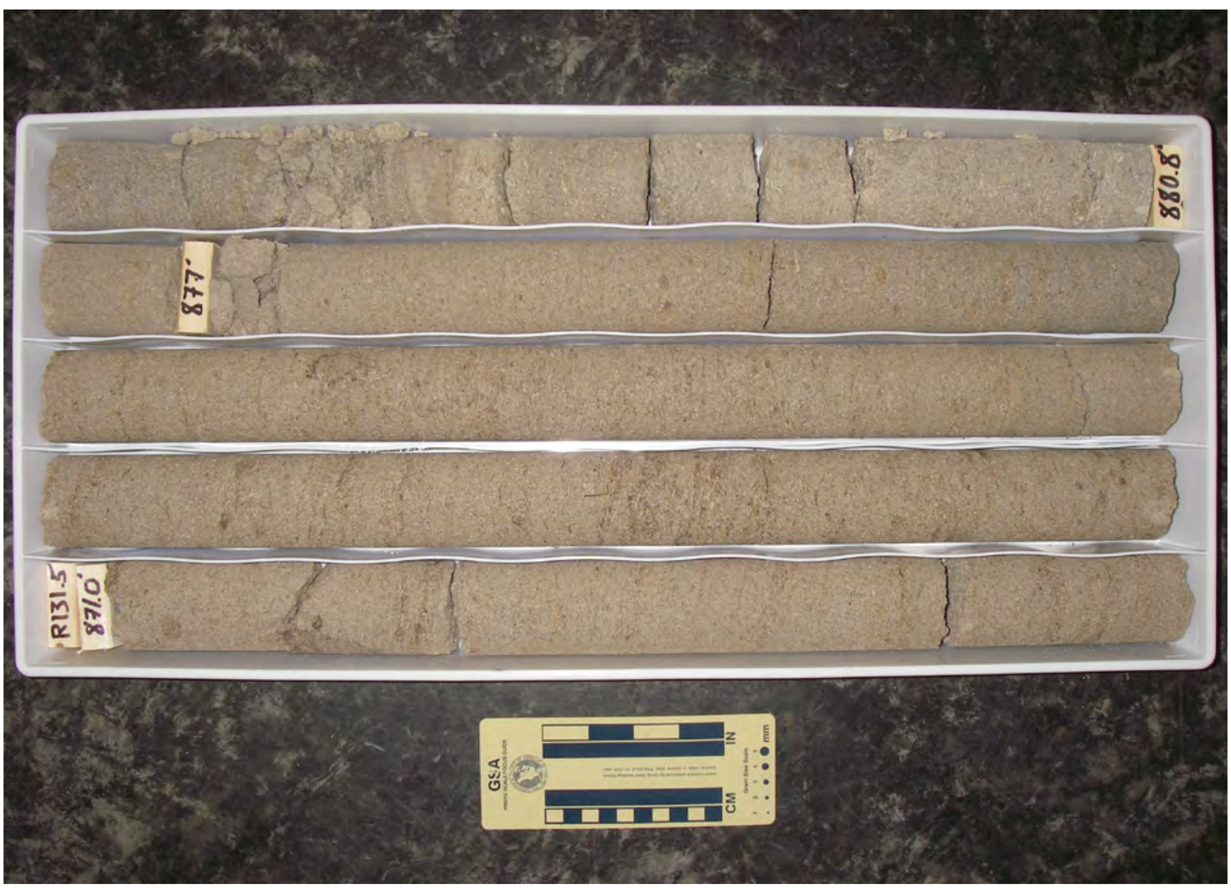

824.3
817'
R 131.5
815'
GSA
CM
IN
mm


851.5'
847'
R131.5
842.4'
GSA
IN
CM


842.4'
R131.5
833.4'
GSA
IN
CM

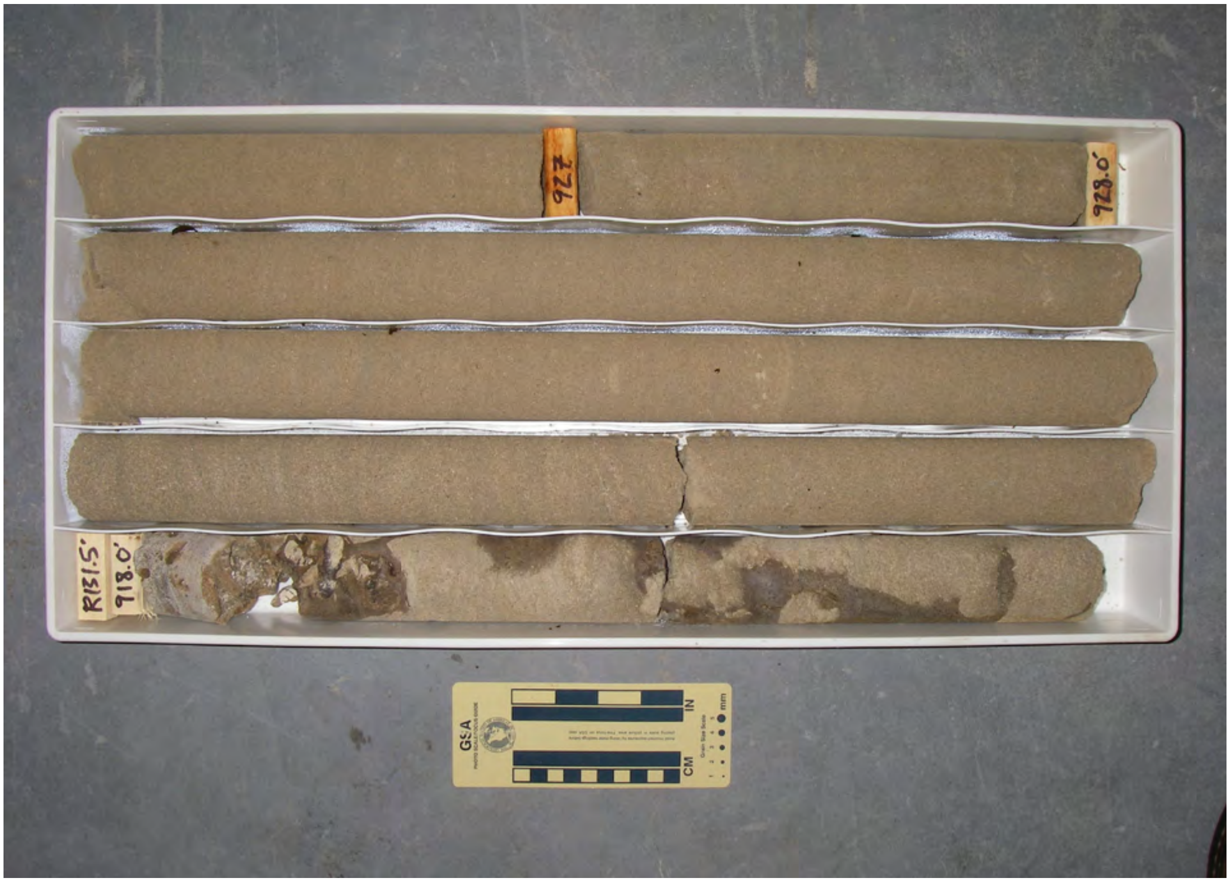


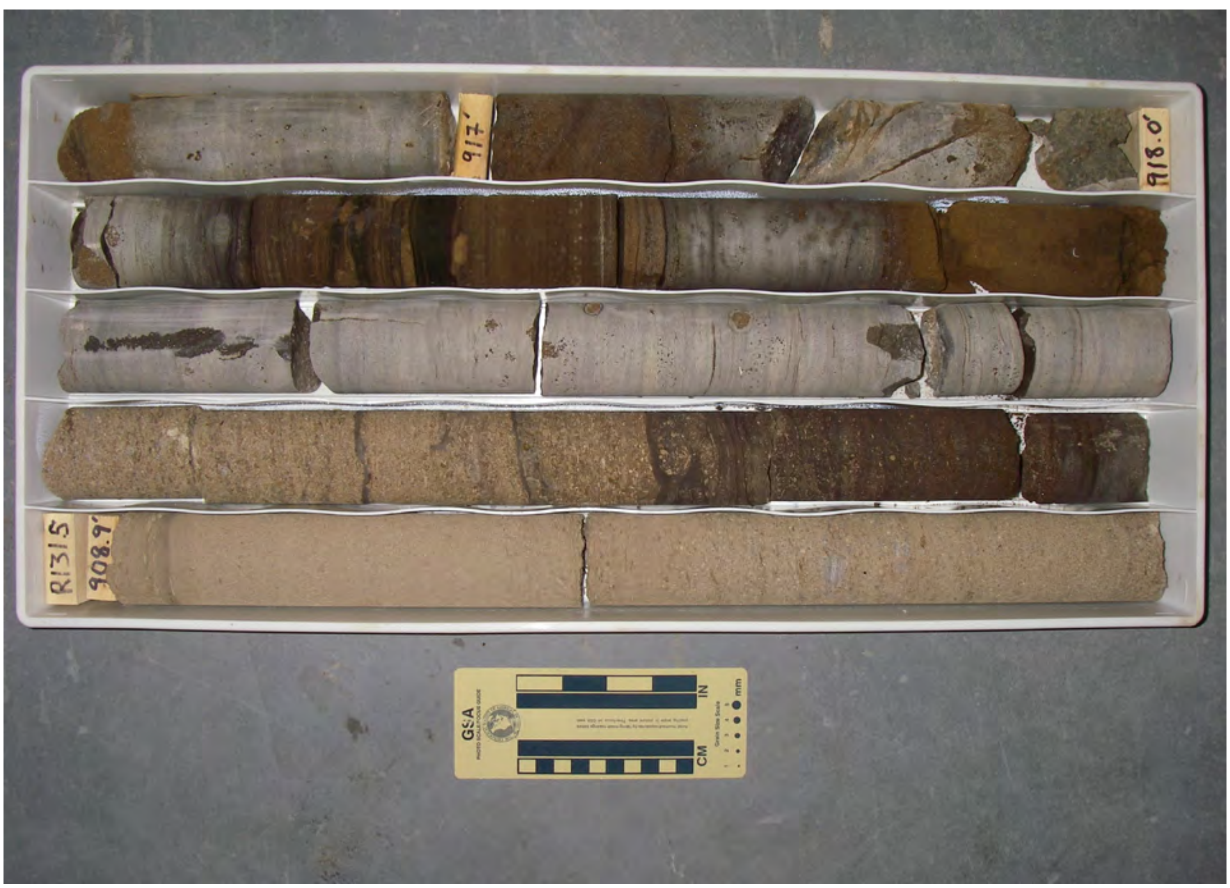

889.8'
887'
R131.5
880.8'
GSA
IN
CM


880.8'
877'
R131.5
871.0'
GSA
IN
CM

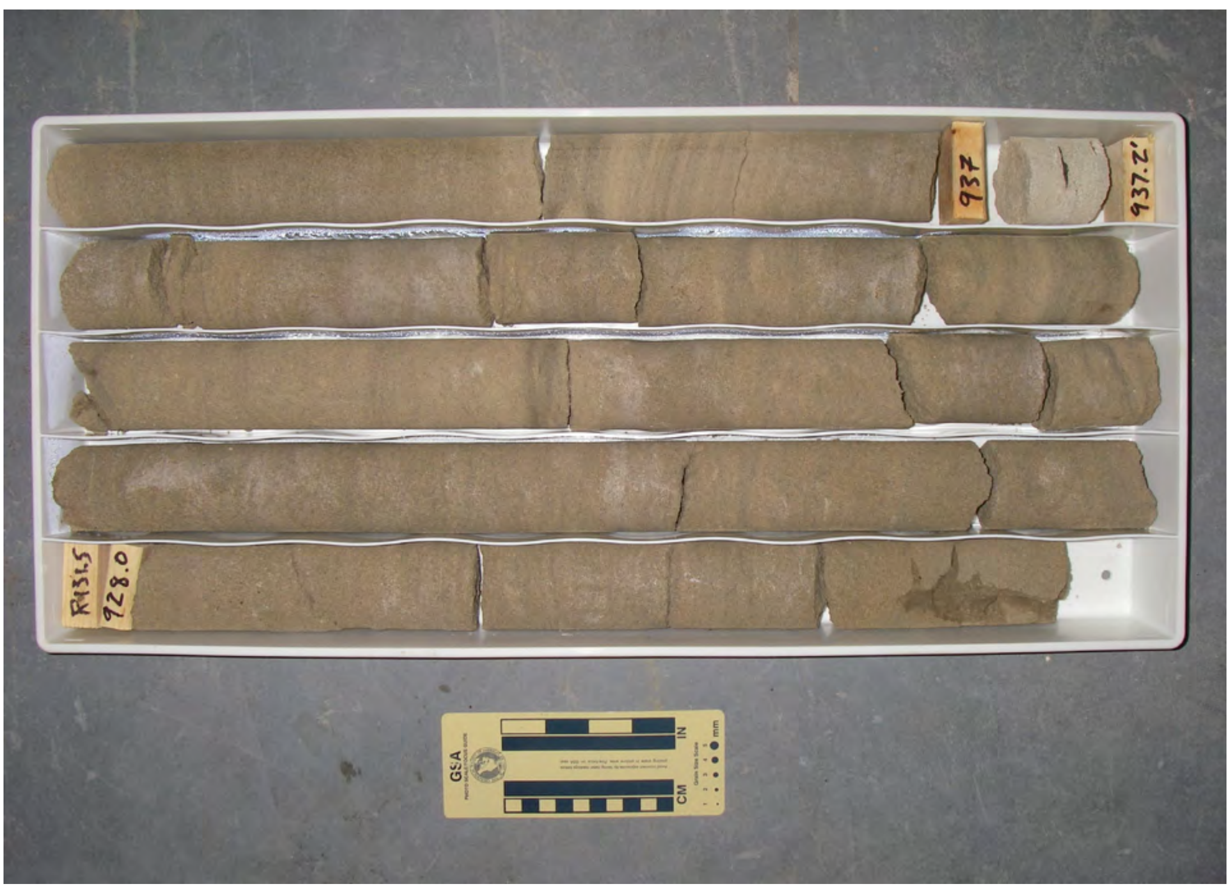

908.9'
907'
R131.5
899.3'
GSA
IN
CM


899.3'
897'
R131.5
889.8'
GSA
IN
CM


927
928.0'
R131.5'
918.0'
GSA
IN
CM
mm

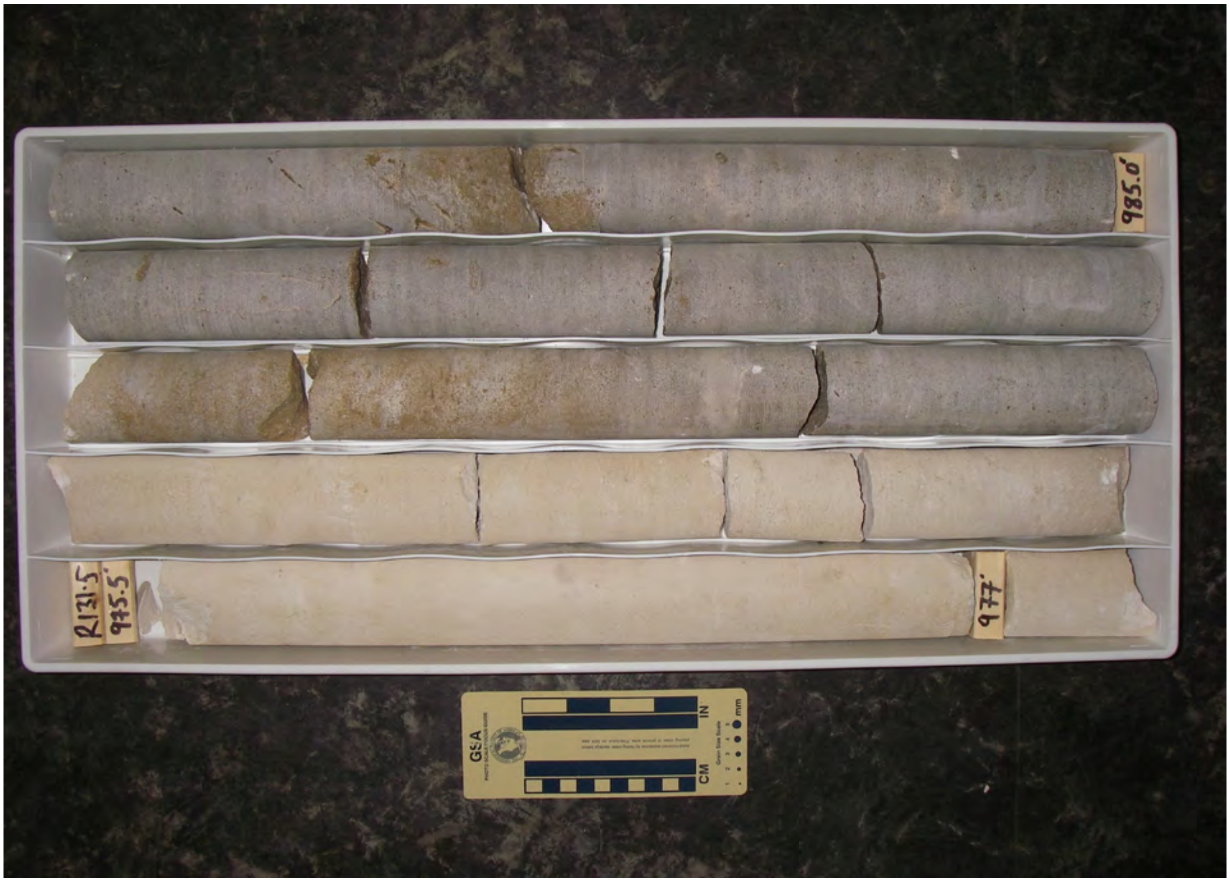

917'
918.0'
R131.5
908.9'
GSA
IN
CM
mm

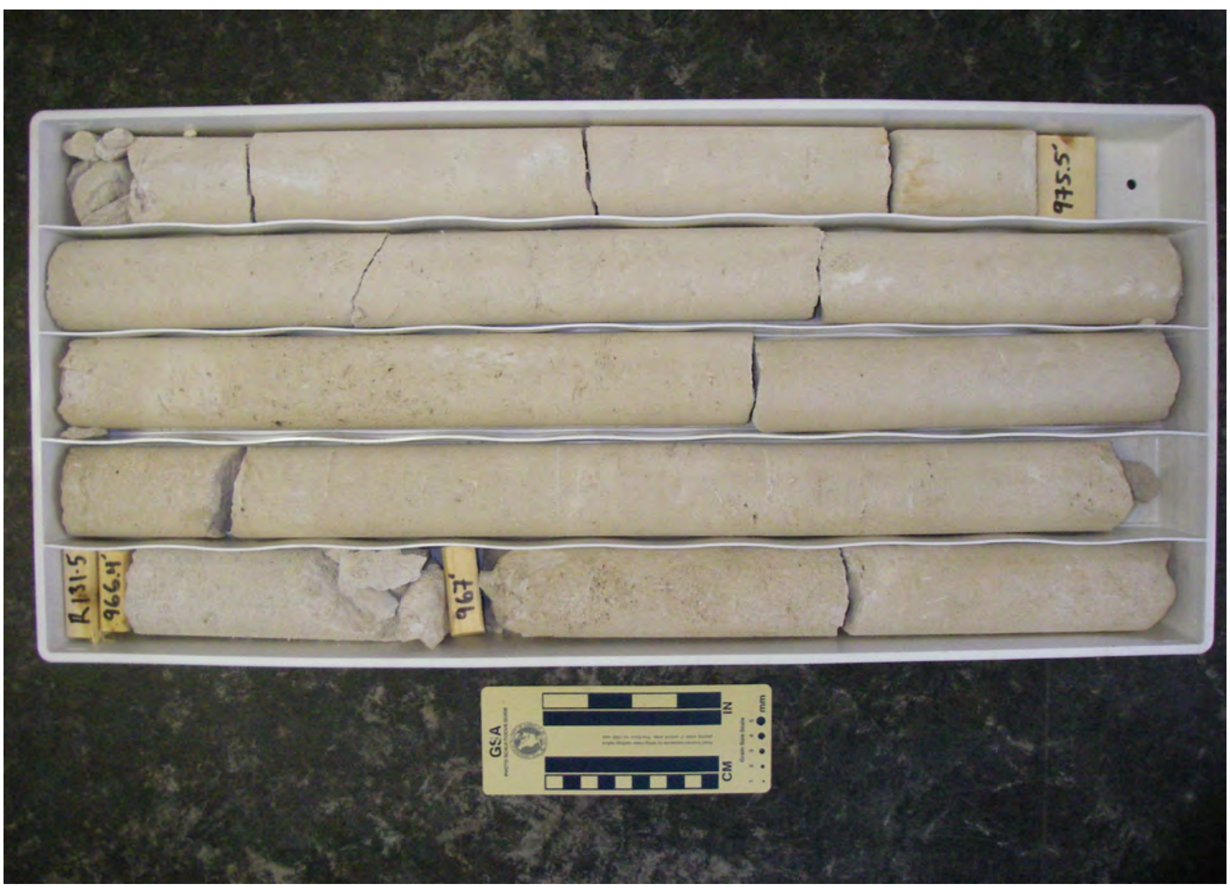

946.6'
R131.5
937.2'
GSA
IN
CM
mm


937
937.2'
R131.5
928.0
GSA
IN
CM
mm


966.4'
R131.5
957.0'
GSA
IN
CM
mm


957'
957'
R131.5
946.6'
947
GSA
IN
CM
mm


985.0'
R131-5
975.5'
977'
GSA
IN
CM


975.5'
R131-5
966.4'
967'
GSA
IN
CM


1003.7'
997'
R131-5
994.5'
GSA
IN
CM

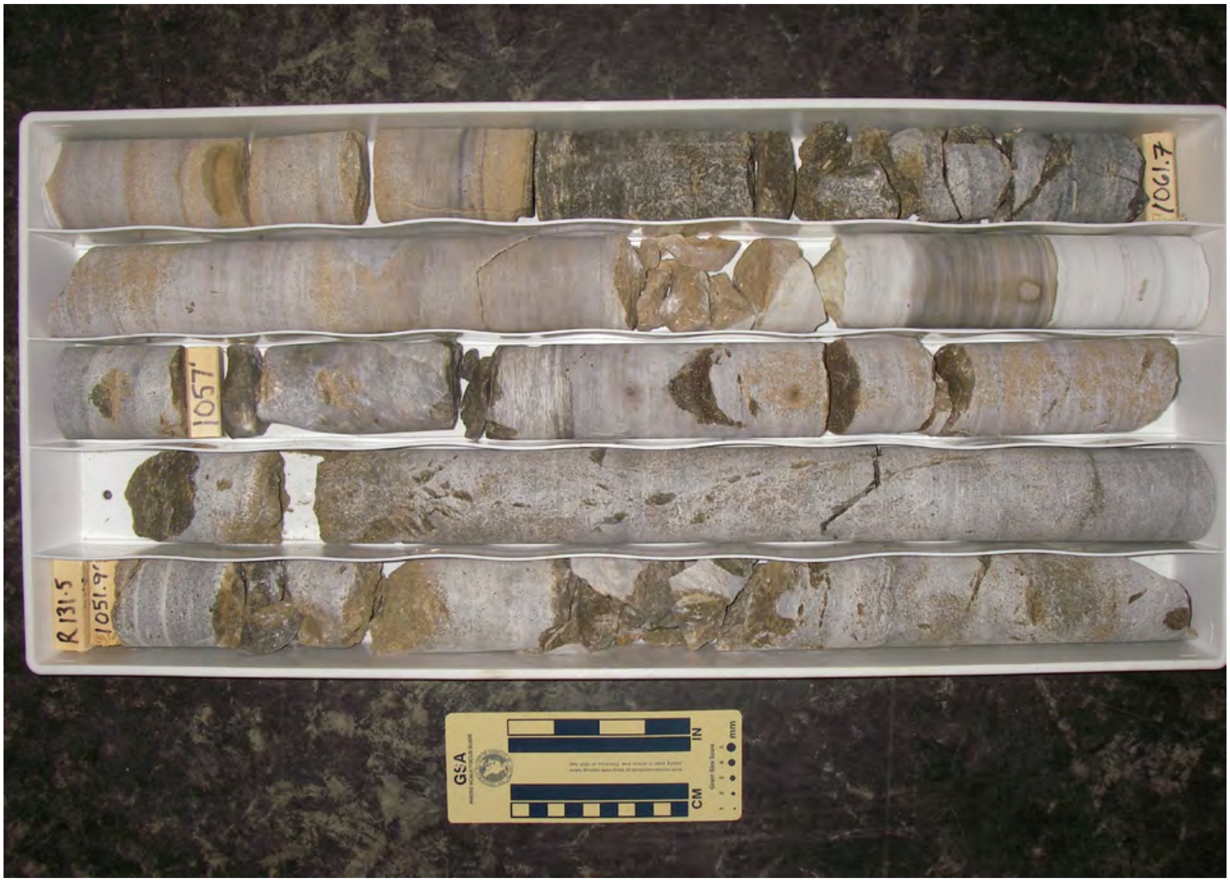

994.5'
R131-5
985.0'
GSA
IN
CM

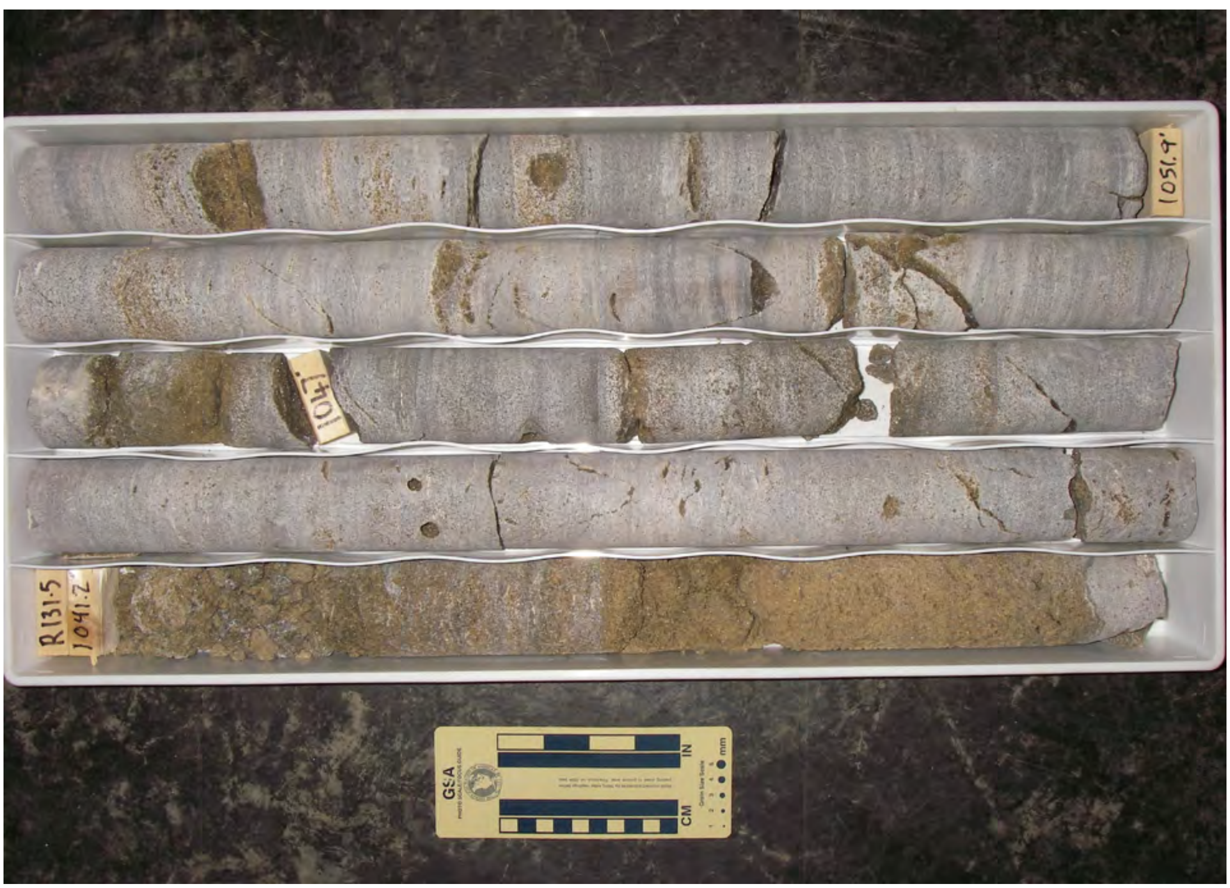

1022.8'
1017'
R 131-5
1013.4'
GSA
IN
CM

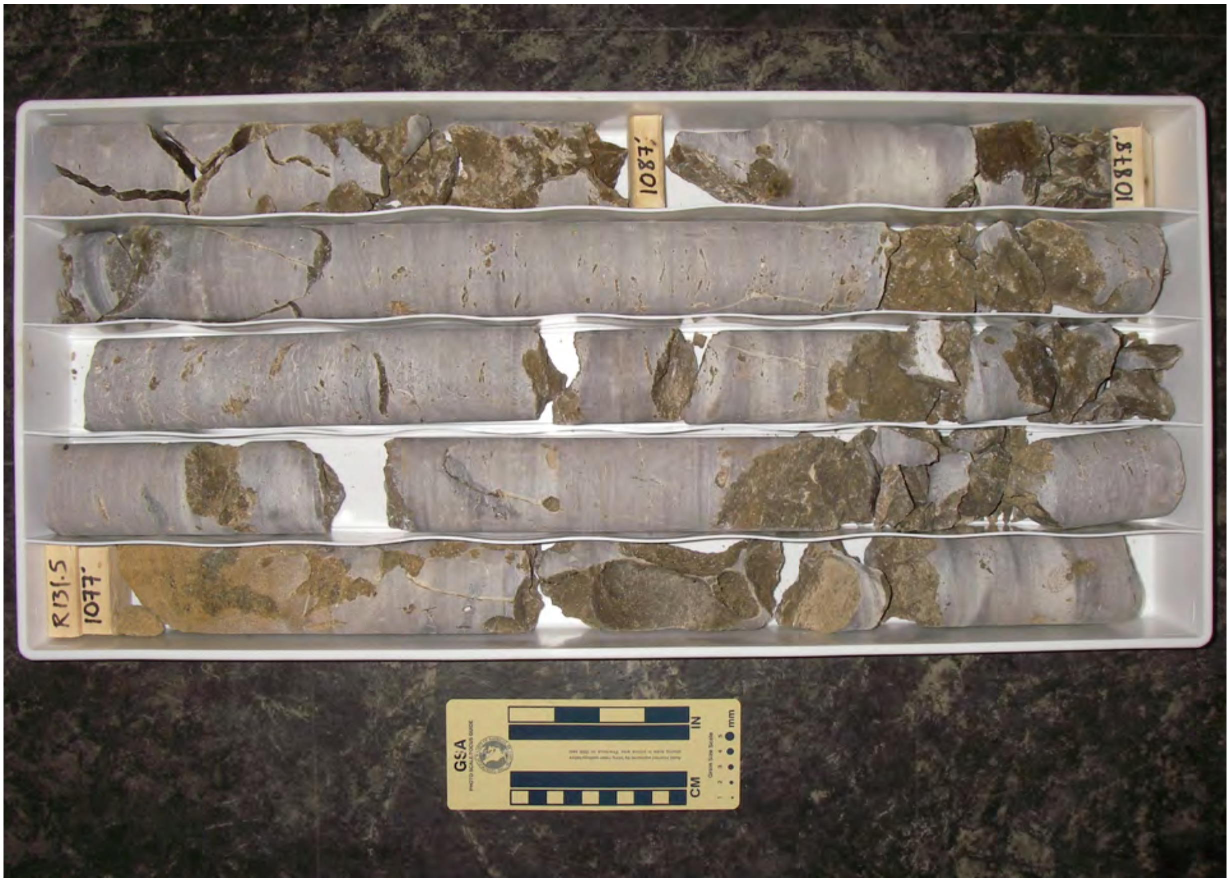

1013.4'
1007'
R131-5
1003.7'
GSA
IN
CM


1041.2'
1037'
R 131.5
1031.9'
GSA
IN
CM


1031.9'
1027'
R 131.5
1022.8'
GSA
IN
CM


1061.7
1057'
R131-5
1051.9'
GSA
IN
CM


1051.9'
1047'
R131-5
1041.2
GSA
IN
CM

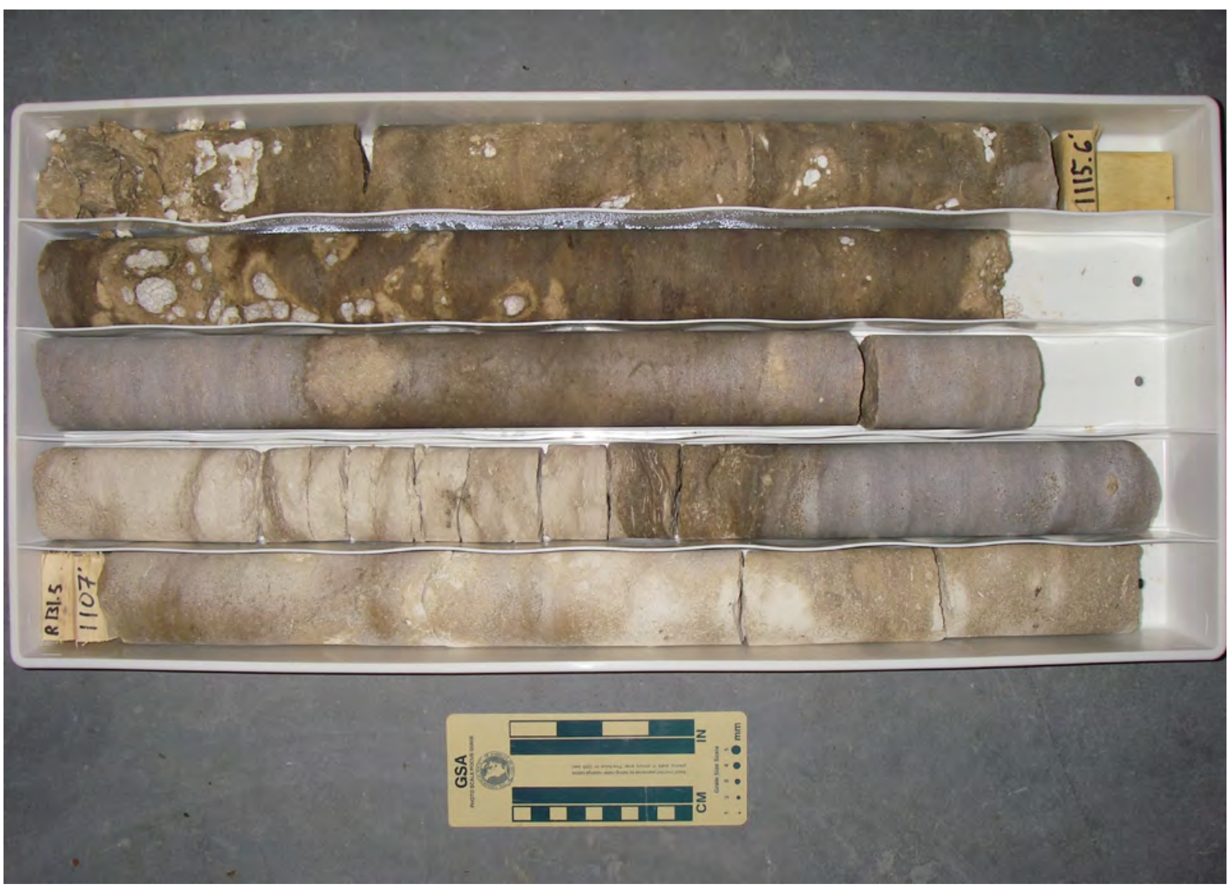

1087'
1087.8'
R131.5
1077'
IN
CM
GSA


1077'
1067'
R131.5
1061.7
IN
CM
GSA


1107'
R 131.5
1097.4'
GSA
IN
CM


1097'
1097.4'
R131.5
1087.8
GSA
IN
CM


1126.2'
R131.5
1115.6'
1117'
GSA
IN
CM
mm


1115.6'
R131.5
1107'
GSA
IN
CM
mm


1163.3'
1157'
R131.5
1153.5'
GSA
IN
CM


1153.5
1147'
R131.5
1144.4'
GSA
IN
CM


1182.4'
1177'
R131.5
1173.0'

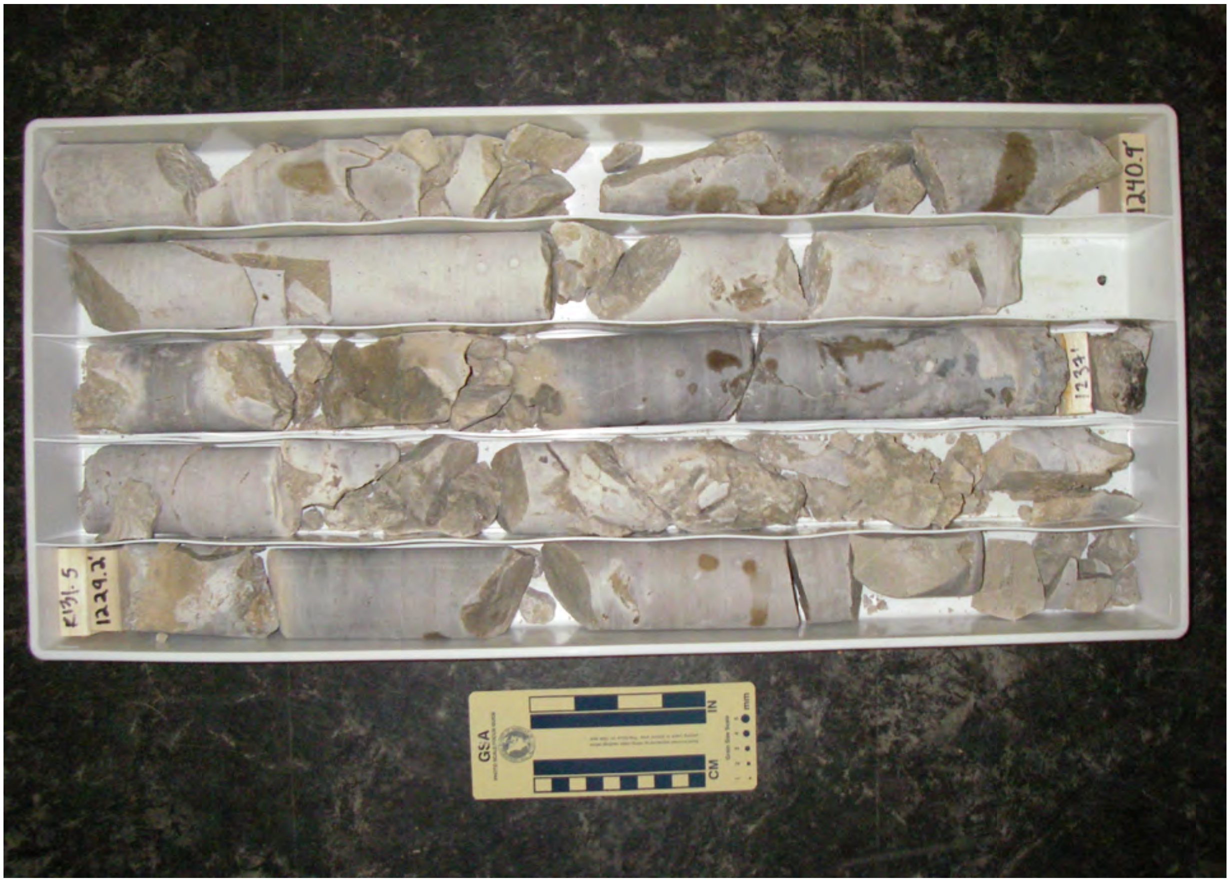

1173.0
1167'
R131.5
1163.3'


1200.4'
1197'
R131.5
1191.7'
GSA
IN
CM
mm


1191.7'
1187'
R131-5
1182.4'
GSA
IN
CM
mm


1217'
1218.6
R131.5
1209.6'
GSA
IN
CM

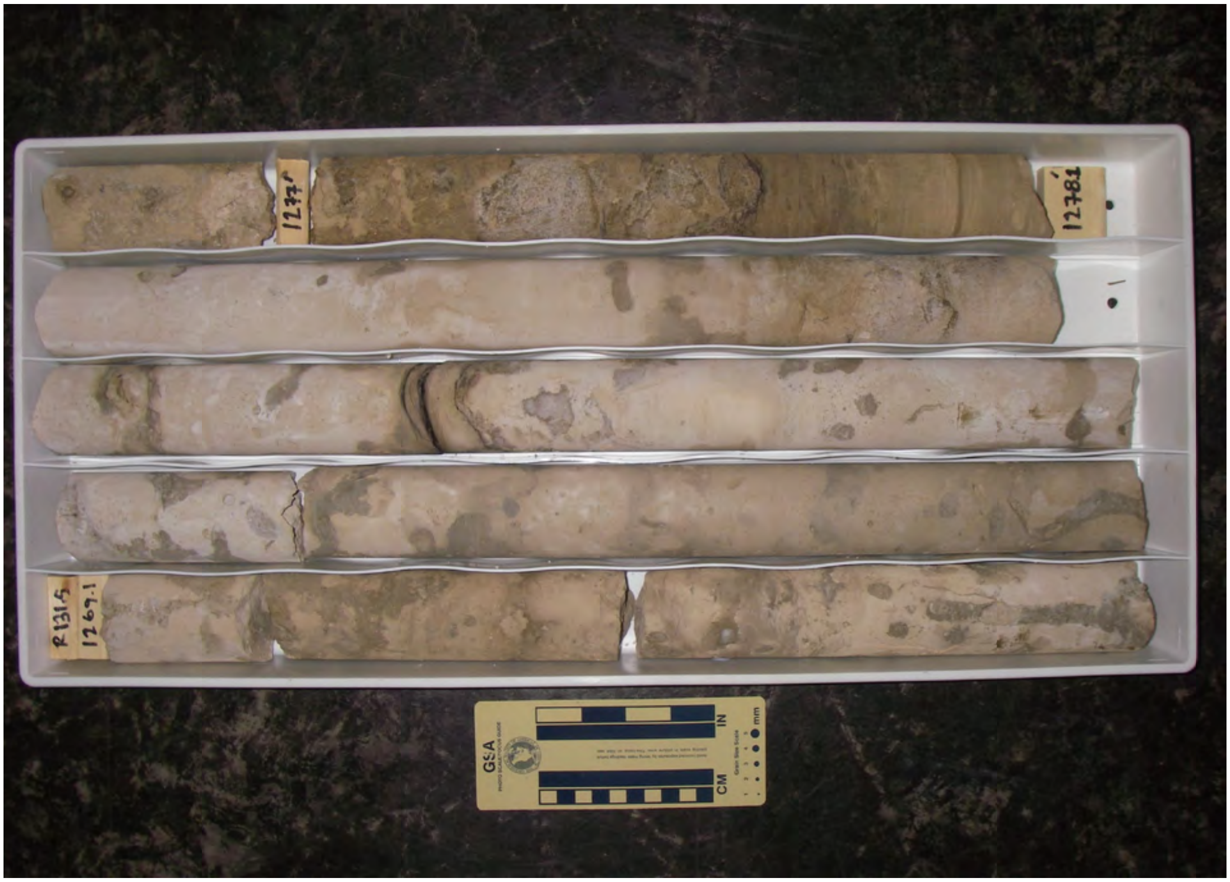

1209.6'
1207'
R131.5
1200.4'
GSA
IN
CM


1240.9'
1237'
R131.5
1229.2'
GSA
IN
CM

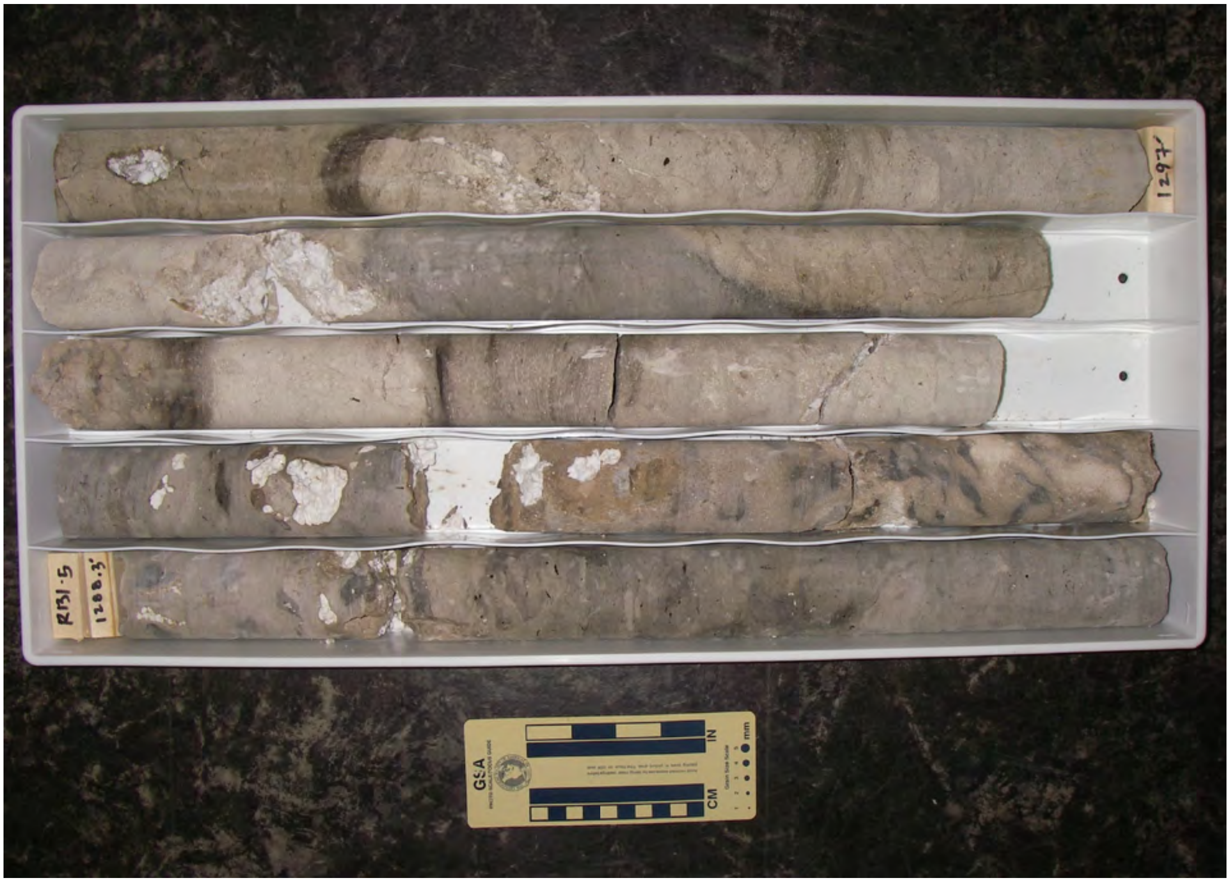

1227'
1229.2'
R131.5
1218.6'
GSA
IN
CM


1260.5
1257
R131.5
1250.9'
GSA
IN
CM
mm


1250.4'
1247'
R131.5
1240.9'
GSA
IN
CM
mm


1277'
1278'
R131.5
1269.1
GSA
IN
CM
mm


1269.1
1267'
R131.5
1260.5'
GSA
IN
CM
mm


1297'
R131-5
1288.3'
GSA
IN
CM


1288.3'
R131.5'
1278.2'
GSA
IN
CM


1315.4'
R131.5
1306.6'
1307'
GSA
IN
CM
mm

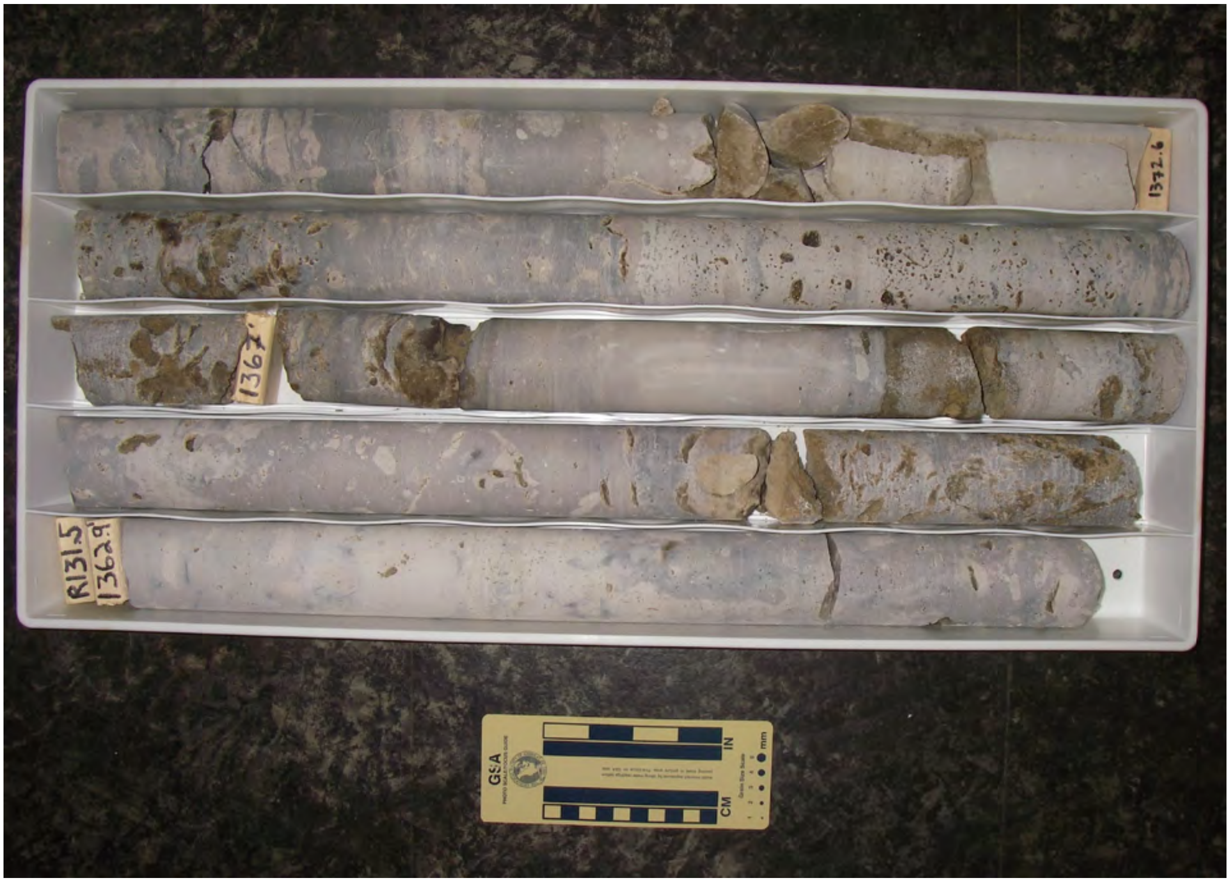

1306.6'
R131.5
1297'
GSA
IN
CM
mm


1334.8'
1327'
R131-5
1324.7'
GSA
IN
CM

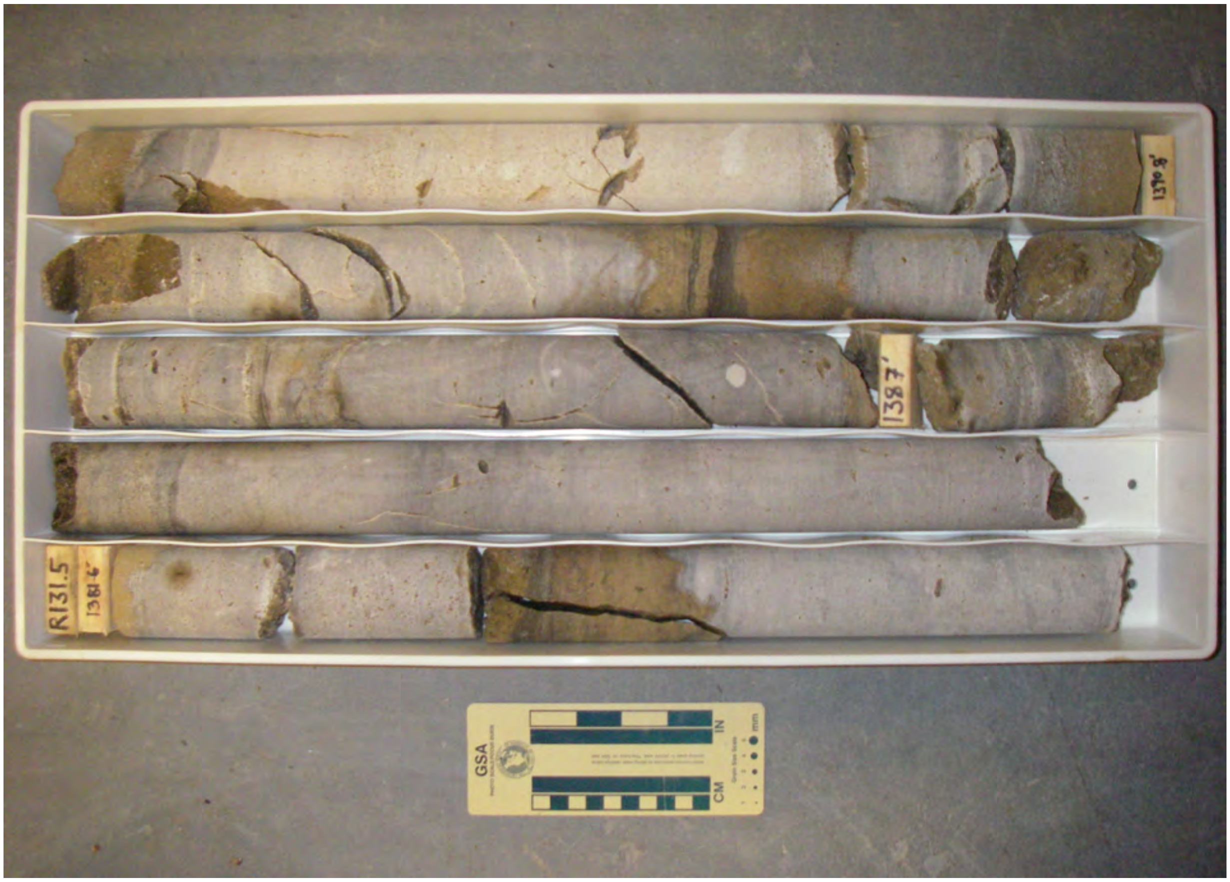

1324.7'
R131.5
1315.4'
1317'
GSA
IN
CM


1353.8'
1347'
R131.5
1344.2
GSA
IN
CM


1344.2'
1337'
R131.5
1334.8'
GSA
IN
CM


R131.5
1362.9'
1367'
1372.6
GSA
IN
CM


R131.5
1353.8
1357'
1362.9'
GSA
IN
CM


1387'
R131.5
1381.6'
GSA
IN
CM


1381.6'
1377'
R131.5
1372.6
GSA
IN
CM


1410.8'
1407'
R131-5
1402'
GSA
IN
CM
mm

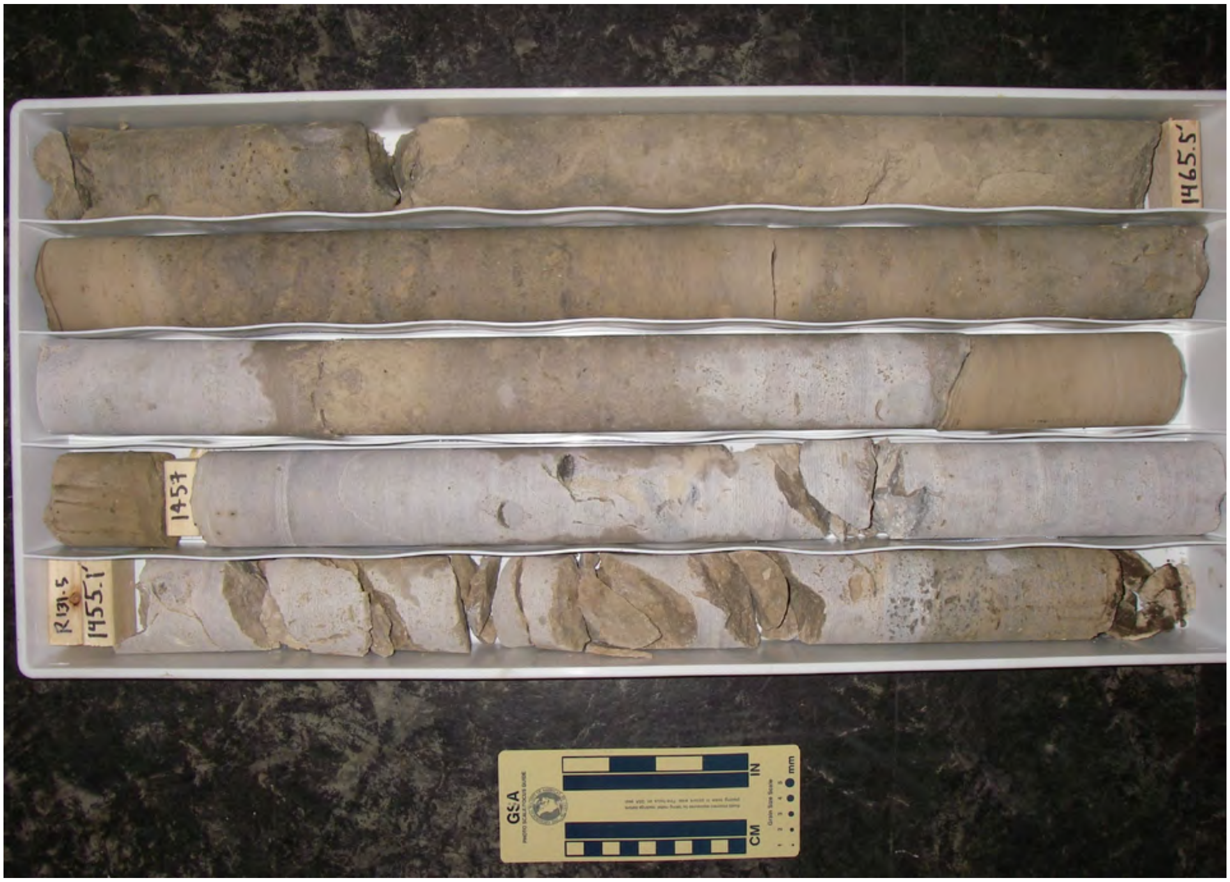

1402'
1397'
R131-5
1390.8'
GSA
IN
CM
mm


1427'
1428.1'
R131.5
1419.4'
GSA
IN
CM

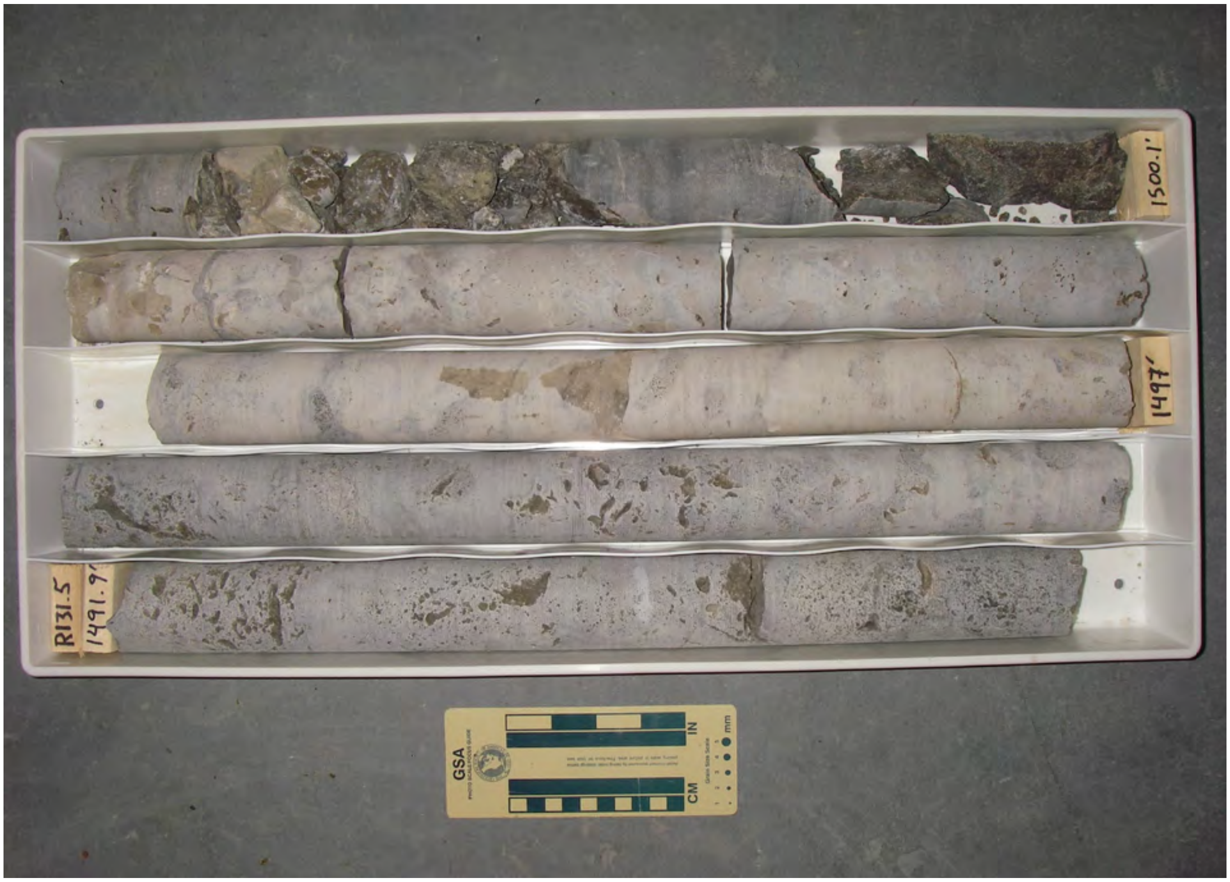

1419.4'
1417'
R131-5
1410.8'
GSA
IN
CM


1446.5'
R131-5
1437.4'
GSA
IN
CM

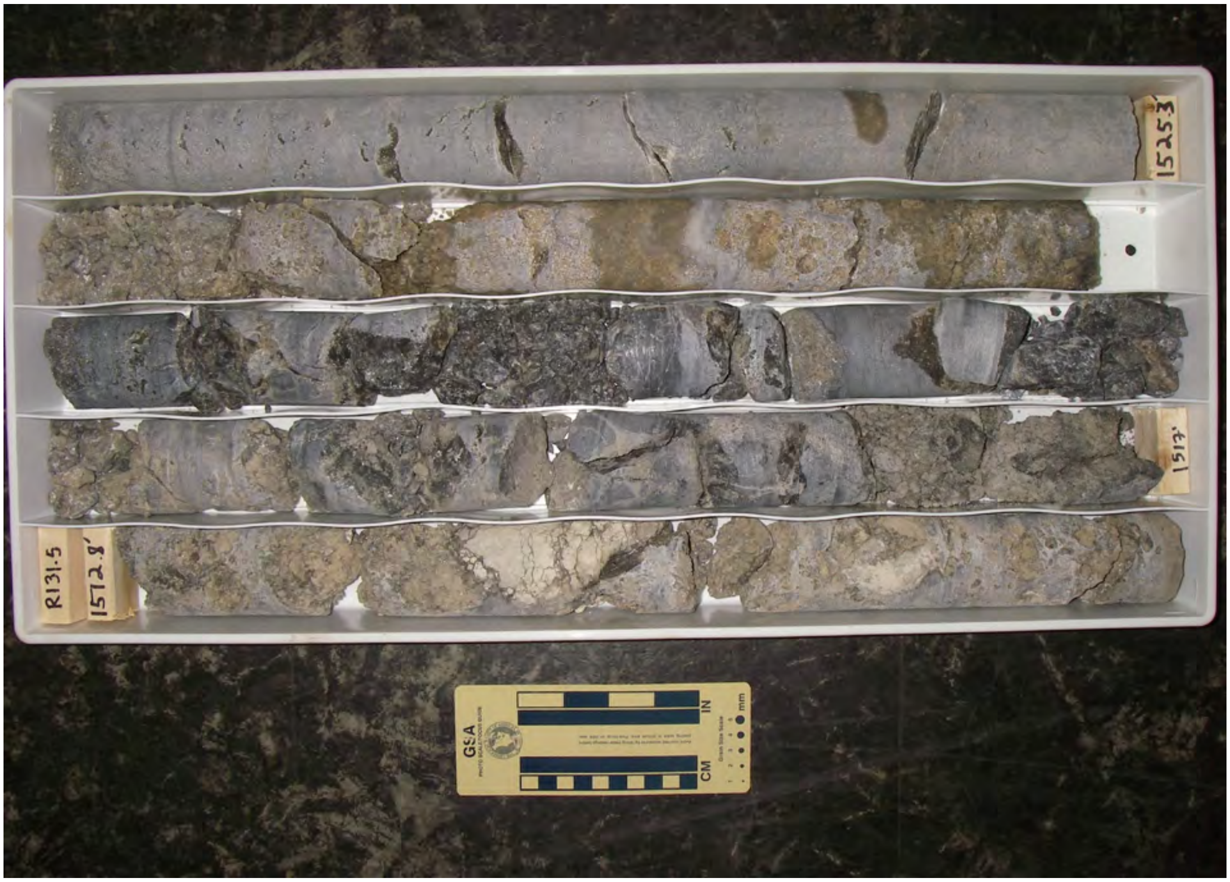

1437'
1437.4'
R131-5
1428.1'
GSA
IN
CM

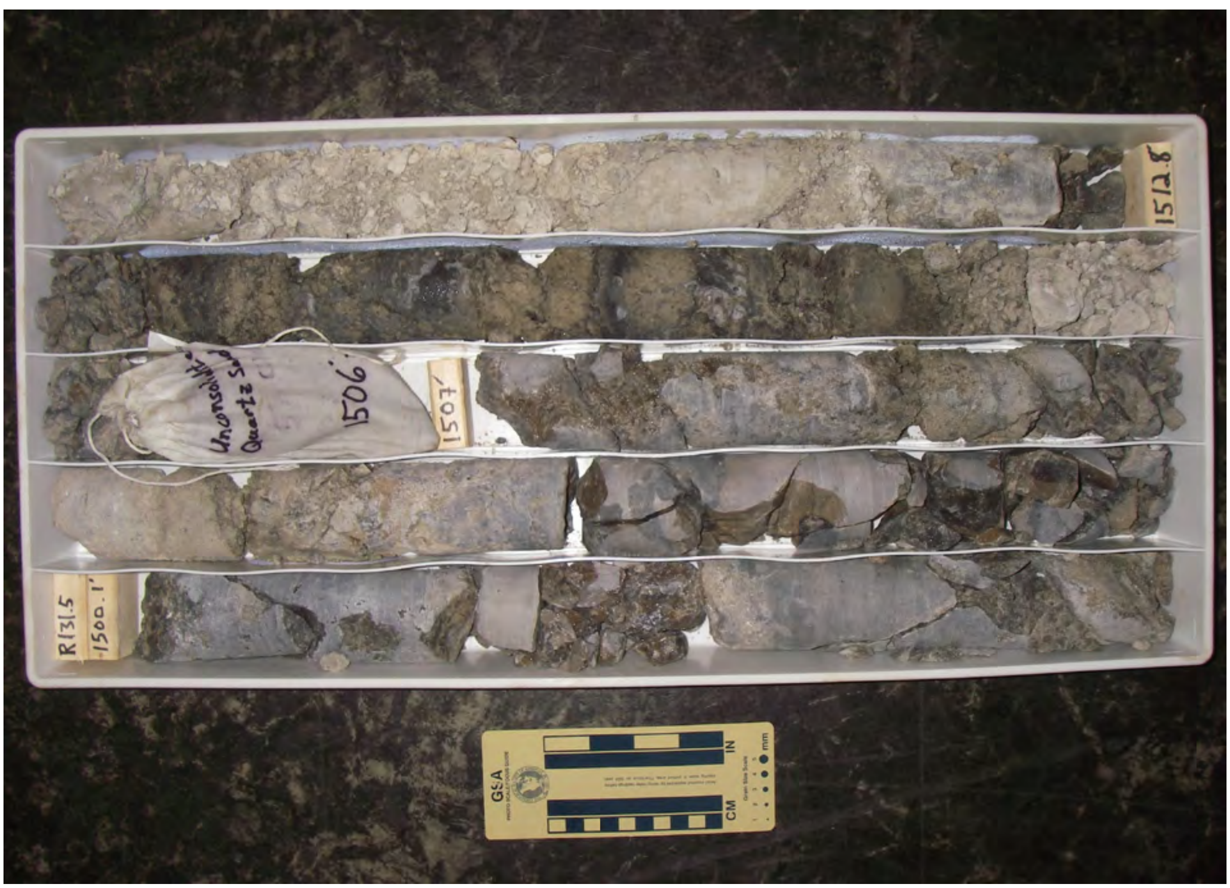

1465.5'
1457
R131.5
1455.1'
GSA
IN
CM

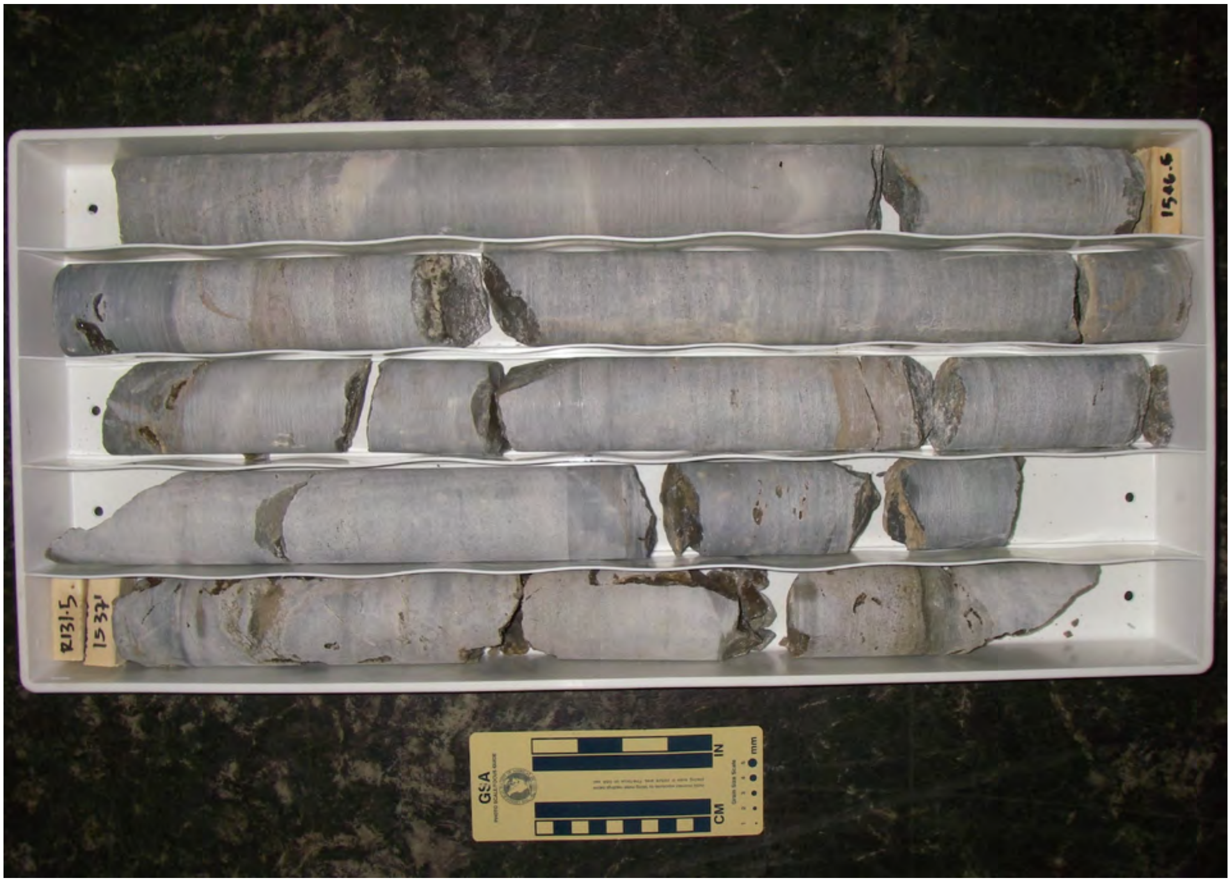

1455.1'
R131.5
1446.5'
1447'
GSA
IN
CM


1500.1'
1497'
R131.5
1491.9'
GSA
IN
CM


1491.9'
1487'
R131.5
1482.5'
GSA
IN
CM

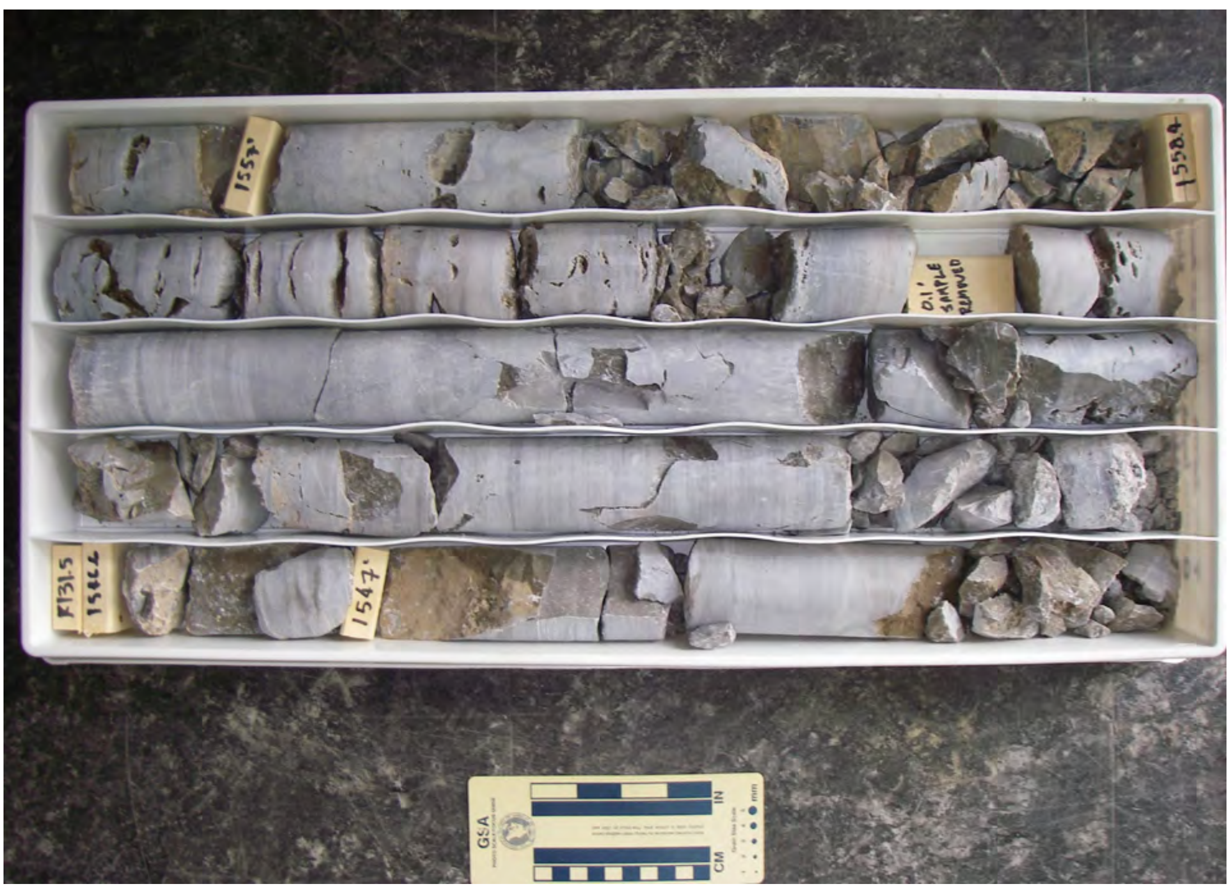

1525.3
1517'
R131.5
1512.8'
IN
CM


1512.8
Unconsolidated Quartz Sa
1506'
1507'
R131.5
1500.1'
IN
CM


1516.6
R131.5
1537'


1537'
R131.5
1525.3
1527'


1569.1'
1567'
R131.5
1558.4
GSA
IN
CM


1558.4
0.1' SAMPLE REMOVED
R131.5
1547'
GSA
IN
CM


1589.9'
R131.5
1578.4'
GSA
IN
CM

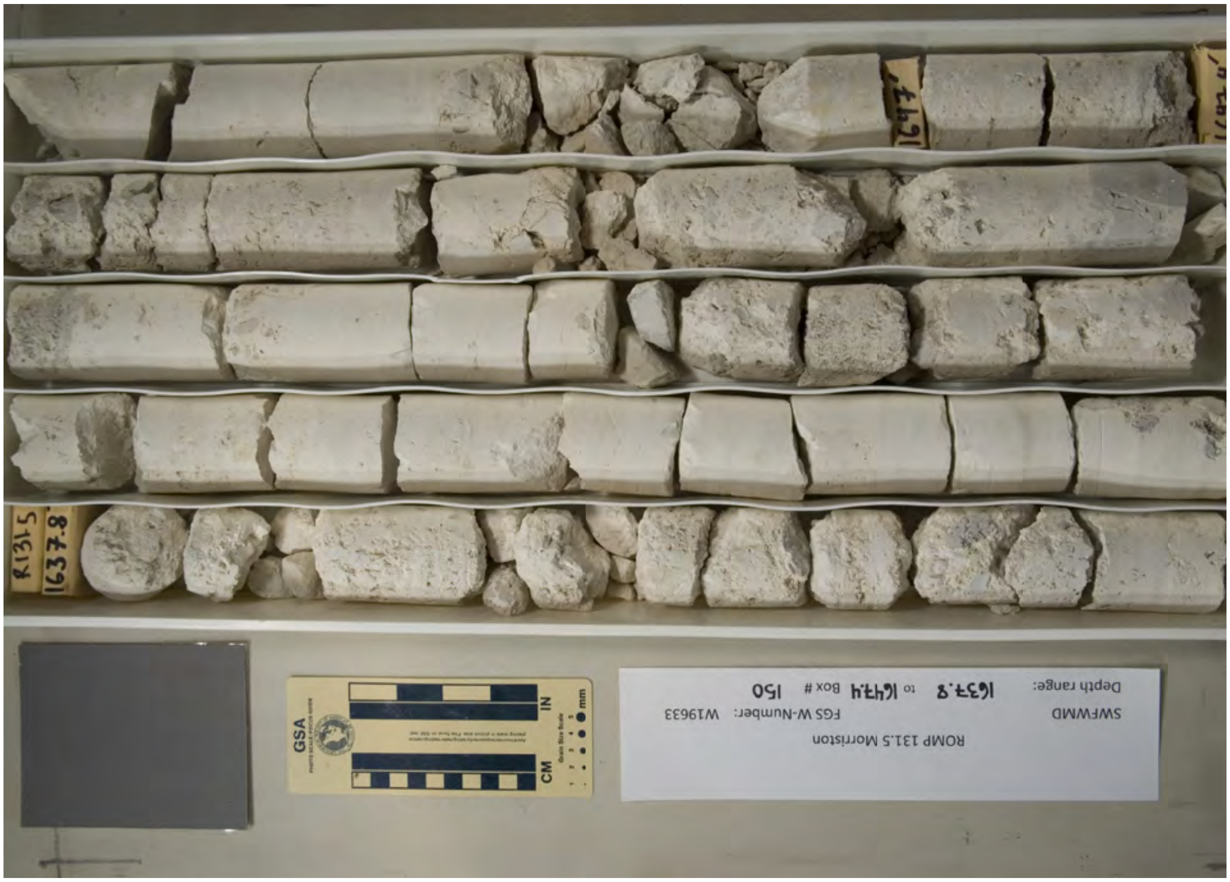

1578.4
R131.5
GSA
IN
CM


SWFWMD
Depth range: 1598.7 to 1607.9 Box # 146
FGS W-Number: W19633
ROMP 131.5 Morriston
1607'
1607.9
R131.5
1598.7'

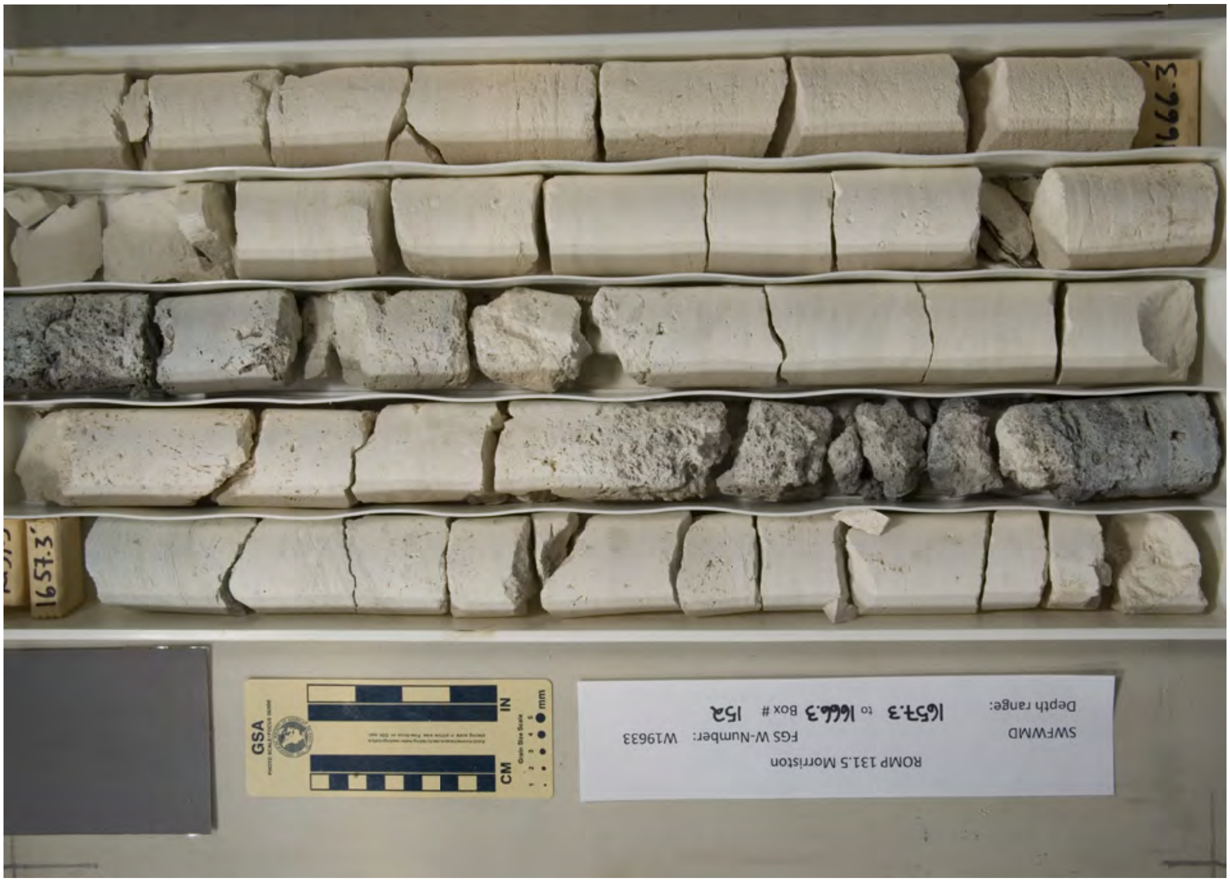

SWFWMD
Depth range: 1589.9 to 1598.7 Box # 145
FGS W-Number: W19633
ROMP 131.5 Morriston
1598.7'
1597'
R131.5
1589.9'


1627'
1629.5'
R131.5
1617.4'
SWFWMD
Depth range: 1617.4 to 1627.5 Box # 148
FGS W-Number: W19633
ROMP 131.5 Morriston
GSA

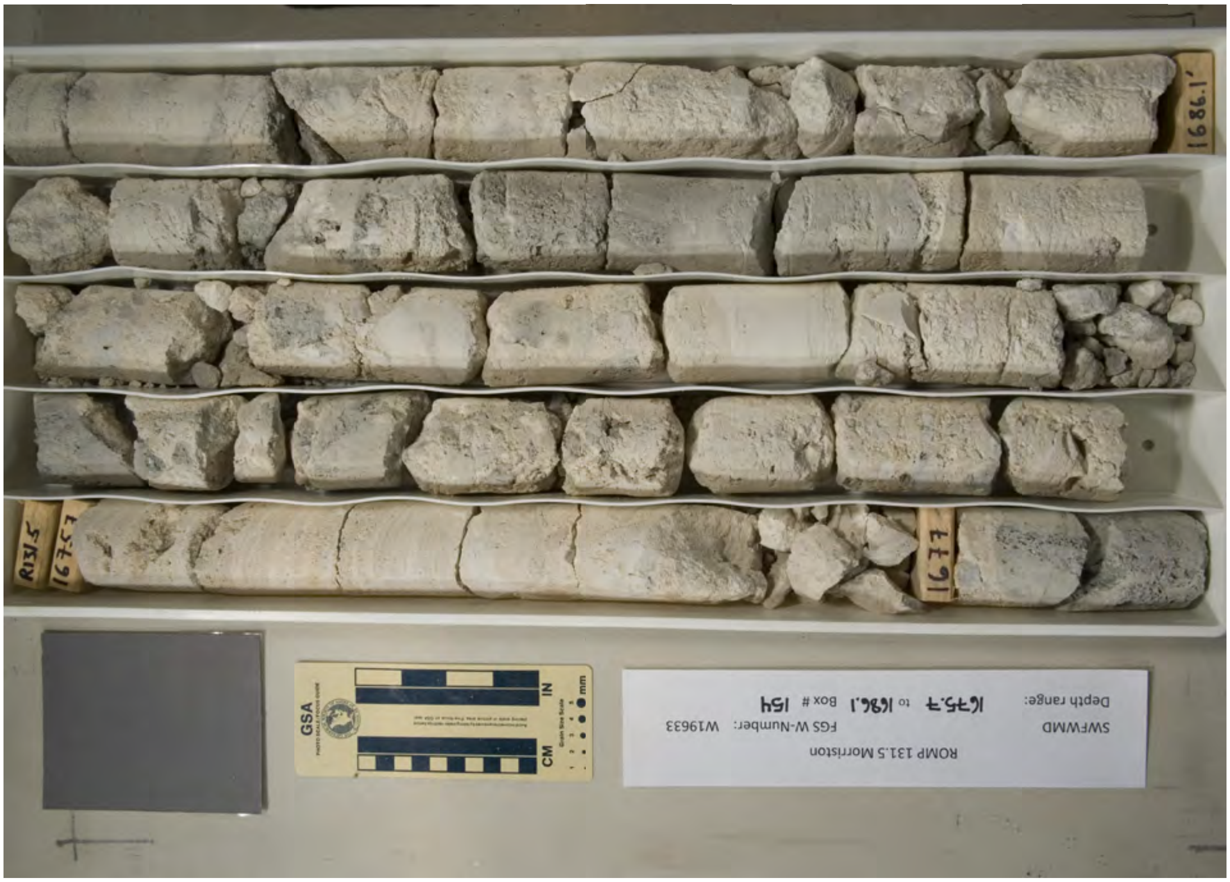

1617'
R131.5
1607.9
SWFWMD
Depth range: 1607.9 to 1617.4 Box # 147
FGS W-Number: W19633
ROMP 131.5 Morriston
GSA


SWFWMD
Depth range: 1637.8 to 1644.4 Box # 150
FGS W-Number: W19633
ROMP 131.5 Morriston

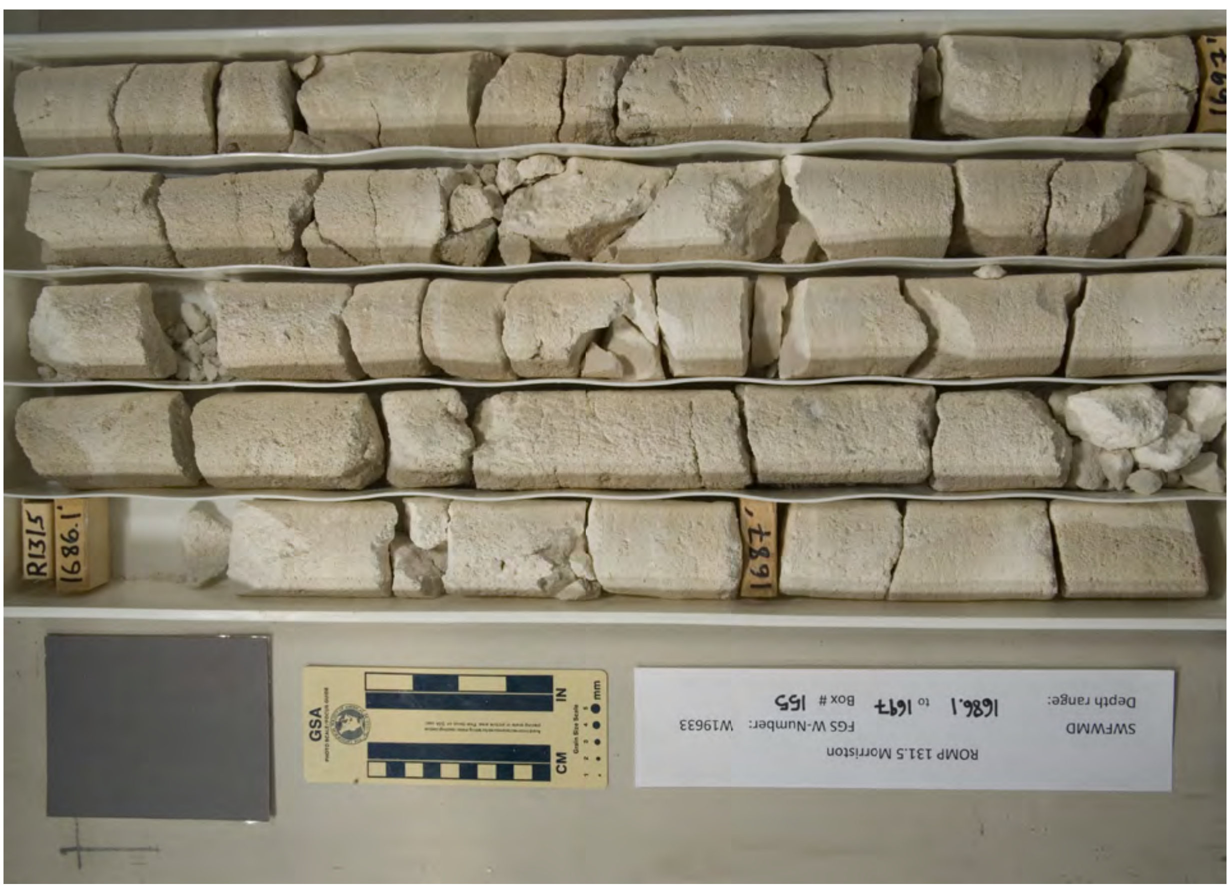

SWFWMD
Depth range: 1627.5 to 1637.8 Box # 149
FGS W-Number: W19633
ROMP 131.5 Morriston

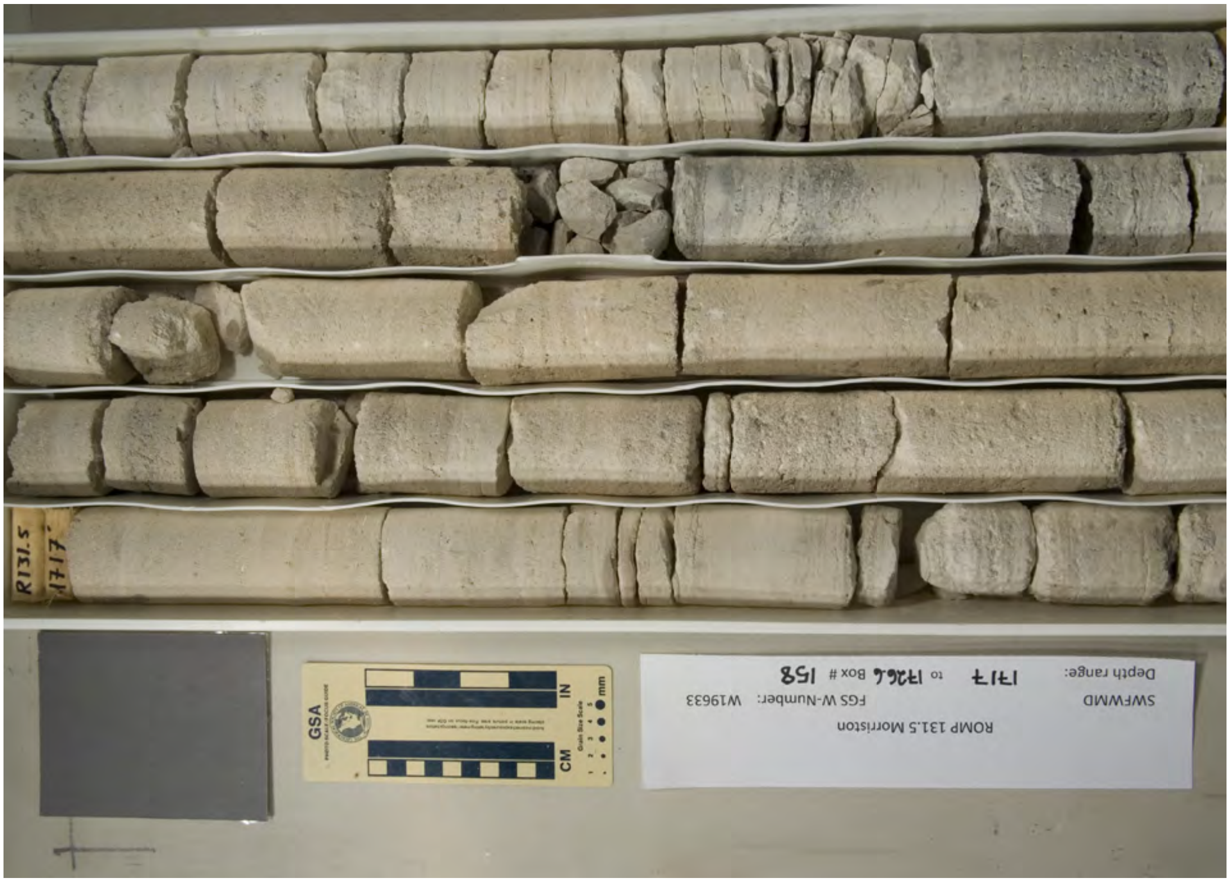

1666.3'
1657.3'
SWFWMD
ROMP 131.5 Morriston
FGS W-Number: W19633
Depth range: 1657.3 to 1666.3 Box # 152
GSA
IN
CM
mm

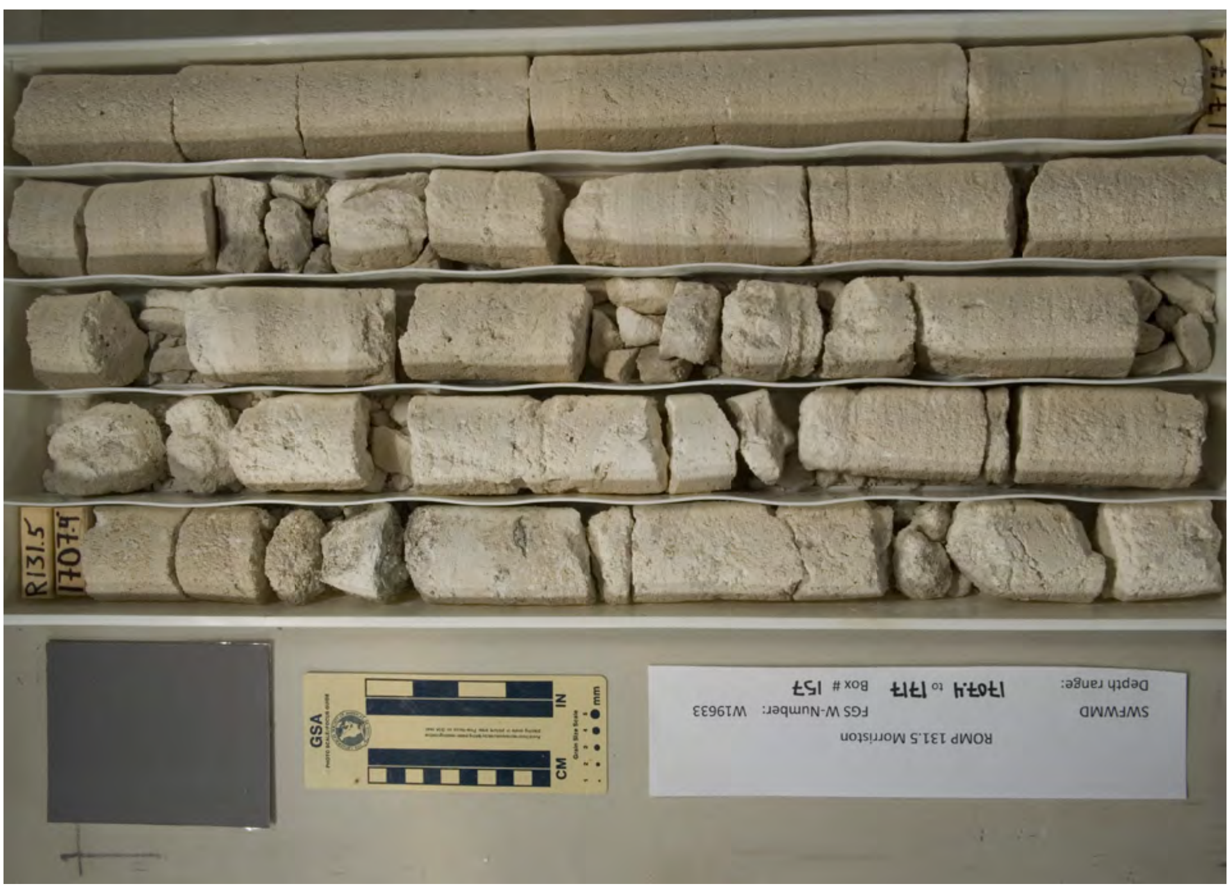

1657.3
R131.5
1647.4'
SWFWMD
ROMP 131.5 Morriston
FGS W-Number: W19633
Depth range: 1647.4 to 1657.3 Box # 151
GSA
IN
CM
mm

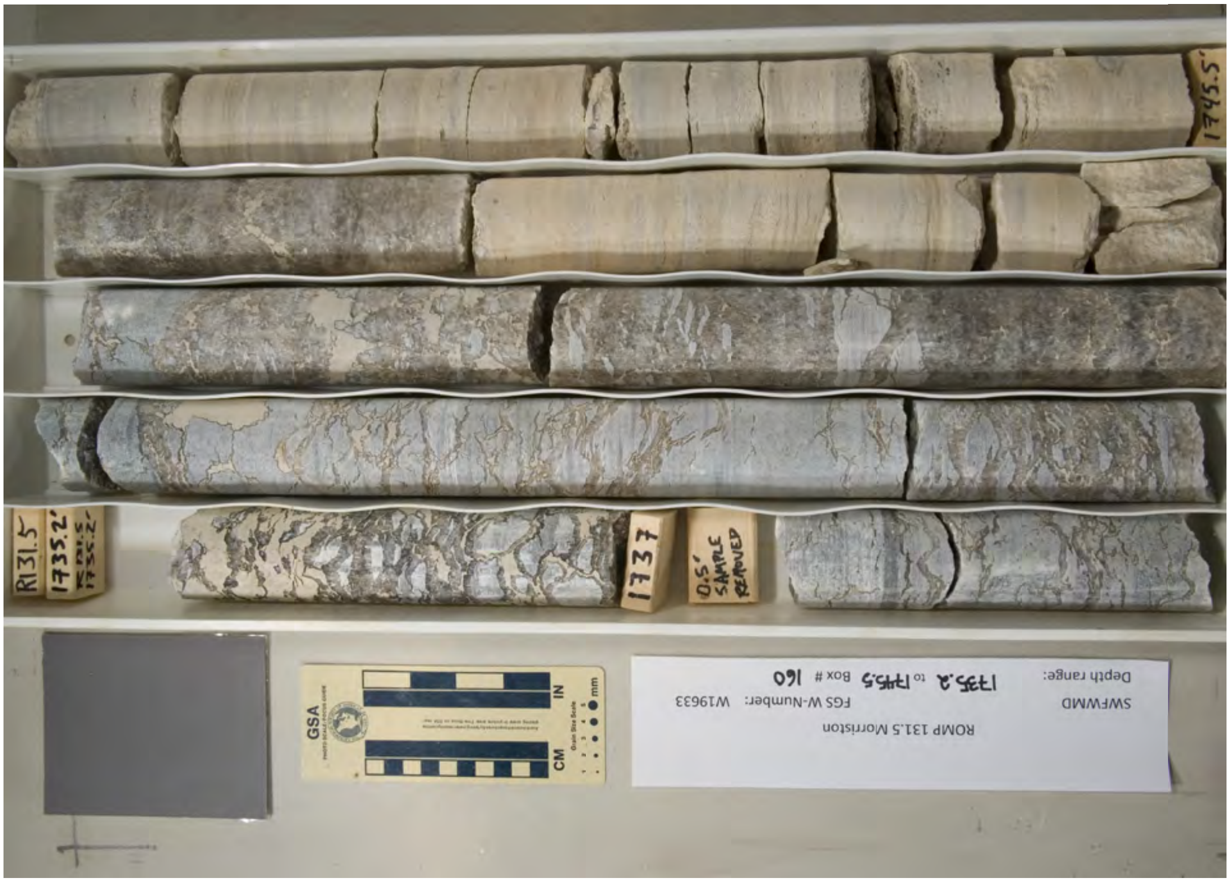



1707'
1707.4'
R131.5
1697'
GSA
IN
CM
SWFWMD
Depth range: 1697 to 1707.4 Box # 156
FGS W-Number: W19633
ROMP 131.5 Morriston

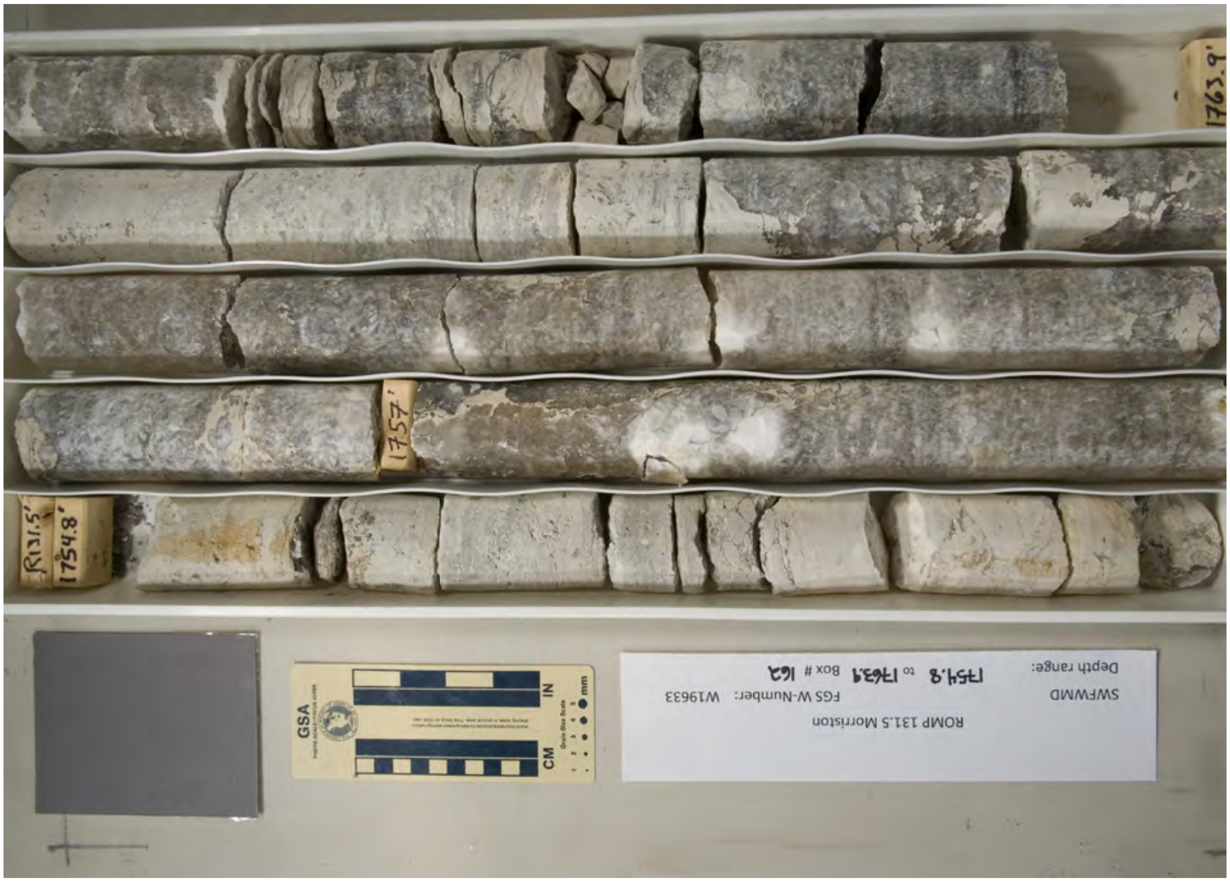

1697'
R131.5
1686.1'
1687'
GSA
IN
CM
SWFWMD
Depth range: 1686.1 to 1697 Box # 155
FGS W-Number: W19633
ROMP 131.5 Morriston


R131.5
1717'
SWFWMD
ROMP 131.5 Morriston
FGS W-Number: W19633
Depth range: 1717 to 1726.6 Box # 158
GSA
IN
CM


R131.5
1707.9
SWFWMD
ROMP 131.5 Morriston
FGS W-Number: W19633
Depth range: 1707.9 to 1717 Box # 157
GSA
IN
CM

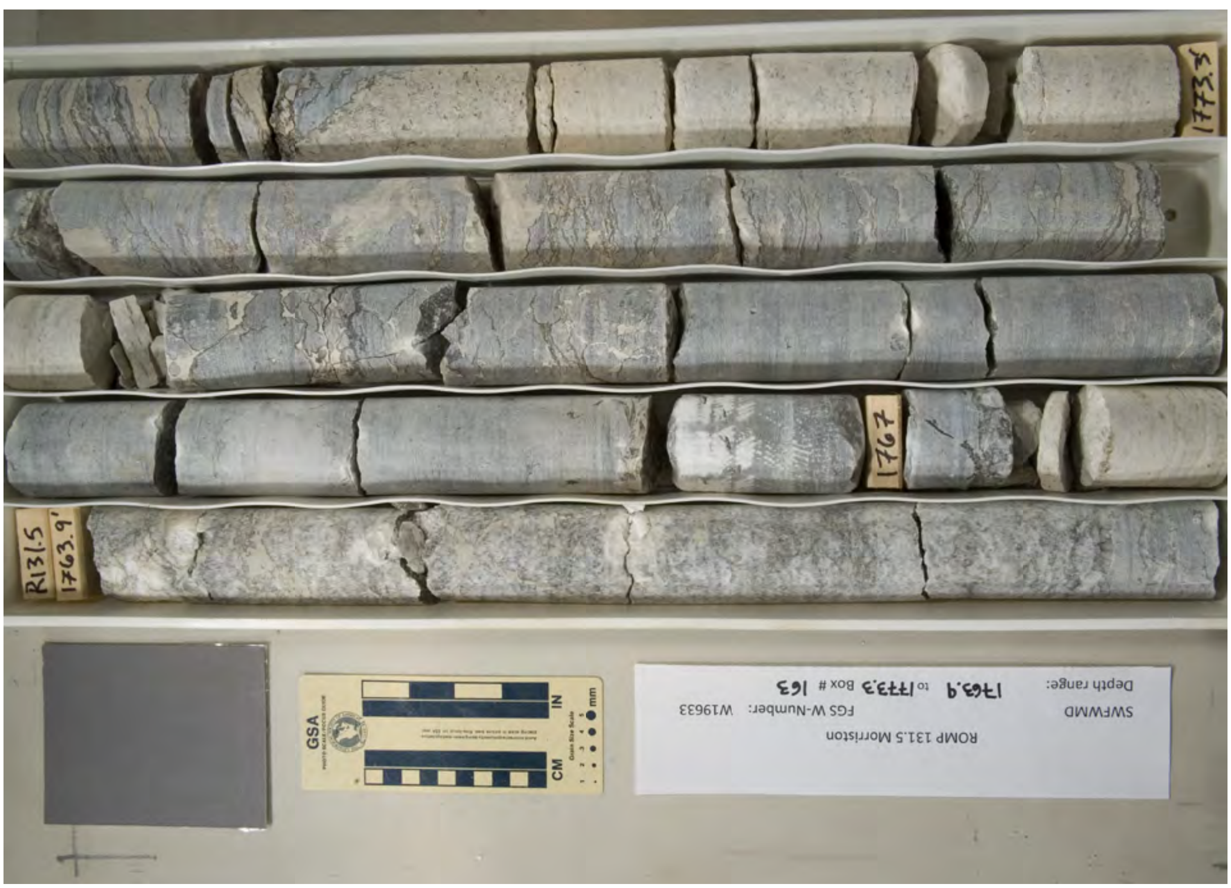

1745.5'
R131.5
1735.2'
1737
0.5' SAMPLE REMOVED
GSA
IN
CM
SWFWMD
Depth range: 1735.2 to 1745.5 Box # 160
FGS W-Number: W19633
ROMP 131.5 Morriston

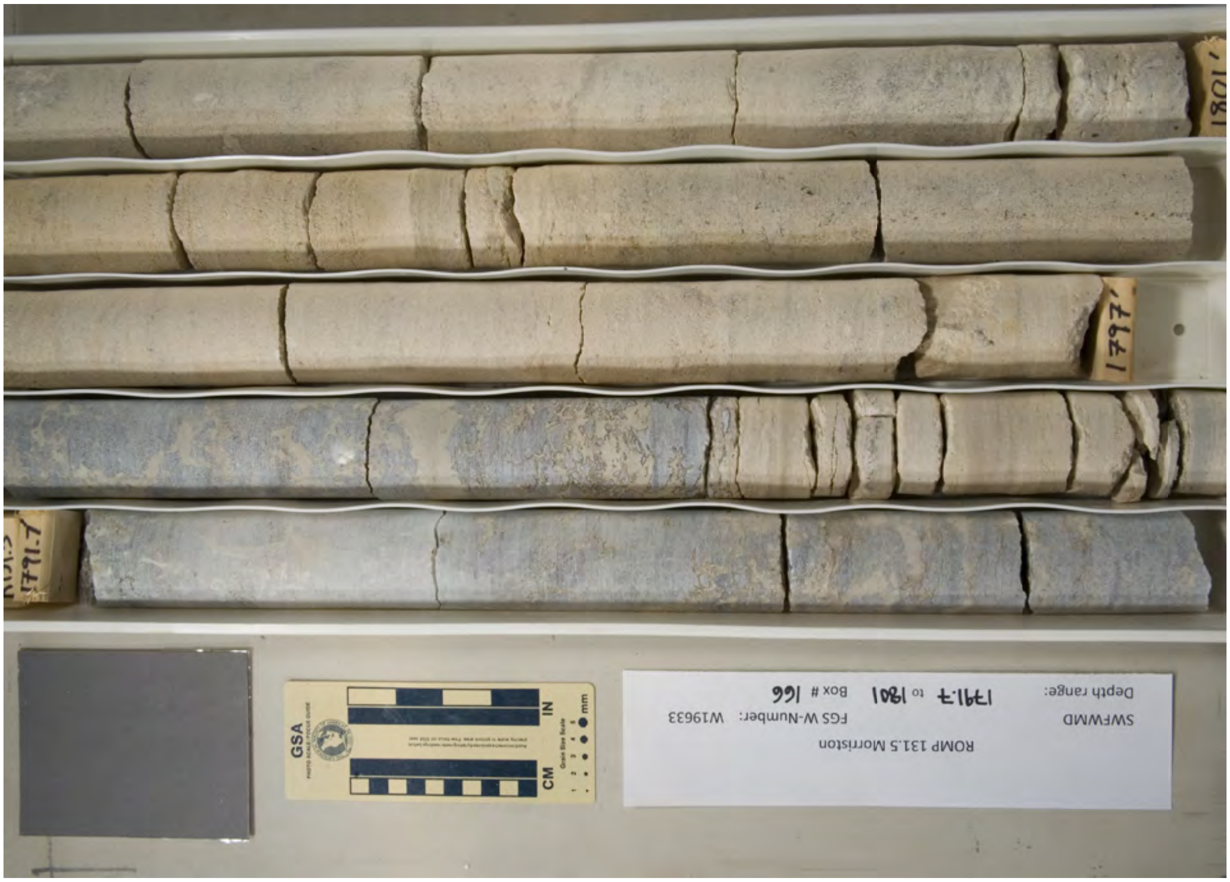

1735.2'
R131.5
1726.6'
1727'
GSA
IN
CM
SWFWMD
Depth range: 1726.6 to 1735.2 Box # 159
FGS W-Number: W19633
ROMP 131.5 Morriston

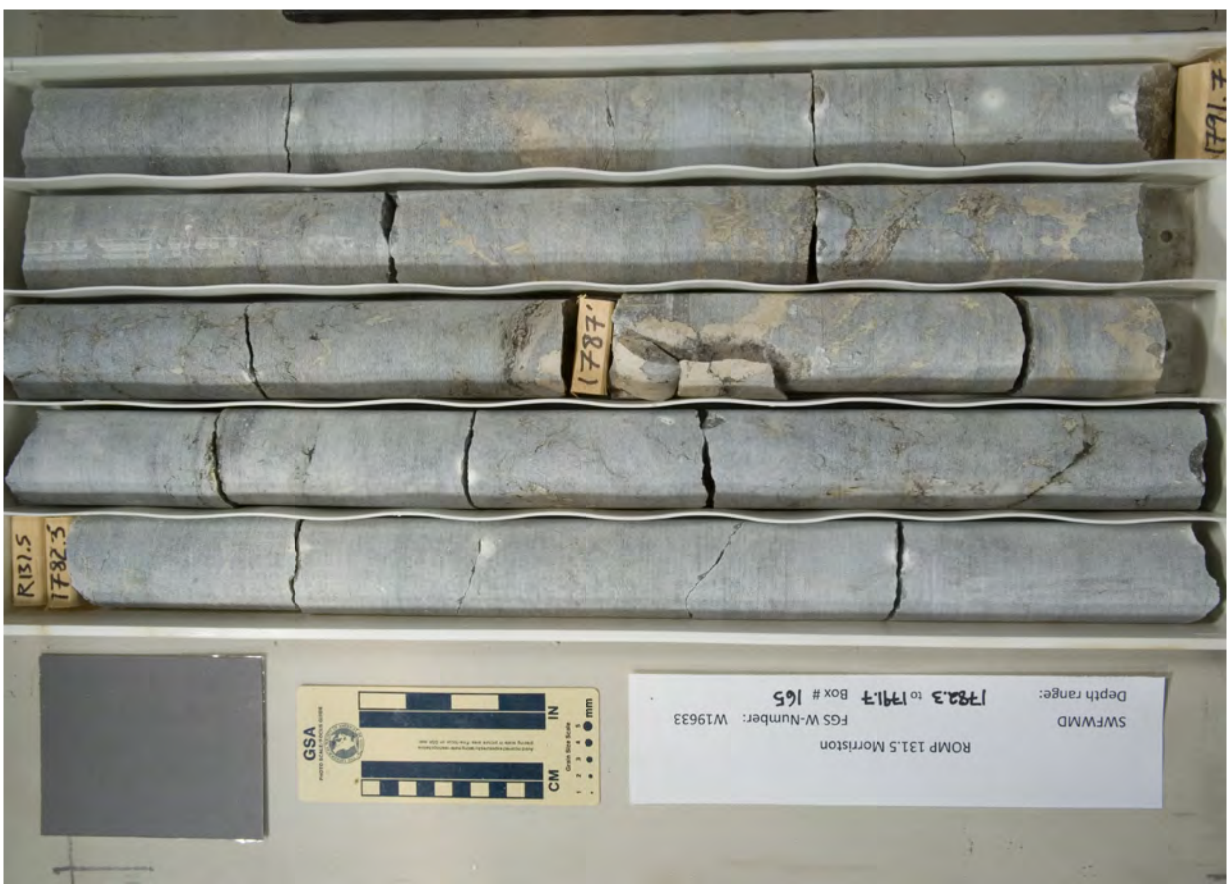

1763.9'
1757'
R131.5'
1754.8'
ROMP 131.5 Morriston
SWFWMD
FGS W-Number: W19633
Depth range: 1754.8 to 1763.9 Box # 162
GSA
IN
CM

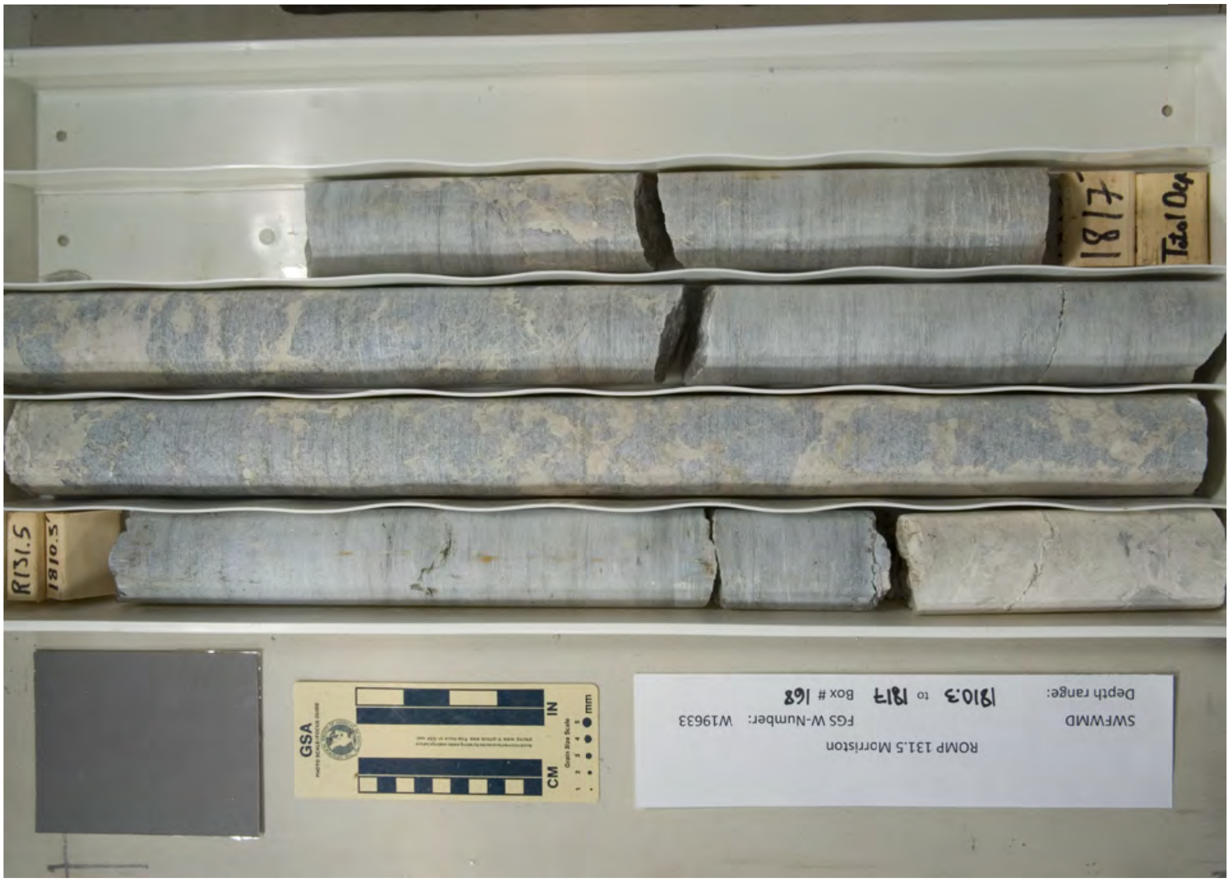

1754.8'
R131.5
1745.5'
ROMP 131.5 Morriston
SWFWMD
FGS W-Number: W19633
Depth range: 1745.5 to 1754.8 Box # 161
GSA
IN
CM

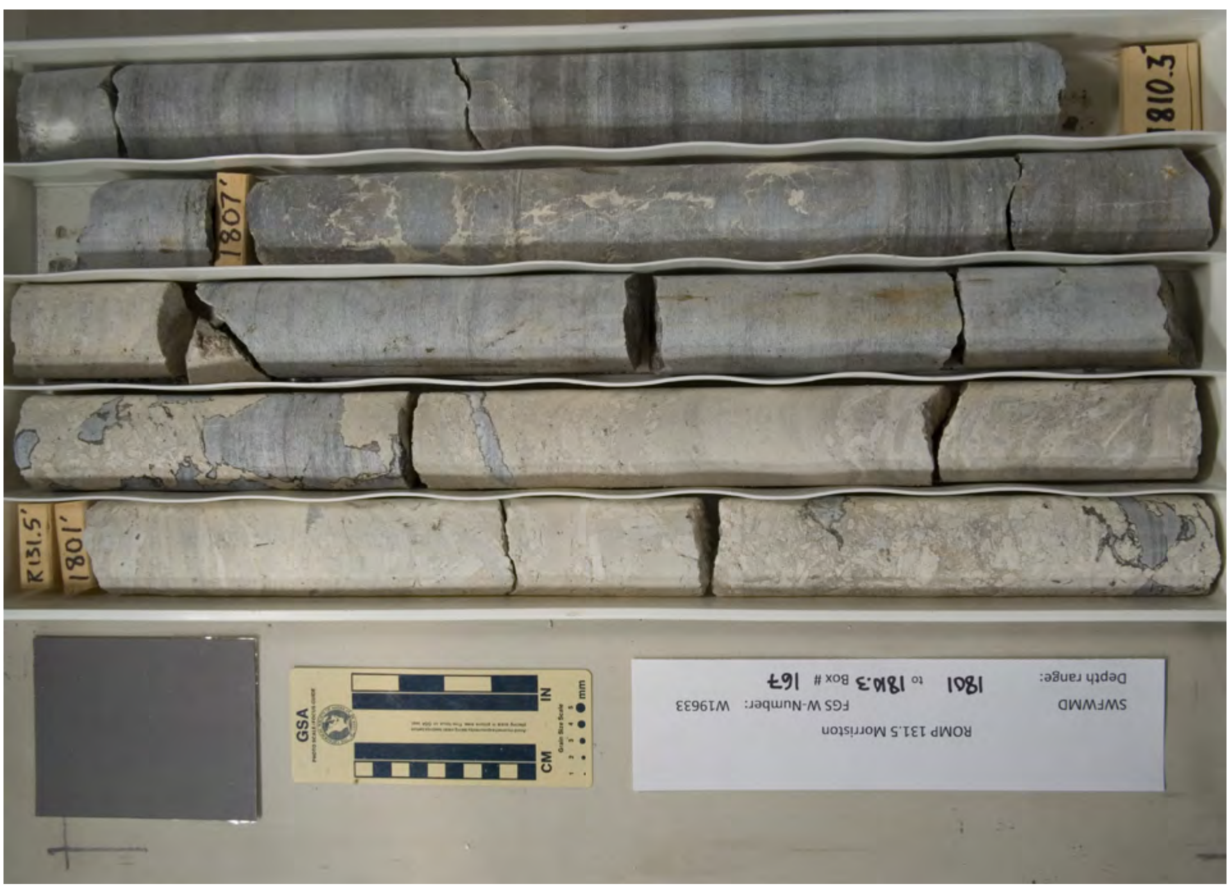

1782.5
1777
R131.5
1773.3'
GSA
IN
CM
SWFWMD
Depth range: 1773.3 to 1782.3 Box # 164
FGS W-Number: W19633
ROMP 131.5 Morriston


1773.5
1767
R131.5
1763.9'
GSA
IN
CM
SWFWMD
Depth range: 1763.9 to 1773.3 Box # 163
FGS W-Number: W19633
ROMP 131.5 Morriston

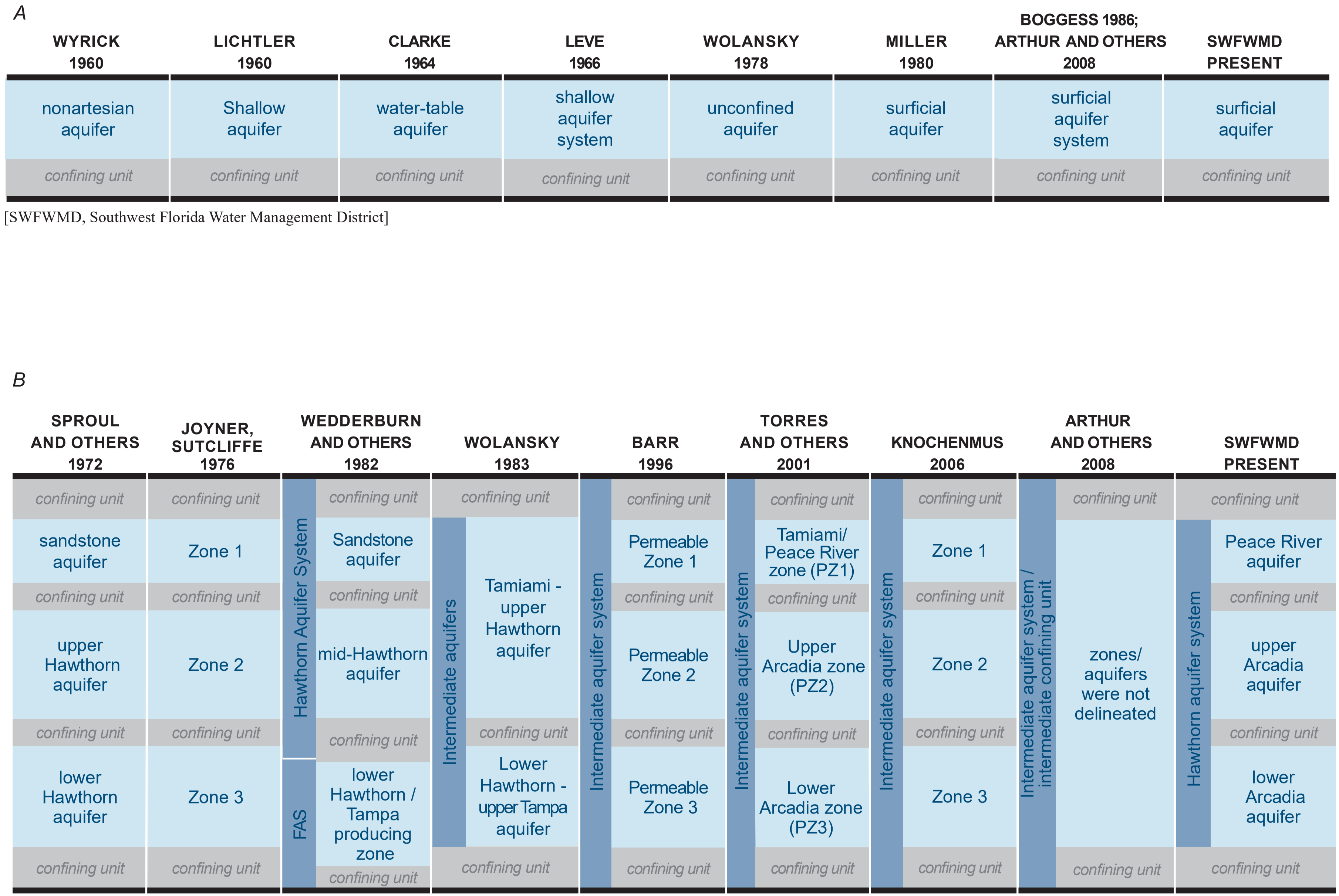

1801'
1797'
1791.7
SWFWMD
Depth range: 1791.7 to 1801 Box # 166
FGS W-Number: W19633
ROMP 131.5 Morriston
GSA
CM
IN
mm


1791.7
1787'
R131.5
1782.3
SWFWMD
Depth range: 1782.3 to 1791.7 Box # 165
FGS W-Number: W19633
ROMP 131.5 Morriston
GSA
CM
IN
mm





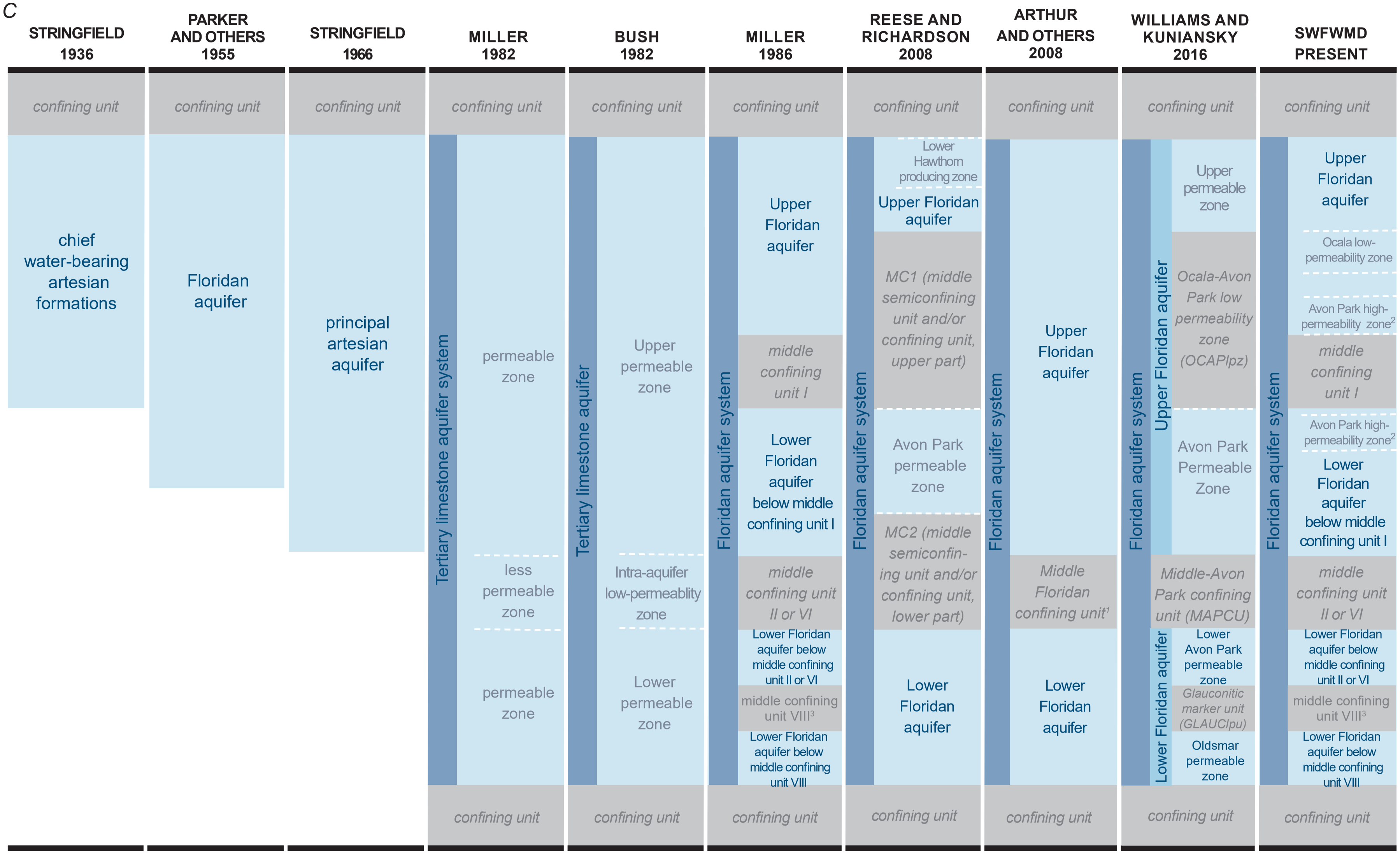
Appendix F. Correlation Charts



[SWFWMD, Southwest Florida Water Management District]

[FAS, Floridan aquifer system; PZ, permeable zone; SWFWMD, Southwest Florida Water Management District]

Figure F1. Nomenclature of (A), the surficial aquifer, (B), the Hawthorn aquifer system, and (C), the Floridan aquifer system used for the ROMP 131.5 – Morriston well site compared to names in previously published reports.



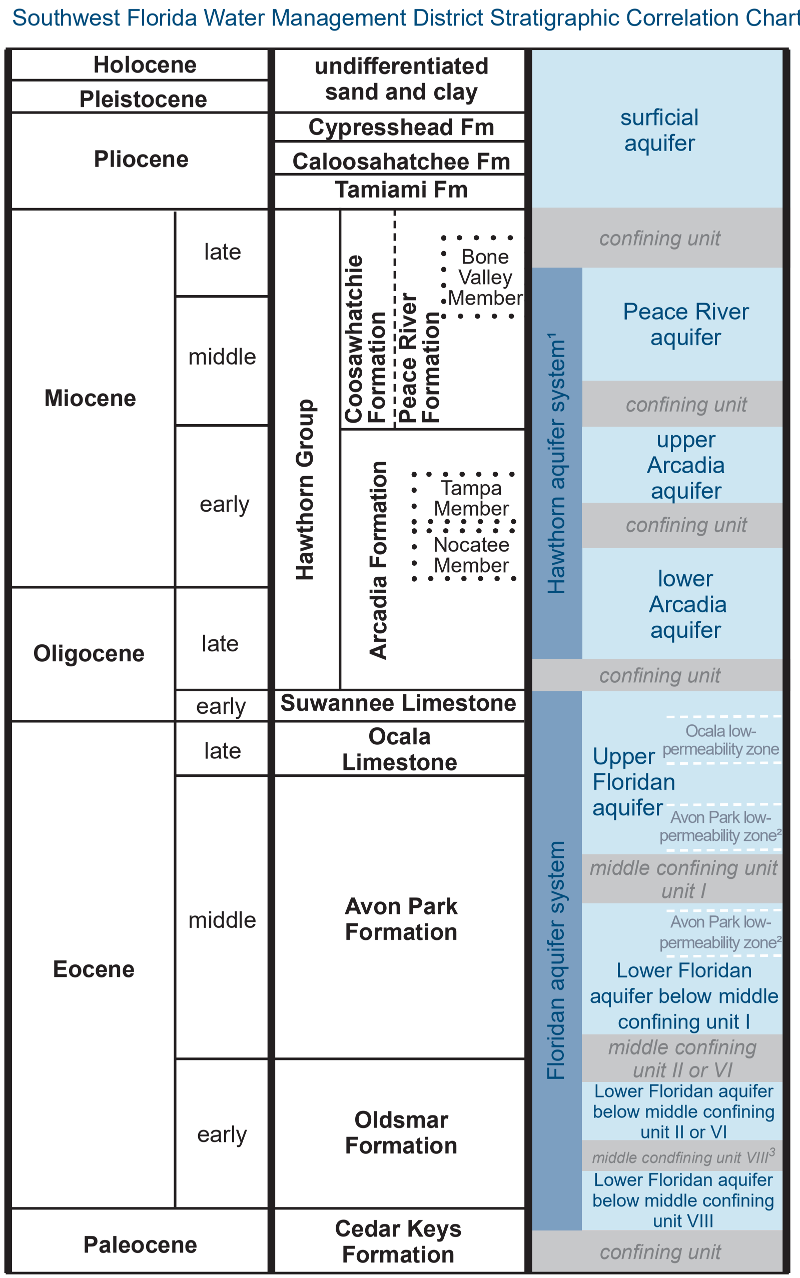
[Terms shown are for hydrogeologic units present within the Southwest Florida Water Management District (SWFWMD)]

[1]Arthur and others acknowledge existence of the middle confining unit I within the Southwest Florida Water Management but do not map it for Special Publication 68.

[2]The Avon Park high-permeability zone (SWFWMD fracture zone) crosses middle confining unit I in central Polk County; therefore, it occurs above the middle confining unit I in northern Polk and below the middle confining unit I in southern Polk.

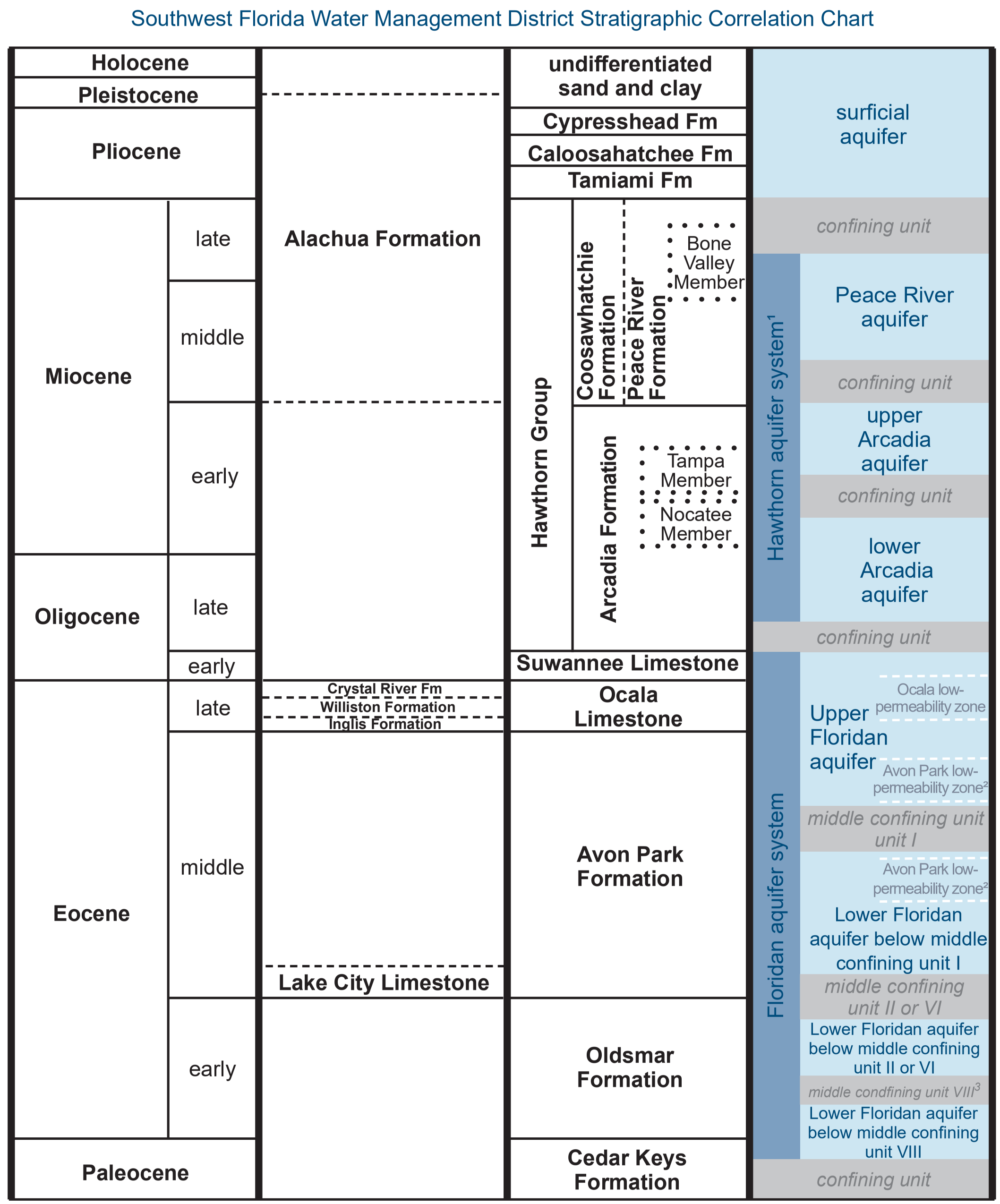
[3]The middle confining unit VIII of Miller (1986) in south Florida was extended across the entire peninsula based on new data in Williams and Kuniansky (2015) and reidentified as the Glauconite marker unit.

Figure F1. (Continued) Nomenclature of (A), the surficial aquifer, (B), the Hawthorn aquifer system, and (C), the Floridan aquifer system used for the ROMP 131.5 – Morriston well site compared to names in previously published reports.



This chart may be used to correlate the chronostratigraphic and lithostratigraphic units of the current hydrogeologic framework model of the Southwest Florida Water Management District.
Note: [1]The Hawthorn aquifer system was previouly referred to as the Intermediate aquifer system. [2]The Avon Park high-permeability zone (SWFWMD fracture zone) crosses middle confining unit I in central Polk County; therefore, it occurs above the middle confining unit I in northern Polk and below the middle confining unit I in southern Polk. [3]The middle confining unit VIII of Miller (1986) was extended beyond the original extent in south Florida based on new data.

Figure F2. Chart correlating chronostratigraphic and lithostratigraphic units to the current hydrogeologic framework of the Southwest Florida Water Management District.



This chart may be used to correlate the stratigraphic units in past reports to the current hydrogeologic framework model of the Southwest Florida Water Management District.
Note: [1]The Hawthorn aquifer system was previouly referred to as the Intermediate aquifer system. [2]The Avon Park high-permeability zone (SWFWMD fracture zone) crosses middle confining unit I in central Polk County; therefore, it occurs above the middle confining unit I in northern Polk and below the middle confining unit I in southern Polk. [3]The middle confining unit VIII of Miller (1986) was extended beyond the original extent in south Florida based on new data.

Figure F3. Chart correlating lithostratigraphic units used in past reports to current lithostratigraphic units and the current hydrogeologic framework of the Southwest Florida Water Management District.

Appendix G. Slug Test Data Acquisition Sheets for the ROMP 131.5 – Morriston Well Site in Levy County, Florida

GEOHYDROLOGIC DATA SECTION
SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	1
Site Name:	Romp 131.5 - Morriston	Date:	10/7/2015
Well:	Corehole	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	85	Test Interval (ft - ft bls)	65-85
Test Casing Height (ft als)	5.60 (NQ)	Date of Last Development	10/6/2015
Test Casing Diameter (in)	2.375 (NQ)	Initial Static WL (ft btoc)	41.42 (35.82 ft blsd)
Test Casing Type	NQ	Final Static WL (ft btoc)	41.47 (35.87 ft blsd)
Test Interval Length (ft)	20	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	0.28	Initial Annulus WL (ft btoc)	36.14 (35.86 blsd)

Set-up Information

Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	44.4	0.00	3.0	2.98
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.11	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	41.0	0.05	5.0	4.90

Data Logger: Rafael

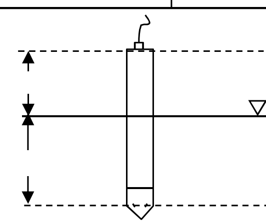
Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inside NRQ @ 64 ft

Lower element against formation @ 65 ft

Packer orifice = 0.75 in.



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	1.99	0.54	1.04	2.02
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	2.97	2.99	3.00	2.99
Pre-test Sub. Annulus	4.89	4.91	4.91	4.91
Expected Displacement (P_Head) (ft)	1.876	0.403	0.879	1.868
Observed Displacement (Test_Int) (ft)	1.832	0.425	0.901	1.853
Slug Discrepancy (%)	0.89%	-5.5%	-2.5%	0.80%
Max Rebound above Static	0.264	0.176	0.242	0.264
Post-test Sub. Test_Int	2.96	2.99	2.98	2.94
Residual Dev. from H_o (%)	0.3%	0%	0.7%	1.6%
Data Logger File Name	R131.5_ST1A_65-85_2ft	R131.5_ST1B_65-85_.5ft	R131.5_ST1C_65-85_1ft	R131.5_ST1D_65-85_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology				
Other				
K_h (ft/day)				

Comments

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	2
Site Name:	Romp 131.5 - Morriston	Date:	12/2/2015
Well:	Corehole	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	205	Test Interval (ft - ft bls)	162-205
Test Casing Height (ft als)	4.96	Date of Last Development	12/1/2015
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	41.71 (36.75 bls)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	41.67
Test Interval Length (ft)	43	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.56 (36.73)

Set-up Information

Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	44.7	0.00	3.0	3.10
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.11	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	43.6	0.07	5.0	5.06

Data Logger: Rafael

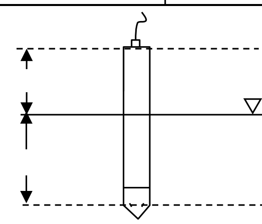
Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inside NRQ @ 161 ft

Lower element against formation @ 162 ft

Packer orifice = 0.75 in.



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	2.00	0.52	1.01	2.03
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.11	3.10	3.10	3.10
Pre-test Sub. Annulus	5.06	5.06	5.06	5.06
Expected Displacement (P_Head) (ft)	1.868	0.425	0.894	2.022
Observed Displacement (Test_Int) (ft)	1.963	0.454	0.886	1.956
Slug Discrepancy (%)	5.1%	6.8%	0.9%	3.3%
Max Rebound above Static	0.74	0.293	0.505	0.769
Post-test Sub. Test_Int	3.10	3.1	3.11	3.12
Residual Dev. from H_o (%)	0.3%	0%	0.3%	0.6%
Data Logger File Name	R131.5_ST2A_162-205_2ft	R131.5_ST2B_162-205_.5ft	R131.5_ST2C_162-205_1f	R131.5_ST2D_162-205_2ft
Specific Conductance (uS)	319	319	319	319
Temperature °C	23.65	23.65	23.65	23.65
Lithology	Wackestone (Mod-H perm)	Wackestone (Mod-H perm)	Wackestone (Mod-H perm)	Wackestone (Mod-H perm)
Other				
K_h (ft/day)				

Comments:

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION
SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	2.1
Site Name:	Romp 131.5 - Morriston	Date:	12/2/2015
Well:	Corehole	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	205	Test Interval (ft - ft bls)	157.5-205
Test Casing Height (ft als)	7.6	Date of Last Development	12/1/2015
Test Casing Diameter (in)	3.06	Initial Static WL (ft btoc)	43.92 (36.32 bls)
Test Casing Type	HQ	Final Static WL (ft btoc)	43.92 (36.32)
Test Interval Length (ft)	47.5	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	NA	Initial Annulus WL (ft btoc)	NA

Set-up Information

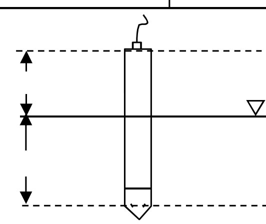
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi					
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.11	NA	NA
Test CH 3 (Yellow)	20 psi	0809063	48.9	0.07	5.0	5.02

Data Logger: Rafael

Spacer Length (ft): NA

Spacer OD. (inches): NA

Comments: No packer, No spacer
HQ casing @ 157.5,
10 ft of perforated NRQ @ top
of string --> test casing is HQ



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	1.98	0.49	1.02	2.02
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2	0.5	1.5	2.0
Initiation method	pneumatic	pneumatic	pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	5.02	5.00	5.00	5.02
Pre-test Sub. Annulus	NA	NA	NA	NA
Expected Displacement (P_Head) (ft)	Test Invalid	0.367	0.886	1.882
Observed Displacement (Test_Int) (ft)		0.363	0.892	1.843
Slug Discrepancy (%)	Bernie not plugged in	1.1%	0.6%	2.1%
Max Rebound above Static		0.303	0.774	1.608
Post-test Sub. Test_Int		5.00	NM	5.02
Residual Dev. from H_o (%)		0%	NM	0%
Data Logger File Name	R131.5_ST2.1A_157-205_2ft	R131.5_ST2.1B_157-205_.5ft	R131.5_ST2.1C_157-205_1.5ft	R131.5_ST2.1D_157-205_2ft
Specific Conductance (uS)	319	319	319	319
Temperature °C	23.65	23.65	23.65	23.65
Lithology	Wackestone (Mod-H perm)	Wackestone (Mod-H perm)	Wackestone (Mod-H perm)	Wackestone (Mod-H perm)
Other				
K_h (ft/day)				

Comments: Slug test of previous interval ST 2 (162-205) w/no packer or spacer - use HQ casing as test casing

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

Slug Test No.: 3

Site Name:	Romp 131.5 - Morriston	Date:	12/15/2015
Well:	Corehole (UDR)	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	287	Test Interval (ft - ft bls)	250-287 ft
Test Casing Height (ft als)	5.65	Date of Last Development	12/15/2015
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	43.55 (37.87) ← Invalid Read
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	42.86 (37.21) ← This is correct
Test Interval Length (ft)	37	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.99 (37.16)

Set-up Information

Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	46.55	0.0	3.0	3.43
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.12	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	42.16	0.09	3.17	3.26

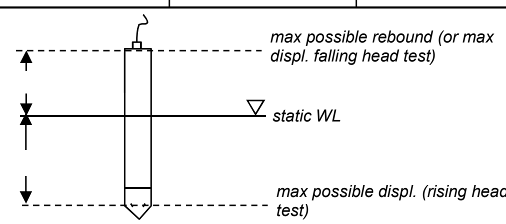
Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inside NRQ @ 249 ft

Lower element outside NRQ @ 250 ft



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

	Test A	Test B	Test C	Test D
air pressure (ft)	2.00	0.59	1.01	1.99
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.79	3.80	3.80	3.80
Pre-test Sub. Annulus	3.26	3.26	3.26	3.26
Expected Displacement (P_Head) (ft)	1.901	0.472	0.878	1.843
Observed Displacement (Test_Int) (ft)	1.959	0.479	0.863	1.872
Slug Discrepancy (%)	-3.1%	-1.5%	1.7%	1.5%
Max Rebound above Static	0.581	0.239	0.385	0.58
Post-test Sub. Test_Int	3.80	3.81	3.80	3.8
Residual Dev. from H_o (%)	0.26%	0.26%	0.0%	0.0%
Data Logger File Name	R131.5_ST3A_250-287_2ft	R131.5_ST3B_250-287_.5ft	R131.5_ST3C_250-257_1ft	R131.5_ST3D_250-287_2ft
Specific Conductance (uS)	503	503	503	503
Temperature °C	22.51	22.51	22.51	22.51
Lithology	Dolomitic Packstone	Dolomitic Packstone	Dolomitic Packstone	Dolomitic Packstone
Other				
K_h (ft/day)				

Comments

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION
SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	4
Site Name:	Romp 131.5 - Morriston	Date:	12/30/2015
Well:	Corehole (UDR)	Performed by:	J. LaRoche
Well Depth (ft bls)	347	Test Interval (ft - ft bls)	398-437
Test Casing Height (ft als)	5.91	Date of Last Development	12/29/2015
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	42.87 (36.96 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	42.85 (36.94 ft blsd)
Test Interval Length (ft)	39	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	39.15 (37.32 ft blsd)

Set-up Information

Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	45.87	0.0	3.0	3.08
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.11	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	44.15	0.12	5.0	5.04

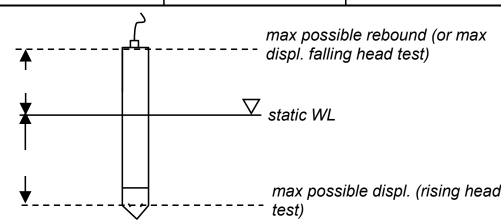
Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inside NRQ @ 397 ft

Lower element outside NRQ @ 398 ft



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	2.06	0.52	1.10	1.96
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.09	3.09	3.09	3.09
Pre-test Sub. Annulus	5.04	5.04	5.04	5.05
Expected Displacement (P_Head) (ft)	1.945	0.414	0.980	1.85
Observed Displacement (Test_Int) (ft)	2.075	0.435	0.951	1.843
Slug Discrepancy (%)	-6.7%	-5.1%	3.0%	0.4%
Max Rebound above Static	0.639	0.203	0.414	0.631
Post-test Sub. Test_Int	3.09	3.09	3.09	3.09
Residual Dev. from H_o (%)	0%	0%	0%	0%
Data Logger File Name	R131.5_ST4A_398-437_2ft	R131.5_ST4B_398-437_.5ft	R131.5_ST4C_398-437_1ft	R131.5_ST4D_398-437_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Dolomitic Wackestone	Dolomitic Wackestone	Dolomitic Wackestone	Dolomitic Wackestone
Other				
K_h (ft/day)				

Comments

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

Slug Test No.: 5

Site Name:	Romp 131.5 - Morriston	Date:	1/12/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	527	Test Interval (ft - ft bls)	478-527
Test Casing Height (ft als)	4.94	Date of Last Development	1/11/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	40.25 (35.31' blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	40.25 (35.31' blsd)
Test Interval Length (ft)	49	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.31 (36.48' blsd)

Set-up Information

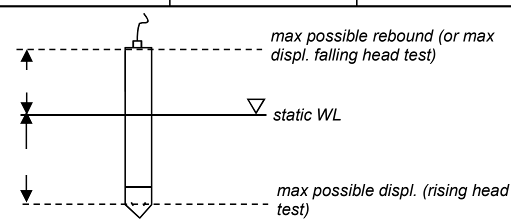
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	43.25	0.02	3.0	3.09
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.12	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	43.31	0.10	5.0	5.1

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inside NRQ @ 477 ft
Lower element outside NRQ against
formation @ 478 ft



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	2.06	0.5	1.01	2.04
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.11	3.12	3.10	3.12
Pre-test Sub. Annulus	5.11	5.12	5.10	5.11
Expected Displacement (P_Head) (ft)	1.933	0.378	0.886	1.903
Observed Displacement (Test_Int) (ft)	1.911	0.385	0.901	1.903
Slug Discrepancy (%)	1.1%	-1.9%	-1.7%	0%
Max Rebound above Static	0.908	0.233	0.516	0.894
Post-test Sub. Test_Int	3.11	3.11	3.10	3.1
Residual Dev. from H_o (%)	0%	0.3%	0%	0.6%
Data Logger File Name	R131.5_ST5A_478-527_2ft	R131.5_ST5B_478-527_.5ft	R131.5_ST5C_478-527_1ft	R131.5_ST5D_478-527_2ft
Specific Conductance (uS)	819	819	819	819
Temperature °C	22.12	22.12	22.12	22.12
Lithology	Sucrosic Dolostone	Sucrosic Dolostone	Sucrosic Dolostone	Sucrosic Dolostone
Other				
K_h (ft/day)				

Comments

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION
SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	6
Site Name:	Romp 131.5 - Morriston	Date:	1/12/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche
Well Depth (ft bls)	597	Test Interval (ft - ft bls)	546-597
Test Casing Height (ft als)	5.51	Date of Last Development	1/13/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	40.73 (35.22' bls)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	40.71 (35.20' bls)
Test Interval Length (ft)	51	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	37.75 (35.92' bls)

Set-up Information

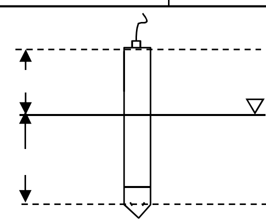
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	43.73	0.01	3.0	3.08
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.12	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	42.75	0.10	5.0	5.11

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 545 ft
Lower element outside NRQ against
formation @ 546 ft



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

	Test A	Test B	Test C	Test D
air pressure (ft)	2.01	0.57	1.01	1.99
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.09	3.09	3.09	3.10
Pre-test Sub. Annulus	5.13	5.12	5.13	5.13
Expected Displacement (P_Head) (ft)	1.888	0.450	0.879	1.866
Observed Displacement (Test_Int) (ft)	1.873	0.436	0.871	1.786
Slug Discrepancy (%)	0.8%	3.1%	0.9%	4.3%
Max Rebound above Static	1.002	0.312	0.559	0.987
Post-test Sub. Test_Int	3.09	3.09	3.10	3.11
Residual Dev. from H_o (%)	0%	0%	0.3%	0.3%
Data Logger File Name	R131.5_ST6A_546-597_2ft	R131.5_ST6B_546-597_.5ft	R131.5_ST6C_546-597_1ft	R131.5_ST6D_546-597_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Sucrosic Dolostone	Sucrosic Dolostone	Sucrosic Dolostone	Sucrosic Dolostone
Other				
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

Slug Test No.: 7

Site Name:	Romp 131.5 - Morriston	Date:	1/26/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche
Well Depth (ft bls)	757	Test Interval (ft - ft bls)	708-757
Test Casing Height (ft als)	5.38	Date of Last Development	1/25/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	40.31 (34.93' bls)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	40.30 (34.92' bls)
Test Interval Length (ft)	49	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	37.45 (35.62' bls)

Set-up Information

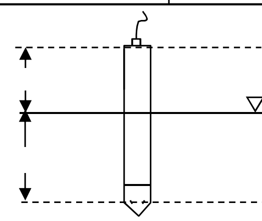
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	43.31	0.01	3.0	3.08
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.11	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	42.45	0.08	5.0	5.05

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 707 ft Lower element outside NRQ against formation @ 708 ft



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

	Test A	Test B	Test C	Test D
air pressure (ft)	1.94	0.56	0.99	1.90
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.10	3.10	3.09	3.10
Pre-test Sub. Annulus	5.05	5.06	5.06	5.07
Expected Displacement (P_Head) (ft)	1.837	0.428	0.885	1.778
Observed Displacement (Test_Int) (ft)	1.844	0.436	0.871	1.807
Slug Discrepancy (%)	-0.4%	-1.9%	1.6%	-1.6%
Max Rebound above Static	1.198	0.348	0.66	1.183
Post-test Sub. Test_Int	3.09	3.09	3.09	3.10
Residual Dev. from H_o (%)	0.3%	0.3%	0%	0%
Data Logger File Name	R131.5_ST7A_708-757_2ft	R131.5_ST7B_708-757_.5ft	R131.5_ST7C_708-757_1ft	R131.5_ST7D_708-757_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Fractured Dolostone	Fractured Dolostone	Fractured Dolostone	Fractured Dolostone
Other				
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	8
Site Name:	Romp 131.5 - Morriston	Date:	1/27/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	817	Test Interval (ft - ft bls)	781-817
Test Casing Height (ft als)	3.21	Date of Last Development	1/27/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	40.58 (37.37 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	40.48 (37.27 ft blsd)
Test Interval Length (ft)	36	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.74 (36.91 ft blsd)

Set-up Information

Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	43.58	0.00	3.0	3.17
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.10	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	43.74	0.05	5.0	5.18

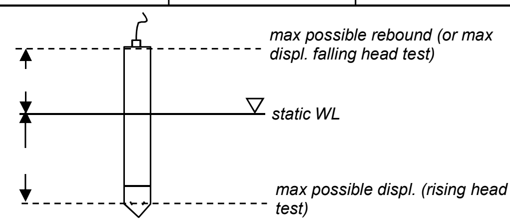
Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inside NRQ @ 780' bls

Lower element against formation @ 781' bls



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft): 0.53

	Test A	Test B	Test C	Test D
Target Displacement (ft)	0.5	1	2.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.20			
Pre-test Sub. Annulus	5.18			
Expected Displacement (P_Head) (ft)	0.406			
Observed Displacement (Test_Int) (ft)	0.406			
Slug Discrepancy (%)	0%			
Max Rebound above Static	0.0			
Post-test Sub. Test_Int	3.23			
Residual Dev. from H_o (%)	-0.9%			
Data Logger File Name	R131.5_ST8A_781-817_0.5ft	R131.5_ST8B_781-817_1ft	R131.5_ST8C_781-817_2ft	R131.5_ST8D_781-817_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Dolomitic Packstone	Dolomitic Packstone	Dolomitic Packstone	Dolomitic Packstone
Other				
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information			
		Slug Test No.:	9
Site Name:	Romp 131.5 - Morriston	Date:	2/2/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche
Well Depth (ft bls)	957	Test Interval (ft - ft bls)	921-957
Test Casing Height (ft als)	4.87	Date of Last Development	2/2/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	40.18 (35.61 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	40.21 (35.34 ft blsd)
Test Interval Length (ft)	36	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	40.22 (38.39 ft blsd)

Set-up Information

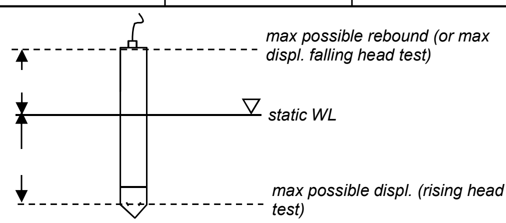
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	43.18	-0.03	3.0	3.03
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.08	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	45.22	0.04	5.0	5.02

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ rods @ 920 ft blsd; lower element outside NRQ against formation @ 921 ft blsd



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	1.97	0.48	0.98	1.97
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.05	3.03	3.03	3.03
Pre-test Sub. Annulus	5.02	5.01	5.01	5.00
Expected Displacement (P_Head) (ft)	1.843	0.377	0.871	1.872
Observed Displacement (Test_Int) (ft)	1.857	0.370	0.885	1.866
Slug Discrepancy (%)	-0.8%	1.9%	-1.6%	0.3%
Max Rebound above Static	0.203	0.073	0.152	0.211
Post-test Sub. Test_Int	3.03	3.04	3.04	3.03
Residual Dev. from H_o (%)	0.7%	-0.3%	-0.3%	0%
Data Logger File Name	R131.5_ST9A_921-957_2ft	R131.5_ST9B_921-957_0.5f	R131.5_ST9C_921-957_1f	R131.5_ST9D_921-957_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Dolomitic Packstone	Dolomitic Packstone	Dolomitic Packstone	Dolomitic Packstone
Other				
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	10
Site Name:	Romp 131.5 - Morriston	Date:	3/9/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche
Well Depth (ft bls)	1047	Test Interval (ft - ft bls)	996-1047
Test Casing Height (ft als)	5.05	Date of Last Development	3/8/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	39.98 (34.93 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	
Test Interval Length (ft)	50	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	36.41 (34.58 ft blsd)

Set-up Information

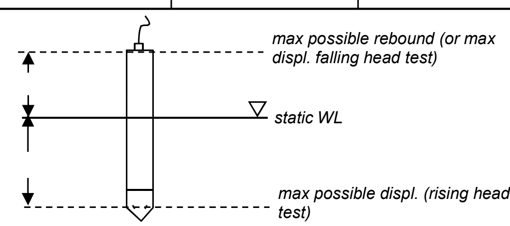
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	42.98	0.00	3.0	2.95
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.12	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	41.41	0.08	5.0	4.98

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 995 ft blsd; lower element outside NRQ against formation @ 996 ft blsd



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	0.59	1.01	1.98	
	Test A	Test B	Test C	Test D
Target Displacement (ft)	0.5	1.0	2.0	
Initiation method	pneumatic	pneumatic	Pneumatic	
Rising/Falling head	rising	rising	rising	
Pre-test Sub. Test_Int	2.97	2.96	2.95	
Pre-test Sub. Annulus	4.97	4.96	4.96	
Expected Displacement (P_Head) (ft)	0.443	0.864	1.865	
Observed Displacement (Test_Int) (ft)	0.435	0.864	1.872	
Slug Discrepancy (%)	1.8%	0%	0.4%	
Max Rebound above Static	0.305	0.573	1.089	
Post-test Sub. Test_Int	2.95	2.95	2.94	
Residual Dev. from H_o (%)	0.7%	0.3%	0.3%	
Data Logger File Name	R131.5_ST10A_996-1047_2ft	R131.5_ST10B_996-1047_0.5ft	R131.5_ST10C_996-1047_1ft	
Specific Conductance (uS)				
Temperature °C				
Lithology	Dolo-Grainstone	Dolo-Grainstone	Dolo-Grainstone	
Other				
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information		Slug Test No.:	11
Site Name:	Romp 131.5 - Morriston	Date:	7/21/2016
Well:	Corehole (UDR)	Performed by:	J. LaRoche, J. Zydek
Well Depth (ft bls)	1177	Test Interval (ft - ft bls)	1128-1177
Test Casing Height (ft als)	4.07	Date of Last Development	7/20/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	40.42 (36.35ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	40.42 (36.35 ft blsd)
Test Interval Length (ft)	49	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.92 (37.09 ft blsd)

Set-up Information

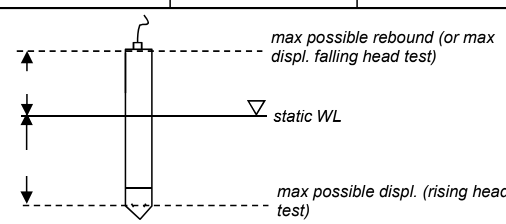
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	43.42	0.04	3.0	3.02
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.10	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	45.42	0.03	6.5	6.5

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 1127 ft blsd; lower element outside NRQ against formation @ 1128 ft blsd



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	1.97	0.49	0.97	1.89
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.06	3.07	3.11	3.11
Pre-test Sub. Annulus	6.53	6.52	6.53	6.51
Expected Displacement (P_Head) (ft)	1.893	0.261	0.842	1.799
Observed Displacement (Test_Int) (ft)	1.886	0.261	0.834	1.806
Slug Discrepancy (%)	0.4%	0%	1%	0.4%
Max Rebound above Static	NA	NA	NA	NA
Post-test Sub. Test_Int	3.10	3.03	3.07	3.02
Residual Dev. from H_o (%)	1.3%	1.3%	1.3%	2.9%
Data Logger File Name	R131.5_ST11A_1128-1177_2ft	R131.5_ST11B_1128-1177_0.5ft	R131.5_ST11C_1128-1177_1ft	R131.5_ST11D_1128-1177_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Mudstone/Cryst Dolostone	Mudstone/Cryst Dolostone	Mudstone/Cryst Dolostone	Mudstone/Cryst Dolostone
Other				
K_h (ft/day)				

Comments: Collecting WQ sample tomorrow 7/22/16

When using Splinter, plug Bernie into A/C pigtail on Splinter

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	12
Site Name:	Romp 131.5 - Morriston	Date:	7/29/2016
Well:	Corehole (UDR)	Performed by:	J. Zydek
Well Depth (ft bls)	1287	Test Interval (ft - ft bls)	1217-1287
Test Casing Height (ft als)	5.11	Date of Last Development	7/28/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	41.58 (36.47 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	41.58 (36.47 ft blsd)
Test Interval Length (ft)	70	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	39.61 (37.78 ft blsd)

Set-up Information

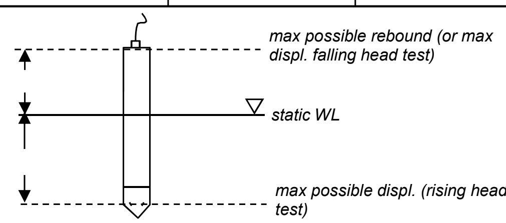
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	41.58	0.00	3.0	3.13
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.13	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	43.92	0.04	4.31	2.38

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 1216 ft blsd; lower element outside NRQ against formation @ 1217 ft blsd



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	1.98	0.47	1.08	2.04
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.15	3.14	3.150	3.15
Pre-test Sub. Annulus	2.38	2.38	2.38	2.39
Expected Displacement (P_Head) (ft)	1.857	0.341	0.994	1.893
Observed Displacement (Test_Int) (ft)	1.872	0.355	0.979	1.922
Slug Discrepancy (%)	0.8%	4.1%	1.5%	1.5%
Max Rebound above Static	1.328	0.29	0.74	1.357
Post-test Sub. Test_Int	3.14	3.14	3.15	3.15
Residual Dev. from H_o (%)	0.32%	0%	0%	0%
Data Logger File Name	R131.5_ST12A_1217-1287_2ft	R131.5_ST12B_1217-1287_0.5ft	R131.5_ST12C_1217-1287_1ft	R131.5_ST12D_1217-1287_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Sucrosic/Crystalline	Sucrosic/Crystalline	Sucrosic/Crystalline	Sucrosic/Crystalline
Other	Fractured Dolostone	Fractured Dolostone	Fractured Dolostone	Fractured Dolostone
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION

SLUG TEST - DATA ACQUISITION SHEET

General Information

Slug Test No.: 13

Site Name:	Romp 131.5 - Morriston	Date:	8/4/2016
Well:	Corehole	Performed by:	J. LaRoche & J. Zydek
Well Depth (ft bls)	1447	Test Interval (ft - ft bls)	1396-1447
Test Casing Height (ft als)	6.1	Date of Last Development	8/4/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	42.46 (36.36 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	42.60 (36.50 ft blsd)
Test Interval Length (ft)	51	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.58 (36.75 ft blsd)

Set-up Information

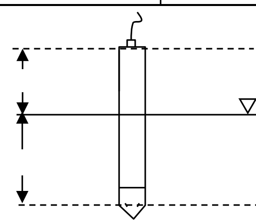
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	45.46	-0.08	3	2.9
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.11	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	43.58	0.02	5	4.9

Data Logger: SPLINTER

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 1395 ft blsd; lower element outside NRQ against formation @ 1396 ft blsd



Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

air pressure (ft)	1.9	-0.54	-1.13	-1.9
	Test A	Test B	Test C	Test D
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	-2.9	-2.90	-2.9	-2.9
Pre-test Sub. Annulus	-4.9	-4.9	-4.9	-4.9
Expected Displacement (P_Head) (ft)	1.821	-0.406	-1.016	-1.719
Observed Displacement (Test_Int) (ft)	1.821	-0.421	-1.045	-1.727
Slug Discrepancy (%)	NA	3.7%	2.9%	0.5%
Max Rebound above Static	1.291	0.312	0.798	1.233
Post-test Sub. Test_Int	-2.90	-2.9	-2.90	-2.90
Residual Dev. from H_o (%)	NA	NA	NA	NA
Data Logger File Name	R131.5_ST13A_1396-1447_2ft	R131.5_ST13B_1396-1447_0.5ft	R131.5_ST13C_1396-1447_1ft	R131.5_ST13D_1396-1447_2ft
Specific Conductance (uS)				
Temperature °C				
Lithology	Dolo-Wackestone	Dolo-Wackestone	Dolo-Wackestone	Dolo-Wackestone
Other				
K_h (ft/day)				

Comments:

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

GEOHYDROLOGIC DATA SECTION
SLUG TEST - DATA ACQUISITION SHEET

General Information

		Slug Test No.:	14
Site Name:	Romp 131.5 - Morriston	Date:	8/23/2016
Well:	Corehole	Performed by:	J. LaRoche
Well Depth (ft bls)	1627	Test Interval (ft - ft bls)	1577-1627
Test Casing Height (ft als)	5.21	Date of Last Development	8/22/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	43.50 (38.29 ft blsd)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	43.50 (38.29 ft blsd)
Test Interval Length (ft)	50	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	38.09 (36.26 ft blsd)

Set-up Information

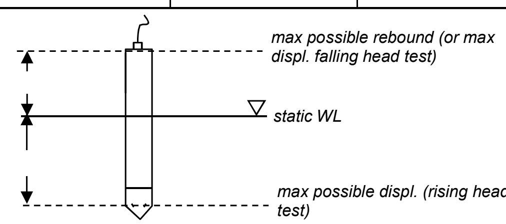
Transducer	Type	Serial No.	Depth (ft)	Reading in Air (ft)	Expected Sub. (ft)	Observed Sub. (ft)
Test Interval CH 1 (Blue)	15 psi	1404390	46.50	-0.00	3	3.11
Pressure Head CH 2 (Red)	15 psi	1415642	NA	0.05	NA	NA
Annulus CH 3 (Yellow)	20 psi	0809063	43.09	0.04	5	4.91

Data Logger: Rafael

Spacer Length (ft): 5 ft

Spacer OD. (inches): 1.662" Combo line OD = 0.43"

Comments: Upper element inflated inside NRQ @ 1576 ft blsd; lower element outside NRQ against formation @ 1577 ft blsd



Note: Pressure head PXD reads just slight out of accuracy range (+0.01')

Note: Reading in Air of the Transducer should be < +/-0.05% of the Full Scale of the Transducer (KPSI 735 and 335 series)

Test Data

	Test A	Test B	Test C	Test D
air pressure (ft)	2.07	0.42	1.05	2.08
Target Displacement (ft)	2.0	0.5	1.0	2.0
Initiation method	pneumatic	pneumatic	Pneumatic	pneumatic
Rising/Falling head	rising	rising	rising	rising
Pre-test Sub. Test_Int	3.12	3.12	3.13	3.12
Pre-test Sub. Annulus	4.91	4.91	4.91	4.93
Expected Displacement (P_Head) (ft)	1.949	0.337	0.938	1.993
Observed Displacement (Test_Int) (ft)	1.934	0.337	0.945	1.986
Slug Discrepancy (%)	0.8%	0.0%	0.7%	0.4%
Max Rebound above Static	1.399	0.264	0.733	1.421
Post-test Sub. Test_Int	3.13	3.12	3.09	3.13
Residual Dev. from H_o (%)	0.3%	0.0%	1.3%	0.3%
Data Logger File Name	R131.5_ST14A_1577-1627_2ft.cs	R131.5_ST14B_1577-1627_0.5ft.cs	R131.5_ST14C_1577-1627_1ft.c	R131.5_ST14D_1577-1627_2ft.csv
Specific Conductance (uS)				
Temperature °C				
Lithology	Vug/Fracture Dolostone	Vug/Fracture Dolostone	Vug/Fracture Dolostone	Vug/Fracture Dolostone
Other				
K_h (ft/day)				
Comments				

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

SLUG TEST - DATA ACQUISITION SHEET

ST NO. 15

General Information

Wellsite:	ROMP 131.5 - Morriston	Date:	9/14/2016
Well:	Corehole - UDR	Performed by:	J. LaRoche, T. Fallon
Well Depth (ft bls)	1817	Test Interval (ft - ft bls)	1778-1817
Test Casing Height (ft als)	6.02	Date of Last Development	9/12/2016
Test Casing Diameter (in)	2.375	Initial Static WL (ft btoc)	46.62 (40.60 ft bls)
Test Casing Type	NRQ (3")	Final Static WL (ft btoc)	NA (too slow to recover)
Test Interval Length (ft)	39	Slot Size & Filter Pack Type	NA
Annulus Casing Height (ft als)	1.83	Initial Annulus WL (ft btoc)	37.55 (35.72 ft bls)

Set-up Information

Expected/Observed

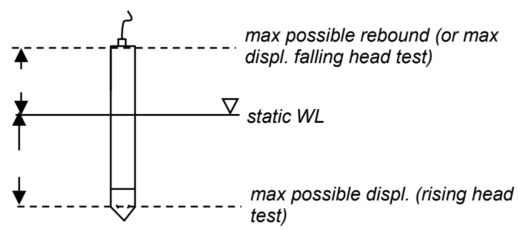
	Type (psi)	Serial No.	Purpose & Depth (ft btoc)		Reading in air (ft)	Submergence (ft)
Transducer #1	15 (+/- 0.10)	1404390	test casing	50.51	-0.0002	3.89/3.92
Transducer #2	15 (+/- 0.10)	1415642	pressure		0.13	NA
Transducer #3	20 (+/- 0.14)	0809063	annulus	42.55	0.02	5/4.99

Data Logger: Rafael

Spacer Length: 5'

Spacer OD.: 1.662 (combo line = 0.43")

Comments: Upper element inside NRQ rods @ 1777'; lower element outside NRQ @ 1778' bls



Note: Reading in Air of the Transducer should be < +/-1% of the Full Scale of the Transducer

Test Data

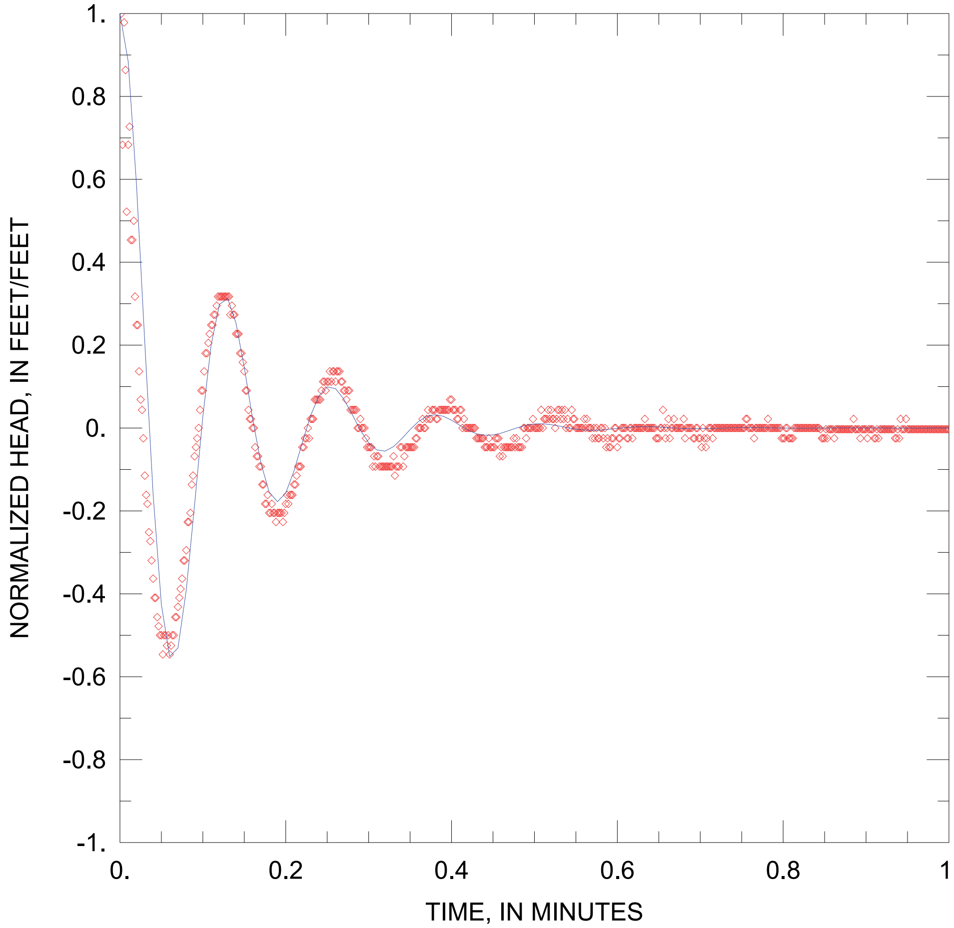
Air Pressure (ft) 0.46

	Test A	Test B	Test C	Test D
Target Displacement (ft)	0.5			
Initiation method	pneumatic			
Rising/Falling head	rising			
Pre-test XD #1	3.91			
Pre-test XD #2	4.97			
Expected Displacement (ft)	0.33			
Observed Displacement (ft)	0.322			
Slug Discrepancy (%)	2.4%			
Max Rebound above Static	NA			
Post-test XD #1	3.81			
Residual Dev. from H_o (%)	2.6%			
Data Logger File Name	R131.5_ST15A_1778-1817_0.5f			
Specific Conductance (uS)				
Temperature (C)				
Lithology	Bedded Evaporites			
K_h				
Other				

Comments: Note: Pressure head PXD #2 reading in air 0.13', slightly outside of accuracy range for 15 psi PXD (0.10')

Notes: Slug Discrepancy <10%; Residual Deviation from H_o < 5%; and Maximum Rebound < Spacer Placement above Static

Appendix H. Slug Test Curve Match Analyses for the ROMP 131.5 – Morriston Well Site in Levy County, Florida



R131.5_ST1B_65-85

Data Set: C:\...\R131.5_ST1B_65-85.aqt
Date: 03/19/20 Time: 14:33:29

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 10/7/15

AQUIFER DATA

Saturated Thickness: 322. ft Anisotropy Ratio (Kz/Kr): 0.1

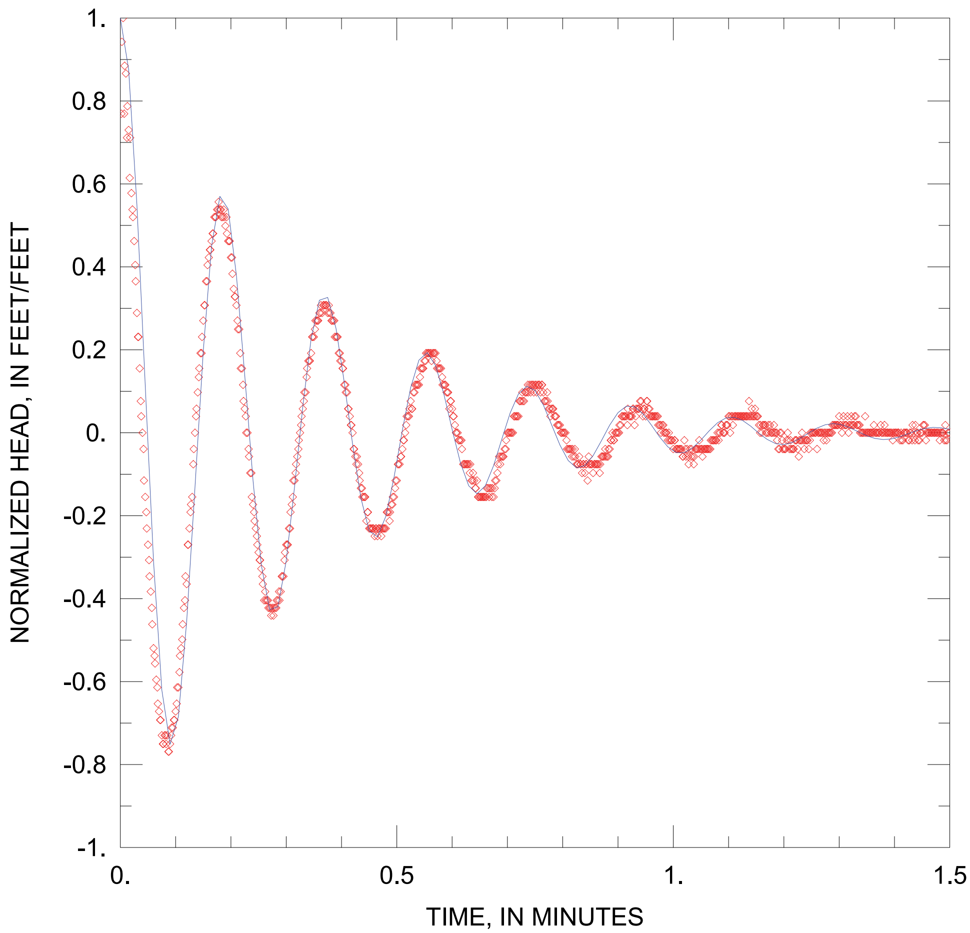
WELL DATA (COREHOLE)

Initial Displacement: -0.322 ft
Total Well Penetration Depth: 49.18 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 49.18 ft
Screen Length: 20. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Butler-Zhan

Kr = 140. ft/day
Kz/Kr = 0.1
Ss = 6.754E-8 ft^{-1}
Le = 46. ft



R131.5_ST2B_162-205

Data Set: C:\...\R131.5_ST2B_162-205.aqt
Date: 03/19/20 Time: 14:37:39

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 12/2/15

AQUIFER DATA

Saturated Thickness: 322. ft Anisotropy Ratio (Kz/Kr): 0.04922

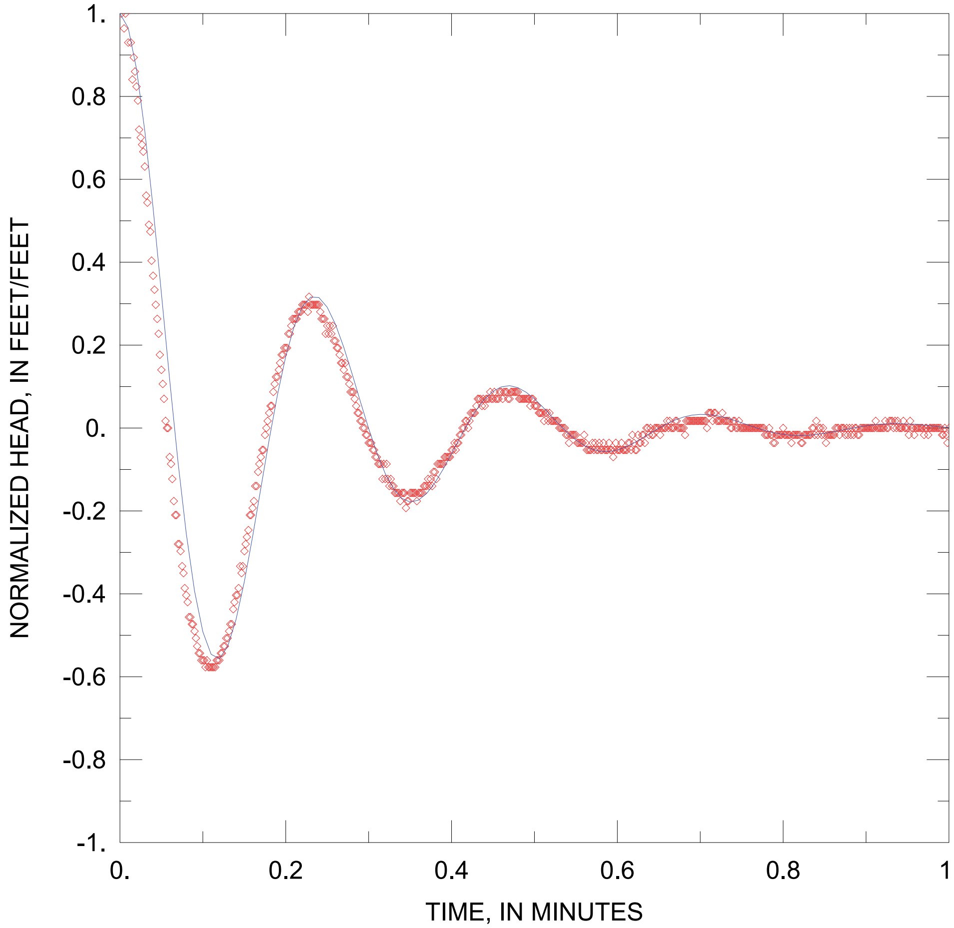
WELL DATA (COREHOLE)

Initial Displacement: -0.381 ft
Total Well Penetration Depth: 168.3 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 168.3 ft
Screen Length: 43. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler-Zhan

Kr = 110. ft/day
Kz/Kr = 0.04922
Ss = 1.8E-6 ft^{-1}
Le = 100.5 ft



R131.5_ST3B_250-287

Data Set: C:\...\R131.5_ST3B_250-287.aqt
Date: 03/19/20 Time: 14:36:52

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 12/15/15

AQUIFER DATA

Saturated Thickness: 322. ft Anisotropy Ratio (Kz/Kr): 1.

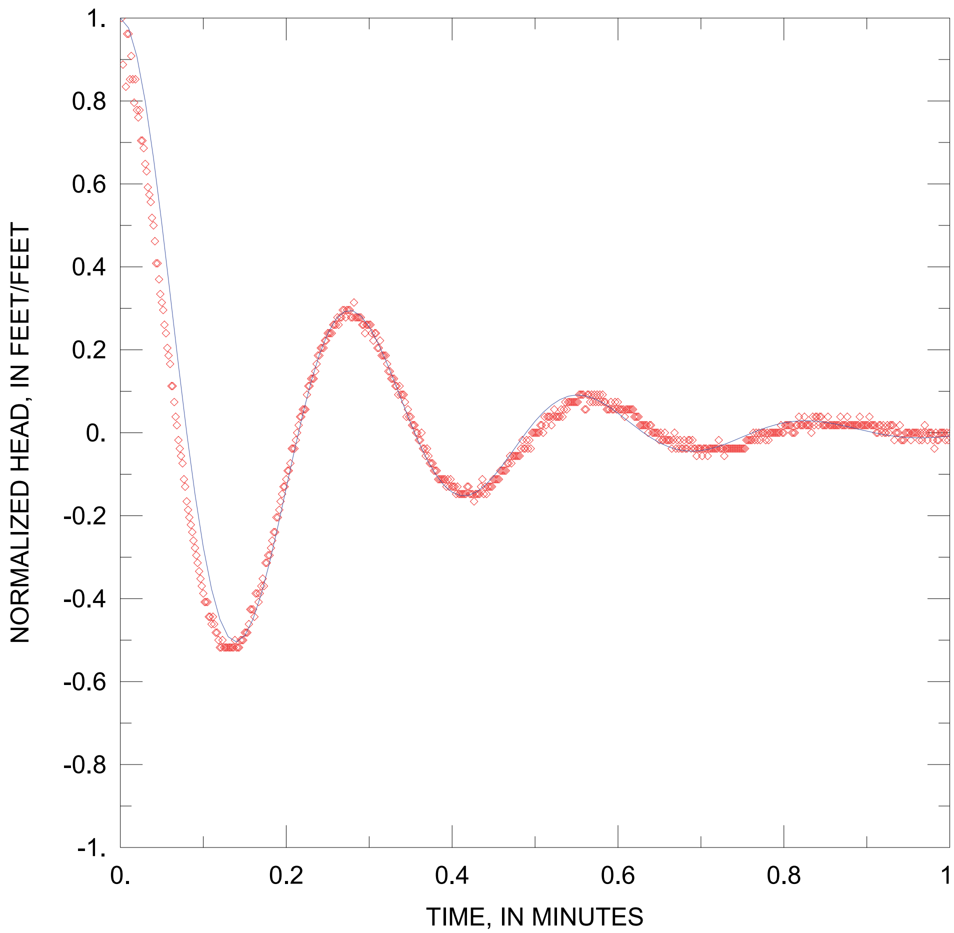
WELL DATA (COREHOLE)

Initial Displacement: -0.414 ft Static Water Column Height: 249.8 ft
Total Well Penetration Depth: 249.8 ft Screen Length: 37. ft
Casing Radius: 0.06838 ft Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler-Zhan

Kr = 39. ft/day Ss = 1.8E-6 ft^{-1}
Kz/Kr = 1. Le = 160. ft



R131.5_ST4B_398-437

Data Set: C:\...\R131.5_ST4B_398-437.aqt
Date: 03/19/20 Time: 14:38:40

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 12/30/15

AQUIFER DATA

Saturated Thickness: 85. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (COREHOLE)

Initial Displacement: -0.392 ft
Total Well Penetration Depth: 400. ft
Casing Radius: 0.06838 ft

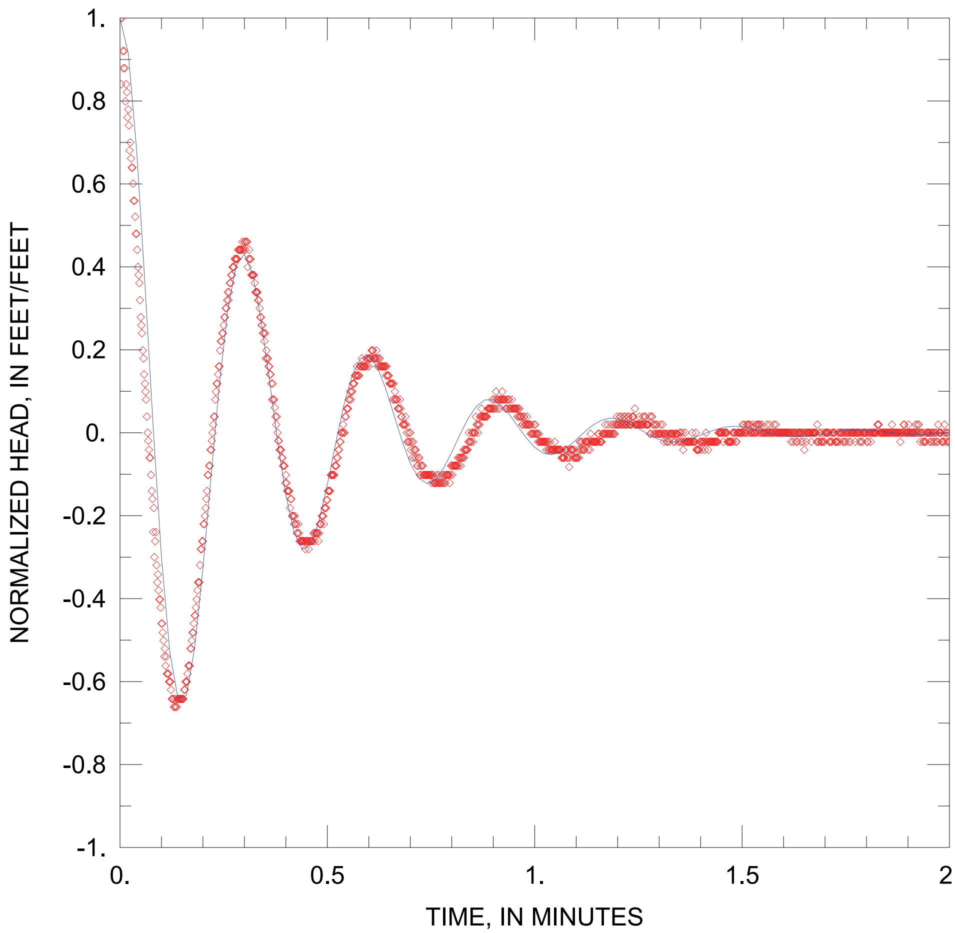
Static Water Column Height: 400. ft
Screen Length: 39. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler-Zhan

Kr = 17. ft/day
Kz/Kr = 1.

Ss = 0.0001814 ft^{-1}
Le = 235. ft



R131.5_ST5B_478-527

Data Set: C:\...\R131.5_ST5B_478-527.aqt
Date: 03/19/20 Time: 14:39:45

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 1/11/16

AQUIFER DATA

Saturated Thickness: 284. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (COREHOLE)

Initial Displacement: -0.363 ft
Total Well Penetration Depth: 491.7 ft
Casing Radius: 0.06838 ft

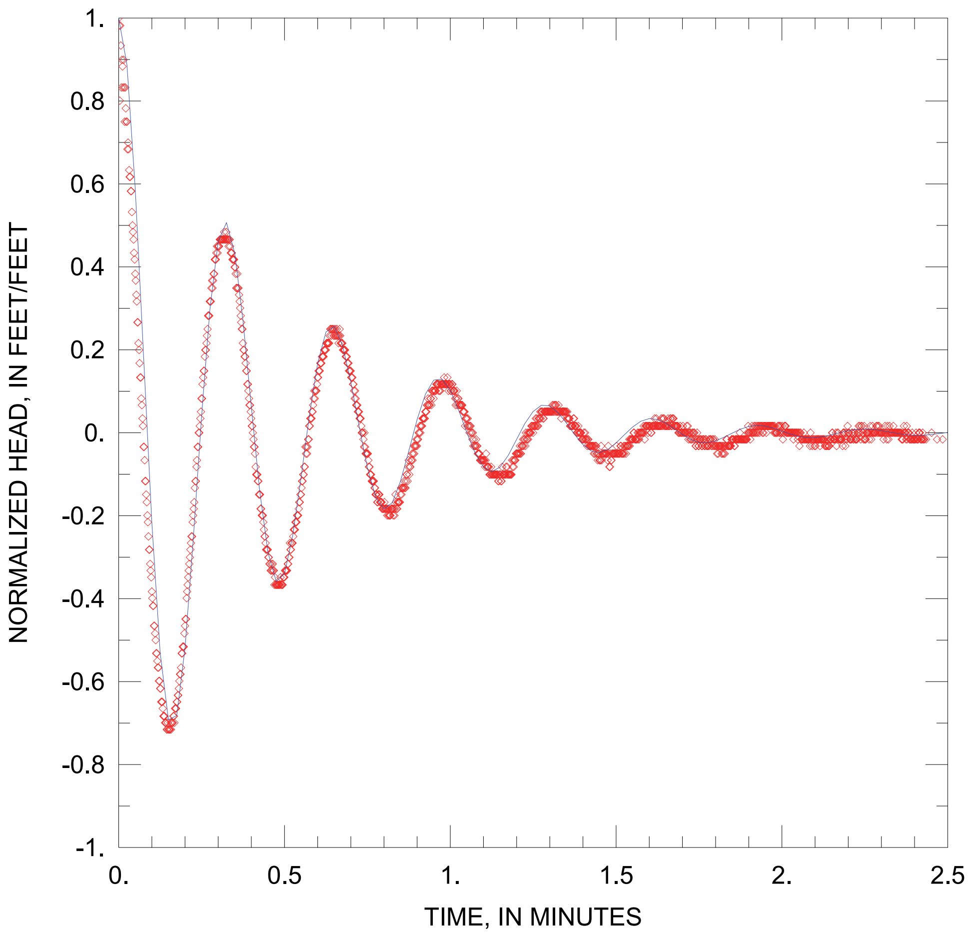
Static Water Column Height: 491.7 ft
Screen Length: 49. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler-Zhan

Kr = 41.7 ft/day
Kz/Kr = 1.

Ss = 1.8E-6 ft^{-1}
Le = 257.5 ft



R131.5_ST6B_546-597

Data Set: C:\...\R131.5_ST6B_546-597.aqt
Date: 03/19/20 Time: 14:40:29

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 1/14/16

AQUIFER DATA

Saturated Thickness: 284. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (COREHOLE)

Initial Displacement: -0.436 ft
Total Well Penetration Depth: 561.8 ft
Casing Radius: 0.06838 ft

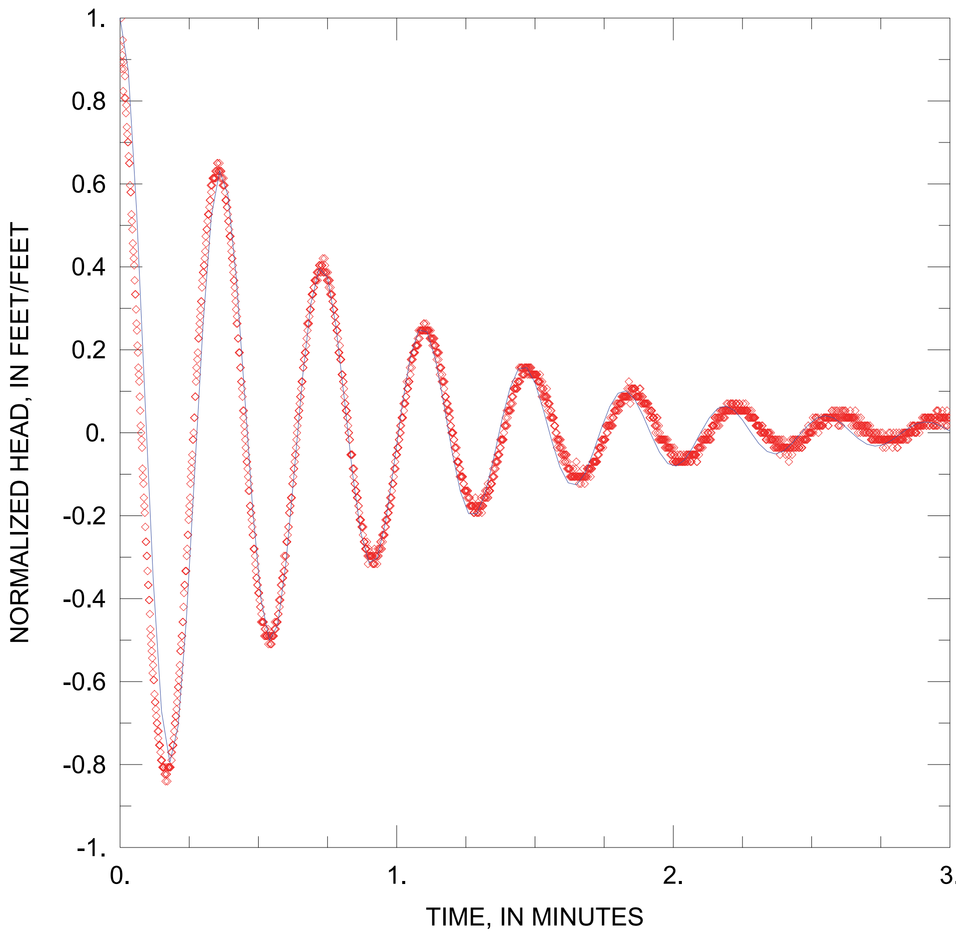
Static Water Column Height: 561.8 ft
Screen Length: 51. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler-Zhan

Kr = 55.13 ft/day
Kz/Kr = 1.

Ss = 1.8E-6 ft^{-1}
Le = 303.2 ft



R131.5_ST7B_708-757

Data Set: C:\...\R131.5_ST7B_708-757.aqt
Date: 03/19/20 Time: 14:41:28

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 1/26/16

AQUIFER DATA

Saturated Thickness: 284. ft Anisotropy Ratio (Kz/Kr): 1.

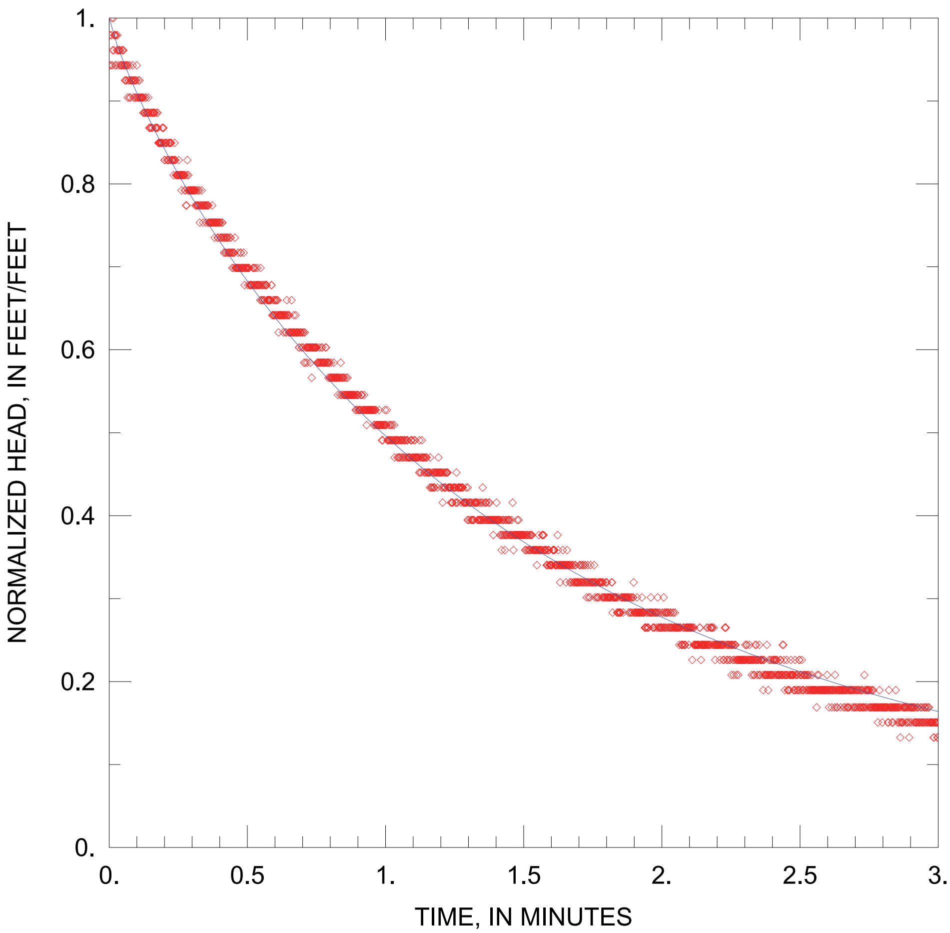
WELL DATA (COREHOLE)

Initial Displacement: -0.414 ft
Total Well Penetration Depth: 722.1 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 722.1 ft
Screen Length: 49. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Butler-Zhan

Kr = 150. ft/day
Kz/Kr = 1.
Ss = 1.8E-6 ft^{-1}
Le = 388.1 ft



R131.5_ST8A_781-817

Data Set: C:\...\R131.5_ST8B_781-817.aqt
Date: 03/19/20
Time: 14:45:19

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 1/27/16

AQUIFER DATA

Saturated Thickness: 175. ft

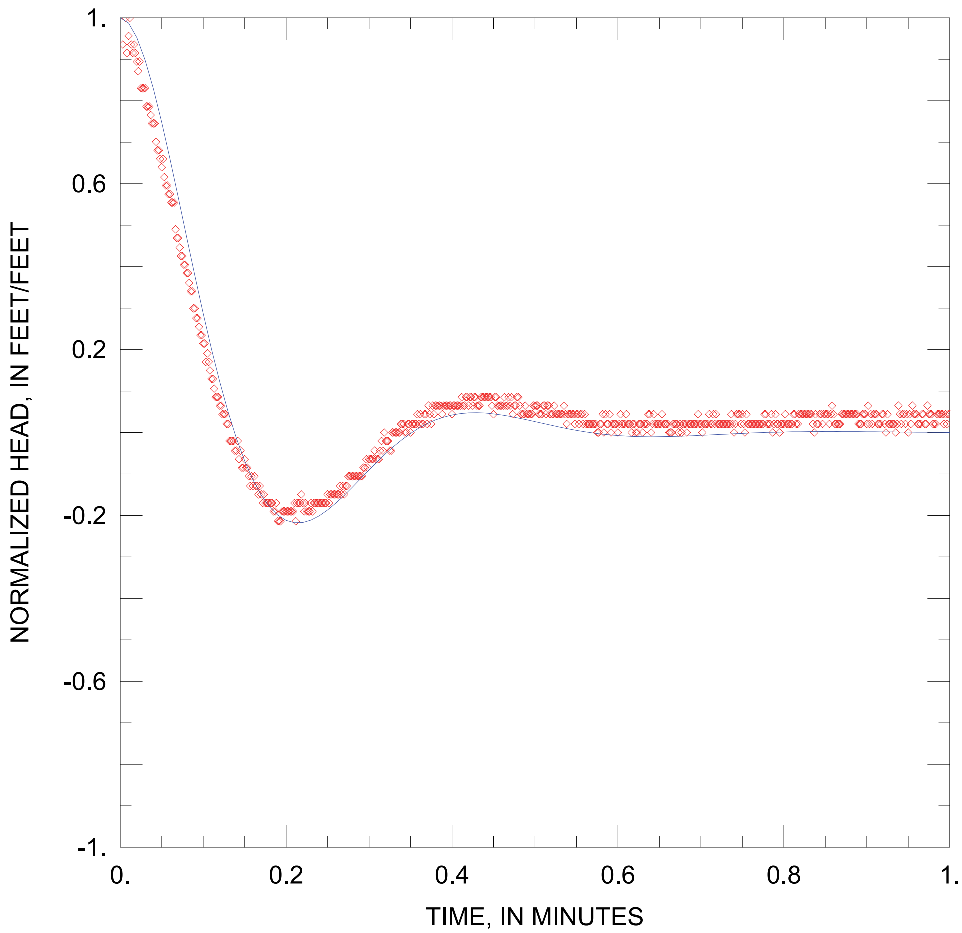
WELL DATA (COREHOLE)

Initial Displacement: -0.385 ft
Total Well Penetration Depth: 779.6 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 779.6 ft
Screen Length: 36. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: KGS Model

Kr = 0.2821 ft/day
Ss = 1.8E-6 ft^{-1}
Kz/Kr = 1.



R131.5_ST9B_921-957

Data Set: C:\...\R131.5_ST9B_921-957_JJL.aqt
Date: 03/12/20 Time: 08:52:53

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 2/2/16

AQUIFER DATA

Saturated Thickness: 215. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (COREHOLE)

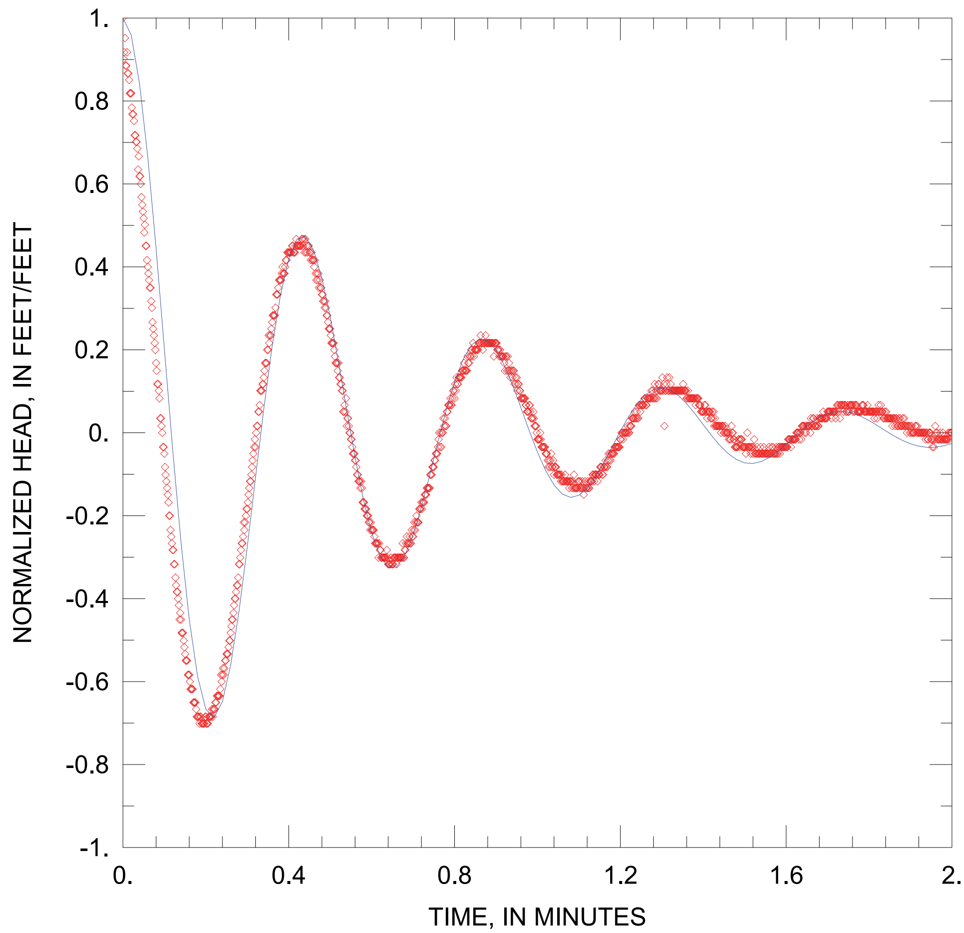
Initial Displacement: -0.341 ft
Total Well Penetration Depth: 921.7 ft
Casing Radius: 0.06838 ft

Static Water Column Height: 921.7 ft
Screen Length: 36. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler

K = 13. ft/day Le = 435. ft



R131.5_ST10A_996-1047

Data Set: C:\...\R131.5_ST10A_996-1047_JJL.aqt
Date: 03/12/20 Time: 08:57:14

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 3/9/16

AQUIFER DATA

Saturated Thickness: 215. ft Anisotropy Ratio (Kz/Kr): 1.

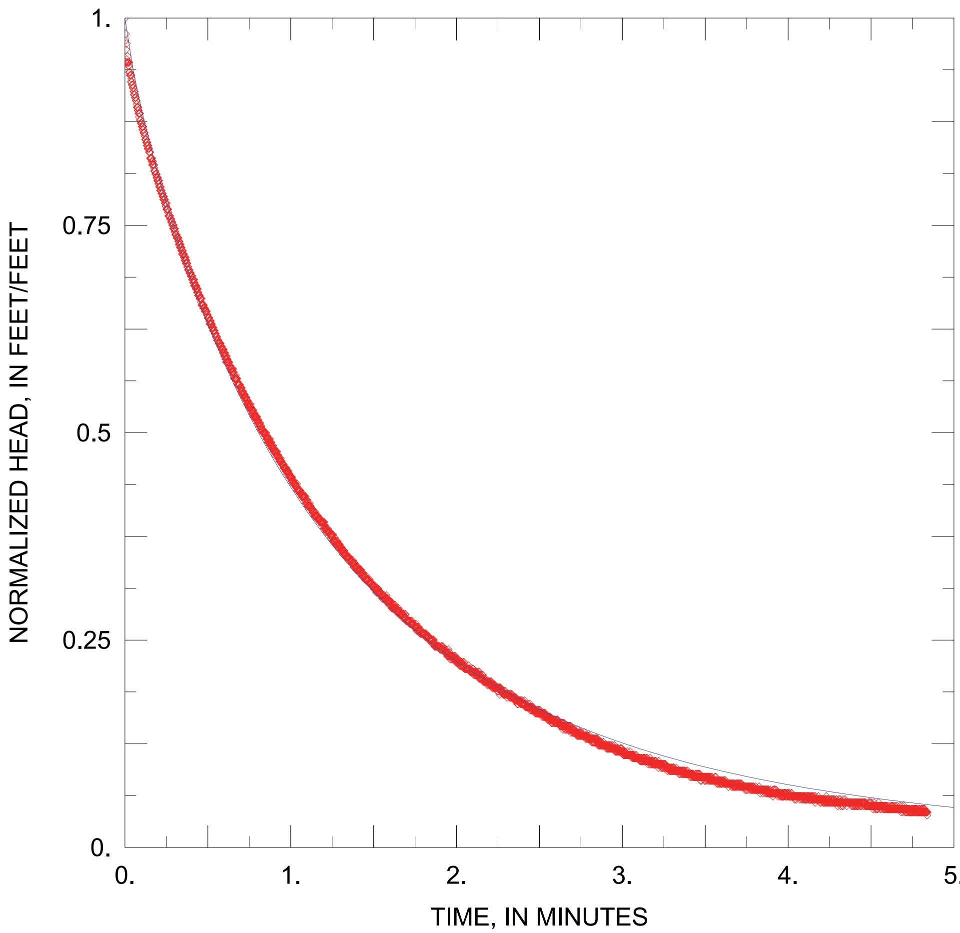
WELL DATA (COREHOLE)

Initial Displacement: -0.435 ft Static Water Column Height: 1012.1 ft
Total Well Penetration Depth: 1012.1 ft Screen Length: 51. ft
Casing Radius: 0.06838 ft Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined Solution Method: Butler-Zhan

Kr = 44. ft/day Ss = 1.81E-6 ft^{-1}
Kz/Kr = 1. Le = 546.6 ft



R131.5_ST11B_1128-1177

Data Set: C:\...\R131.5_ST11B_1128-1177.aqt
Date: 03/12/20 Time: 09:00:09

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 7/21/16

AQUIFER DATA

Saturated Thickness: 864. ft

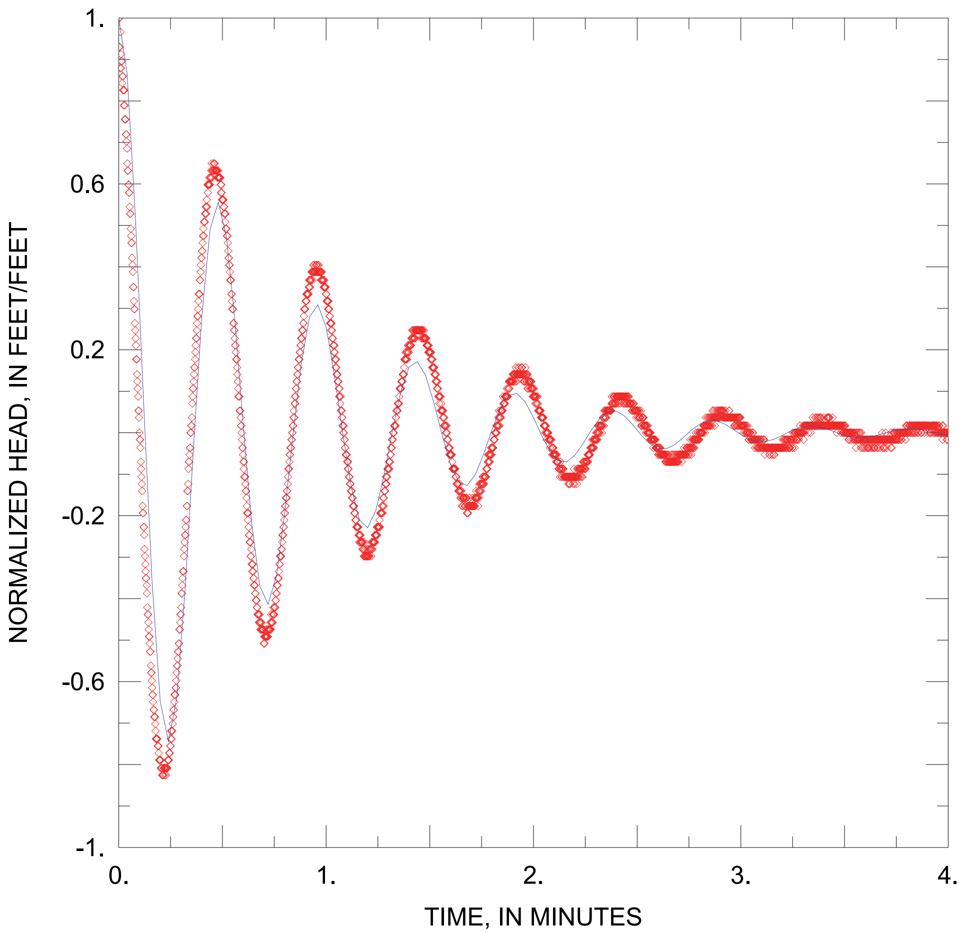
WELL DATA (COREHOLE)

Initial Displacement: -1.886 ft
Total Well Penetration Depth: 1140.7 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 1140.7 ft
Screen Length: 49. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: KGS Model

Kr = 0.25 ft/day
Kz/Kr = 1.
Ss = 1.8E-6 ft^{-1}



R131.5_ST12B_1217-1287

Data Set: C:\...\R131.5_ST12B_1217-1287.aqt
Date: 03/12/20 Time: 09:05:44

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 7/29/16

AQUIFER DATA

Saturated Thickness: 864. ft Anisotropy Ratio (Kz/Kr): 0.9092

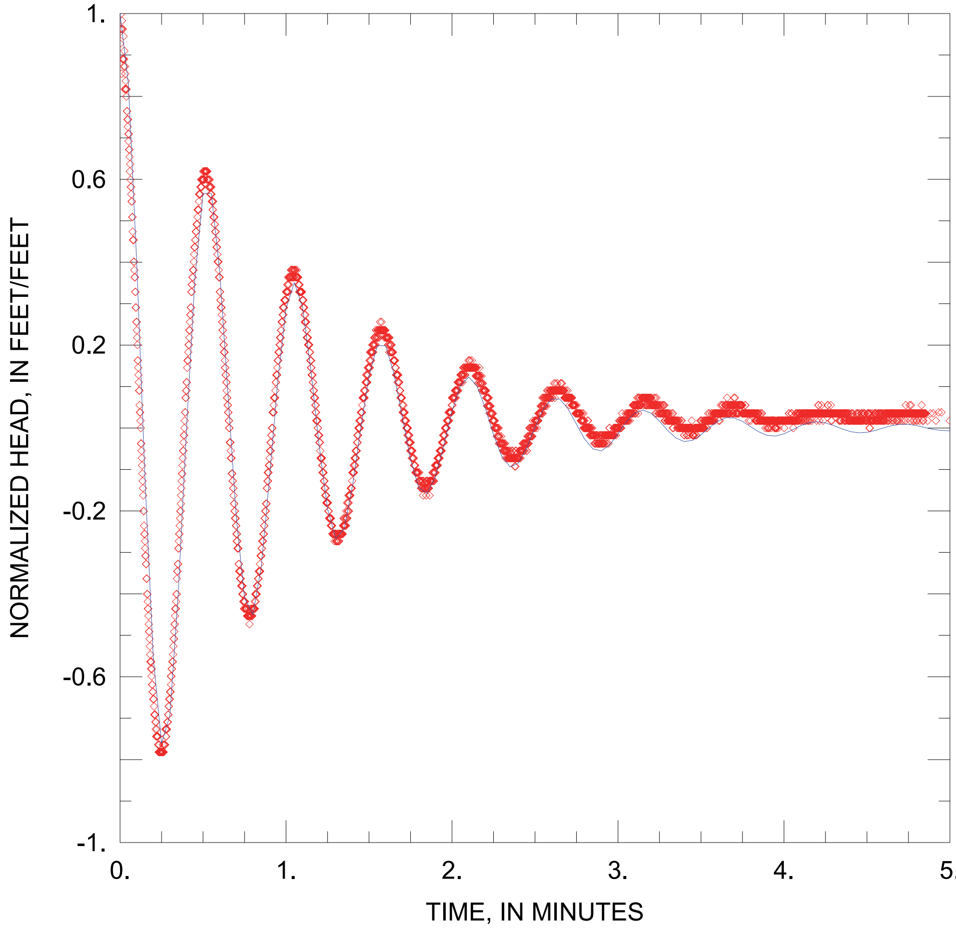
WELL DATA (COREHOLE)

Initial Displacement: -0.413 ft
Total Well Penetration Depth: 1250.5 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 1250.5 ft
Screen Length: 70. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Butler-Zhan

Kr = 314.5 ft/day
Kz/Kr = 0.9092
Ss = 0.001783 ft^{-1}
Le = 662. ft



R131.5_ST13B_1396-1447

Data Set: C:\...\R131.5_ST13B_1396-1447.aqt
Date: 03/12/20
Time: 09:08:44

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 8/4/16

AQUIFER DATA

Saturated Thickness: 864. ft
Anisotropy Ratio (Kz/Kr): 1.

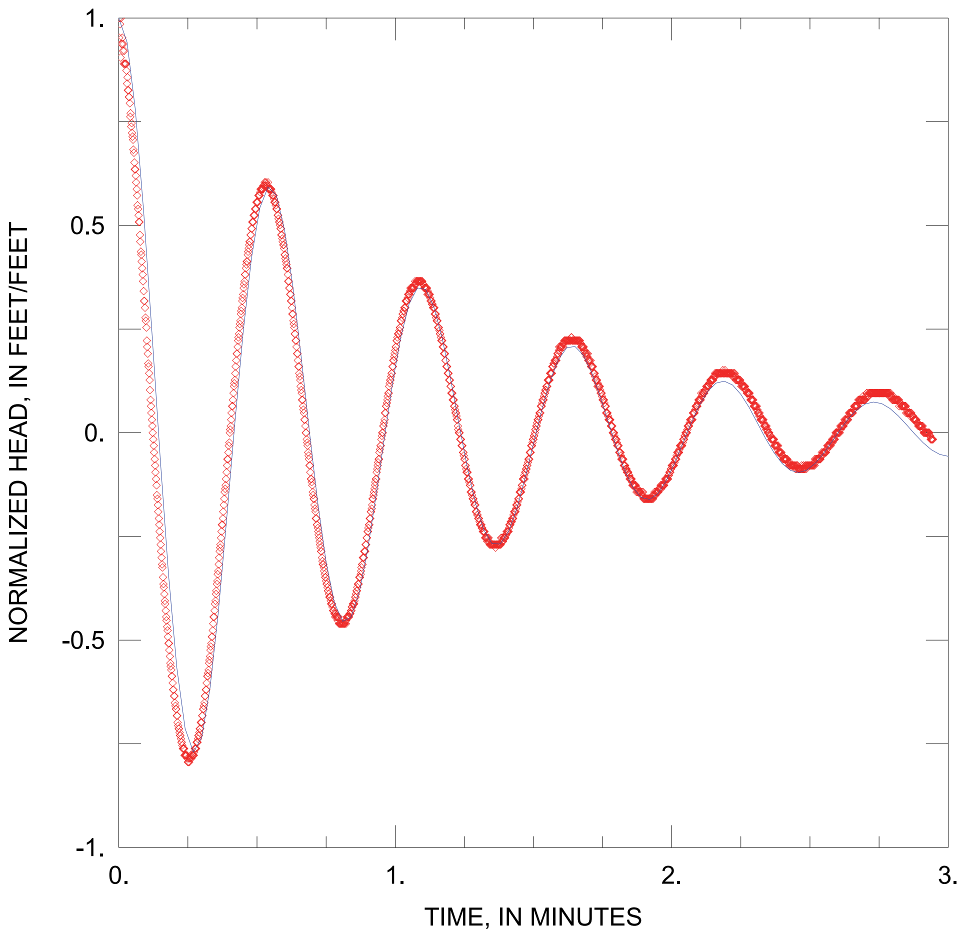
WELL DATA (COREHOLE)

Initial Displacement: -0.399 ft
Total Well Penetration Depth: 1410.6 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 1410.6 ft
Screen Length: 51. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Butler-Zhan

Kr = 150. ft/day
Kz/Kr = 1.
Ss = 1.835E-6 ft^{-1}
Le = 803.5 ft



R131.5_ST14C_1577-1627

Data Set: C:\...\R131.5_ST14C_1577-1627.aqt
Date: 03/12/20
Time: 09:12:58

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 8/23/16

AQUIFER DATA

Saturated Thickness: 864. ft
Anisotropy Ratio (Kz/Kr): 1.

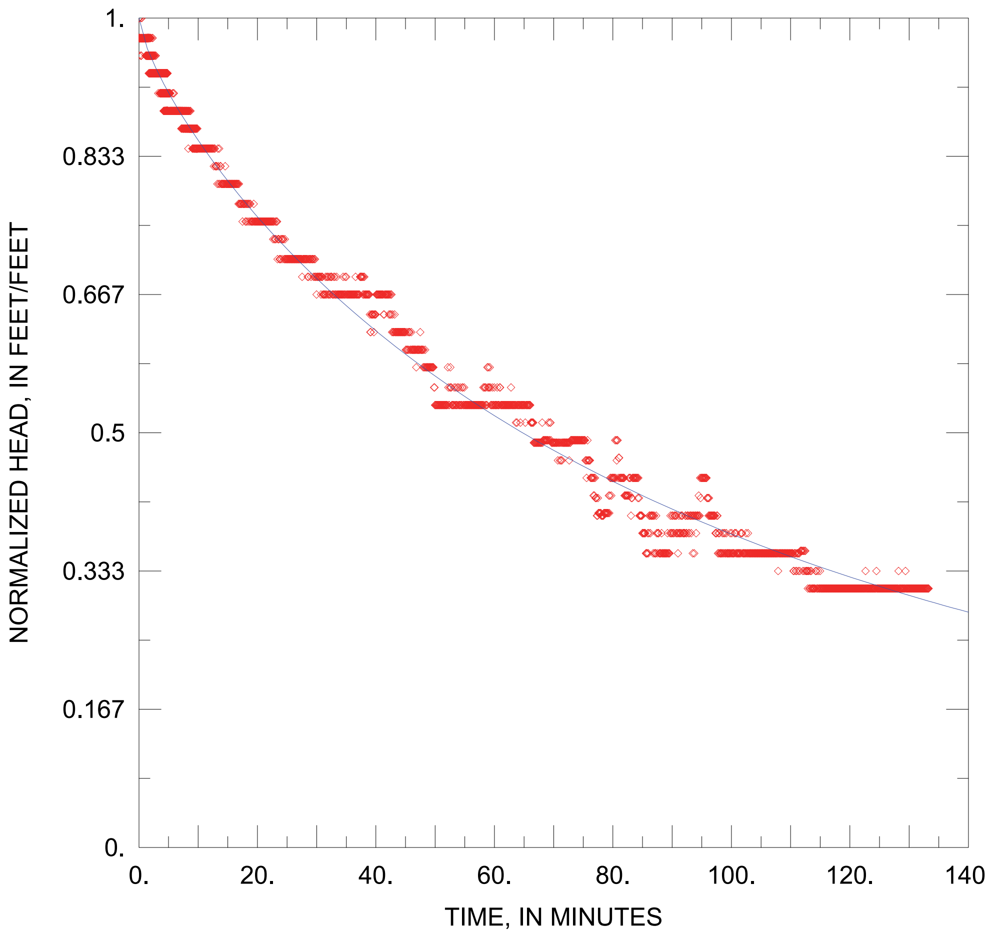
WELL DATA (COREHOLE)

Initial Displacement: -0.923 ft
Total Well Penetration Depth: 1588.7 ft
Casing Radius: 0.06838 ft
Static Water Column Height: 1588.7 ft
Screen Length: 50. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Butler-Zhan

Kr = 270.5 ft/day
Kz/Kr = 1.
Ss = 1.8E-6 ft^{-1}
Le = 870. ft



R131.5_ST15A_1778-1817

Data Set: C:\...\R131.5_ST15A_1778-1817.aqt
Date: 03/12/20 Time: 09:15:54

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: COREHOLE
Test Date: 9/14/16

AQUIFER DATA

Saturated Thickness: 500. ft

WELL DATA (COREHOLE)

Initial Displacement: -0.33 ft
Total Well Penetration Depth: 1776.4 ft
Casing Radius: 0.06838 ft

Static Water Column Height: 1776.4 ft
Screen Length: 39. ft
Well Radius: 0.1263 ft

SOLUTION

Aquifer Model: Confined

Kr = 0.002821 ft/day
Kz/Kr = 1.

Solution Method: KGS Model

Ss = 2.34E-5 ft^{-1}

Appendix I. Daily Water Levels Recorded During Exploratory Core Drilling and Testing at the ROMP 131.5 – Morriston Well Site in Levy County, Florida

Appendix I. Daily water levels recorded during exploratory core drilling and testing at the ROMP 131.5 – Morriston well

[MM/DD/YYYY, month/day/year; HH:MM, hour:minute; HWT/HQ, 4-inch/3-inch internal diameter temporary casing; ft, feet; bls, below land surface; NRQ, built diagrams are in appendix C]

Date (MM/DD/YYYY)	Time (HH:MM)	4-inch HWT/HQ Deepest Casing Depth (ft bls)	3-inch NRQ Core Hole Total Depth (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft NAVD 88)	3-inch NRQ Core Hole Static Water Level (ft bls)	3-inch NRQ Core Hole Static Water Level (ft NAVD 88)
09/30/2015	10:17	0	15	--	--	--	--
10/01/2015	08:30	56	61	--	--	--	--
10/05/2015	11:45	61	63	--	--	--	--
10/06/2015	09:05	61	75	35.86	45.53	35.86	45.53
10/07/2015	09:17	61	85	35.86	45.53	35.85	45.54
10/08/2015	10:20	61	85	35.83	45.56	35.09	46.30
10/12/2015	12:56	61	95	35.83	45.56	35.83	45.56
11/16/2015	13:00	96	97	36.37	45.02	--	--
11/17/2015	09:00	96	117	38.8	42.59	36.45	44.94
11/18/2015	12:00	116	137	35.99	45.40	--	--
11/23/2015	11:30	117	157	36.56	44.83	--	--
11/24/2015	07:30	117	157	37.02	44.37	--	--
11/30/2015	12:05	157	167	36.69	44.70	36.68	44.71
12/01/2015	06:45	157	205	37.76	43.63	36.74	44.65
12/02/2015	07:30	157	205	36.73	44.655	36.75	44.64
12/04/2015	07:30	157	207	37.87	43.52	--	--
12/07/2015	11:50	178	207	36.95	44.44	--	--
12/08/2015	07:15	178	207	38.27	43.12	38.27	43.12
12/09/2015	11:40	207	227	36.97	44.42	36.94	44.45
12/10/2015	07:30	207	247	37.03	44.36	37.01	44.38
12/14/2015	11:30	207	287	37.15	44.24	37.14	44.25

site in Levy County, Florida

2.38-inch internal diameter core drilling rod; NAVD88, North American Vertical Datum of 1988; --, not recorded; well locations are shown in figure 2; well as-

Drilling Water Supply Static Water Level (ft bls)	Drilling Water Supply Static Water Level (ft NAVD 88)	Surficial Aquifer Monitor Static Water Level (ft bls)	Surficial Aquifer Monitor Static Water Level (ft NAVD 88)	Rain Gauge (inches)	Comments
38.02	45.74	--	--	0.04	Punch shoe coring, install rain gauge
38.00	45.76	--	--	0.00	Punch shoe coring
38.03	45.73	--	--	0.10	Direct-water coring
38.04	45.72	--	--	0.00	Direct-water coring
38.04	45.72	--	--	0.00	Direct-water coring
38.07	45.69	--	--	0.08	Packer set (65-85 feet bls) Direct-water coring
38.03	45.73	--	--	0.19	Direct-water coring
--	--	--	--	0.68	
38.76	45.00	19.57	64.58	0.00	HWT casing advanced to 116 feet bls
38.80	44.96	19.74	64.41	0.00	HWT casing slipped to 117 feet bls, NRQ core rods plugged
38.94	44.82	DRY	DRY	0.90	NRQ core rods plugged
38.94	44.82	DRY	DRY	0.00	NRQ core rods out of hole
39.09	44.67	DRY	DRY	0.01	
39.12	44.64	DRY	DRY	0.00	NRQ core rods dropped 8 feet (197-205 feet bls)
39.11	44.65	DRY	DRY	0.00	Packer set (162-205 feet bls)
39.24	44.52	DRY	DRY	0.00	
39.29	44.47	DRY	DRY	0.00	
39.33	44.43	DRY	DRY	0.00	
39.35	44.41	DRY	DRY	0.00	HQ casing advanced to 207 feet bls
39.41	44.35	DRY	DRY	0.00	
39.49	44.27	DRY	DRY	0.00	

Appendix I. Daily water levels recorded during exploratory core drilling and testing at the ROMP 131.5 – Morriston well

[MM/DD/YYYY, month/day/year; HH:MM, hour:minute; HWT/HQ, 4-inch/3-inch internal diameter temporary casing; ft, feet; bls, below land surface; NRQ, built diagrams are in appendix C]

Date (MM/DD/YYYY)	Time (HH:MM)	4-inch HWT/HQ Deepest Casing Depth (ft bls)	3-inch NRQ Core Hole Total Depth (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft NAVD 88)	3-inch NRQ Core Hole Static Water Level (ft bls)	3-inch NRQ Core Hole Static Water Level (ft NAVD 88)
12/15/2015	07:30	207	287	37.11	44.28	37.15	44.24
12/18/2015	07:30	207	287	37.25	44.14	37.29	44.10
12/21/2015	10:15	207	317	37.31	44.08	37.31	44.08
12/22/2015	08:50	208	357	37.36	44.03	--	--
12/28/2015	11:00	357	357	37.41	43.98	37.41	43.98
12/29/2015	07:00	357	437	36.99	44.40	37.00	44.39
12/30/2015	07:45	357	437	37.15	44.235	37.12	44.265
01/04/2016	10:30	357	457	36.67	44.72	36.14	45.245
01/05/2016	07:30	357	467	36.68	44.71	36.35	45.035
01/06/2016	14:00	357	467	36.26	45.13	35.83	45.555
01/07/2016	07:15	357	477	36.25	45.14	36.23	45.155
01/08/2016	07:30	357	527	35.46	45.93	36.02	45.365
01/11/2016	10:45	357	527	35.92	45.47	36.35	45.035
01/12/2016	07:15	357	527	36.48	44.91	35.31	46.075
01/13/2016	07:25	357	557	35.95	45.44	35.26	46.125
01/14/2016	07:30	357	597	35.92	45.47	35.22	46.165
01/19/2016	12:30	357	597	36.17	45.22	35.70	45.685
01/20/2016	07:15	357	607	36.08	45.31	35.24	46.145
01/21/2016	07:30	358	667	35.51	45.88	35.28	46.105
01/25/2016	08:30	358.6	727	35.59	45.80	34.99	46.395
01/26/2016	07:30	358.6	757	35.62	45.77	34.92	46.465

site in Levy County, Florida

2.38-inch internal diameter core drilling rod; NAVD88, North American Vertical Datum of 1988; --, not recorded; well locations are shown in figure 2; well as-

Drilling Water Supply Static Water Level (ft bls)	Drilling Water Supply Static Water Level (ft NAVD 88)	Surficial Aquifer Monitor Static Water Level (ft bls)	Surficial Aquifer Monitor Static Water Level (ft NAVD 88)	Rain Gauge (inches)	Comments
39.54	44.22	DRY	DRY	0.08	
39.63	44.13	DRY	DRY	1.50	
39.70	44.06	DRY	DRY	0.00	
39.70	44.06	DRY	DRY	0.00	NRQ core rods tripped out
39.90	43.86	DRY	DRY	0.01	
39.86	43.90	DRY	DRY	0.00	
39.93	43.83	DRY	DRY	0.24	
40.09	43.67	DRY	DRY	1.00	
40.17	43.59	DRY	DRY	0.00	
40.12	43.64	DRY	DRY	0.00	Composite water level may not be fully equilibrated
40.14	43.62	DRY	DRY	0.00	
40.15	43.61	DRY	DRY	0.20	
40.32	43.44	DRY	DRY	0.10	
40.28	43.48	DRY	DRY	0.00	Packer set (478-527 feet bls)
40.32	43.44	DRY	DRY	0.00	
40.33	43.43	DRY	DRY	0.00	Packer set (546-597 feet bls)
40.48	43.28	DRY	DRY	1.05	
40.48	43.28	DRY	DRY	0.00	
40.51	43.25	DRY	DRY	0.00	HQ casing slipped 1 foot
40.61	43.15	DRY	DRY	0.70	NRQ core rods measured at 10:45
40.63	43.13	DRY	DRY	0.00	

Appendix I. Daily water levels recorded during exploratory core drilling and testing at the ROMP 131.5 – Morriston well

[MM/DD/YYYY, month/day/year; HH:MM, hour:minute; HWT/HQ, 4-inch/3-inch internal diameter temporary casing; ft, feet; bls, below land surface; NRQ, built diagrams are in appendix C]

Date (MM/DD/YYYY)	Time (HH:MM)	4-inch HWT/HQ Deepest Casing Depth (ft bls)	3-inch NRQ Core Hole Total Depth (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft NAVD 88)	3-inch NRQ Core Hole Static Water Level (ft bls)	3-inch NRQ Core Hole Static Water Level (ft NAVD 88)
01/27/2016	07:30	358.6	797	36.91	44.48	34.64	46.745
01/28/2016	07:15	358.6	817	36.78	44.61	34.87	46.515
01/29/2016	07:15	358.6	857	38.33	43.06	34.82	46.565
02/01/2016	13:15	363.5	917	38.34	43.05	34.81	46.575
02/02/2016	07:00	363.5	937	38.39	43.00	35.07	46.315
02/03/2016	07:15	363.5	967	38.42	42.97	35.23	46.155
02/04/2016	07:00	370	993	35.17	46.215	--	--
02/08/2016	08:45	462	993	35.04	46.35	--	--
02/09/2016	07:15	612	993	35.16	46.23	--	--
02/10/2016	07:00	--	993	37.24	44.15	--	--
02/11/2016	07:30	--	993	34.9	46.49	--	--
02/12/2016	07:30	--	993	34.82	46.57	--	--
02/15/2016	10:00	--	993	34.61	46.78	--	--
02/16/2016	08:00	--	993	34.47	46.92	--	--
02/17/2016	07:30	--	993	38.21	43.18	--	--
02/18/2016	07:15	--	993	38.2	43.19	--	--
02/22/2016	09:30	--	993	38.34	43.05	--	--
02/23/2016	07:30	--	993	38.09	43.30	--	--
02/24/2016	08:30	--	993	35.28	46.11	--	--
02/25/2016	07:30	--	993	34.76	46.63	--	--
02/26/2016	07:30	--	993	33.72	47.67	--	--

site in Levy County, Florida

2.38-inch internal diameter core drilling rod; NAVD88, North American Vertical Datum of 1988; --, not recorded; well locations are shown in figure 2; well as-

Drilling Water Supply Static Water Level (ft bls)	Drilling Water Supply Static Water Level (ft NAVD 88)	Surficial Aquifer Monitor Static Water Level (ft bls)	Surficial Aquifer Monitor Static Water Level (ft NAVD 88)	Rain Gauge (inches)	Comments
40.60	43.16	DRY	DRY	0.20	
40.80	42.96	DRY	DRY	0.03	Packer set (781-817 feet bls)
40.88	42.88	DRY	DRY	0.00	
40.72	43.04	DRY	DRY	0.01	HQ casing dropped
40.76	43.00	DRY	DRY	0.00	
40.79	42.97	DRY	DRY	0.00	HQ casing dropped at 12:00
40.78	42.98	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.71	43.05	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.37	43.39	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.69	43.07	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.66	43.10	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.64	43.12	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.58	43.18	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.53	43.23	DRY	DRY	0.70	NRQ core rods tripped out; sweeping core hole & logging
40.54	43.22	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.62	43.14	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.54	43.22	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.54	43.22	DRY	DRY	0.05	NRQ core rods tripped out; sweeping core hole & logging
40.49	43.27	DRY	DRY	0.50	NRQ core rods tripped out; sweeping core hole & logging
40.57	43.19	DRY	DRY	1.50	NRQ core rods tripped out; sweeping core hole & logging
40.59	43.17	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging

Appendix I. Daily water levels recorded during exploratory core drilling and testing at the ROMP 131.5 – Morriston well

[MM/DD/YYYY, month/day/year; HH:MM, hour:minute; HWT/HQ, 4-inch/3-inch internal diameter temporary casing; ft, feet; bls, below land surface; NRQ, built diagrams are in appendix C]

Date (MM/DD/YYYY)	Time (HH:MM)	4-inch HWT/HQ Deepest Casing Depth (ft bls)	3-inch NRQ Core Hole Total Depth (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft NAVD 88)	3-inch NRQ Core Hole Static Water Level (ft bls)	3-inch NRQ Core Hole Static Water Level (ft NAVD 88)
03/02/2016	07:30	--	993	34.61	46.78	--	--
03/03/2016	07:30	--	993	34.84	46.55	--	--
03/07/2016	09:30	949	993	34.58	46.81	--	--
03/08/2016	07:30	949	997	34.62	46.77	34.89	46.495
03/09/2016	07:30	949	1,047	34.51	46.88	34.89	46.495
03/10/2016	07:30	949	1,059	36.99	44.40	34.90	46.485
04/04/2016	12:00	949	1,059	35.45	45.94	35.24	46.145
04/05/2016	07:30	949	1067	35.96	45.43	35.28	46.105
04/13/2016	07:30	949	1,077	36.45	44.94	35.31	46.075
05/04/2016	07:30	949	1,097	37.3	44.09	35.43	45.955
05/05/2016	07:30	949	1127	36.35	45.04	35.66	45.725
07/20/2016	09:30	949	1,157	38.74	42.65	35.88	45.505
07/21/2016	09:10	949	1,177	37.09	44.30	36.33	45.055
07/26/2016	08:00	949	1,177	37.06	44.33	36.35	45.035
07/27/2016	07:05	949	1,207	37.76	43.63	36.47	44.915
07/28/2016	07:05	949	1,257	37.88	43.51	36.36	45.025
07/29/2016	07:20	949	1,287	37.71	43.68	36.45	44.935
08/01/2016	13:15	949	1,307	38.09	43.30	36.42	44.965
08/02/2016	07:30	949	1,327	38.46	42.93	36.37	45.015
08/03/2016	07:30	949	1,387	37.46	43.93	36.32	45.065
08/04/2016	07:30	949	1,447	36.75	44.64	36.38	45.005

site in Levy County, Florida

2.38-inch internal diameter core drilling rod; NAVD88, North American Vertical Datum of 1988; --, not recorded; well locations are shown in figure 2; well as-

Drilling Water Supply Static Water Level (ft bls)	Drilling Water Supply Static Water Level (ft NAVD 88)	Surficial Aquifer Monitor Static Water Level (ft bls)	Surficial Aquifer Monitor Static Water Level (ft NAVD 88)	Rain Gauge (inches)	Comments
40.61	43.15	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.62	43.14	DRY	DRY	0.00	NRQ core rods tripped out; sweeping core hole & logging
40.39	43.37	DRY	DRY	0.08	NRQ core rods tripped out; sweeping core hole & logging
40.69	43.07	DRY	DRY	0.00	
40.76	43.00	DRY	DRY	0.00	
40.73	43.03	DRY	DRY	0.00	
41.13	42.63	DRY	DRY	1.50	
40.12	43.64	DRY	DRY	0.00	
41.31	42.45	DRY	DRY	1.50	
41.74	42.02	DRY	DRY	0.80	
41.79	41.97	DRY	DRY	0.82	
42.00	41.76	DRY	DRY	2.00	
42.01	41.75	DRY	DRY	0.00	
42.08	41.68	DRY	DRY	1.40	
42.07	41.69	DRY	DRY	0.00	
42.06	41.70	DRY	DRY	0.46	
42.16	41.60	DRY	DRY	0.00	
42.11	41.65	DRY	DRY	0.70	
42.12	41.64	DRY	DRY	0.10	
42.11	41.65	DRY	DRY	0.00	
42.14	41.62	DRY	DRY	0.00	

Appendix I. Daily water levels recorded during exploratory core drilling and testing at the ROMP 131.5 – Morriston well

[MM/DD/YYYY, month/day/year; HH:MM, hour:minute; HWT/HQ, 4-inch/3-inch internal diameter temporary casing; ft, feet; bls, below land surface; NRQ, built diagrams are in appendix C]

Date (MM/DD/YYYY)	Time (HH:MM)	4-inch HWT/HQ Deepest Casing Depth (ft bls)	3-inch NRQ Core Hole Total Depth (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft bls)	4-inch HQ Temporary Casing Static Water Level (ft NAVD 88)	3-inch NRQ Core Hole Static Water Level (ft bls)	3-inch NRQ Core Hole Static Water Level (ft NAVD 88)
08/08/2016	08:30	949	1,477	36.45	44.94	36.25	45.135
08/09/2016	07:15	949	1,507	36.55	44.84	36.42	44.965
08/10/2016	07:30	949	1,507	36.36	45.03	36.28	45.105
08/11/2016	07:30	949	1,527	36.19	45.195	36.42	44.965
08/12/2016	07:30	949	1,527	36.13	45.26	36.43	44.955
08/15/2016	12:30	949	1,557	36.29	45.10	36.49	44.895
08/16/2016	14:44	949	1,577	36.38	45.01	36.44	44.945
08/19/2016	07:30	949	1,577	36.54	44.85	36.35	45.035
08/22/2016	11:25	949	1,607	36.29	45.10	36.63	44.755
08/23/2016	09:14	949	1,627	36.26	45.13	36.47	44.915
08/24/2016	09:10	949	1,627	36.32	45.065	36.47	44.915
08/25/2016	09:42	949	1,627	36.32	45.065	36.45	44.935
08/29/2016	11:45	949	1,667	36.2	45.185	36.92	44.465
08/30/2016	10:45	949	1,687	36.21	45.175	37.95	43.435
08/31/2016	07:15	949	1,707	36.03	45.355	39.17	42.215
09/06/2016	11:10	949	1,746	36.03	45.355	38.5	42.885
09/07/2016	07:30	949	1,767	36.04	45.345	38.23	43.155
09/08/2016	07:30	949	1,797	35.95	45.435	38.94	42.445
09/12/2016	13:00	949	1,817	35.76	45.625	38.01	43.375
09/13/2016	07:30	949	1,817	35.72	45.665	41.49	--
09/14/2016	07:30	949	1,817	--	--	40.6	--

site in Levy County, Florida

2.38-inch internal diameter core drilling rod; NAVD88, North American Vertical Datum of 1988; --, not recorded; well locations are shown in figure 2; well as-

Drilling Water Supply Static Water Level (ft bls)	Drilling Water Supply Static Water Level (ft NAVD 88)	Surficial Aquifer Monitor Static Water Level (ft bls)	Surficial Aquifer Monitor Static Water Level (ft NAVD 88)	Rain Gauge (inches)	Comments
42.11	41.65	DRY	DRY	2.00	
42.11	41.65	DRY	DRY	0.42	
42.11	41.65	DRY	DRY	0.50	
42.10	41.66	DRY	DRY	0.90	
42.08	41.68	DRY	DRY	0.20	
42.07	41.69	DRY	DRY	1.00	
42.03	41.73	DRY	DRY	0.25	
41.98	41.78	DRY	DRY	1.00	
41.95	41.81	DRY	DRY	0.11	
41.92	41.84	DRY	DRY	0.00	
41.89	41.87	DRY	DRY	1.25	
41.88	41.88	DRY	DRY	0.00	
41.86	41.9	DRY	DRY	0.00	
41.86	41.9	DRY	DRY	0.06	
41.83	41.93	DRY	DRY	0.20	
41.45	42.31	DRY	DRY	4.25	
41.3	42.46	DRY	DRY	0.00	
41.15	42.61	DRY	DRY	0.00	
40.72	43.04	DRY	DRY	0.00	
40.68	43.08	DRY	DRY	0.00	Packer set (1,778-1,817 feet bls)
40.62	43.14	DRY	DRY	0.11	Packer set (1,778-1,817 feet bls)

Appendix J. Aquifer Performance Test Data Acquisition Sheets for the ROMP 131.5 – Morriston Well Site in Levy County, Florida

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information:

LFA I APT - HERMIT — Pg. 1 of 2

Site Name:	ROMP 131.5 - Morriston	Date:	4/30/2018
Reporting Code:	MORR	Performed by:	Jason LaRoche
County:	Levy	S/T/R:	15/14S/18E
Pumped Well:	LFA I TEMP PUMP SID 903476	Pumped Zone OB(s):	LFA I MONITOR
Pump Type:	Perkins Diesel 6" Lineshaft Turbine		
Test Rate/Duration:	1000 gpm/48 hours	Non-Pumped Zone OB(s):	UFA MONITOR & CH
Pump Set Depth:	124' bls (inside 16' steel @ 187')		LFA II MONITOR

Setup Information:

Datalogger:	InSitu TROLLS	Time Synchronized:	4/30/2018 10:48, 12:17
Datalogger SN:	See below	Time Datum:	SWF 20504 (Jason's Laptop)
Program Name:	R131.5_APT_LFAI		
Program Start Date:	4/25/2018 (BKGD) 4/30/2018 (DD - REC)		
Program End Date:	4/30/2018 (BKGD) 5/7/2018 (DD - REC)		

Test Information:

Pump On Time:	13:27:30 4/30/2018	Flow Meter Totalizer Start:	7098000
Pump Off Time:	16:04:59 5/2/2018	Flow Meter Totalizer End:	10145000

		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	
Well		UFA pump	UFA Mon	UFA CH	FA II-a Pum	LFA I Pump	LFA I Mon	FA I Mon (2	BARO	MGIS TOC SURVEY
Riser ht.	***als ft***	≈ 1	≈ 3	≈ 2	≈	≈ .4	≈ 3'	≈ 3'	-	
TOC elev	***elev ft***									<- Elev Ref. 4/24/2018
static W/L	***btoc ft***	38.36	44.79	39.16	40.76	32.50	40.81	40.81	14.65	<- Date 4/25/2018 15:00
static W/L	***elev ft***									TOC elev - static WL(btoc)
XD Rating	***psi***	30	15	30	100	30	15	15	15	
Serial No.		324569	464396	324737	396485	324740	464414	464546	323512	serial addresses
Reading in Air	***ft***	0.04	0.06	0.04	0.03	0.04	0.06	0.04	14.74	
XD depth	***btoc ft***	60	60	70	50	70	60	60	N/A	
XD elev	***elev ft***									~~TOC elev~~ - XD depth(btoc)
XD subm.	***wl tape ft***	9	3	6	10	5	2	4	8	WL tape value of submergence
XD subm.	***XD read ft***	✓	✓	✓	✓	✓	✓	✓	✓	XD value of submergence
XD Diff.	***ft***									$\text{Subm.}_{\text{WL tape}}$ - Subm._{XD}

Date	Time	CH 1 UFA pump	CH 2 UFA Mon	CH 3 UFA CH	CH 4 LFAII Pump	CH 5 LFA I Pump	CH 6 LFA I Mon	CH 7 LFAI Mon-2	CH 8 BARO	~~Totalizer (g x 1000)~~	Notes
Units	----------->	FT BMP	FT BMP	FT BMP	FT BMP	FT BMP	FT BMP	FT BMP	FT DEPTH		
4/25/18	15:28:54	→	START BKGD							Start	BKGD
4/26/18	13:56:24	→	Start pump for Flowmeter/Logger Pre-test								
4/26/18	14:25:00	→	Stop pump								
4/26/18	15:00:00	38.33	44.78	39.15	40.76	32.44	40.91	40.91	14.65		Rugged Reader
4/30/18	11:40:00	38.36	44.8	39.17	41.05	32.75	41.05	41.09	14.82		V HERMIT
4/30/18	11:58:00	→	Connect & download BKGD (ALL TROLLS)								
4/30/18	12:09:03	→	Stop BKGD							Stop	BKGD
4/30/18	12:55:00	38.36	44.78	39.17	41.01	32.8	41.05	41.05			Taped Reads
4/30/18	13:27:18	→	Start DD							V HERMIT	Start DD

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: LFA I APT - HERMIT Pg. 2 of 2

Site Name: ROMP 131.5 - Morriston
Date: 4/30/18
Reporting Code: MORR
Performed by: Jason LaRoche
County: Levy
S/T/R: 15/14S/18E

Datalogger:		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
Date	Time	UFA Pump	UFA Mon	UFA CH	LFA II-a Mon	LFA I Pump	LFA I Mon	LFA I Mon (2	BARO	(g x 1000)	
		38.36	44.8	39.17	41.05	32.75	41.05	41.09	14.82		(statics)
4/30/2018	13:27:30	→	Pump on, 1335 RPM's levels out @ 1400 RPMs								
4/30/2018	13:44:00	38.26	44.76	39.13	40.98	41.90	42.21	42.25	14.80		VHERMIT
4/30/2018	13:54:00	38.31	44.78	39.23	40.95	41.99	42.41	42.44	14.80		VHERMIT
4/30/2018	14:12:00	38.32	44.8	39.29	40.97	42.28	42.60	42.64	14.80		VHERMIT
4/30/2018	16:48:00	38.28	44.79	39.20	40.87	42.38	42.98	43.00	14.77		VHERMIT
4/30/2018	19:17:00	38.31	44.78	39.25	40.86	42.53	43.08	43.12	14.77		VHERMIT
4/30/2018	21:19:00	38.32	44.80	39.26	40.92	42.68	43.18	43.22	14.79		VHERMIT
4/30/2018	23:16:00	38.32	44.76	39.27	40.89	42.81	43.27	43.31	14.80		VHERMIT
5/1/2018	1:23:00	38.33	44.79	39.26	40.98	42.92	43.33	43.36	14.80		VHERMIT
5/1/2018	3:22:00	38.31	44.78	39.25	40.91	42.87	43.33	43.36	14.79		VHERMIT
5/1/2018	5:23:00	38.31	44.78	39.25	40.87	42.88	43.33	43.35	14.79		VHERMIT
5/1/2018	7:02:00	38.31	44.79	39.26	40.91	42.89	43.34	43.37	14.81		VHERMIT
5/1/2018	7:15:00	→	Download VHERMIT								
5/1/2018	17:37:00	38.31	44.78	39.24	40.89	42.58	43.31	43.34	14.78		VHERMIT
5/1/2018	17:35:00	→	Download VHERMIT								
5/1/2018	19:27:00	38.32	44.79	39.25	40.83	42.61	43.29	43.32	14.78		VHERMIT
5/1/2018	21:05:00	38.33	44.80	39.27	40.84	42.72	43.33	43.36	14.80		VHERMIT
5/1/2018	23:18:00	38.34	44.82	39.28	40.91	42.93	43.93	43.42	14.83		VHERMIT
5/2/2018	1:08:00	38.34	44.80	39.27	40.95	42.97	43.41	43.44	14.83		VHERMIT
5/2/2018	3:24:00	38.32	44.79	39.26	40.94	42.95	43.39	43.32	14.81		VHERMIT
5/2/2018	6:30:00	38.32	44.80	39.26	40.86	42.94	43.37	43.41	14.82		VHERMIT
5/2/2018	7:22:00	→	Download VHERMIT		8:49 (again)						
5/2/2018	9:50:00	→	Tape read SA-OB; Dry since BKGD started								SA-OB
5/2/2018	15:35:00	38.29	44.79	39.23	40.93	42.58	43.39	43.39	14.81		VHERMIT
5/2/2018	15:38:00	→	Download VHERMIT								
5/2/2018	16:04:38	→	Step to Recovery							VHERMIT Step REC	
5/2/2018	16:04:59	→	Pump OFF								Start REC
5/2/2018	16:34:00	→	Download VHERMIT								
5/7/2018	11:06:00	38.35	44.82	39.3	40.86	32.57	40.86	40.89	14.70		VHERMIT
5/7/2018	11:18:00	→	Stop logging all TROLLS							VHERMIT Step REC	
5/7/2018	11:33:00	→	Download VHERMIT (Final)								

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: LFA I APT - FLOW/MANO Pg. 1 of 3

Site Name:	ROMP 131.5 - Morriston	Date:	4/30/2018
Reporting Code:	MORR	Performed by:	Jason LaRoche
County:	Levy	S/T/R:	15/14S/18E
Pumped Well:	LFA I TEMP PUMP SID 903476	Pumped Zone OB(s):	LFA I MONITOR
Pump Type:	Perkins Diesel 6" Lineshaft Turbine		
Test Rate/Duration:	1000 gpm/48 hours	Non-Pumped Zone OB(s):	UFA MONITOR & CH
Pump Set Depth:	124' bls (inside 16" steel @ 187')		LFA II MONITOR

Setup Information: 6" Incline Flowmeter/8" Discharge Pipe x 6" steel orifice

Datalogger:	Michelangelo (CR1000 Flow)	Time Synchronized:	4/26/2018 13:18 (MICH)
Datalogger SN:	and TROLL (700, MANO)	Time Datum:	SWF 20504 (Jason's Laptop)
Program Name:	R131.5_APT_LFAI_FLOW_MICH + R131.5_APT_FLAI_MANO_TROLL		
Program Start Date:	4/30/2018 10:17:32 (MANO+TROLL)		
Program End Date:			

Test Information:

Pump On Time:	13:27:30	4/30/2018	Flow Meter Totalizer Start:	7098000
Pump Off Time:	16:04:59	5/2/2018	Flow Meter Totalizer End:	10145000

		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	
Well		MANO	MANO						6" Flow	
Riser ht.	***als ft***	(TROLL)	(READ)							
TOC elev	***elev ft***									<- Elev Ref.
static W/L	***btoc ft***									<- Date
static W/L	***elev ft***									TOC elev - static WL(btoc)
XD Rating	***psi***	30								
Serial No.		393760								
Reading in Air	***ft***	-0.00								
XD depth	***btoc ft***									
XD elev	***elev ft***									TOC elev - XD depth(btoc)
XD subm.	***wl tape ft***									WL tape value of submergen
XD subm.	***XD read ft***									XD value of submergence
XD Diff.	***ft***									Subm.$_{WL\ tape}$ - Subm.$_{XD}$

Date	Time	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
		MANO	MANO						6" FLOW	(g x 1000)	
Units	----------->	SUMB	HT.						GPM	Gallons	
		(TROLL)	(READ)								
4/25/18	→	Battery check 393760 - 81%; Rugged Reader @ 103 MAH consumed									
4/26/18	12:30:00	→	Onsite to test Flowmeter logger while pumping								
4/26/18	13:00:00	→	Set up ground rod, MICH logger + test program, Rain Gauge Setup								
4/26/18	13:56:24	→	Start pump (MICH already logging)						1019	7068	PRE-TEST
4/26/18	14:00:00	→	No Flow values (-375) @ first, re-run new cables; same								
4/26/18	"	→	Realize needs to be in CH 8 * Not 'FLOW' channel on MICH								
4/26/18	14:15:00								1052	7087	Manual
4/26/18	14:16:00								1053		MICH

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: LFA I APT - FLOW/MANO Pg. 2 of 3

Site Name: ROMP 131.5 - Morriston Date: 4/30/18

Reporting Code: MORR Performed by: Jason LaRoche

County: Levy S/T/R: 15/14S/18E

Datalogger:		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
Date	Time	MANO	MANO					Rain Gauge	6" Flow	(g x 1000)	
		(TROLL)	(READ)						GPM	Gallons	
4/26/18	14:25:00	→	Stop Pump, Download, Stop Program							7098	
4/26/18		→	Note for DD - Plug FLOWMETER in CH 8 on MICH (Not CH 'FLOW')								
4/26/18	15:30:00	-0.00	→	LFA I Log Ready for Manual Start							
4/30/2018	10:17:32	-0.00	→	Start MANO Log - Jim installs TROLL while running @							
4/30/2018		LFA I orifice w/valve CLOSED - will open slowy after water flowing*									
4/30/2018	10:21:00	-0.005	→	Download data prior to install							
4/30/2018	10:48:00	→	Connect and sync MICH clock w/laptop, send program & check read in air								
4/30/2018	10:57:00								-0.507	7098	Manual
4/30/2018	10:00:00	→	Check rain gauge					0.0"			Manual
4/30/2018	13:27:30	→	Pump on, initially 1335 RPMs; levels out to 1400 RPM's								
4/30/2018	13:30:00	→	Pumping @ about 1400 RPMs						1000		
4/30/2018	13:34:00					1400 RPM's		→	990	7104	Manual
4/30/2018	13:43:00		39/40" = 1006/1019 GPM (GEO Weir table)								Manual
4/30/2018	13:58:00								995	7128	Manual
4/30/2018	14:22:00	→	Download MICH						995		MICH
4/30/2018	14:53:00	→	Collect WQ sample from LFA I Pump (903476) @ well head								WQ Sample*
4/30/2018	Cont.	→	Gauged diverter off cooling water hose (before rt angle drive)								"
4/30/2018	Cont.	→	Process sample, ice sample, submit to SWFWMD Lab								"
4/30/2018	Cont.	→	Sample collected after 1 hour 26 min of pumping								"
4/30/2018	17:34:00		42/43" = 1044/1056 GPM (GEO Weir Table)								Manual
4/30/2018	17:40:00	about 3.5'		→	Download TROLL-MANO						MANO
4/30/2018	18:28:00								996	7396	Manual
4/30/2018	20:23:00								1003	7510	Manual
4/30/2018	22:25:00								1008	7633	Manual
5/1/2018	1:26:00								1008	7814	Manual
5/1/2018	3:26:00								1013	7936	Manual
5/1/2018	5:26:00								1008		MICH
5/1/2018	6:38:00								1019	8131	Manual
5/1/2018	7:51:00		43/44" = 1056/1069 GPM (GEO Weir Table)								Manual
5/1/2018	7:51:00	about 3.6'		→	Download TROLL-MANO, Download Rugged Reader						MANO
5/1/2018	9:00:00	→	Download MICH-FLOW								
5/1/2018	10:30:00	→	Check rain gauge					0.0"			Manual
5/1/2018	13:31:00					1399 RPM's		→	998	8547	Manual
5/1/2018	17:45	→	Download MICH-FLOW								
5/1/2018	19:07								995	8881	Manual
5/1/2018	21:04								1000	8998	Manual
5/1/2018	23:16					1410 RPM's		→	1006	9130	Manual

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: LFA I APT - FLOW/MANO Pg. 3 of 3

Site Name: ROMP 131.5 - Morriston Date: 5/1/18
Reporting Code: MORR Performed by: Jason LaRoche
County: Levy S/T/R: 15/14S/18E

Datalogger:		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
Date	Time	MANO-TROLL	MANO-READ					Rain Gauge	6" Flow	(g x 1000)	
5/2/18	1:01:00					1415 RPM's		→	1012	9238	Manual
5/2/18	3:26:00								1013		MICH
5/2/18	6:37:00					1417 RPM's		→	1011	9577	Manual
5/2/18	8:07:00								1007		MICH
5/2/18	8:08:00	→	Download MICH								MICH
5/2/18	9:57:00	→	Check Rain Gauge					0.0"			RAIN
5/2/18	12:45:00		42"/43" = 1056/1069 GPM (GEO Weir table)								MANO
5/2/18	12:45:00	3.5'	→	Download MANO-TROLL (Rugged Reader)							MANO
5/2/18	13:00:00					1398 RPM's		→	997	9960	Manual
5/2/18	15:23:00					1394 RPM's		→	995	10104	Manual
5/2/18	15:25:00								994		MICH
5/2/18	15:25:00	→	Battery 13.16 V, Lithium Battery = 3.50								MICH
5/2/18	15:27:00	→	Download FLOW-MICH								MICH
5/2/18	16:04:59	→	Pump OFF							Start	RGC
5/2/18	16:06:00								0.0	10145	Manual
5/2/18	16:17:00								0		MICH
5/2/18	16:20:00	→	Download MICH (FINAL)								MICH
5/2/18	16:52:00	-0.01'	→	Download MANO-TROLL (FINAL) to Rugged Reader							MANO
5/2/18	17:05:00	→	Transfer MANO-TROLL (Final) to Laptop								MANO

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: UFA APT - TROLLS Pg. 1 of 2

Site Name:	ROMP 131.5 - Morriston	Date:	5/14/2018
Reporting Code:	MORR	Performed by:	Jason LaRoche
County:	Levy	S/T/R:	15/14S/18E
Pumped Well:	U FLDN AQ TEMP PUMP	Pumped Zone OB(s):	U FLDN AQ MONITOR
Pump Type:	Perkins Diesel 10" Lineshaft Turbine		COREHOLE, DW Supply
Test Rate/Duration:	3300 gpm/48 hours	Non-Pumped Zone OB(s):	L FLDN AQ I MONITOR
Pump Set Depth:	78' bls (inside 16" steel @ 85')		L FLDN AQ I TEMP PUMP

Setup Information: 10" Inline Flowmeter / 15.5" ID PVC discharge pipe x 10" steel orifice plate

Datalogger:	InSitu TROLLS	Time Synchronized:	5/14/2018 12:14:00
Datalogger SN:	See below	Time Datum:	SWF 20504 (Jason's Laptop)
Program Name:	R131.5_APT_UFA		
Program Start Date:	5/7/2018 (BKGD)	R131.5_UFA_APT_BKGD_HERMIT	
Program End Date:			

Test Information:

Pump On Time:	12:41:18	5/14/2018	Flow Meter Totalizer Start:	102726 (x1000)
Pump Off Time:	9:23:52	5/16/2018	Flow Meter Totalizer End:	

		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	
Well		UFA pump	UFA Mon	UFA MON (2)	UFA CH	UFA DWS	LFA I Pump	LFA I Mon	BARO	MGIS TOC SURVEY
Riser ht.	***als ft***	≈ 1	≈ 3 '	≈ 3 '	≈ 2 '	≈ 2 '	≈ 0.4 '	≈ 3 '	-	
TOC elev	***elev ft***									<- Elev Ref. 4/24/2018
static W/L	***btoc ft***	38.42	44.82	44.82	39.21	41.85	32.61	40.90	14.69	<- Date 5/7/2018 13:3
static W/L	***elev ft***									TOC elev - static WL(btoc)
XD Rating	***psi***	30	15	15	30	5	30	15	15	*490 not to about 1.2' water. Re ref @ DD-REC log
Serial No.		324569	464396	464546	324737	460490	324740	464414	323512	
Reading in Air	***ft***									
XD depth	***btoc ft***	60	60	60	70	50	70	60	N/A	
XD elev	***elev ft***									TOC elev - XD depth(btoc)
XD subm.	***wl tape ft***									WL tape value of submerge
XD subm.	***XD read ft***	21.57	15.20	15.80	30.73	1.14	37.22	19.11	14.69	XD value of submergence
XD Diff.	***ft***					Note* not set @ 50				$Subm._{WL\ tape}$ - $Subm._{XD}$

Date	Time	CH 1 UFA pump	CH 2 UFA Mon	CH 3 UFA MON (2	CH 4 UFA CH	CH 5 UFA DWS	CH 6 LFA I Pump	CH 7 LFA I Mon	CH 8 BARO	Totalizer (g x 1000)	Notes
Units	----------->	FT BMP	FT BMP	FT BMP	FT BMP	FT BMP	FT BMP	FT BMP	FT DEPTH	BARO	
5/7/18	13:59:49	→	START BKGD			*Not set @ 50				Start	BKGD
5/7/18	14:05:00	38.43	44.81	44.81	39.21	41.87	32.60	40.90	14.69		VHERMIT
5/7/18	14:17:00	→	Download VHERMIT								
5/14/18	9:00:00	→	Onsite, overcast and periodic drizzle, 80-100%								
5/14/18	"	→	Chance of rain today through next week*								
5/14/18	11:08:00	38.55	44.92	44.93	39.32	34.93	32.75	41.02	14.71		VERHMIT
5/14/18	11:17:00	→	Stop BKGD, Download VHERMIT (FINAL*)								VERHMIT
5/14/18	11:27:00	→	Setup DD-REC								VERHMIT
5/14/18	11:55:00	38.55	44.96	44.96	39.35	42.02	32.80	41.05			Taped
5/14/18	12:15:00	38.56	44.96	44.96	39.35	42.02	32.80	41.06	14.71		VERHMIT

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information:			UFA APT - TROLLS	Pg. 2 of 2
Site Name:	ROMP 131.5 - Morriston	Date:	4/30/18	
Reporting Code:	MORR	Performed by:	Jason LaRoche	
County:	Levy	S/T/R:	15/14S/18E	

Datalogger:		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
Date	Time	UFA Pump	UFA Mon	UFA Mon (2)	UFA CH	UFA PWS	LFA I Pump	LFA I Mon	BARO	(g x 1000)	
Statics	→	38.56	44.96	44.96	39.35	42.02	32.80	41.06	14.71	← Static	WLs
5/14/2018	12:38:40	→	Start DD-REC on MICH								MICH
5/14/2018	12:40:48	→	Start DD-REC on VHERMIT								VHERMIT
5/14/2018	12:41:18	→	Pump on								DD
5/14/2018	12:47:00	39.23	45.04	45.04	39.41	42.16	32.79	41.05	14.71		VHERMIT
5/14/2018	13:36:00	39.54	45.06	45.06	39.41	42.17	32.77	41.04	14.70		VHERMIT
5/14/2018	15:31:00	39.15	45.07	45.08	39.43	42.20	32.71	40.98	14.68		VHERMIT
5/14/2018	15:24:00	→	Download VHERMIT								VHERMIT
5/14/2018	17:17:00	39.00	45.07	45.08	39.43	42.20	32.64	40.92	14.66		VHERMIT
5/14/2018	17:18:00	→	Download VHERMIT								
5/14/2018	19:43:00	39.36	45.09	45.10	39.44	42.21	32.61	40.89	14.65		VHERMIT
5/14/2018	21:22:00	39.46	45.10	45.11	39.5	42.22	32.65	40.92	14.67		VHERMIT
5/14/2018	23:11:00	39.37	45.09	45.09	39.45	42.21	32.69	40.95	14.67		VHERMIT
5/15/2018	1:41:00	39.58	45.08	45.08	39.45	42.20	32.70	40.96	14.67		VHERMIT
5/15/2018	4:40:00	38.93	45.09	45.09	39.44	42.21	32.65	40.92	14.66		VHERMIT
5/15/2018	6:41:00	38.96	45.10	45.11	39.46	42.23	32.65	40.91	14.66		VHERMIT
5/15/2018	7:22:00	→	Increase RPM's to 1624 & 3100 gpm								VHERMIT
5/15/2018	"	→	Throttle lock loosened overnight decreasing rate to about 2900 gpm								**
5/15/2018	7:34:00	39.68	45.10	45.10	39.47	42.23	32.66	40.93	14.67		VHERMIT
5/15/2018	16:08:00	39.46	45.07	45.09	39.47	42.24	32.72	40.98	14.66		VHERMIT
5/15/2018	16:09:00	→	Download VHERMIT								VHERMIT
5/15/2018	20:15:00	39.61	45.09	45.10	39.47	42.25	32.66	40.93	14.67		VHERMIT
5/15/2018	22:22:00	39.66	45.08	45.09	39.48	42.26	32.69	40.96	14.68		VHERMIT
5/16/2018	12:18:00	39.47	45.09	45.10	39.48	42.26	32.73	40.99	14.67		VHERMIT
5/16/2018	2:33:00	39.06	45.08	45.10	39.47	42.23	32.73	40.99	14.67		VHERMIT
5/16/2018	4:42:00	39.17	45.07	45.10	39.47	42.23	32.68	40.95	14.66		VHERMIT
5/16/2018	6:44:00	39.73	45.09	45.09	39.48	42.25	32.68	40.95	14.67		VHERMIT
5/16/2018	7:24:00	→	Download VHERMIT								VHERMIT
5/16/2018	9:10:00	→	Download VHERMIT								VHERMIT
5/16/2018	9:13:00	39.89	45.09	45.10	39.48	42.26	32.71	40.97	14.68		VHERMIT
5/16/2018	9:23:20	→	Step MICH and VHERMIT								
5/16/2018	9:23:52	→	Pump OFF								REC
5/16/2018	9:34:00	38.67	45.00	45.01	39.43	42.10	32.72	40.99	14.68		VHERMIT
"	10:12:00	→	Download VHERMIT								VHERMIT
5/16/2018	10:15:00	38.64	44.99	44.99	39.42	42.09	32.75	41.01	14.68		VHERMIT
5/21/2018	12:12:00	38.56	44.90	44.91	39.34	42.01	32.75	41.02	14.75		VHERMIT
5/21/2018	12:17:00	→	Stop DD-REC on VHERMIT								VHERMIT
5/21/2018	12:26:00	→	Download VHERMIT								VHERMIT

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: UFA APT - FLOW/MANO Pg. 1 of 3

Site Name: ROMP 131.5 - Morriston
Date: 5/14/2018
Reporting Code: MORR
Performed by: Jason LaRoche
County: Levy
S/T/R: 15/14S/18E

Pumped Well: U FLDN AQ TEMP PUMP
Pumped Zone OB(s): U FLDN AQ MONITOR
COREHOLE, DW Supply
Pump Type: Perkins Diesel 10" Lineshaft Turbine
Test Rate/Duration: 3300 gpm/48 hours
Non-Pumped Zone OB(s): L FLDN AQ I MONITOR
L FLDN AQ I TEMP PUMP
Pump Set Depth: 78' bls (inside 16" steel @ 85')

Setup Information: 10" Inline Flowmeter / 15.5" ID PVC discharge pipe x 10" steel orifice plate

Datalogger: Michelangelo (CR1000 FLOW)
Time Synchronized: TROLL 393760 9:44 5/14/18
Datalogger SN: and TROLL (700, MANO)
Time Datum: Jason's Laptop (SWF 20504)
Program Name: R131.5_APT_UFA_MICH_FLOW/MANO_TROLL
Program Start Date: 5/14/2018 (MICH FLOW & MANO-TROLL)
MICH FLOW 10:07:22 5/14/18
Program End Date: 5/16/2018 (MICH FLOW & MANO-TROLL)
(CR 1000)

Test Information:

Pump On Time: 12:41:18 5/14/2018
Flow Meter Totalizer Start: 102726 (x1000)
Pump Off Time:
Flow Meter Totalizer End: 110710 (x1000)

		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	
Well		MANO	MANO						10" FLOW	
Riser ht.	***als ft***	(TROLL)	(READ)							
TOC elev	***elev ft***									<- Elev Ref.
static W/L	***btoc ft***									<- Date
static W/L	***elev ft***									TOC elev - static WL(btoc)
XD Rating	***psi***	30								
Serial No.		393760								
Reading in Air	***ft***	-0.01								
XD depth	***btoc ft***									
XD elev	***elev ft***									TOC elev - XD depth(btoc)
XD subm.	***wl tape ft***									WL tape value of submerg
XD subm.	***XD read ft***									XD value of submergence
XD Diff.	***ft***									Subm.$_{WL\ tape}$ - Subm.$_{XD}$

Date	Time	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
		MANO	MANO					Rain Guage	10" FLOW	(g x 1000)	
Units	----------->	SUBM.	HT.					Inches	GPM	Gallons	
		(TROLL)	(READ)								
5/14/18	9:19:00	→	Check rain gauge, move next to trailer 0.76"								RAIN
5/14/18	9:42:00	→	Program MANO TROLL & Battery @ 81%, memory avail = 68%								MANO
5/14/18	9:56:31	→	Start MANO log, Jim install @ TROLL while running @ UFA								MANO
"	"		orifice w/valve CLOSED - will open slowly after water flowing*								MANO
"	10:13:00	→	No rain since last read								RAIN
"	10:17:00	→	Modify MICH program for 10" flow & resend program								MICH
5/14/18	10:25:55	→	Test MICH - Flow reading*						-7.8		MICH
5/14/18	10:39:15	→	Start MICH BKGD								MICH

AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: UFA APT - FLOW/MANO Pg. 2 of 3

Site Name: ROMP 131.5 - Morriston Date: 5/14/18
Reporting Code: MORR Performed by: Jason LaRoche
County: Levy S/T/R: 15/14S/18E

Datalogger:		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
Date	Time	MANO	MANO					Rain Gauge	10" Flow	(g x 1000)	
Units	→	SUBM	HT.					Inches	GPM	gallons	
		(TROLL)	(READ)								
5/14/2018	11:15:00	→	No rain since last read*					0.00"			RAIN
5/14/2018	12:41:18	→	Pump on								
5/14/2018	12:44:00						RPMs -->	1618	3100	102735	FLOW
5/14/2018	12:55:00		62"								MANO
5/14/2018	13:00:00	→	Moderate rain starts								
5/14/2018	13:07:00	→	Download MICH						3073		MICH
5/14/2018	14:09:00	→	Light drizzle, dump gauge					0.17"			RAIN
5/14/2018	14:14:00	→	Collect WQ sample from UFA Temp Pump @ well head								WQ
5/14/2018	"		93 min after start of pumping								WQ
5/14/2018	15:34:00						RPMs -->	1603	3100	103245	FLOW
"	15:36:00	→	Mostly stopped drizzling, dump gauge					0.02"			RAIN
"	15:34:00		61" = 3127 gpm (GEO Weir Table Excel)								MANO
5/14/2018	16:00:00	→	Drizzle stopped, sun peering through some, overcast								
5/14/2018	"		and breezy								
5/14/2018	17:26:00	→	Download MICH						3060		MICH
5/14/2018	17:30:00						RPMs -->	1598	3100	103593	FLOW
5/14/2018	17:33:00	→	Misting only, windy, dump guage					0.0"			RAIN
5/14/2018	19:40:00								3100	103976	FLOW
5/14/2018	21:18:00	→	light sprinkle						3050	104266	FLOW
5/14/2018	23:06:00	→	Heavy rain, check & dump gauge					0.265"	2900	104574	FLOW
5/14/2018	23:10:00								2883		MICH
5/15/2018	1:44:00	→	No rain				RPMs -->	1513	2900	105021	FLOW
5/15/2018	4:40:00								2884		MICH
5/15/2018	6:39:00	→	Dump gauge			0.14"	RPMs -->	1514	2900	105853	FLOW
5/15/2018	6:54:00			54" =							MANO
5/15/2018	7:22:00	→	Increase throttle				RPMs -->	1624	3100		FLOW*
5/15/2018	"	→	Throttle lock not loosened overnight decreasing RPM's								
5/15/2018	8:17:00	→	Download MICH						3105		MICH
5/15/2018	8:35:00	→	Overcast, dump gauge					0.02"			RAIN
5/15/2018	13:22:00	→	Rainstorm @ 13:00, dump gauge					0.18"			RAIN
"	14:11:00		62.5" = 3139 GM (GEO Weir Table)								MANO
"	14:20:00						RPMs -->	1617	3150	107239	FLOW
5/15/2018	16:03:00	→	Overcast, dump gauge					0.06"			RAIN
5/15/2018	16:14:00						RPMs -->		3150	107586	FLOW

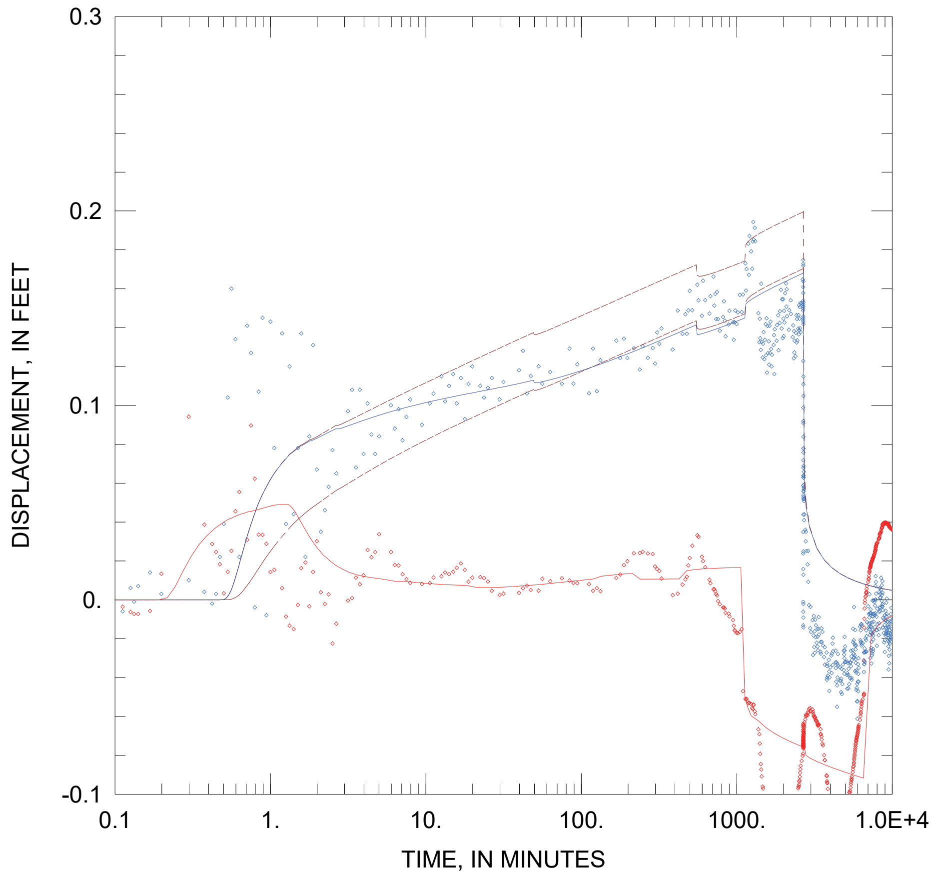
AQUIFER PERFORMANCE TEST - DATA ACQUISITION SHEET

General Information: UFA APT - FLOW/MANO Pg. 3 of 3

Site Name:	ROMP 131.5 - Morriston	Date:	5/15/18
Reporting Code:	MORR	Performed by:	Jason LaRoche
County:	Levy	S/T/R:	15/14S/18E

Datalogger:		CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	Totalizer	Notes
Date	Time	MANO	MANO					Rain Gauge	10" Flow	(g x 1000)	
Units	→	SUBM	HT					Inches	GPM	gallons	
		(TROLL)	(READ)								
5/15/2018	16:19:00	→	Download MICH						3104		MICH
5/15/2018	20:13:00		light sprinkle				RPMs -->	1623	3150	108305	FLOW
5/15/2018	22:19:00		no rain, windy				RPMs -->	1618	3100	108695	FLOW
5/16/2018	12:20:00								3116		MICH
5/16/2018	2:30:00						RPMs -->	1618	3100	109457	FLOW
5/16/2018	4:40:00								3098		MICH
5/16/2018	6:42:00						RPMs -->	1623	3100	110220	FLOW
5/16/2018	6:51:00		64"=	3177.00	GPM	(GEO Weir Table)					MANO
5/16/2018	8:28:00	→	Checked WL in SA OB well			→	Still DRY				SA OB
5/16/2018	9:16:00								3096		MICH
"	9:18:00								3100	110693	FLOW
"	9:23:52	→	Pump OFF								REC
5/16/2018	9:29:00								0.0	110710	FLOW
5/16/2018	9:31:00							0.0			RAIN
5/16/2018	10:00:00		0.0"	→	Download MANO-TROLL & Disconnect						MANO
5/16/2018	10:10:00	→							-2.696	110710	FLOW
5/16/2018	10:10:00	→	Disconnect MICH from flowmeter						-875		MICH
5/16/2018	10:19:00	→	Download MICH & Stop Loggng								MICH
5/16/2018	10:28:00	→	MICH: Batt Voltage = B.21 Lithium Battery =					3.5			MICH
5/21/2018	11:34:00							3.25"			RAIN

Appendix K. Aquifer Performance Test Curve-Match Analyses for the ROMP 131.5 – Morriston Well Site in Levy County, Florida



U FLDN AQ APT

Data Set: C:\...\R131.5_UFA_DD-REC_Mon_Unc-Moench_TrendCorrected.aqt
Date: 08/05/21 Time: 13:37:13

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: U Fldn Aq Temp Pump
Test Date: 5/14/2018

AQUIFER DATA

Saturated Thickness: 322. ft
Anisotropy Ratio (Kz/Kr): 0.005995

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
U Fldn Aq Temp Pump	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
U Fldn Aq Monitor	175	0

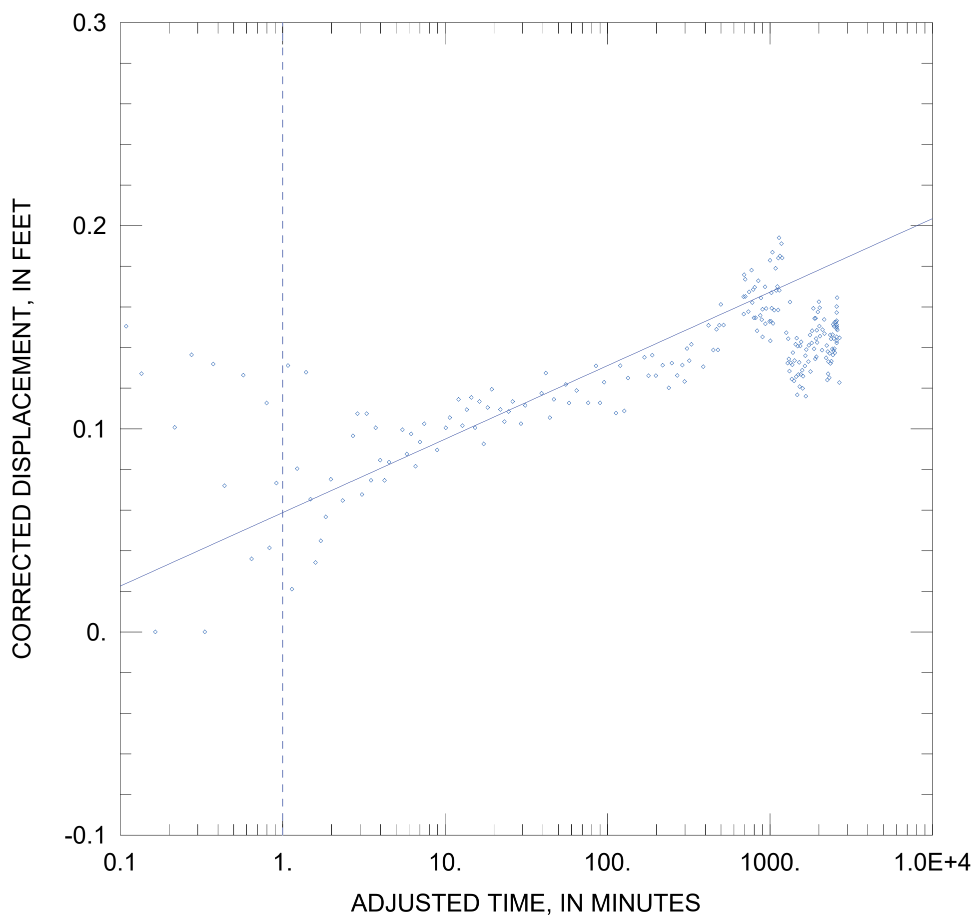
SOLUTION

Aquifer Model: Unconfined
Solution Method: Moench

T = 3.021E+6 ft^2/day
Sy = 0.026
Sw = 0.
r(c) = 0.6667 ft

S = 0.00406
Kz/Kr = 0.005995
r(w) = 0.5 ft
alpha = 1.0E+30 min^{-1}

Figure K1. AQTESOLV© curve-match solution (Moench) of drawdown and recovery data collected from the *U Fldn Aq Monitor* well during the Upper Floridan aquifer pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.



U FLDN AQ APT

Data Set: C:\...\R131.5_UFA_DD-REC_Mon_Unc-C-Jacob_TrendCorrected.aqt
Date: 08/05/21 Time: 11:21:06

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: U Fldn Aq Temp Pump
Test Date: 5/14/2018

AQUIFER DATA

Saturated Thickness: 322. ft Anisotropy Ratio (Kz/Kr): 0.005343

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
U Fldn Aq Temp Pump	0	0

Observation Wells

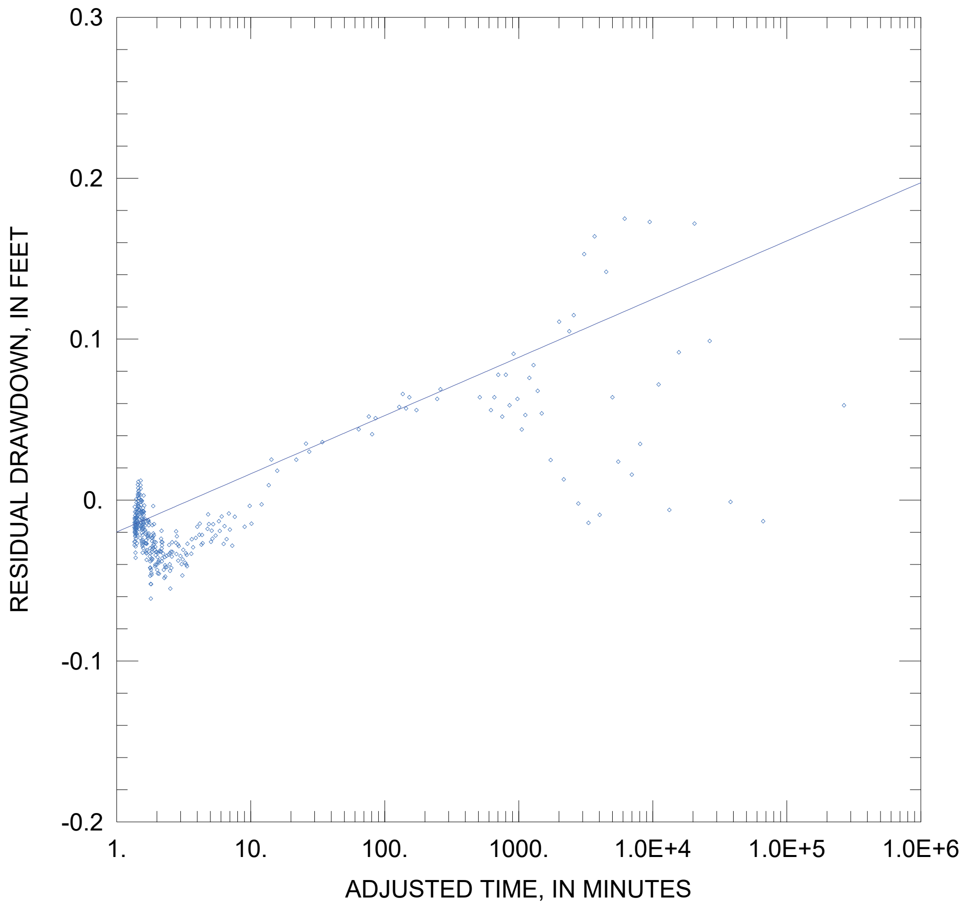
Well Name	X (ft)	Y (ft)
U Fldn Aq Monitor	175	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Cooper-Jacob

T = 3.021E+6 ft^2/day S = 0.00366

Figure K2. AQTESOLV© curve-match solution (Cooper-Jacob) of drawdown data collected from the *U Fldn Aq Monitor* well during the Upper Floridan aquifer pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.



U FLDN AQ APT

Data Set: C:\...\R131.5_UFA_DD-REC_Mon_TheisResDD_TrendCorrected.aqt
Date: 08/05/21 Time: 11:22:17

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: U Fldn Aq Temp Pump
Test Date: 5/14/2018

AQUIFER DATA

Saturated Thickness: 322. ft
Anisotropy Ratio (Kz/Kr): 0.005343

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
U Fldn Aq Temp Pump	0	0

Observation Wells

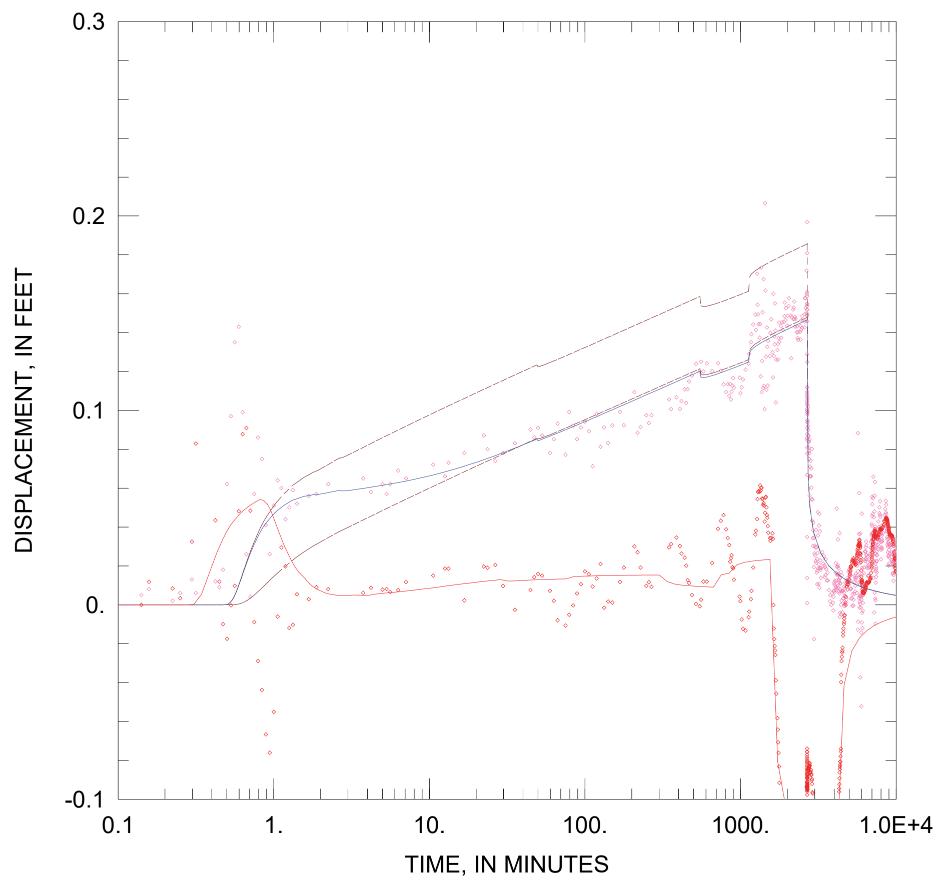
Well Name	X (ft)	Y (ft)
U Fldn Aq Monitor	175	0

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)

T = 3.021E+6 ft^2/day
S/S' = 3.548

Figure K3. AQTESOLV© curve-match solution (Theis residual drawdown/recovery) of recovery data collected from the *U Fldn Aq Monitor* well during the Upper Floridan aquifer pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.



U FLDN AQ APT

Data Set: C:\...\R131.5_UFA_DD-REC_CH_Unc-Moench_TrendCorrected.aqt
Date: 08/05/21 Time: 13:38:31

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: U Fldn Aq Temp Pump
Test Date: 5/14/2018

AQUIFER DATA

Saturated Thickness: 322. ft Anisotropy Ratio (Kz/Kr): 0.4762

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
U Fldn Aq Temp Pump	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
U Fldn Aq Corehole	57	0

SOLUTION

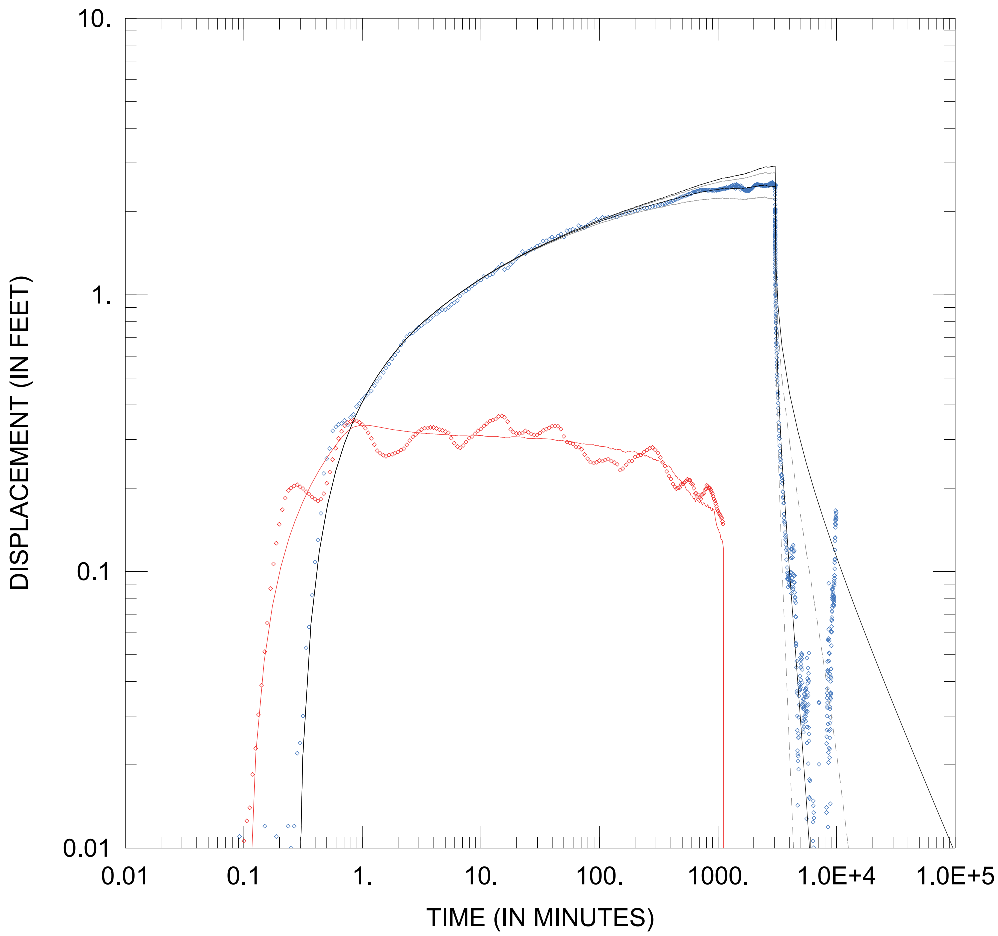
Aquifer Model: Unconfined

Solution Method: Moench

T = 3.021E+6 ft^2/day
Sy = 0.3552
Sw = 0.
r(c) = 0.6667 ft

S = 0.03225
Kz/Kr = 0.4762
r(w) = 0.5 ft
alpha = 1.0E+30 min^{-1}

Figure K4. AQTESOLV© curve-match solution (Moench) of drawdown and recovery data collected from the *Corehole* during the Upper Floridan aquifer pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.



L FLDN AQ (BELOW MCU I) APT

Data Set: C:\...\R131.5_LFAI_DD-REC_Hantush_TrendCorrected.aqt
Date: 08/05/21 Time: 11:24:25

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: L Fldn Aq below I Temp Pump
Test Date: 4/30/2018

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
L Fldn Aq I Temp Pump	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
◇ L Fldn Aq I Monitor	150	0

SOLUTION

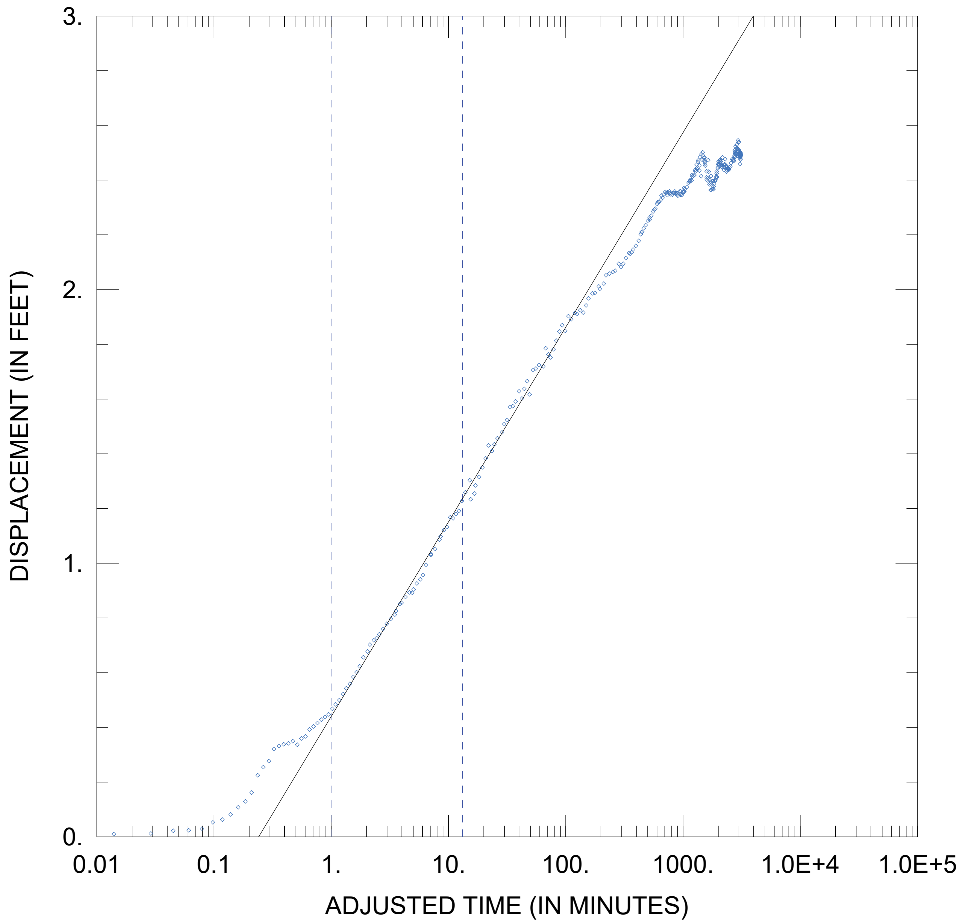
Aquifer Model: Leaky

T = 4.935E+4 ft^2/day
1/B = 0.0001375 ft^{-1}
b = 284. ft

Solution Method: Hantush-Jacob

S = 0.0008233
Kz/Kr = 0.1

Figure K5. AQTESOLV© curve-match solution (Hantush-Jacob) of drawdown and recovery data collected from the *L Fldn Aq (bl MCU I) Monitor* well during the Lower Floridan aquifer below MCU I pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.



L FLDN AQ (BELOW MCU I) APT

Data Set: C:\...\R131.5_LFAI_DD-REC_Cooper-Jacob_TrendCorrected.aqt
Date: 08/05/21 Time: 11:26:35

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: L Fldn Aq I Temp Pump
Test Date: 4/30/2018

AQUIFER DATA

Saturated Thickness: 284. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
L Fldn Aq I Temp Pump	0	0

Observation Wells

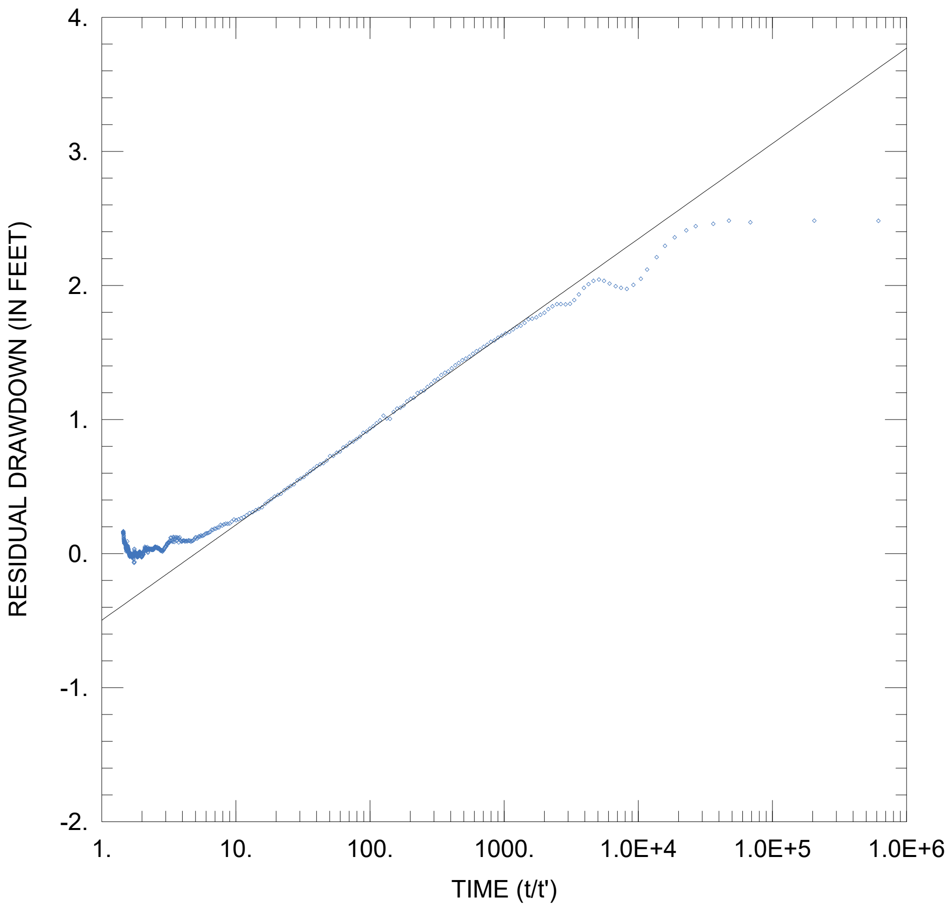
Well Name	X (ft)	Y (ft)
◦ L Fldn Aq I Monitor	150	0

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob

T = 4.935E+4 ft^2/day
S = 0.0008233

Figure K6. AQTESOLV© curve-match solution (Cooper-Jacob) of drawdown data collected from the *L Fldn Aq (bl MCU I) Monitor* well during the Lower Floridan aquifer below MCU I pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.



L FLDN AQ (BELOW MCU I) APT

Data Set: C:\...\R131.5_LFAI_DD-REC_TheisResidualDD_TrendCorrected.aqt
Date: 08/05/21 Time: 11:27:58

PROJECT INFORMATION

Company: SWFWMD
Project: ROMP 131.5 - Morriston
Location: Levy County, Florida
Test Well: L Fldn Aq I Temp Pump
Test Date: 4/30/2018

AQUIFER DATA

Saturated Thickness: 284. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
L Fldn Aq I Temp Pump	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
L Fldn Aq I Monitor	150	0

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)

T = 4.935E+4 ft^2/day
S/S' = 5.012

Figure K7. AQTESOLV© curve-match solution (Theis residual drawdown/recovery) of recovery data collected from the *L Fldn Aq (bl MCU I) Monitor* well during the Lower Floridan aquifer below MCU I pump test conducted at the ROMP 131.5 – Morriston well site in Levy County, Florida.

Appendix L. Water Quality Sample Data Acquisition Sheets for the ROMP 131.5 – Morriston Well Site in Levy County, Florida

WATER QUALITY SAMPLE ACQUISITION

WQ No. 1

General Information

Wellsite	Romp 131.5 - Morriston	Date	10/8/2015
Well	Corehole	Time	13:25
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	85	Packed Interval (ft-ft bls)	65-85
Casing (HW) Depth (ft bls)	61	Packed Interval (m-m bls)	19.8-25.9
Casing (HW) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	35.87
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	35.86

Note: 1ft = 0.3048 m

Purge Volume (gallons)

1	0.2301	g/ft	X	65	ft (interval)	=	NA	gallons
2	0.3623	g/ft	X	20	ft (interval)	=	7.22	gallons

TOTAL PURGE VOLUME (one) = 7.25 gallons

Pump Method: Whaler submersible pump

Airline Length: 70 feet

Discharge Rate (gpm): 0.22 gpm

Purge Volume /Discharge Rate: 32.9 minutes **X THREE =** 98.9 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Upper packer element inside NQ rods @ 64 ft blsd. Lower element outside NQ against formation @ 65 ft blsd.

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
12:30	303	24.21	7.84
13:07	304	24.31	7.62

Start Purge 11:51

End Purge 13:21

Sample Time 13:25

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	305
Temperature (°C)	24.36
pH (SU)	7.63

Photometer Serial # A08121380-152a

Chloride (mg/l)	6.9
Sulfate (mg/l)	7.0
pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 2

General Information

Wellsite	Romp 131.5 - Morriston	Date	12/1/2015
Well	Corehole	Time	14:26
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	205	Packed Interval (ft-ft bls)	162-205
Casing (HQ) Depth (ft bls)	157.5	Packed Interval (m-m bls)	49.4-62.5
Casing (HQ) Diameter (in.)		Initial Test Interval WL (ft bls)	36.74
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	37.76

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	162	ft (interval)	=	37.3	gallons
O.H. 2	0.3623	g/ft	X	43	ft (interval)	=	15.6	gallons
					TOTAL PURGE VOLUME (one) =		52.9	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 6 gpm

Purge Volume /Discharge Rate: 8.8 minutes **X THREE =** 26.5 minutes

Collection Method: Surface Discharge or Wireline Bailer Nested Bailer

Comments: Upper element inflated inside NRQ @ 161 ft. Lower element outside NRQ against formation @ 162 ft blsd.

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
13:58	317	24.66	8.40
14:06	317	24.47	8.52

Start Purge 13:44

End Purge 14:11

Sample Time 14:26

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	319
Temperature (^{o}C)	23.65
pH (SU)	7.90

Photometer Serial # A08121380-152a

Chloride (mg/l)	6.2
Sulfate (mg/l)	3
pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 3

General Information

Wellsite	Romp 131.5 - Morriston	Date	12/15/2015
Well	Corehole	Time	10:37
SID#	853980	Performed by	J. LaRoche & T. Fallon

Well Depth (ft bls)	287	Packed Interval (ft-ft bls)	250-287
Casing (HQ) Depth (ft bls)	207	Packed Interval (m-m bls)	76.2-87.5
Casing (HQ) Diameter (in.)		Initial Test Interval WL (ft bls)	37.14
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	37.15

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	249	ft (interval)	=	57.3	gallons
O.H. 2	0.3623	g/ft	X	37	ft (interval)	=	13.4	gallons
					TOTAL PURGE VOLUME (one) =		70.7	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 7 gpm

Purge Volume /Discharge Rate: 10.1 minutes **X THREE =** 30.2 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Upper packer element inflated inside NRQ @ 249'; lower element inflated outside as NRQ against formation @ 250'

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
9:15	509	23.79	8.03
9:21	510	23.84	7.94
9:25	510	23.87	8.19
9:30	511	23.90	8.23

Start Purge 10:04

End Purge 10:28

Sample Time 10:37

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	503
Temperature (°C)	22.51
pH (SU)	7.53

Photometer Serial # A08121380-152a

Chloride (mg/l)	7.3
Sulfate (mg/l)	74
pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 4

General Information

Wellsite	Romp 131.5 - Morriston	Date	12/30/2015
Well	Corehole	Time	13:12
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	437	Packed Interval (ft-ft bls)	398-437
Casing (HQ) Depth (ft bls)	357	Packed Interval (m-m bls)	121.3-133.2
Casing (HQ) Diameter (in.)		Initial Test Interval WL (ft bls)	36.94
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	37.32

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	398	ft (interval) =	91.6	gallons
O.H. 2	0.3623	g/ft	X	39	ft (interval) =	14.1	gallons
					TOTAL PURGE VOLUME (one) =	105.7	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 7 gpm

Purge Volume /Discharge Rate: 15.1 minutes **X THREE =** 45.3 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Upper packer element inflated inside NRQ @ 397 ft blsd; lower element outside NRQ against formation @ 398 ft blsd

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
12:29	804	25.14	8.31
12:41	804	25.12	8.42
12:54	804	25.14	8.39

Start Purge 12:12

End Purge 13:04

Sample Time 13:12

Multimeter Serial # 08M100149

Photometer Serial # A08121380-152a

Sp. Cond. (µS/cm)	816	Chloride (mg/l)	10.5
Temperature (^{o}C)	24.34	Sulfate (mg/l)	155
pH (SU)	7.57	pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 5

General Information

Wellsite	Romp 131.5 - Morriston	Date	1/12/2016
Well	Corehole	Time	12:31
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	527	Packed Interval (ft-ft bls)	478-527
Casing (HQ) Depth (ft bls)	357	Packed Interval (m-m bls)	145.7-160.6
Casing (HQ) Diameter (in.)		Initial Test Interval WL (ft bls)	35.31
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	36.48'

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	478	ft (interval)	=	110.0	gallons
O.H. 2	0.3623	g/ft	X	49	ft (interval)	=	17.8	gallons
					TOTAL PURGE VOLUME (one) =		127.8	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 7 gpm

Purge Volume /Discharge Rate: 18.3 minutes **X THREE =** 55 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Upper element of packer inflated inside NRQ rods @ 477 ft, lower element outside NRQ @ 478 ft (against formation)

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
11:38	810	22.11	8.20
11:50	808	22.41	8.20
12:00	808	22.69	8.26
12:10	809	22.71	8.29

Start Purge 11:25

End Purge 12:24

Sample Time 12:30

Multimeter Serial # 08M100149

Photometer Serial # A08121380-152a

Sp. Cond. (µS/cm)	819	Chloride (mg/l)	8.1
Temperature (^{o}C)	22.12	Sulfate (mg/l)	145
pH (SU)	7.45	pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 6

General Information

Wellsite	Romp 131.5 - Morriston	Date	1/14/2016
Well	Corehole	Time	13:37
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	597	Packed Interval (ft-ft bls)	546-597
Casing (HQ) Depth (ft bls)	357	Packed Interval (m-m bls)	166.4-182.0
Casing (HQ) Diameter (in.)		Initial Test Interval WL (ft bls)	35.20
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	35.92

Note: 1ft = 0.3048 m

Purge Volume (gallons)

1	0.2301	g/ft	X	546	ft (interval)	=	125.6	gallons
2	0.3623	g/ft	X	51	ft (interval)	=	18.5	gallons
					TOTAL PURGE VOLUME (one) =		144.1	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 7 gpm

Purge Volume /Discharge Rate: 20.6 minutes **X THREE =** 61.8 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Upper element of packer inflated inside NRQ rods @ 545 ft; lower element outside NRQ rods @ 546 ft (against formation)

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
13:03	883	22.71	8.29
13:12	889	22.85	8.53
13:22	890	23.09	8.59

Start Purge 12:14

End Purge 13:28

Sample Time 13:37

Multimeter Serial # 08M100149

Photometer Serial # A08121380-152a

Sp. Cond. (µS/cm)	900	Chloride (mg/l)	NM
Temperature (°C)	22.71	Sulfate (mg/l)	NM
pH (SU)	7.91	pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 7

General Information

Wellsite	Romp 131.5 - Morriston	Date	1/26/2016
Well	Corehole - UDR	Time	13:15
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	757	Packed Interval (ft-ft bls)	708-757
Casing (NRQ) Depth (ft bls)	707	Packed Interval (m-m bls)	215.8-230.7
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	34.92
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	35.62

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	707	ft (interval)	=	162.7	gallons
O.H. 2	0.3623	g/ft	X	49	ft (interval)	=	17.8	gallons
					TOTAL PURGE VOLUME (one) =		180.5	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 7.5 gpm

Purge Volume /Discharge Rate: 24 minutes **X THREE =** 72.5 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Packer upper element inflated inside NRQ @ 707 ft bls; lower element outside NRQ against formation @ 708 ft bls

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge

Time	Sp. Cond.	Temp.	pH
12:16	582	23.38	9.48
12:26	581	23.96	9.72
12:46	581	24.12	9.81
12:58	581	24.15	9.85

Start Purge 11:50

End Purge 13:06

Sample Time 13:15

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	592
Temperature (°C)	23.74
pH (SU)	8.62

Photometer Serial # A08121380-152a

Chloride (mg/l)	8.1
Sulfate (mg/l)	54
pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 8

General Information

Wellsite	Romp 131.5 - Morriston	Date	1/28/2016
Well	Corehole - UDR	Time	13:43
SID#	853980	Performed by	J. Zydek

Well Depth (ft bls)	817	Packed Interval (ft-ft bls)	781-817
Casing (NRQ) Depth (ft bls)	780	Packed Interval (m-m bls)	238.0-249.0
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	34.87
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	36.78

Note: 1ft = 0.3048 m

Purge Volume (gallons)

~~NRQ 1~~	~~0.2301~~	~~g/ft~~	~~X~~	~~780~~	~~ft (interval)~~	~~=~~	~~179.5~~	~~gallons~~
O.H. 2	0.3623	g/ft	X	36	ft (interval)	=	13	gallons
					TOTAL PURGE VOLUME (one) =		13	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 1 gpm

Purge Volume /Discharge Rate: 13 minutes **X THREE =** 39 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Packer upper element inside NRQ @ 780 ft bls; lower element outside NRQ against formation @ 781 ft bls

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
11:04	1227	24.2	8.23
11:49	1240	24.11	8.25
12:47	1237	22.31	8.15
12:55	1246	23.59	8.20
13:01	1247	23.74	8.20
13:07	1252	23.81	8.21
13:13	1252	23.96	8.21
13:19	1251	24.01	8.21

Start Purge 7:30

End Purge 17:06

Sample Time 13:43

Multimeter Serial # 08M100149

Photometer Serial # A08121380-152a

Sp. Cond. (µS/cm)	569	Chloride (mg/l)	7.9
Temperature (^{o}C)	22.63	Sulfate (mg/l)	40
pH (SU)	7.54	pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 9

General Information

Wellsite	Romp 131.5 - Morriston	Date	2/2/2016
Well	Corehole - UDR	Time	15:00
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	957	Packed Interval (ft-ft bls)	921-957
Casing (NRQ) Depth (ft bls)	920	Packed Interval (m-m bls)	280.7-291.7
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	40.18
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	40.22

Note: 1ft = 0.3048 m

Purge Volume (gallons)

O.H. 1	0.3623	g/ft X	36	ft (interval)	=	13.0	gallons
2	NA	g/ft X	NA	ft (interval)	=	NA	gallons
				TOTAL PURGE VOLUME (one) =		13.00	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 6.05 gpm

Purge Volume /Discharge Rate: 2.2 minutes **X THREE =** 6.5 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Packer upper element inflated inside NRQ @ 920 ft, lower element outside NRQ @ 921 ft blsd.

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge

Time	Sp. Cond.	Temp.	pH
14:26	838	24.41	7.92
14:29	854	24.75	8.00
14:36	876	25.39	7.99

Start Purge 14:23

End Purge 14:40

Sample Time 15:00

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	943
Temperature (^{o}C)	24.47
pH (SU)	7.56

Photometer Serial # A08121380-152a

Chloride (mg/l)	19.0
Sulfate (mg/l)	175
pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 10

General Information

Wellsite	Romp 131.5 - Morriston	Date	3/9/2016
Well	Corehole - UDR	Time	13:03
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	1047	Packed Interval (ft-ft bls)	996-1047
Casing (NRQ) Depth (ft bls)	995	Packed Interval (m-m bls)	303.9-319.1
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	34.93
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	34.58

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	996	ft (interval)	=	229.2	gallons
O.H. 2	0.3623	g/ft	X	50	ft (interval)	=	18.1	gallons
					TOTAL PURGE VOLUME (one) =		247.30	gallons

Pump Method: Reverse - air purge
Airline Length: 100 feet
Discharge Rate (gpm): 16.7 gpm
Purge Volume /Discharge Rate: 14.8 minutes **X THREE =** 45 minutes
Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer
Comments: Packer upper element inflated inside NRQ rods @ 995' blsd; lower element outside NRQ against formation @ 996' blsd

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
12:10	621	24.73	7.99
12:21	645	24.77	8.08
12:33	654	24.61	8.10
12:52	659	25.05	8.10

Start Purge 11:50

End Purge 12:54

Sample Time 13:03

Multimeter Serial # 08M100149

Photometer Serial # A08121380-152a

Sp. Cond. (µS/cm)	670	Chloride (mg/l)	100
Temperature (^{o}C)	24.79	Sulfate (mg/l)	90
pH (SU)	7.39	pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 11

General Information

Wellsite	Romp 131.5 - Morriston	Date	7/26/2016
Well	Corehole - UDR	Time	11:55
SID#	853980	Performed by	J. LaRoche & J. Zydek

Well Depth (ft bls)	1177	Packed Interval (ft-ft bls)	1128-1177
Casing (NRQ) Depth (ft bls)	995	Packed Interval (m-m bls)	343.8-358.7
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	36.35
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	37.06

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	NA	g/ft	X	NA	ft (interval)	=	NA	gallons
O.H. 2	0.3623	g/ft	X	49	ft (interval)	=	17.75	gallons
					TOTAL PURGE VOLUME (one) =		17.75	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 2.5 gpm

Purge Volume /Discharge Rate: 7.1 minutes **X THREE =** 21.3 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Packer upper element inflated inside NRQ rods @ 1127 ft blsd, lower element below NRQ @ 1128 ft blsd

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge

	Time	Sp. Cond.	Temp.	pH
	11:00	591	27.23	7.48
	11:04	584	27.55	8.15
	11:10	567	27.35	8.19
	11:16	574	27.41	8.20
	11:22	586	27.46	8.19
Sample --->	11:55	605	27.02	7.39
		+/- 5%	+/- 0.2	+/- 0.1

Start Purge 10:12

End Purge 11:30

Sample Time 11:55

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	605
Temperature (°C)	27.02
pH (SU)	7.39

Photometer Serial # A08121380-152a

Chloride (mg/l)	115
Sulfate (mg/l)	80
pH (SU)	--

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 12

General Information

Wellsite	Romp 131.5 - Morriston	Date	7/29/2016
Well	Corehole - UDR	Time	14:00
SID#	853980	Performed by	J. Zydek

Well Depth (ft bls)	1287	Packed Interval (ft-ft bls)	1217-1287
Casing (NRQ) Depth (ft bls)	995	Packed Interval (m-m bls)	370.9-392.3
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	41.58
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	39.59

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	NA	g/ft	X	NA	ft (interval)	=	NA	gallons
O.H. 2	0.3623	g/ft	X	70	ft (interval)	=	25.361	gallons
					TOTAL PURGE VOLUME (one) =		25.361	gallons

Pump Method: Reverse - air

Airline Length: 100 feet

Discharge Rate (gpm): 12.4 gpm

Purge Volume /Discharge Rate: 2 minutes **X THREE =** 6 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Packer upper element inflated inside NRQ rods @ 1216 ft bls, lower element below NRQ @ 1217 ft bls

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
12:55	620	26.50	8.00
13:02	619	26.18	8.01
13:06	618	26.24	8.00
13:08	619	26.16	8.01
	+/- 5%	+/- 0.2	+/- 0.1

Start Purge 12:15

End Purge 13:40

Sample Time 14:00

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	628
Temperature (^{o}C)	27.98
pH (SU)	7.41

Photometer Serial # A08121380-152a

Chloride (mg/l)	13.5
Sulfate (mg/l)	57
pH (SU)	7.41

'Light shower during sample collection'

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 13

General Information

Wellsite	Romp 131.5 - Morriston	Date	8/4/2016
Well	Corehole - UDR	Time	10:38
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	1447	Packed Interval (ft-ft bls)	1396-1447
Casing (NRQ) Depth (ft bls)	1395	Packed Interval (m-m bls)	425.5-441.0
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	36.38
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	36.75

Note: 1ft = 0.3048 m

Purge Volume (gallons)

1	0.2301	g/ft X	1395	ft (interval)	=	321.0	gallons
2	0.3623	g/ft X	51	ft (interval)	=	18.5	gallons
				TOTAL PURGE VOLUME (one) =		339.5	gallons

Pump Method: Reverse - air discharge

Airline Length: 100 feet

Discharge Rate (gpm): 12.4 gpm

Purge Volume /Discharge Rate: 27.4 minutes **X THREE =** 82 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Packer upper element inflated inside NRQ rods @ 1395 ft bls, lower element outside against formation @ 1396 ft bls

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
8:54	--	--	--
9:08	--	--	--
9:22	--	--	--
9:36	618	25.56	7.97
9:50	615	25.69	8.05
10:04	614	25.71	8.05
	+/- 5%	+/- 0.2	+/- 0.1

Start Purge 8:40

End Purge 10:10

Sample Time 10:38

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	622
Temperature (°C)	25.52
pH (SU)	7.54

Photometer Serial # A08121380-152a

Chloride (mg/l)	9.9
Sulfate (mg/l)	58
pH (SU)	NM

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 14

General Information

Wellsite	Romp 131.5 - Morriston	Date	8/24/2016
Well	Corehole - UDR	Time	15:39
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	1627	Packed Interval (ft-ft bls)	1577-1627
Casing (NRQ) Depth (ft bls)	1577	Packed Interval (m-m bls)	480.7-495.9
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	36.47
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	36.32

Note: 1ft = 0.3048 m

Purge Volume (gallons)

NRQ 1	0.2301	g/ft	X	1577	ft (interval) =	362.9	gallons
O.H. 2	0.3623	g/ft	X	50	ft (interval) =	18.1	gallons
					TOTAL PURGE VOLUME (one) =	381	gallons

Pump Method: Reverse - air discharge
Airline Length: 100 feet
Discharge Rate (gpm): 12.4 gpm
Purge Volume /Discharge Rate: 30.7 minutes **X THREE =** 92 minutes
Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer
Comments: First purge failed because tape stuck in check-valve of nested bailer.
2nd purge - completed 3 volume purge and used wireline bailer

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

	Water Quality During Purge			
	Time	Sp. Cond.	Temp.	pH
Purge 1 --->	12:52	542	25.50	7.85
	12:55	541	25.56	7.92
	12:56	542	25.56	7.94
	12:57	542	25.55	7.94
	12:58	542	25.56	7.95
Purge 2 --->	14:32	543	25.05	7.82
	14:44	541	25.69	7.89
	14:58	540	25.8	8.00
	15:12	539	25.96	8.03
	Accuracy	+/- 5%	+/- 0.2	+/- 0.1

Start Purge 14:20
End Purge 15:17
Sample Time 15:39

Multimeter Serial # 08M100149

Sp. Cond. (µS/cm)	551
Temperature (^{o}C)	26.37
pH (SU)	7.48

Photometer Serial # A08121380-152a

Chloride (mg/l)	12.5
Sulfate (mg/l)	26
pH (SU)	---

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

WATER QUALITY SAMPLE ACQUISITION

WQ No. 15

General Information

Wellsite	Romp 131.5 - Morriston	Date	9/15/2016
Well	Corehole - UDR	Time	11:26
SID#	853980	Performed by	J. LaRoche

Well Depth (ft bls)	1817	Packed Interval (ft-ft bls)	1778-1817
Casing (NRQ) Depth (ft bls)	1777	Packed Interval (m-m bls)	541.9-553.8
Casing (NRQ) Diameter (in.)	2.375	Initial Test Interval WL (ft bls)	40.60
Hole Diameter (in.)	2.985	Initial Annulus WL (ft bls)	35.72

Note: 1ft = 0.3048 m

Purge Volume (gallons)

O.H. 1	0.3623	g/ft X	39	ft (interval) =		14.1	gallons
2		g/ft X		ft (interval) =			
				TOTAL PURGE VOLUME (one) =		14.1	gallons

Pump Method: Reverse - air discharge

Airline Length: 100 feet

Discharge Rate (gpm): 0.094 gpm (5 hrs)

Purge Volume /Discharge Rate: 150 minutes **X TWO =** 300 minutes

Collection Method: Surface Discharge or Wireline Bailer or Nested Bailer

Comments: Only purge time for 2 calculated volumes of test interval* because more than 2 more volumes removed during initial blowout on both days (X2)

Note: NQ=0.2301 gal/ft; HW=0.6528 gal/ft; open hole(NQ)=0.3623 gal/ft

Test Information

Multimeter Serial # 08M100149

Water Quality During Purge			
Time	Sp. Cond.	Temp.	pH
15:02	2536	29.56	7.13
15:30	2607	31.13	7.29
9:18	2615	28.24	7.09
9:28	2639	29.06	7.32
9:33	2650	28.64	7.34
10:09	2628	29.02	7.18

Start Purge 7:00

End Purge 10:35

Sample Time 11:26

Multimeter Serial # 08M100149

Photometer Serial # A08121380-152a

Sp. Cond. (μS/cm)	3641	Chloride (mg/l)	26.0
Temperature (^{o}C)	26.59	Sulfate (mg/l)	155.0
pH (SU)	6.97	pH (SU)	---

Samples Sent to District's Laboratory for Standard Complete Analysis? Y or N

Appendix M. Water Quality Data for the Groundwater Quality Samples Collected at the ROMP 131.5 – Morriston Well Site in Levy County, Florida

Table M1. Field analyses results of the groundwater quality samples collected during exploratory core drilling and aquifer performance testing at the ROMP 131.5 – Morriston well site in Levy County, Florida

[No., number; SID, station identification number, MM/DD/YYYY, month/day/year; HH:MM, hours:minutes; ft, feet; blsd, below land surface datum; °C, degrees celsius; SU, standard units; µmhos/cm, micromhos per centimeter; Cl^-, chloride; mg/L, milligram per liter; SO_4^{2-}, sulfate; --, not recorded; U Fldn Aq, Upper Floridan aquifer; L Fldn Aq (Below MCU I), Lower Floridan aquifer below middle confining unit I; Temp, temporary; APT, aquifer performance test; Shaded records indicate slug tests of confining units]

Water Quality Sample No.	Monitor Well SID No.	Station Name	Date (MM/DD/YYYY)	Time (HH:MM)	Sample Interval (ft bls)	Temperature (°C)	pH (SU)	Specific Conductance (µmhos/cm)	Major Anions Cl^- (mg/L)	Major Anions SO_4^{2-} (mg/L)	Sample Collection Method/ Remarks
1	853980	ROMP 131.5 Corehole	10/08/2015	13:25	65-85	24.36	7.63	305	6.9	7	Off-bottom packer, check-valve nested bailer
2	853980	ROMP 131.5 Corehole	12/01/2015	14:26	162-205	23.65	7.90	319	6.2	3	Off-bottom packer, check-valve wireline bailer
3	853980	ROMP 131.5 Corehole	12/15/2015	10:37	250-287	22.51	7.53	503	7.3	74	Off-bottom packer, check-valve wireline bailer
4	853980	ROMP 131.5 Corehole	12/30/2015	13:12	398-437	24.34	7.57	816	10.5	155	Off-bottom packer, check-valve wireline bailer
5	853980	ROMP 131.5 Corehole	01/12/2016	12:30	478-527	22.12	7.45	819	8.1	145	Off-bottom packer, check-valve wireline bailer
6	853980	ROMP 131.5 Corehole	01/14/2016	13:37	546-597	22.71	7.91	900	--	--	Off-bottom packer, check-valve wireline bailer
7	853980	ROMP 131.5 Corehole	01/26/2016	13:15	708-757	23.74	8.62	592	8.1	54	Off-bottom packer, check-valve wireline bailer
8	853980	ROMP 131.5 Corehole	01/28/2016	13:43	781-817	22.63	7.54	569	7.9	40	Off-bottom packer, check-valve nested bailer
9	853980	ROMP 131.5 Corehole	02/02/2016	15:00	921-957	24.47	7.56	943	19	175	Off-bottom packer, check-valve nested bailer
10	853980	ROMP 131.5 Corehole	03/09/2016	13:03	997-1,047	24.79	7.39	670	100	90	Off-bottom packer, check-valve wirelne bailer
11	853980	ROMP 131.5 Corehole	07/26/2016	11:55	1,128-1,177	27.02	7.39	605	115	80	Off-bottom packer, check-valve nested bailer
12	853980	ROMP 131.5 Corehole	07/29/2016	14:00	1,217-1,287	27.98	7.41	628	13.5	57	Off-bottom packer, check-valve nested bailer
13	853980	ROMP 131.5 Corehole	08/04/2016	10:10	1,396-1,447	25.52	7.54	622	9.9	58	Off-bottom packer, check-valve nested bailer
14	853980	ROMP 131.5 Corehole	08/24/2016	15:39	1,577-1,627	26.37	7.48	551	12.5	26	Off-bottom packer, check-valve wireline bailer

Table M1. Field analyses results of the water quality samples collected during exploratory core drilling and aquifer performance testing at the ROMP 131.5 – Morriston well site in Levy County, Florida

[No., number; SID, station identification number, MM/DD/YYYY, month/day/year; HH:MM, hours:minutes; ft, feet; blsd, below land surface datum; °C, degrees celsius; SU, standard units; µmhos/cm, micromhos per centimeter; Cl^-, chloride; mg/L, milligram per liter; SO_4^{2-}, sulfate; --, not recorded; U Fldn Aq, Upper Floridan aquifer; L Fldn Aq (Below MCU I), Lower Floridan aquifer below middle confining unit I; Temp, temporary; APT, aquifer performance test; Shaded records indicate slug tests of confining units]

Water Quality Sample No.	Monitor Well SID No.	Station Name	Date (MM/DD/YYYY)	Time (HH:MM)	Sample Interval (ft bls)	Temperature (°C)	pH (SU)	Specific Conductance (µmhos/cm)	Major Anions Cl^- (mg/L)	Major Anions SO_4^{2-} (mg/L)	Sample Collection Method/ Remarks
15	853980	ROMP 131.5 Corehole	09/15/2016	11:26	1,778-1,817	26.59	6.97	3,641	26	155	Off-bottom packer, check-valve nested bailer
16	903476	ROMP 131.5 L Fldn Aq (Below MCU I) Temp Pump	04/30/2018	14:53	452-743	25.42	6.90	583	9.7	66	Collected at well head during Lower Floridan aquifer (below MCU I) APT, 1 hour and 26 minutes since start of pumping
17	903476	ROMP 131.5 L Fldn Aq (Below MCU I) Temp Pump	05/02/2018	13:00	452-743	25.66	7.18	602	9.1	81	Collected at well head during Lower Floridan aquifer (below MCU I) APT, 47 hours and 33 minutes since start of pumping
18	903987	ROMP 131.5 U Fldn Aq Temp Pump	05/14/2018	14:14	85-350	23.96	7.04	300	6.8	7	Collected at well head during Upper Floridan aquifer APT, 1 hour and 27 minutes since start of pumping
19	903987	ROMP 131.5 U Fldn Aq Temp Pump	05/16/2018	07:58	85-350	22.96	6.63	326	7.4	2	Collected at well head during Upper Floridan aquifer APT, 43 hours and 17 minutes since start of pumping

Table M2. Laboratory analyses results of the groundwater quality samples collected during exploratory core drilling and

[No., number; SID, station identification number, MM/DD/YYYY, month/day/year; HH:MM, hours:minutes; ft, feet; blsd, below land surface datum; SU, potassium; Fe^{2+}, iron; Sr^{2+}, strontium; Si, silica; SiO_2, silicon dioxide; $CaCO_3$, calcium carbonate; U Fldn Aq, Upper Floridan aquifer; L Fldn Aq (Below MCU I), confining units]

Water Quality Sample No.	Monitor Well SID No.	Date (MM/DD/YYYY)	Time (HH:MM)	Sample Interval (ft bls)	pH (SU)	Specific Conductance (µmhos/cm)	Major Anions	
							Cl^- (mg/L)	SO_4^{2-} (mg/L)
1	853980	10/08/2015	13:25	65-85	8.32[Q, N1]	304.70[N1]	6.8	6.1
2	853980	12/01/2015	14:26	162-205	8.23[Q, N1]	317.60[N1]	6.5	6.2
3	853980	12/15/2015	10:37	250-287	8.22[Q, N1]	503.50[N1]	11.8	87.3
4	853980	12/30/2015	13:12	398-437	8.25[Q, N1]	800.10[N1]	21.2	174
5	853980	01/12/2016	12:30	478-527	8.25[Q, N1]	832.30[N1]	21.3	197
6	853980	01/14/2016	13:37	546-597	8.23[Q, N1]	902.50[N1]	24.9	253
7	853980	01/26/2016	13:15	708-757	8.22[Q, N1]	588.30[N1]	13.2	55.2
8	853980	01/28/2016	13:43	781-817	8.09[Q, N1]	571.90[N1]	13.7	58
9	853980	02/02/2016	15:00	921-957	8.10[Q, N1]	946.50[N1]	36.44	273.65
10	853980	03/09/2016	13:03	997-1,047	8.28[Q, N1]	665.50[N1]	15.8	102
11	853980	07/26/2016	11:55	1,128-1,177	8.18[Q, N1]	593.80[N1]	14.4	74.5
12	853980	07/29/2016	14:00	1,217-1,287	8.27[Q, N1]	611.70[N1]	13.9	70.4
13	853980	08/04/2016	10:10	1,396-1,447	8.31[Q, N1]	602.00[N1]	13.5	66.5
14	853980	08/24/2016	15:39	1,577-1,627	8.26[Q, N1]	556.60[N1]	9.6	30.6
15	853980	09/15/2016	11:26	1,778-1,817	8.07[Q, N1]	3,796.10[N1]	549.0	1,230
16	903476	04/30/2018	16:53	452-743	8.24[Q, N1]	--	12.9	52.8
17	903476	05/02/2018	13:00	452-743	8.02[Q, N1]	--	13.3	60.2
18	903987	05/14/2018	14:14	85-350	7.81[Q, N1]	--	6.75	5.99
19	903987	05/16/2018	07:58	85-350	8.19[Q, N1]	--	6.61	6.03

[U] The ion was analyzed for but not detected. Value is reported as the method detection limit.

[Q] Sample was held beyond holding time. Field pH is used in analyses due to a 15 minute holding time.

[I] Value is between the method detection limit and the laboratory practical quantitation limit, which is four times the detection limit.

[N1] Test is not NELAC certified by this laboratory. Certification was not requested.

aquifer performance testing at the ROMP 131.5 – Morriston well site in Levy County, Florida

standard units; µmhos/cm, micromhos per centimeter; Cl^-, chloride; mg/L, milligram per liter; SO_4^{2-}, sulfate; Ca^{2+}, calcium; Mg^{2+}, magnesium; Na^+, sodium; K^+,
Lower Floridan aquifer below middle confining unit I; Temp, temporary; --, not measured; APT, aquifer performance test; Shaded records indicate slug tests of

Major Cations									
Ca^{2+} (mg/L)	Mg^{2+} (mg/L)	Na^+ (mg/L)	K^+ (mg/L)	Fe^{2+} (mg/L)	Sr^{2+} (mg/L)	Si as SiO_2 (mg/L)	TDS (mg/L)	Total Alkalinity $CaCO_3$ (mg/L)	Sample Collection Method/Remarks
48	5.38	3.46	0.27[I]	<.0056[U]	0.09[N1]	6.3[N1]	192	136.0	Off-bottom packer, check-valve nested bailer
52.6	5.63	3.16	0.21[I]	<.0056[U]	0.1[N1]	6.2[N1]	179	140.8	Off-bottom packer, check-valve wireline bailer
77.8	15.2	7.73	0.89	0.0732	0.82[N1]	9.3[N1]	326	163.0	Off-bottom packer, check-valve wireline bailer
116	25	15.4	2.42	0.669	2.42[N1]	16.9[N1]	548	231.2	Off-bottom packer, check-valve wireline bailer
117	29	17	2.51	0.795	2.58[N1]	16.4[N1]	569	229.7	Off-bottom packer, check-valve wireline bailer
125	32.4	18.4	2.61	0.445	2.66[N1]	15.2[N1]	627	210.3	Off-bottom packer, check-valve wireline bailer
88.1	20.9	9.5	1.28	0.501	1.28[N1]	16.8[N1]	338	241.5	Off-bottom packer, check-valve wireline bailer
82.5	21	9.38	1.21	0.402	1.11[N1]	15.2[N1]	338	239.2	Off-bottom packer, check-valve nested bailer
110	46.5	22.8	2.79	0.0383	2.95[N1]	15.3[N1]	644	213.4	Off-bottom packer, check-valve nested bailer
95.5	22.6	12.3	1.61	0.482	1.61[N1]	16.4[N1]	452	238.8	Off-bottom packer, check-valve wirelne bailer
75.8	25.9	11.7	1.54	0.464	1.24[N1]	17.0[N1]	367	219.2	Off-bottom packer, check-valve nested bailer
88.5	20	9.39	1.34	0.0279	1.25[N1]	16.4[N1]	378	233.7	Off-bottom packer, check-valve nested bailer
88.8	19.6	9.3	1.3	0.0307	1.29[N1]	16.3[N1]	377	236.9	Off-bottom packer, check-valve nested bailer
87.1	17.4	6.02	0.79	0.791	0.84[N1]	16.4[N1]	318	244.7	Off-bottom packer, check-valve wireline bailer
463	69.8	298	10.1	3.7	12.6[N1]	13.1[N1]	3,000	194.3	Off-bottom packer, check-valve nested bailer
88.8	18.9	9.49	1.24	32.5	1.23[N1]	17[N1]	372	230.0	Collected at well head during Lower Floridan aquifer (below MCU I) APT, 1 hour and 26 minutes since start of pumping
90.1	19.4	9.84	1.27	48.6	1.29[N1]	16.9[N1]	372	230[J3]	Collected at well head during Lower Floridan aquifer (below MCU I) APT, 47 hours and 33 minutes since start of pumping
48.1	5.51	3.61	0.37	<8.5[U]	0.11[I, N1]	6.68[N1]	178	126.0	Collected at well head during Upper Floridan aquifer APT, 1 hour and 27 minutes since start of pumping
51.8	5.89	3.54	0.3[I]	<8.5[U]	0.11[I, N1]	6.69[N1]	189	142.0	Collected at well head during Upper Floridan aquifer APT, 43 hours and 17 minutes since start of pumping

Table M3. The equivalent weight and percent equivalent weight for select ions and the water type for groundwater quality

[No., number; ft, feet; blsd, below land surface datum; Ca^{2+}, calcium; Mg^{2+}, magnesium; Na^{+}, sodium; HCO_3^{-}, bicarbonate; Cl^{-}, chloride; SO_4^{2-}, sulfate; meq/L, because hydroxyl ions are insignificant in groundwater and carbonate ions are typically not present if pH is less than 8.3 standard units (SU) (Hem, 1985); see

Water Quality Sample No.	Sample Interval (ft bls)	Cations							
		Ca^{2+}		Mg^{2+}		Na^{+}		K^{+}	
		meq/L	%	meq/L	%	meq/L	%	meq/L	%
1	65-85	2.40	80.0	0.44	14.8	0.15	5.0	0.007	0.2
2	162-205	2.62	81.2	0.46	14.3	0.14	4.3	0.005	0.2
3	250-287	3.88	70.7	1.25	22.8	0.34	6.1	0.023	0.4
4	398-437	5.79	67.5	2.06	24.0	0.67	7.8	0.062	0.7
5	478-527	5.84	64.7	2.39	26.4	0.74	8.2	0.064	0.7
6	546-597	6.24	63.8	2.67	27.3	0.80	8.2	0.067	0.7
7	708-757	4.40	67.0	1.72	26.2	0.41	6.3	0.033	0.5
8	781-817	4.12	65.5	1.73	27.5	0.41	6.5	0.031	0.5
9	921-957	5.49	52.9	3.83	36.9	0.99	9.6	0.071	0.7
10	997-1047	4.77	66.2	1.86	25.8	0.53	7.4	0.041	0.6
11	1,128-1,177	3.78	58.5	2.13	33.0	0.51	7.9	0.039	0.6
12	1,217-1,287	4.42	67.9	1.65	25.3	0.41	6.3	0.034	0.5
13	1,396-1,447	4.43	68.4	1.61	24.9	0.40	6.2	0.033	0.5
14	1,577-1,627	4.35	71.7	1.43	23.6	0.26	4.3	0.020	0.3
15	1,778-1,817	23.10	54.9	5.74	13.7	12.96	30.8	0.258	0.6

samples collected during exploratory core drilling and testing at the ROMP 131.5 – Morriston well site in Levy County, Florida

milliequivalents per liter; %, percent; total alkalinity is used as HCO_3^- because it is assumed CO_3^{2-} and H_2CO_3 are negligible based on groundwater pH at this site tables M1 and M2 for sample station identification (SID) numbers; Shaded records indicate slug tests of confining units]

Anions						Water Type
HCO_3^-		Cl^-		SO_4^{2-}		
meq/L	%	meq/L	%	meq/L	%	
2.23	87.5	0.19	7.5	0.13	5.0	Calcium Bicarbonate
2.31	88.1	0.18	7.0	0.13	4.9	Calcium Bicarbonate
2.67	55.4	0.33	6.9	1.82	37.7	Calcium Bicarbonate
3.79	47.3	0.60	7.5	3.62	45.2	Calcium Mixed Anion
3.76	44.5	0.60	7.1	4.10	48.4	Calcium Mixed Anion
3.45	36.6	0.70	7.5	5.27	55.9	Calcium Sulfate
3.96	72.2	0.37	6.8	1.15	21.0	Calcium Bicarbonate
3.92	71.1	0.39	7.0	1.21	21.9	Calcium Bicarbonate
3.50	34.2	1.03	10.1	5.70	55.7	Calcium Sulfate
3.91	60.4	0.45	6.9	2.12	32.8	Calcium Bicarbonate
3.59	64.7	0.41	7.3	1.55	27.9	Calcium Bicarbonate
3.83	67.3	0.39	6.9	1.47	25.8	Calcium Bicarbonate
3.88	68.7	0.38	6.7	1.38	24.5	Calcium Bicarbonate
4.01	81.5	0.27	5.5	0.64	13.0	Calcium Bicarbonate
3.18	7.2	15.49	35.0	25.61	57.8	Calcium Sulfate

Table M4. Select molar ratios for groundwater quality samples collected during exploratory core dilling and testing at the ROMP 131.5 – Morriston well site in Levy County, Florida

[No., number; ft, feet; blsd, below land surface datum; Cl^-, chloride; SO_4^{2-}, sulfate; Ca^{2+}, calcium; HCO_3^-, bicarbonate; Mg^{2+}, magnesium; Na^+, sodium; total alkalinity is used as HCO_3^- because it is assumed CO_3^{2-} and H_2CO_3 are negligible based on groundwater pH at this site because hydroxyl ions are insignificant in groundwater and carbonate ions are typically not present if pH is less than 8.3 standard units (SU) (Hem, 1985); see tables M1 and M2 for sample station identification (SID) numbers; Shaded records indicate slug tests of confining units]

Water Quality Sample No.	Sample Interval (ft bls)	$Cl^-:SO_4^{2-}$	$Ca^{2+}:HCO_3^-$	$SO_4^{2-}:HCO_3^-$	$Ca^{2+}:Mg^{2+}$	$Cl^{1-}:HCO_3^-$	$Na^+:HCO_3^-$	$Na^+:Cl^-$
1	65-85	3.02	0.54	0.03	5.40	0.09	0.07	0.78
2	162-205	2.84	0.57	0.03	5.67	0.08	0.06	0.75
3	250-287	0.37	0.73	0.34	3.10	0.12	0.13	1.01
4	398-437	0.33	0.76	0.48	2.81	0.16	0.18	1.12
5	478-527	0.29	0.78	0.54	2.45	0.16	0.20	1.23
6	546-597	0.27	0.90	0.76	2.34	0.20	0.23	1.14
7	708-757	0.65	0.56	0.15	2.56	0.09	0.10	1.11
8	781-817	0.64	0.53	0.15	2.38	0.10	0.10	1.06
9	921-957	0.36	0.78	0.81	1.43	0.29	0.28	0.96
10	997-1,047	0.42	0.61	0.27	2.56	0.11	0.14	1.20
11	1,128-1,177	0.52	0.53	0.22	1.77	0.11	0.14	1.25
12	1,217-1,287	0.54	0.58	0.19	2.68	0.10	0.11	1.04
13	1,396-1,447	0.55	0.57	0.18	2.75	0.10	0.10	1.06
14	1,577-1,627	0.85	0.54	0.08	3.04	0.07	0.07	0.97
15	1,778-1,817	1.21	3.63	4.02	4.02	4.86	4.07	0.84

Southwest Florida
Water Management District