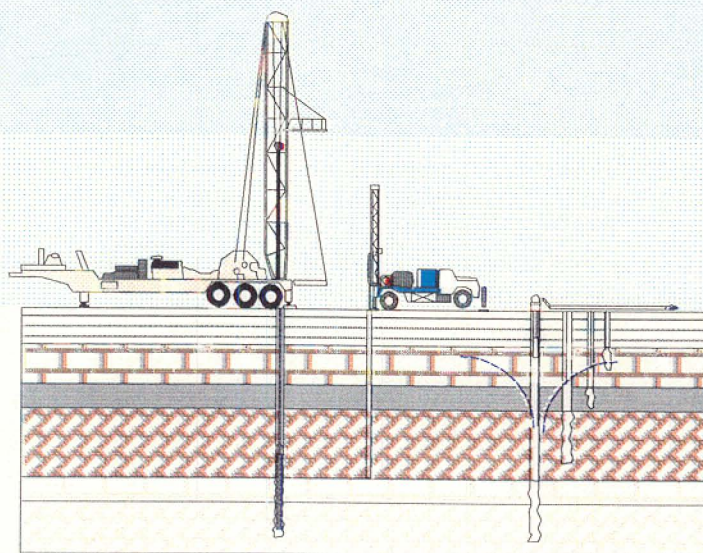


**ROMP TR SA-1 (PAYNE TERMINAL)  
DRILLING AND TESTING REPORT  
SALTWATER INTERFACE MONITOR-WELLSITE  
SARASOTA COUNTY, FLORIDA**



**Geohydrologic Data Section  
Resource Data Department  
Southwest Florida Water Management  
District  
March 1998**

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March 1998

The geological evaluations and interpretations contained in the *ROMP TR SA-1 Drilling and Testing Report* have been prepared by or approved by a Certified Professional Geologist in the State of Florida, in accordance with Chapter 492, Florida Statutes.

\_\_\_\_\_  
Richard A. Lee  
Professional Geologist  
License No. PG 0000956

Date: \_\_\_\_\_

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SARASOTA COUNTY, FLORIDA**

By R. A. Lee

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Date: 4/24/98

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## **ROMP TR SA-1**

### **1.0 PROJECT DESCRIPTION**

The Southwest Florida Water Management District (District) obtained the Regional Observation Monitor-Well Program (ROMP) TR SA-1 wellsite in August, 1994, for the construction of a coastal ground water monitoring wellsite in Sarasota County. The TR SA-1 site is one of three wellsites (TR SA-1, City of Sarasota Injection Monitor-Well 2, TR SA-3), within a transect extending approximately two miles, east-west through the City of Sarasota, Florida. These transect wells will provide meaningful water quality data to the Coastal Ground-Water Quality Monitoring Network (CGWQMN). The District created the CGWQMN to locate and monitor the freshwater/saltwater interface in the coastal regions of the District.

The TR SA-1 site contains three wells for monitoring the vertical movement of the fresh/saltwater interface within the Upper Floridan aquifer. Two four-inch polyvinyl-chloride (PVC) screened wells, were designed to collect water samples from the 1,000 milligrams per Liter (mg/L) chloride zone (Suwannee and Avon Park wells), and a three-inch PVC cased well was designed to monitor the interface using a borehole geophysical induction tool (deep Induction well). The borehole induction tool, measures bulk electrical conductivity of the rock formation and pore fluids through the PVC well casing. A pronounced high conductivity response is measured at the fresh/saltwater interface.

In addition to the fresh/saltwater interface monitor wells, the TR SA-1 wellsite also contains a surficial aquifer monitor well and an intermediate aquifer monitor well. The intermediate and Upper Floridan aquifers at TR SA-1 are confined artesian systems, and wells monitoring these aquifers, depending on the season, generally flow from hydrostatic pressure, at land surface. The TR SA-1 wellsite was completed in September, 1995.

### **2.0 SITE LOCATION**

The TR SA-1 wellsite is located approximately one block from Sarasota Bay in the City of Sarasota (Figure 1), within the District's Manasota Basin. The physiographic region is known as the Gulf Coastal Lowlands, which is part of the Mid-Peninsular Zone of the Floridan Peninsula (White, 1970). The Gulf Coastal Lowlands, a broad marine plain with numerous sloughs and swamps, extends from just south of Charlotte Harbor northward to the Panhandle, sloping seaward at a very low gradient from the uplands associated with central Florida.

### **3.0 METHODS**

#### **3.1 DRILLING**

Preliminary water quality and geologic data collection, was performed by the District's CME 75 rotary drill rig. The CME 75 is primarily utilized for augering, rotary drilling small diameter holes, and wireline coring with mud or water. The surficial deposits were augered and collected with a hollow-stem auger to a depth of 29.5 feet below land surface (ft bls). Below 29.5 ft, wireline core was collected through the augers, to a depth of 95 ft bls. The corehole was then reamed 18-inches in diameter to 98 ft bls. Ten-inch surface casing was installed and grouted to land surface. Coring continued to a depth of 504 ft bls. The hole was reamed with a 5 5/8-inch bit and temporary four-inch HW casing was set to 501 ft bls. Coring resumed and was completed at a depth of 1,184 ft bls. Three cuttings samples were collected from core terminus to the total depth of 1,208 ft bls. Drilling discharge was measured for conductivity and temperature at five-foot intervals during coring. Discreet water samples were collected at less frequent intervals and coring terminated when water quality degraded to seawater conditions (45,000 umhos/cm). The 1.8-inch core was collected continuously for lithologic description and stratigraphic correlation (Figure 2) and is stored at the Florida Geological Survey facility in Tallahassee.

A Gardner-Denver 2000 rotary drill rig, owned and operated by Layne Drilling, Inc. was contracted to construct the remaining monitor-wells. The existing corehole was reamed to 9 7/8-inches to a depth of 307 ft bls, then reamed to a total depth of 1,208 ft bls using a 9 1/2-inch bit. From 1,187 to 1,204 ft bls a large solution cavity was encountered. The reamed corehole was completed as a three-inch PVC cased Induction well, from land surface to a depth of 1,204 ft bls. A two-inch PVC intermediate monitor was placed in the Induction well annulus with a screened interval from 328 ft to 388 ft bls. The well construction details are presented in Section 7.0.

Another borehole (26-inch) was drilled to 100 ft bls and 20-inch welded steel surface casing installed and grouted. A 20-inch nominal borehole was then drilled to a depth of 325 ft bls to accommodate 14-inch welded steel casing. Drilling continued to a depth of 1,016 ft bls. Two four-inch PVC cased monitor-wells were then emplaced within the 14-inch borehole. The deeper interval (995 - 1,015 ft bls) monitors a 1,000 mg/L fresh/saltwater interface, which was located just below the Ocala/Avon Park Formation boundary. The second interval (708 - 738 ft bls) monitors the bottom of the Suwannee Limestone. Each dual-monitor is gravel-packed around the screened interval and casing grouted in place.



### 3.2 GROUND-WATER SAMPLING

During the CME 75 coring process, drilling discharge water was sampled at five-ft intervals to monitor water quality for changes. Otherwise ground-water samples were taken at 30-ft intervals or when a significant change in conductivity/temperature or lithology occurred. The latter samples were collected in accordance with the District's ROMP Water Quality Sampling Protocol. Each water sample was split, with one split sample being analyzed in the field for conductivity (specific conductance), temperature, chlorides, sulfates, pH, and density, and the other sample being sent to the District's Environmental Chemistry Laboratory for standard complete analyses. The standard complete analysis reevaluated parameters measured in the field in addition to several other parameters. Chain-of-custody forms were used to track the samples. Initially, samples were collected as a composite of all water contributed from the open-hole interval, which extended from the last casing seat to the bottom of the hole. A core barrel packer was developed and utilized from 649 to 1,184 ft bls, which enabled discreet water quality samples to be collected from the interval extending from the core bit (packer) to the bottom of the hole. Vertical placement of the drill bit determined the length of the open hole interval. Results of the laboratory analyses are presented in Section 6.0. Table 1 presents the temperature and specific conductance of discharge water measured during the coring process.

Three water sampling methods were utilized while coring at TR SA-1; reverse-air discharge, point-source bailer and packer tests. The primary method entailed monitoring the drilling discharge water at five-ft intervals for changes in conductivity and temperature. If a notable change occurred, either in water quality or lithology, the point-source bailer method was utilized. The hole was purged by air lift until conductivity/temperature readings stabilized and then the drill rods were raised 20 ft and purged for ten minutes longer. This process induced water into the borehole from the lower unit instead of from the up-hole interval. A one-inch diameter, 15 ft stainless steel bailer, was then lowered by wireline through the drill rods and bit to the sampling interval. All bailer samples were filtered through a 0.45 micron membrane.

The third method entailed use of a newly designed wireline corehole packer, first tested at the TR SA-1 wellsite (Figure 3). Use of the packer was initiated as before when water quality changes or a significant change in lithology occurred. The drill rods were raised to place the bit just above the top of the interval to be sampled. The packer was then lowered down the drill rods through the open end of the core bit, with the landing ring seated inside the drill rods. Water pumped down the rods inflated one element inside the core rods, and one element outside of the rods against the formation. Pump pressure was increased slowly above 250 psi to

shear the setting pins. The packer seals up-hole annular water from entering the drill rods and opened a passage through the packer to the open-hole interval below. The open-hole interval being sampled extended from approximately 1.5 ft below the bit to the bottom of the hole. The well was then purged by air lifting a minimum of one and a half the volume of the drill rods. The packer would allow for internal flow of a maximum of 18 gallons per minute (gpm), when properly seated. Discharge rates that exceeded 18 gpm, indicated the packer was not properly seated. At that point the packer would be retrieved for inspection. To remove the packer, the wireline overshot would be lowered to grapple the spear point on the packer. The packer was jarred several times to shear the release shear pins, which allowed deflation of the elements (approximately ten minutes), and hoisting of the packer. Water samples collected this way represent the most accurate results, as the interval sampled was isolated and hydraulically stressed. The corehole packer operation data results are presented as Table 2.

### **3.3 GEOPHYSICAL LOGGING**

Caliper, Natural Gamma [GAM(NAT)], Spontaneous Potential (SP), Single Point Resistance [RES(OHM)], Long-Short-Normal Resistance (RES 64N, RES 16N, Lateral), Fluid Resistivity [RES(FL)], Specific Conductance (SP COND), Temperature (TEMP), Sonic Porosity [POR(SON)], Borehole flow, and Induction logs were run at TR SA-1 during various stages of construction. The logs were generally run in the reamed corehole to help delineate geologic formations, determine water quality changes, and help in the design of the discreet monitor wells. Figures 4, 5 and 6 graphically demonstrate the fluid and resistivity logs for the entire hole.

## **4.0 GEOLOGY**

The upper most geologic unit at TR SA-1, undifferentiated surficial deposits of Holocene to Pleistocene age, consists of brown stained quartz sand, clay, organics and shell fragments. These deposits are 29 ft thick of which 20 ft are calcareous clay. This calcareous clay, yellowish gray in color, forms the base of the surficial aquifer.

The Hawthorn Group primarily consists of the undifferentiated Arcadia and the Tampa Member of the Arcadia in the wellsite vicinity, and ranges in age from Early Miocene to Early Pliocene (Scott, 1988). The Peace River Formation appears to be absent in the vicinity of TR SA-1. The undifferentiated Arcadia consists of alternating beds of limestone, dolostone, quartz sand, clay, chert and phosphate, and extends from 29 ft bls to 367 ft bls, and then from 484 ft bls to 498 ft bls. Clays, containing varying amounts of very fine to fine sand and phosphate, make up slightly

less than two-thirds of the undifferentiated Arcadia Formation at the TR SA-1 wellsite. Upper clays vary in color from light green and gray to yellow, while lower clays appear darker green. Limestone and dolostone are present as thin units in the undifferentiated Arcadia, with the limestone being much more persistent. The undifferentiated Arcadia extends to the top of the Tampa Member of the Arcadia Formation, which occurs at 367 ft bls.

The Tampa Member at TR SA-1 consists primarily of interbedded limestones with thin units of clay, minor amounts of dolostone and chert and continues for 117 ft to a depth of 484 ft bls. The transition into the Tampa Member of the Arcadia, is marked by an increase in quartz sand and an increase in moldic porosity. Increased porosity due to formational differences are common at contacts. Below the Tampa Member, undifferentiated Arcadia appears to be present for another 14 ft.

The Suwannee Limestone, an Oligocene age formation, lies unconformably below the Arcadia. It represents the top of the Upper Floridan aquifer system (FAS), and extends from the base of the undifferentiated Arcadia at 498 ft bls to a depth of 739 ft bls. The Suwannee Limestone is primarily composed of a limestone that is yellowish-gray, microcrystalline to coarse grained, and fossiliferous with common foraminifera and mollusc casts and molds (Campbell, 1984). Interbedded with the limestone, are units of dolostone, clay, chert, and fine quartz sand.

The Ocala Limestone, late Eocene in age, has an unconformable contact with the overlying Suwannee Limestone. At the TR SA-1 wellsite, the Ocala Limestone is encountered at 739 ft bls and extends to a depth of 984 ft bls. It is a chalky, calcarenite with abundant shallow marine macro fossils. Thick units of altered limestone and crystalline dolostone were also present. Fossil assemblages include Pelecypods, gastropods (*Turritella*), miliolids, echinoids (*Neolaganum durhami* and *Weisbordella cubae*), and foraminifera (*Lepidocyclina* sp., *Nummulites* sp.) (Decker, 1990).

The transition into the middle Eocene age Avon Park Formation is marked by an organic layer, echinoids (*Neolaganum dalli*) and a noticeable increase in porosity of the crystalline dolostone. Avon Park rocks also include fossiliferous limestone, dolomitic limestone, and fractured crystalline dolostone. Drilling terminated four ft below a cavity encountered from 1,187 to 1,204 ft bls.

## **5.0 HYDROGEOLOGY**

### **5.1 SURFICIAL AQUIFER SYSTEM**

The surficial aquifer system (SAS) at TR SA-1 is essentially delineated as the Undifferentiated Surficial Deposits, and extends from land surface to the bottom of the first clay units at 29 ft bls. This upper most water bearing unit at TR SA-1 is composed of marine and non-marine quartz sands, clay, shell and abundant organics. Water levels are perched on top of the clays and range from near surface to several feet below land surface. Rainfall provides the primary recharge, however, localized water table levels are probably recharged adjacent to the nearby discharge creek for the county's Reverse Osmosis Plant.

### **5.2 INTERMEDIATE AQUIFER SYSTEM**

The intermediate aquifer system/ intermediate confining unit (IAS/ICU), at the TR SA-1 wellsite, extends from 29 ft bls to 498 ft bls, and includes the undifferentiated Arcadia Formation and the Tampa Member of the Arcadia Formation. Figure 2 illustrates the hydrogeologic relationship between the SAS, IAS/ICU and Upper FAS. Within the Tampa Member, potentiometric water levels undergo a gradual transition from intermediate head levels to Floridan conditions. The upper part of the IAS/ICU consists largely of clay units with beds of limestone, dolostone, chert, quartz and phosphatic sand. The Tampa Member becomes a limestone dominated unit, containing large percentages of quartz sand and minor amounts of phosphatic sand and organics.

Water quality samples collected during coring, indicate fresh water located in the permeable zones were separated vertically by impermeable clay beds. An old City of Sarasota production well now used as a water level monitor is located approximately 80 ft away from the TR SA-1 wellsite. This well has an open-hole interval from 43 ft bls to 479 ft bls, cross-connecting the entire IAS/ICU, and essentially making all potentiometric water levels at these depths the same.

Potentiometric water levels, upon initial penetration into IAS/ICU limestone, were 4.0 ft above land surface (als). As coring proceeded from 29.5 ft bls to 504 ft bls, potentiometric water levels rose by less than 0.2 ft. At a depth of 504 ft bls, water levels rose to 4.9 ft als. The corehole was then reamed and temporary casing set to 501 ft bls. Water levels were 5.4 ft als when coring resumed two weeks later. Water levels declined slightly to 4.5 ft als, as coring reached the bottom of the Tampa Member (484 ft bls). The intermediate monitor constructed on-site

(328'-388') had a water level of 5.19 ft als (11.69 ft NGVD) on October 31, 1995. Potentiometric water levels measured during coring of TR SA-1 were referenced to land surface datum, which is 6.5 ft above the National Geodetic Vertical Datum (NGVD).

### **5.3 UPPER FLORIDAN AQUIFER**

The top of the Upper Floridan aquifer is typically considered to be coincident with the top of the Suwannee Limestone, (498 ft bls at TR SA-1). Hydrologically, Upper Floridan potentiometric levels at the TR SA-1 site began within the Tampa Member of the Arcadia Formation. The Upper Floridan aquifer in descending order, consists of the Suwannee Limestone, Ocala Limestone, and the Avon Park Formation and terminates at the Middle Floridan confining unit (Ryder, 1985). The Ocala Limestone is considered to be a semi-confining unit, separating the permeable beds of the Suwannee Limestone and Avon Park Formation. Drilling at the TR SA-1 wellsite did not extend below the Avon Park Formation to the Middle Floridan confining unit.

The Suwannee Limestone at TR SA-1 is characterized by light orange permeable calcarenite beds separated by beds of calcilutite, clays, and minor dolostone. The more transmissive beds are located near the top of the Suwannee Limestone at TR SA-1. The first fresh/saltwater interface (chlorides exceeding 1,000 mg/L) was encountered at 609 ft bls, while coring the Suwannee Limestone. Chloride concentrations decreased while still within the Suwannee Limestone below 609 ft bls and into the Ocala Limestone. As coring proceeded from 504 ft to 689 ft bls, potentiometric water levels gradually decreased from 5.4 ft to 4.3 ft als. The coring operation was halted and when coring resumed a month later at 689 ft bls water levels measured 5.6 ft als. Fluctuations may be attributed to elevated dissolved solids suppressing head levels. Stratification occurred during the month of no operation, which allowed head levels to be restored.

The Ocala Limestone at TR SA-1 is composed of two distinct low-permeability sections. The upper Ocala is primarily fossiliferous, low-permeability, fine-grained, light orange calcarenites and clays, while the lower Ocala consists primarily of fossiliferous, low-permeability, brown dolostone. Fossils are primarily foraminifera tests and molds. The calcarenites tend to have more fossil tests, while the dolostone tests are dissolved creating voids. Water quality remained fairly fresh (generally less than 750 mg/L chloride concentration) throughout coring of the Ocala Limestone. As a result, potentiometric water levels rose only slightly during drilling of the Ocala Limestone. Water levels rose from 5.7 ft als at 759 ft bls to 6.2 ft als at 994 ft bls.

The transition into the Avon Park Formation is marked by a thin organic bed, a highly transmissive dolostone unit and the presence of echinoids (*Neolaganum dalli*). The Avon Park lithology generally consisted of either dolostone or calcarenite at the TR SA-1 site. The dolostone encountered was typically more permeable, due partly to an increase in secondary porosity, such as fracturing and dissolution of fossil tests. Conductivity readings (chlorides) were also generally higher in the dolostone, relative to the less permeable calcarenites. Chlorides rose above and then back below 1,000 mg/L several times with depth above 1,144 ft bls. This layering of higher chloride water with fresher water, lends itself to a multi-layered fresh/saltwater transition zone, where the more permeable layers were allowing saltwater intrusion at a faster rate than the less permeable zones. The fresher zones will become saltier with time.

Potentiometric water levels rose sharply upon encountering the first Avon Park permeable zone. Water levels near the top of the Avon Park Formation (1,009 ft bls) were 6.2 ft als, and rose to 10.9 ft als at 1,014 ft bls and then 12.1 ft als at 1,019 ft bls. As drilling proceeded within the Avon Park, saltier, denser water was encountered below 1,184 ft bls. As the borehole filled with the denser water, levels started to drop significantly. When seawater conditions (total dissolved solids - 35,000 mg/L) were finally achieved in the cavity encountered at 1,187 ft bls, water levels had dropped nearly 20 ft to 7.8 ft bls.

## **6.0 GROUND-WATER QUALITY**

Ground-water quality sampling was conducted throughout most of the coring of TR SA-1. This provided a ground-water profile and precise identification of the fresh/saltwater interfaces. Ground-water samples were collected at five to 30-ft intervals, depending on changes in lithology and quality of the drilling discharge water. Prior to use of the corehole packer, water samples were collected with the stainless steel wireline sampler, which was lowered through the drill rods and out the bit into the open hole interval. When the corehole packer was employed, the purge was generally a volume greater than 1.5 - two well volumes. Again, water samples were collected using the wireline sampler, which remained in the drill rods above the packer. Two samples were retrieved each time to check for consistency. If the conductivity readings were 10% different, another sample was retrieved. Similar samples were then blended and filtered through 0.45 um paper into three 500 ml bottles (one acidified with nitric acid) for laboratory analyses. On-site water quality analyses included tests for temperature, conductivity, pH, chlorides, sulfates and specific gravity. Field chloride readings were generally similar to laboratory results when samples measured with Hach kits were properly diluted to allow for a more accurate determination of the chloride concentration (Figure 7). Sulfate field kits, however,



proved to be less sensitive and resulted in a higher deviation between field and laboratory samples. Table 3 presents the laboratory results of the ground-water samples collected during the coring process, and Figures 4, 6 and 8 present water quality changes with depth. Chloride analyses, indicated that 1,000 mg/L was exceeded several times during the coring operation. The first 1,000 mg/L interface was in the Suwannee Limestone, with several more in the Avon Park Formation. The water sample collected in the Suwannee Limestone was actually a composite water sample, from where the temporary casing was set at 501 ft bls to 609 ft bls. The other samples collected in the Avon Park Formation utilized the corehole packer and a much smaller interval was sampled. Three distinct permeable zones were encountered with chlorides levels exceeding 1,000 mg/L within the Avon Park Formation, which were separated by thinner, tighter calcarenite zones. Within the lower zone, chlorides decreased slightly and then increased to seawater conditions at 1,184 ft bls. Sulfates rose early, within the Tampa Member of the Arcadia Formation, and generally remained high throughout the water profile, however values doubled when seawater conditions were encountered. Total dissolved solids, as expected, responded similarly to chloride concentrations. A conductivity log, run in the Induction well, indicates several peaks corresponding to high chloride zones (but not all) located during coring (Figure 4). The transition into seawater conditions, at the bottom of the hole, is very evident on the conductivity and resistivity logs (Figures 4 and 5). Table 4 presents water quality values for samples collected from each finished monitor well.

## **7.0 WELL CONSTRUCTION**

The TR SA-1 wellsite has five completed monitor wells on-site; a surficial, intermediate, Suwannee Limestone, Avon Park and deep Induction. They were completed as one single-zone and two dual-zone monitor wells. The first completed dual zone, pairs the Induction monitor well with the intermediate monitor well in the reamed corehole. The second dual zone, pairs the Avon Park and Suwannee monitor wells. The surficial monitor well was completed as a single-zone well.

The four-inch, 30-ft Tri-Loc PVC surficial monitor well was completed in a ten-inch augered borehole (Figure 9) and consists of ten ft of casing and 20 ft of 0.020-inch slot screen. Silica sand (6-20) extends from 30 ft to five ft bls; a foot of bentonite was placed above the sand. Cement grout caps the bentonite and seats the steel wellhead protection.

The three-inch corehole was drilled by the District's CME 75 drill rig to 1,184 ft bls, and then reamed to a 9 5/8-inch nominal borehole to a depth of 1,208 ft bls by the contract rig (Layne

Drilling, Inc.). At 1,187 ft bls a 17-foot, vertical solution cavity was encountered in the Avon Park Formation. Drilling was terminated at 1,208 ft bls. The corehole was converted into a dual-zone monitor, consisting of two wells, an intermediate aquifer and deep Induction (Figure 10). A 1,204-ft string of three-inch PVC (fastened with stainless steel screws and glue) with two 3x10-inch shale packers, was placed into the hole, with the packers positioned 20 ft above bottom. Twenty-five ft (1,160 - 1,185 ft bls) of bentonite chips were placed above the shale packers, and cement grout emplaced from 1,160 ft to 433 ft bls. Forty-one ft of bentonite chips were placed above the grout from 433 ft to 392 ft bls, to prevent degradation of the intermediate monitor's water quality by cement contamination. The intermediate aquifer monitor well consists of two-inch Tri-Loc PVC casing extending from three ft als to 328 ft bls. Sixty ft of two-inch Tri-Loc PVC 0.030-inch slot screen, extends from 328 ft bls to 388 ft bls. Silica pea gravel surrounds the screen. A five-ft layer of bentonite chips caps off the gravel. Cement grout extends from the top of the bentonite layer to land surface. Since the intermediate aquifer monitor well will frequently be under flowing artesian conditions, a ball valve and threaded cap have been installed on top of the well for sampling and accessing the well. This well pair is also covered by a steel wellhead protective casing.

The primary freshwater/saltwater interface well (1,000 mg/L chlorides), monitors the Ocala/Avon Park Formation boundary. It is paired in a wellbore with the Suwannee Limestone monitor, which may also be used as a shallower freshwater/saltwater interface monitor well. This well set has 20-inch steel surface casing to 100 ft bls, and 14-inch steel surface casing to 325 ft bls, both grouted to surface (Figure 11). The Avon Park water quality monitor is four-inch PVC with 0.030-inch slot screen from 995 - 1,015 ft bls, and silica pea gravel from 968 - 1,016 ft bls. The gravel is capped by one ft of silica sand (968 ft - 967 ft bls) and five ft of bentonite pellets (962 ft - 967 ft bls). Cement grout extends from the bentonite up to 745 ft bls. The Suwannee Limestone monitor is a four-inch PVC well, with 0.030-inch slot screen from 708 - 738 ft bls. Silica pea gravel extends from 705 - 745 ft bls, and is capped by one ft of silica sand (704 ft - 705 ft bls). Cement grout extends from the top of the sand pack to land surface. Both wells are typically under flowing artesian conditions, and both have release ball valves and threaded caps for water quality monitoring access. Wellhead protection consists of steel casing, welded to the steel surface casing, with a lockable hinged lid.

## **8.0 SUMMARY**

The TR SA-1 wellsite is the most seaward (western) of three wellsites of the northern Sarasota coastal transect. The wellsite contains four water quality monitor wells, two of which are

freshwater/saltwater monitors and one geophysical Induction well. The wells monitor water quality and water levels in the surficial, intermediate, and Upper Floridan aquifers (Suwannee Limestone and Avon Park Formation). The Induction well is fully cased to 1,204 ft bls.

Water quality from the surficial monitor is being tested and logged into the Ambient Ground-Water Quality Monitoring Program's database. The intermediate aquifer monitor well has a discreet 60-ft open hole interval, however, influence from cross-connection of the entire intermediate aquifer at a nearby City of Sarasota monitor well, currently overrides any individual intermediate potentiometric head differences. The completed Suwannee Limestone monitor well has a 30-ft open hole interval with chlorides measured at just under 1,000 mg/L (951 mg/L, 11/95). Water quality measured during drilling, indicated a reduction in chloride values below the Suwannee monitored interval. The Avon Park monitor was designed to be the primary freshwater/saltwater interface well, however the Suwannee monitor will also serve as an interface monitor well. The Avon Park monitor well has a 20-ft open hole interval, with chloride concentrations just below 500 mg/L (484 mg/L, 11/95) in the finished well. Chloride concentrations, less than 15 ft below this interval, measured just below 2,000 mg/L during drilling. This is the primary water quality monitor well designed to track movement of the freshwater/saltwater interface (1,000 mg/L). Should water quality degrade over time, it would be a result of either up-coning or transgression of the interface. The Induction monitor well is also designed to monitor the interface. The Induction geophysical logging tool can measure changes in Natural Gamma emissions, Resistivity, and Conductivity of the formations and formation water. If ground-water quality degrades over time, conductivity will increase, indicating saltwater intrusion.

## **9.0 REFERENCES**

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# Tables

TABLE 1. FIELD RESULTS OF WATER QUALITY DURING CORING PROCESS: DISCHARGE AND BAILER SAMPLES

DATE (M/D/Y)	HOLE DEPTH (ft bls)	% CORE RECOVERY	DEPTH 4" HW CASING (ft bls)	FLUID TEMP. (deg. C)	FLUID CONDUCT. (umhos/cm)	pH	SPECIFIC GRAVITY (g/cm^3)	CHLORIDE (mg/L)	SULFATE (mg/L)
09/12/94	4/ A	75	0	n/a	n/a	n/a	n/a	n/a	n/a
	9	20	0	n/a	n/a	n/a	n/a	n/a	n/a
	11.5	88	0	n/a	n/a	n/a	n/a	n/a	n/a
	14	76	0	n/a	n/a	n/a	n/a	n/a	n/a
	19	100	0	n/a	n/a	n/a	n/a	n/a	n/a
	21.5	100	0	n/a	n/a	n/a	n/a	n/a	n/a
	24	100	0	n/a	n/a	n/a	n/a	n/a	n/a
09/13/94	26.5	100	0	n/a	n/a	n/a	n/a	n/a	n/a
	27.5/ C	100	0	n/a	n/a	n/a	n/a	n/a	n/a
	29	10	0	n/a	n/a	n/a	n/a	n/a	n/a
	34	40	0	n/a	n/a	n/a	n/a	n/a	n/a
	39	76	0	n/a	n/a	n/a	n/a	n/a	n/a
	44	100	0	n/a	n/a	n/a	n/a	n/a	n/a
	49	70	0	n/a	n/a	n/a	n/a	n/a	n/a
09/14/94	54	64	0	n/a	n/a	n/a	n/a	n/a	n/a
	59	50	0	n/a	n/a	n/a	n/a	n/a	n/a
	64	50	0	n/a	n/a	n/a	n/a	n/a	n/a
	69	100	0	n/a	n/a	n/a	n/a	n/a	n/a
	74	80	0	n/a	n/a	n/a	n/a	n/a	n/a
	79	90	0	n/a	n/a	n/a	n/a	n/a	n/a
	84	70	0	n/a	n/a	n/a	n/a	n/a	n/a
	89	64	0	n/a	n/a	n/a	n/a	n/a	n/a
	94	88	0	n/a	n/a	n/a	n/a	n/a	n/a
	99	80	0	n/a	n/a	n/a	n/a	n/a	n/a
10/24/94	104	64	97	n/a	n/a	n/a	n/a	n/a	n/a
	109	52	97	n/a	n/a	n/a	n/a	n/a	n/a
	114	83	97	n/a	n/a	n/a	n/a	n/a	n/a
	119	98	97	n/a	n/a	n/a	n/a	n/a	n/a
10/25/94	124	93	97	n/a	n/a	n/a	n/a	n/a	n/a
	129	80	97	n/a	n/a	n/a	n/a	n/a	n/a
	134	74	97	n/a	n/a	n/a	n/a	n/a	n/a
	139	0	97	n/a	n/a	n/a	n/a	n/a	n/a
	144	50	97	n/a	n/a	n/a	n/a	n/a	n/a
	149	84	97	n/a	n/a	n/a	n/a	n/a	n/a
	154	70	97	n/a	n/a	n/a	n/a	n/a	n/a
	159	100	97	n/a	n/a	n/a	n/a	n/a	n/a
	164	92	97	n/a	n/a	n/a	n/a	n/a	n/a
	169	100	97	n/a	n/a	n/a	n/a	n/a	n/a
	174	94	97	n/a	n/a	n/a	n/a	n/a	n/a
10/26/94	179	80	97	n/a	n/a	n/a	n/a	n/a	n/a
	184	86	97	n/a	n/a	n/a	n/a	n/a	n/a
	189	100	97	n/a	1500	8.5	1.001	180	>200
	194	80	97	n/a	n/a	n/a	n/a	n/a	n/a
	199	50	97	n/a	n/a	n/a	n/a	n/a	n/a
	204	78	97	n/a	n/a	n/a	n/a	n/a	n/a
	209	96	97	n/a	n/a	n/a	n/a	n/a	n/a
	214	97	97	n/a	n/a	n/a	n/a	n/a	n/a
10/27/94	219	100	97	n/a	n/a	n/a	n/a	n/a	n/a
	224	100	97	n/a	n/a	n/a	n/a	n/a	n/a
	229	96	97	n/a	n/a	n/a	n/a	n/a	n/a
	234	46	97	n/a	n/a	n/a	n/a	n/a	n/a



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DATE (M/D/Y)	HOLE DEPTH (ft bls)	% CORE RECOVERY	DEPTH 4" HW CASING (ft bls)	FLUID TEMP. (deg. C)	FLUID CONDUCT. (umhos/cm)	pH	SPECIFIC GRAVITY (g/cm^3)	CHLORIDE (mg/L)	SULFATE (mg/L)
	239	98	97	n/a	n/a	n/a	n/a	n/a	n/a
	244	100	97	n/a	n/a	n/a	n/a	n/a	n/a
	249	91	97	n/a	n/a	n/a	n/a	n/a	n/a
	254	86	97	n/a	n/a	n/a	n/a	n/a	n/a
	259	81	97	n/a	n/a	n/a	n/a	n/a	n/a
	264	100	97	n/a	n/a	n/a	n/a	n/a	n/a
	269	97	97	n/a	n/a	n/a	n/a	n/a	n/a
10/31/94	274	81	97	25.5	1507	n/a	n/a	n/a	n/a
	279	100	97	25.8	1488	n/a	n/a	n/a	n/a
	284	86	97	25.8	1443	n/a	n/a	n/a	n/a
	289	56	97	25.9	1412	n/a	n/a	n/a	n/a
	294	96	97	25.2	1273	7.79	1.0005	180	>200
11/01/94	299	98	97	25.4	1701	n/a	n/a	n/a	n/a
	304	100	97	25.6	1672	n/a	n/a	n/a	n/a
	309	90	97	25.9	1664	n/a	n/a	n/a	n/a
	314	96	97	26.4	1634	n/a	n/a	n/a	n/a
	319	100	97	26.1/25.5	1622/1309	7.94	1	200	>200
	324	42	97	27.1	1468	n/a	n/a	n/a	n/a
11/02/94	329	78	97	22.8	1483	n/a	n/a	n/a	n/a
	334	90	97	23.7	1464	n/a	n/a	n/a	n/a
	339	46	97	24.6	1413	n/a	n/a	n/a	n/a
	344	84	97	25.6	1650	n/a	n/a	n/a	n/a
	349	24	97	26.4	1545	n/a	n/a	n/a	n/a
	354	96	97	27.5	1618	n/a	n/a	n/a	n/a
	359	50	97	27.2	1542	n/a	n/a	n/a	n/a
	364	50	97	26.9	1550	n/a	n/a	n/a	n/a
	369	70	97	26.5	1542	n/a	n/a	n/a	n/a
	374	26	97	26.3	1545	n/a	n/a	n/a	n/a
11/03/94	374		97	25.6/25.4	1627/1679	7.8	1.0008	260	>200
	379	50	97	25.8	1625	n/a	n/a	n/a	n/a
	384	26	97	25.9	1688	n/a	n/a	n/a	n/a
	389	72	97	26.5	1628	n/a	n/a	n/a	n/a
	394	30	97	27.7	1622	n/a	n/a	n/a	n/a
	399	82	97	27.9	1555	n/a	n/a	n/a	n/a
	404	30	97	28.5	1607	n/a	n/a	n/a	n/a
11/07/94	409	28	97	n/a	n/a	n/a	n/a	n/a	n/a
	414	18	97	n/a	n/a	n/a	n/a	n/a	n/a
	419	40	97	n/a	n/a	n/a	n/a	n/a	n/a
	424	40	97	27.4	1640	n/a	n/a	n/a	n/a
	429	36	97	27	1562	n/a	n/a	n/a	n/a
	434	82	97	26.1	2730	7.36	1.001	460	>200
11/08/94	439	76	97	23.7	1911	n/a	n/a	n/a	n/a
	444	50	97	24.3	1883	n/a	n/a	n/a	n/a
	449	30	97	23	1904	n/a	n/a	n/a	n/a
	454	72	97	26.3	3310	7.29	1.001	650	>200
	459	86	97	29.5	2010	n/a	n/a	n/a	n/a
	464	66	97	29.7	1987	n/a	n/a	n/a	n/a
	469	30	97	29.9	1997	n/a	n/a	n/a	n/a
	474	31	97	26.2	2980	7.36	1.0015	625	>200
11/09/94	479	83	97	26.5	2130	n/a	n/a	n/a	n/a
	484	26	97	26.9	2200	n/a	n/a	n/a	n/a

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DATE (M/D/Y)	HOLE DEPTH (ft bls)	% CORE RECOVERY	DEPTH 4" HW CASING (ft bls)	FLUID TEMP. (deg. C)	FLUID CONDUCT. (umhos/cm)	pH	SPECIFIC GRAVITY (g/cm <sup>3</sup> )	CHLORIDE (mg/L)	SULFATE (mg/L)
	489	62	97	27.2	2180	n/a	n/a	n/a	n/a
	494	22	97	28.3	2180	n/a	n/a	n/a	n/a
	499	26	97	28.7	2195	n/a	n/a	n/a	n/a
	504	82	97	28.8	2190	n/a	n/a	n/a	n/a
11/14/94	504		97	26.5	2840	7.23	1.0013	420	>200
11/29/94	509	30	501	24	1996	n/a	n/a	n/a	n/a
	514	0	501	24.1	2000	n/a	n/a	n/a	n/a
	519	3	501	24.1	1946	n/a	n/a	n/a	n/a
	524	0	501	24.5	1937	n/a	n/a	n/a	n/a
	529	4	501	25.5/26.9	1946/2800	7.34	1.0013	380	>200
11/30/94	534	48	501	26.6	2640	n/a	n/a	n/a	n/a
	539	96	501	26.6	2610	n/a	n/a	n/a	n/a
	544	24	501	27	2620	n/a	n/a	n/a	n/a
	549	36	501	28	2790	n/a	n/a	n/a	n/a
	554	40	501	28.1	2680	n/a	n/a	n/a	n/a
	559	22	501	28.2	2760	n/a	n/a	n/a	n/a
	564	34	501	28.1	2780	n/a	n/a	n/a	n/a
	569	0	501	28.2/27.3	2750/2970	7.21	1.0025	440	>500
12/07/94	574	16	501	27	2860	n/a	n/a	n/a	n/a
	579	10	501	27.1	2810	n/a	n/a	n/a	n/a
	584	34	501	27.4	2790	n/a	n/a	n/a	n/a
	589	14	501	27.7	2820	n/a	n/a	n/a	n/a
	594	32	501	27.4	2830	n/a	n/a	n/a	n/a
	604	40	501	27.1	2850	n/a	n/a	n/a	n/a
	609	12	501	26.8/26.7	2890/3050	7.19	1.002	1250	>500
12/08/94	614	40	501	27	2850	n/a	n/a	n/a	n/a
	619	72	501	27.1	2920	n/a	n/a	n/a	n/a
	624	38	501	27.4	2920	n/a	n/a	n/a	n/a
	629	46	501	27.9/27.2	2930/4660	7.17	1.0015	1000	>550
12/13/94	629		501	26.7	4030	7.19	1.0025	720	>520
12/19/94	634	70	501	21.1	2920	n/a	n/a	n/a	n/a
	639	100	501	20.8	2820	n/a	n/a	n/a	n/a
	644	50	501	21.7	2860	n/a	n/a	n/a	n/a
	649/ P	60	501	22/25.6	2860/3400	7.41	1.0023	560	>500
12/20/94	654	60	501	21.6	2840	n/a	n/a	n/a	n/a
	659	32	501	21.8	2870	n/a	n/a	n/a	n/a
	664	32	501	22	2860	n/a	n/a	n/a	n/a
	669	38	501	22.3	2900	n/a	n/a	n/a	n/a
	674	70	501	22.3	2910	n/a	n/a	n/a	n/a
	679	58	501	22.4	2890	n/a	n/a	n/a	n/a
	684	98	501	22.7	2920	n/a	n/a	n/a	n/a
	689	76	501	22.6	2920	n/a	n/a	n/a	n/a
01/17/95	689		501	26.1	3990	7.18	1.0018	720	>550
	694	40	501	26.3	3960	n/a	n/a	n/a	n/a
	699	88	501	26.7	3870	n/a	n/a	n/a	n/a
	704	54	501	27.1	3750	n/a	n/a	n/a	n/a
	709	58	501	27.6	3680	7.3	1.0018	<750	>500
	714	18	501	n/a	n/a	n/a	n/a	n/a	n/a
01/19/95	719	50	501	26.5	3580	n/a	n/a	n/a	n/a
	724	92	501	26.8	3510	n/a	n/a	n/a	n/a
	729	72	501	27.2	3440	7.31	1.0016	<750	>550

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DATE (M/D/Y)	HOLE DEPTH (ft bls)	% CORE RECOVERY	DEPTH 4" HW CASING (ft bls)	FLUID TEMP. (deg. C)	FLUID CONDUCT. (umhos/cm)	pH	SPECIFIC GRAVITY (g/cm <sup>3</sup> )	CHLORIDE (mg/L)	SULFATE (mg/L)
01/24/95	734	80	501	19.7	3320	n/a	n/a	n/a	n/a
	739	48	501	19.9/27.1	3090/4530	7.24	1.003	1000	>500
	744	50	501	26.3	3030	n/a	n/a	n/a	n/a
	749	48	501	25.9	2950	n/a	n/a	n/a	n/a
	754	90	501	25.5	2940	n/a	n/a	n/a	n/a
	759	78	501	26.4	3170	7.31	1.0027	500	>450
01/25/95	764	92	501	24.7	2950	n/a	n/a	n/a	n/a
	769	70	501	24.1	2920	n/a	n/a	n/a	n/a
	774	54	501	23.5	2900	n/a	n/a	n/a	n/a
	779	50	501	26.5	2870	n/a	n/a	n/a	n/a
	784	56	501	26.1	2890	n/a	n/a	n/a	n/a
	789	96	501	25.6	3040	n/a	n/a	n/a	n/a
	794	100	501	25.8	2910	n/a	n/a	n/a	n/a
	799	60	501	25.4/27	2890/3630	7.35	1.0028	<750	>500
01/26/95	804	100	501	24.3	3060	n/a	n/a	n/a	n/a
	809	100	501	24.3	3080	n/a	n/a	n/a	n/a
	814	100	501	26	3080	n/a	n/a	n/a	n/a
	824	98	501	26.6	2950	n/a	n/a	n/a	n/a
	829	100	501	26.5	2870	n/a	n/a	n/a	n/a
	834	100	501	26.3	2930	n/a	n/a	n/a	n/a
	839	100	501	25.9	2880	n/a	n/a	n/a	n/a
01/30/95	844	96	501	25.3/27.5	3210/3240	7.31	1.0023	500	>520
	849	84	501	25.3	3160	n/a	n/a	n/a	n/a
	854	100	501	25	2970	n/a	n/a	n/a	n/a
	859	88	501	25.1	2950	n/a	n/a	n/a	n/a
01/31/95	864	100	501	19.5	3700	n/a	n/a	n/a	n/a
	869	100	501	23.3	3520	n/a	n/a	n/a	n/a
	874	100	501	25.7	3310	n/a	n/a	n/a	n/a
	879	100	501	26.3/26.9	3030/3320	7.42	1.0025	600	>500
	884	100	501	26.6	3070	n/a	n/a	n/a	n/a
	889	100	501	26.4	2930	n/a	n/a	n/a	n/a
	894	96	501	26.4	2930	n/a	n/a	n/a	n/a
	899	100	501	26	2950	n/a	n/a	n/a	n/a
	904	85	501	26	2960	n/a	n/a	n/a	n/a
	909	100	501	25.8	2930	n/a	n/a	n/a	n/a
	914	100	501	25.8	2900	n/a	n/a	n/a	n/a
	919	84	501	25.6/27.5	2960/3260	7.38	1.0025	500	840
02/01/95	924	100	501	27.3	3540	n/a	n/a	n/a	n/a
	929	100	501	27.1	3460	n/a	n/a	n/a	n/a
	934	89	501	26.4	2970	n/a	n/a	n/a	n/a
	939	100	501	26.9	2910	n/a	n/a	n/a	n/a
	944	98	501	26.2	2970	n/a	n/a	n/a	n/a
	949	94	501	25.9	2920	n/a	n/a	n/a	n/a
02/02/95	954	100	501	20.1/27.3	3350/3240	7.4	1.0015	500	800
	959	100	501	26.4	3290	n/a	n/a	n/a	n/a
	964	100	501	27.1	3050	n/a	n/a	n/a	n/a
02/06/95	964		501	27.5	3010	7.3	1.0022	500	1000
	969	100	501	24.9	3140	n/a	n/a	n/a	n/a
	974	100	501	24.4	3110	n/a	n/a	n/a	n/a
02/07/95	979	100	501	16.9	3090	n/a	n/a	n/a	n/a
	984	100	501	20.7/28	3010/2980	7.33	1.0018	300	900

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DATE (M/D/Y)	HOLE DEPTH (ft bls)	% CORE RECOVERY	DEPTH 4" HW CASING (ft bls)	FLUID TEMP. (deg. C)	FLUID CONDUCT. (umhos/cm)	pH	SPECIFIC GRAVITY (g/cm <sup>3</sup> )	CHLORIDE (mg/L)	SULFATE (mg/L)
	989	100	501	26.7	3210	n/a	n/a	n/a	n/a
	994	100	501	25.7	3000	n/a	n/a	n/a	n/a
02/08/95	999	100	501	n/a	n/a	n/a	n/a	n/a	n/a
	1004/ P	100	501	28	3120	7.4	1.0032	380	840
	1009	100	501	25	3320	n/a	n/a	n/a	n/a
	1014	100	501	23.7	2980	n/a	n/a	n/a	n/a
02/09/95	1019/ P	96	501	19.3/28.8	3120/3440	7.28	1.0018	500	900
02/13/95	1024	98	501	24.9	3870	n/a	n/a	n/a	n/a
	1029/ P	68	501	26.6/29.5	3950/7670	7.28	1.0038	1800	900
02/14/95	1034	100	501	23.7	5550	n/a	n/a	n/a	n/a
	1039	98	501	23.5	5650	n/a	n/a	n/a	n/a
	1044	95	501	26.3	5180	n/a	n/a	n/a	n/a
	1049/ P	100	501	26.2/29.5	5490/3740	7.3	1.0018	750	1040
02/20/95	1054	92	501	23.5	10280	n/a	n/a	n/a	n/a
	1059	79	501	23.6	10770	n/a	n/a	n/a	n/a
	1064	84	501	23.5	10460	n/a	n/a	n/a	n/a
02/21/95	1064/ P		501	29.6	12610	7.77	1.0053	32500	1000
	1069	90	501	28.5	7880	n/a	n/a	n/a	n/a
	1074	96	501	28.7	9840	n/a	n/a	n/a	n/a
	1079	92	501	28.9	10960	n/a	n/a	n/a	n/a
	1084	80	501	28.6	9380	n/a	n/a	n/a	n/a
02/22/95	1084/ P		501	29.2	10640	7.37	1.0049	2750	1200
	1089	86	501	29.1	6300	n/a	n/a	n/a	n/a
	1094	100	501	29.4	8530	n/a	n/a	n/a	n/a
	1099	92	501	28.9	6870	n/a	n/a	n/a	n/a
	1104/ P	100	501	28.7/29	6150/2540	7.48	1.0013	340	1000
02/27/95	1109	96	501	27.2	12800	n/a	n/a	n/a	n/a
	1114	100	501	27.4	12400	n/a	n/a	n/a	n/a
	1119	100	501	27.8	12200	n/a	n/a	n/a	n/a
	1124	91	501	28.4	12400	n/a	n/a	n/a	n/a
	1129	94	501	28.9	12810	n/a	n/a	n/a	n/a
	1134	92	501	28.4	12350	n/a	n/a	n/a	n/a
	1139	100	501	28.1	12120	n/a	n/a	n/a	n/a
02/28/95	1144/ P	110	501	26.9/30.1	9310/14680	7.16	1.0051	4250	1600
	1149	100	501	29.6	7870	n/a	n/a	n/a	n/a
	1154	100	501	29.5	9250	n/a	n/a	n/a	n/a
	1159	100	501	29.2	9230	n/a	n/a	n/a	n/a
03/01/95	1164	100	501	27	7500	n/a	n/a	n/a	n/a
	1169	100	501	27.3	6150	n/a	n/a	n/a	n/a
	1174/ P	100	501	26.7/29.5	6830/13050	7.24	1.0054	3750	2000
03/02/95	1179	100	501	23.6	12990	n/a	n/a	n/a	n/a
	1184/ P	98	501	23.5/28.8	8850/45500	7.03	1.0227	15000	4000

n/a = reading not available

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NOTE 1: AN "A" IN THE DEPTH COLUMN INDICATES FIRST AUGER SAMPLE, "C" INDICATES FIRST CORE AND "P" INDICATES PACKER TEST WATER QUALITY SAMPLE

NOTE 2: FIRST TEMP/COND READINGS FROM PAIRED VALUES ARE FROM DRILLING DISCHARGE AS ARE ALL SINGLE READINGS; SECOND VALUES AND EXTRA READINGS ARE FROM BAILER SAMPLE SENT TO LAB

TABLE 2. CORE RIG PACKER OPERATIONAL DATA

DATE (M/D/Y)	HOLE DEPTH (ft bls)	BIT DEPTH (ft bls)	AIRLINE LENGTH (ft)	TOP SHEAR PIN STRENGTH (psi)	BOTTOM SHEAR PIN STRENGTH (psi)	CALC. PUMP PRESS. (psi)	ACTUAL SHEAR PRESS. (psi)	INITIAL COND./ TEMP. (umhos/C)	FINAL COND./ TEMP. (umhos/C)	AIRLIFT (gpm)	CALC. ROD VOLUME (gal)	1-ROD VACATE TIME (min)	AIRLIFT TIME (min)	TOTAL GALS. AIRLIFTED	# HITS ON JARS	DEFLATE TIME (min)
12/19/94	649'	634'	100'	3000	680	405	275	3090 25.6	3340 26.4	15	149	10	50	750	3	3
12/20/94	689'	674'	100'	3000	680	388	300	3170 26	3520 27.6	32	158	5	65	2000	0	0
1/17/95	689'	674'	100'	3000	680	388	280	1000 24.7	4000 27.1	37.5	158	4	10	aborted	n/a	n/a
1/18/95	689'	674'	60'	3000	680	388	410	1080 24.8	3890 27.3	21	158	8	25	525	aborted	n/a
1/29/95	729'	714'	60'	3000	680	371	325	n/a	n/a	19.6	aborted	n/a	n/a	n/a	n/a	n/a
2/7/95	984'	964'	100'	3000	680	263	190	aborted	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2/7/95	984'	964'	100'	3000	1020	603	aborted	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2/8/95	1004'	984'	100'	3000	680	254	120	aborted	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2/8/95	1004'	984'	100'	1500	765	339	240	2990 26.6	3110 27.9	18	231	13	45	810	16	4
2/9/95	1019'	1004'	100'	3000	765	330	220	3010 27.6	3370 28.5	11.8	234	20	30	354	12	4
2/13/95	1029'	1014'	100'	3000	850	411	290	5180 28.2	7640 29	11.4	237	21	50	570	12	4
2/14/95	1049'	1024'	100'	3000	850	407	300	5610 28.3	3650 29.3	3.8	241	63	90	340	8	5

TABLE 2. CORE RIG PACKER OPERATIONAL DATA

DATE (M/D/Y)	HOLE DEPTH (ft bls)	BIT DEPTH (ft bls)	AIRLINE LENGTH (ft)	TOP SHEAR PIN STRENGTH (psi)	BOTTOM SHEAR PIN STRENGTH (psi)	CALC. PUMP PRESS. (psi)	ACTUAL SHEAR PRESS. (psi)	INITIAL COND./ TEMP. (umhos/C)	FINAL COND./ TEMP. (umhos/C)	AIRLIFT (gpm)	CALC. ROD VOLUME (gal)	1-ROD VACATE TIME (min)	AIRLIFT TIME (min)	TOTAL GALS. AIRLIFTED	# HITS ON JARS	DEFLATE TIME (min)
2/16/95	1049'	1024'	120'	3000	850	407	290	14230 29.7	7120 29.6	4.4	241	63	120	530	6	5
2/21/95	1064'	1049'	120'	3000	850	396	240	9870 26.9	10300 29.4	6.1	245	40	130	793	8	05/10
2/22/95	1084'	1064'	120'	3000	850	389	285	10140 26.7	16440 29	2.4	249	103	150	542	8	05/10
2/23/95	1104'	1084'	120'	3000	850	380	180	9830 28.1	2520 28.9	4.6	254	56	80	368	8	05/10
2/28/95	1144'	1104'	120'	3000	850	372	390	10560 29.3	12220 30	16	262	16	40	660	22/did not shear	10
3/1/95	1174'	1138'	120'	1500	850	358	170	11150 28.3	13210 29.6	12.5	270	22	45	563	5	05/10
3/2/95	1184'	1179'	120'	1500	850	340	220	2740 27.9	45300 29.4	14	272	20	135	1890	3	05/10

n/a = reading not available

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TABLE 3. WATER QUALITY RESULTS FROM BOTTOM WATER SAMPLED DURING CORING (LABORATORY PROCESSED)

DATE (M/D/Y)	DEPTH (ft bls)	FIELD TEMP. (deg. C)	SPECIFIC CONDUCT. (umhos/cm)	WATER DENSITY (g/cm <sup>3</sup> )	pH	TOTAL DISSOLVED SOLIDS (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	TOTAL ALKALINITY (CaCO <sub>3</sub> ) (mg/L)	BROMIDE (mg/L)	ION BALANCE (%)	CALCIUM (mg/L)	MAGNESIUM (mg/L)	SODIUM (mg/L)	POTASSIUM (mg/L)	IRON (mg/L)	SILICA (mg/L)	TOTAL HARDNESS (as CaCO <sub>3</sub> )
10/26/94	189	25.6	1570	1.001	8.5	1070	183	422	151	0.8	0.13	108	83	93	33	0.046	23.51	606
10/31/94	294	26.2	1271	1.0008	7.6	842	146	295	176	0.4	1.14	77	60	96	18	0.128	15.12	439
11/01/94	319	26.1	1673	1.001	7.5	1155	195	443	164	0.7	1.23	126	89	99	13	0.465	16.84	681
11/03/94	374	25.4	1301	1.0008	7.8	865	138	285	187	0.4	0.39	76	61	95	15	0.11	22.04	441
11/07/94	434	26.1	2670	1.0019	7.4	1976	380	910	133	1.3	0.82	255	144	169	12	0.741	15.48	1230
11/08/94	454	26.3	3240	1.0022	7.2	2139	660	1030	135	1.8	2.87	304	144	234	12	0.765	25.18	1352
11/09/94	474	26.2	3220	1.0022	7.2	2115	550	1030	145	1.7	2.41	309	145	238	11	0.904	16.3	1369
11/14/94	504	26.5	2780	1.0021	7.4	2186	345	1100	136	1.1	1.5	306	134	181	5.7	0.264	11.4	1316
11/29/94	529	26.9	2860	1.002	7.4	2115	330	1040	133	1.1	1.06	303	129	162	5.2	1.344	15.89	1288
11/30/94	569	27.3	3130	1.0022	7.4	2246	385	1100	136	1.2	0.12	334	139	187	5.6	0.461	12.05	1406
12/08/94	609	26.7	5010	1.003	7.2	3398	1030	1170	141	4.6	1.6	387	169	482	11	0.294	6.84	1662
12/08/94	629	27.2	4810	1.0028	7.4	3330	880	1140	143	5.2	0.69	372	161	428	11	0.387	6.72	1592
12/14/94	629	26.7	3910	1.0025	6.4	2898	690	1145	136	1.8	1.9	340	150	340	8.4	0.433	11.14	1467
12/19/94	649	25.8	3340	1.0023	6.8	2472	612	1122	133	1.5	3.67	326	138	226	7.4	3.079	9.46	1380
01/18/95	689	26.1	3850	1.0026	6.8	2858	681	1149	133	2.3	0.07	365	164	336	8.9	0.516	5.97	1546
01/18/95	709	27.6	3540	1.0024	7	2704	581	1118	135	2.2	0.3	351	150	289	7.9	2.249	5.33	1494
01/18/95	729	27.2	3330	1.0023	7	2445	510	1095	134	1.8	0.47	343	146	251	7.2	2.084	6.42	1458
01/24/95	739	27.1	4440	1.0028	7	2961	916	1165	136	2.7	3.31	363	158	414	11	0.648	11.04	1557
01/26/95	759	26.4	3010	1.0021	7.2	2220	470	927	140	2.3	1.44	314	130	226	7.7	0.465	10.26	1319
01/26/95	799	27	3540	1.0025	7.4	2680	555	1045	134	2.2	7.63	400	162	311	6.6	2.185	9.92	1666
01/30/95	844	27.5	3360	1.0021	7.7	2282	483	992	135	1.8	1.81	294	132	229	6.9	1.266	9.75	1278
01/31/95	879	26.9	3330	1.0022	7.4	2384	490	1035	130	1.7	1.13	308	141	232	6.7	3.212	9.5	1345
02/01/95	919	27.5	3260	1.0021	7.5	2396	466	1038	132	1.6	1.2	304	140	222	6.4	2.758	10.33	1336
02/02/95	954	27.3	3220	1.0022	7.5	2411	457	1054	133	1.7	1.51	305	141	216	6.3	3.133	10.08	1342
02/06/95	964	27.5	2970	1.0021	7.2	2260	314	1087	123	1.3	1.31	324	136	169	5.6	10.19	7.08	1369
02/07/95	984	28	2930	1.0021	7.6	2239	332	1146	137	1.2	1.52	325	138	166	5.6	3.132	9	1380
02/08/95	1004	28	3080	1.0022	7.5	2351	390	1097	130	1.5	0.34	324	141	190	6.6	3.314	8.98	1390
02/09/95	1019	28.8	3440	1.0023	7.6	2585	525	1092	140	2	0.51	326	157	262	7	0.852	9.4	1461
02/16/95	1029	29.5	7550	1.004	7.6	5082	1862	1187	140	6.6	1.38	389	206	939	25	2.239	8.47	1820
02/16/95	1049	29.5	3670	1.0021	7.5	2611	695	883	129	2.4	1.74	267	141	320	9.2	3.378	8.21	1247
02/21/95	1064	29.6	12290	1.0062	7.4	7483	3525	1293	145	15	0.67	459	292	1900	56	2.743	9.07	2349
02/22/95	1084	29.2	10480	1.0053	7.4	6740	2915	1215	140	11	0.23	410	260	1560	44	3.155	9.64	2094
02/23/95	1104	29	2500	1.0018	7.5	1930	311	888	132	1.2	0.84	229	140	145	5.8	2.629	10.02	1148
02/28/95	1144	30.1	14690	1.0072	7.8	9460	4350	1405	146	18	0.73	527	323	2258	60	1.977	11.44	2646
03/01/95	1174	29.5	13100	1.0066	7.4	7930	3760	1383	130	16	0.11	573	329	1846	47	4.98	10.96	2786
03/02/95	1184	28.8	48600	1.0233	7	30100	17645	2738	170	58	6.41	1163	837	6220	250	10.293	8.36	6351
04/18/95	1190	N/A	55890	1.0274	7.5	35740	19410	3066	240	66	-0.55	1355	1056	10270	320	3.358	7.66	7732

TABLE 4. WATER QUALITY RESULTS FROM FINISHED MONITOR-WELLS

DATE (M/D/Y)	DEPTH (ft b/s)	FIELD TEMP. (deg. C)	SPECIFIC CONDUCT. (umhos/cm)	WATER DENSITY (g/cm^3)	pH	TOTAL DISSOLVED SOLIDS (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	TOTAL ALKALINITY (CaCO3) (mg/L)	BROMIDE (mg/L)	ION BALANCE (%)	CALCIUM (mg/L)	MAGNESIUM (mg/L)	SODIUM (mg/L)	POTASSIUM (mg/L)	IRON (mg/L)	SILICA (mg/L)	TOTAL HARDNESS (as CaCO3)
12/13/95	28	N/A	3210	1.0019	7.2	2023	633	303	538	2.5	0.46	180	103	399	9.6	2.703	16.24	874
11/20/95	388	N/A	1916	1.0012	7.8	1308	235	536	143	0.8	0.64	144	95	121	12	0.126	19.12	751
11/20/95	738	N/A	4570	1.0027	7.6	3186	951	1086	129	3.2	-3.5	339	143	437	14	0.07	13.44	1435
11/20/95	1015	N/A	3300	1.0023	7.6	2635	484	1108	134	1.7	-1.4	316	146	227	6.5	0.668	13.74	1390

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## Figures

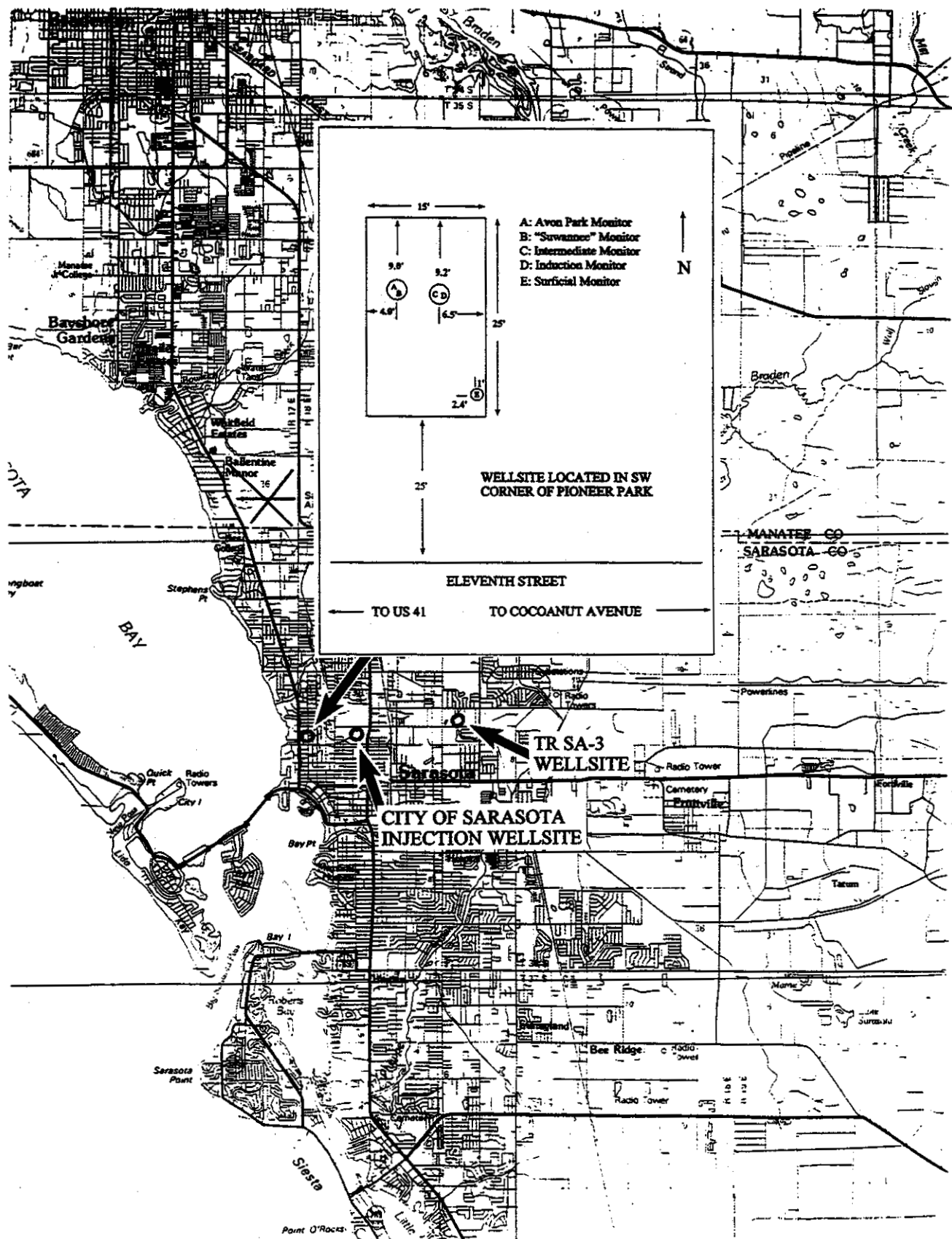
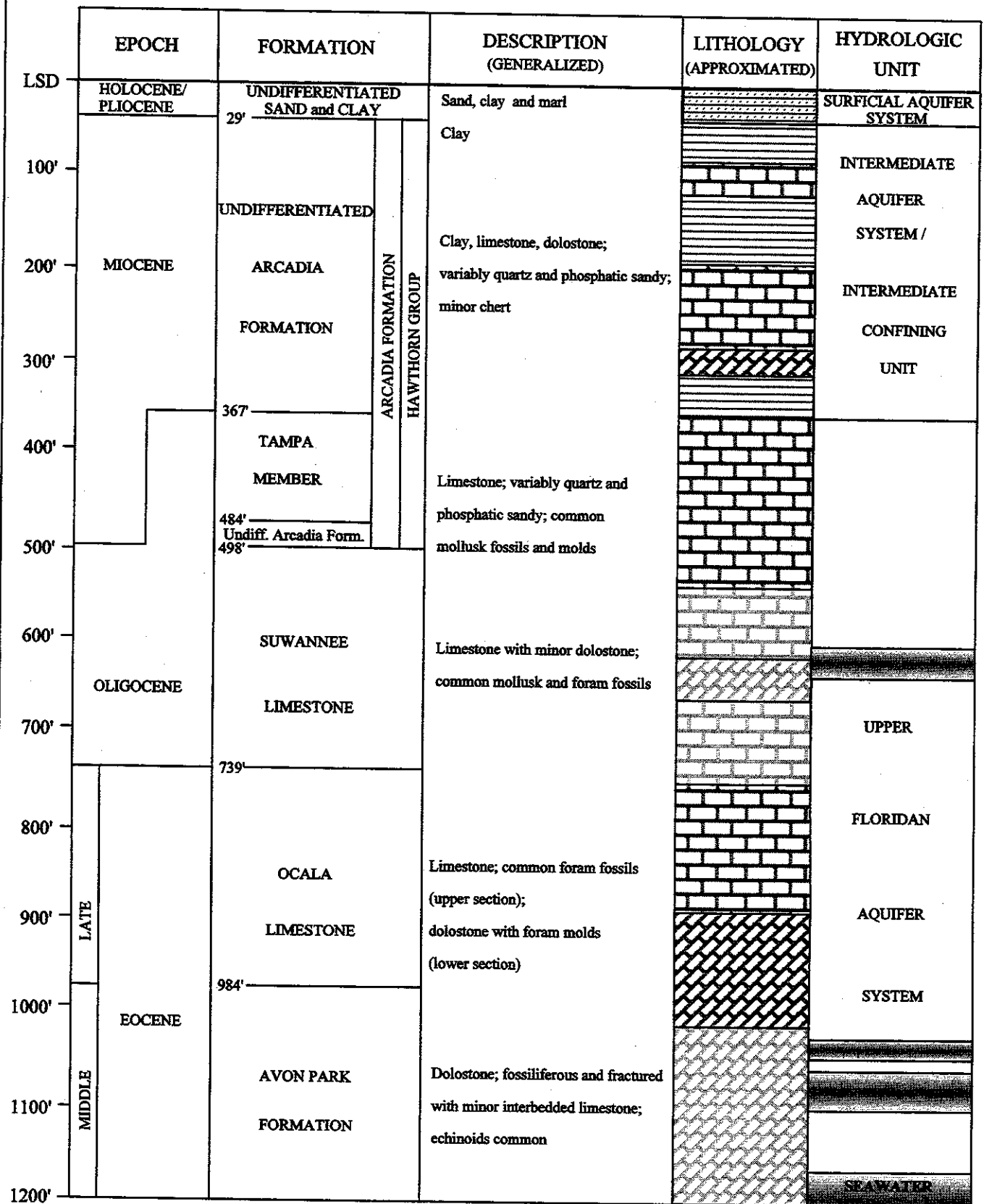
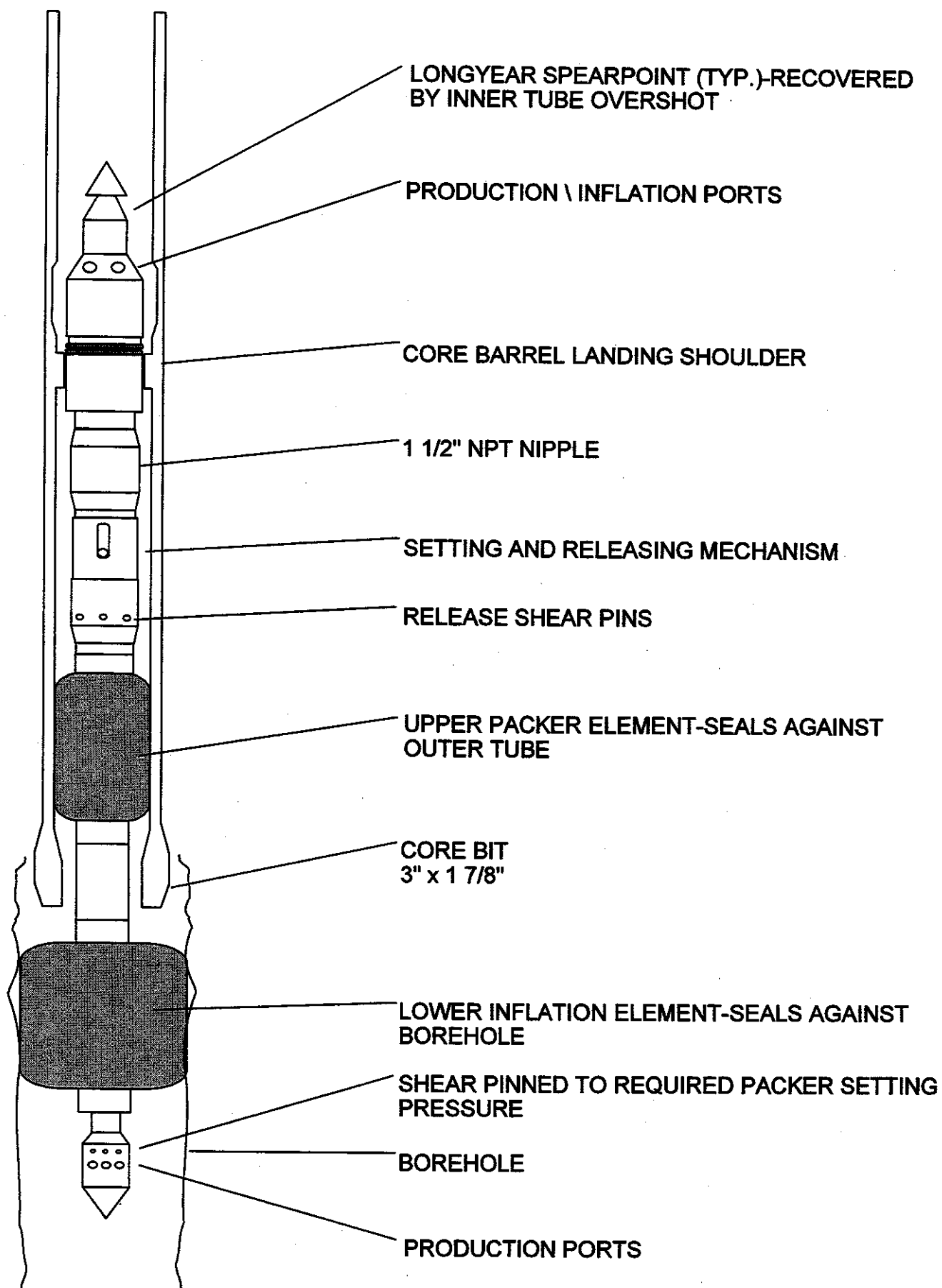


FIGURE 1. TR SA-1 (PAYNE TERMINAL)  
WELLSITE LOCATION



Denotes approximate depth where chlorides exceeded 1000 mg/L

FIGURE 2. TR SA-1 (PAYNE TERMINAL)  
HYDROGEOLOGY



**FIGURE 3. TR SA-1 (PAYNE TERMINAL)**

DEPLOYED COREHOLE PACKER FOR 3"x 1 7/8" CORE BIT  
DEVELOPED BY TAM INTERNATIONAL, INC.

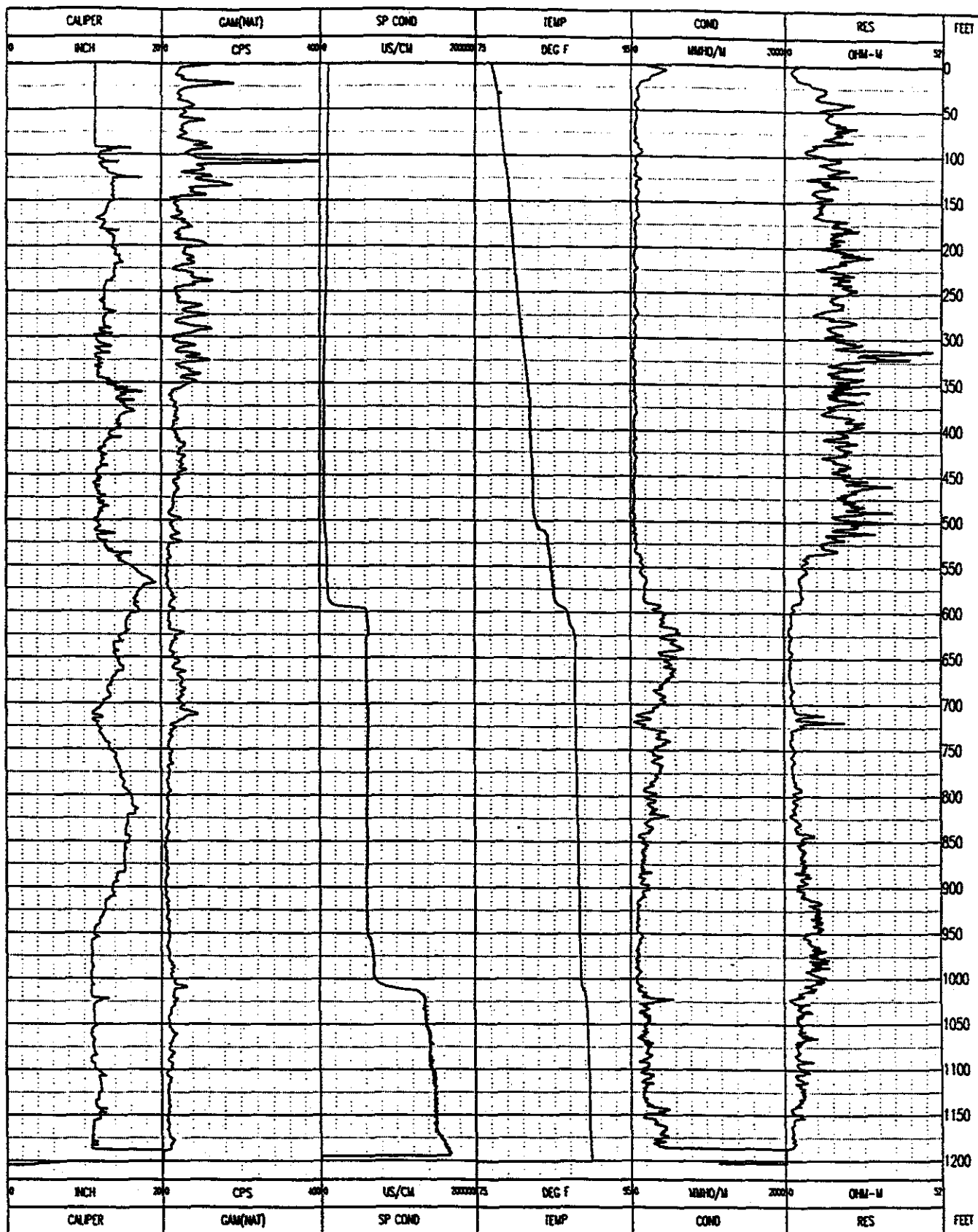


FIGURE 4. TR SA-1 (PAYNE TERMINAL)

GEOPHYSICAL FLUID LOGS OF COREHOLE

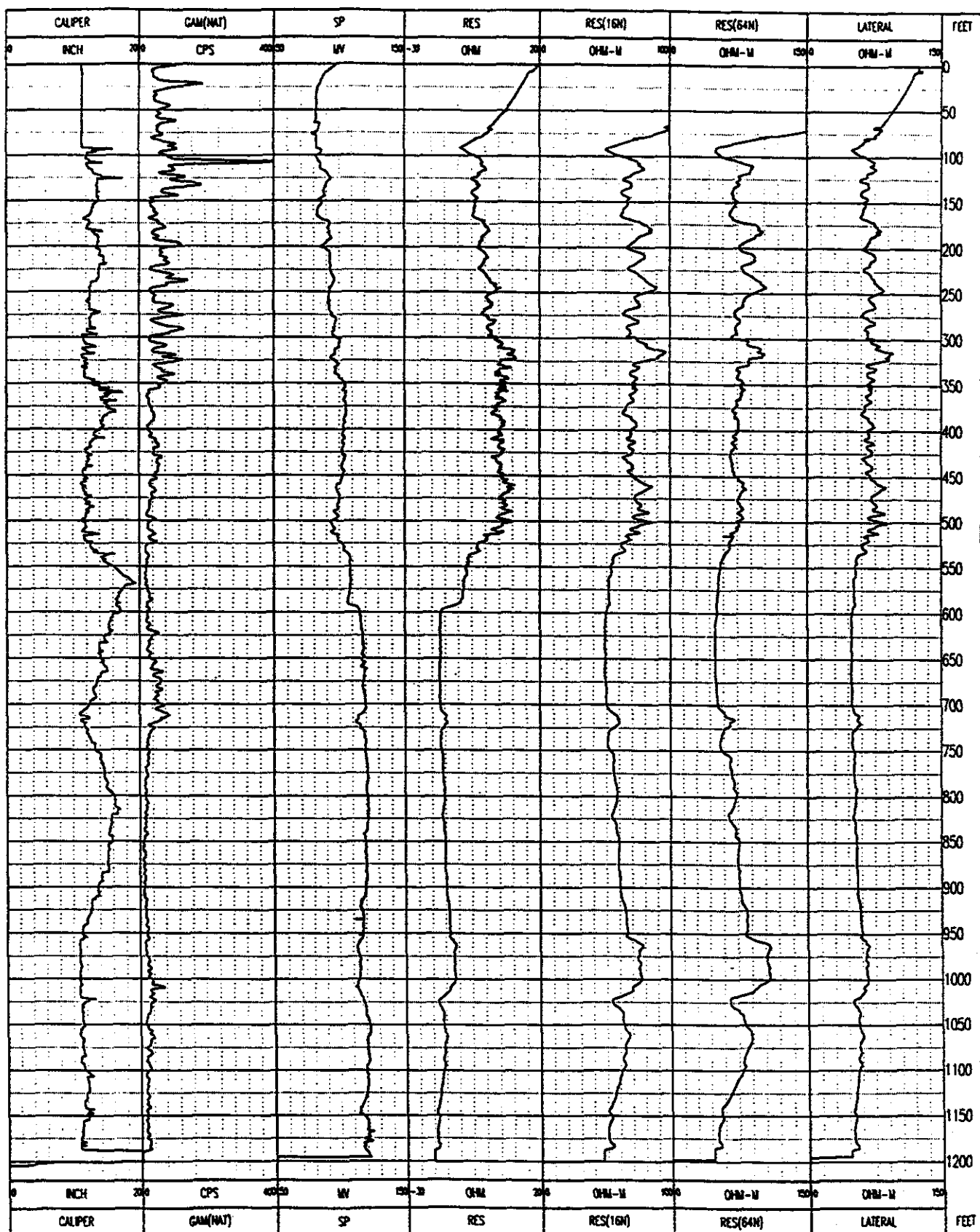
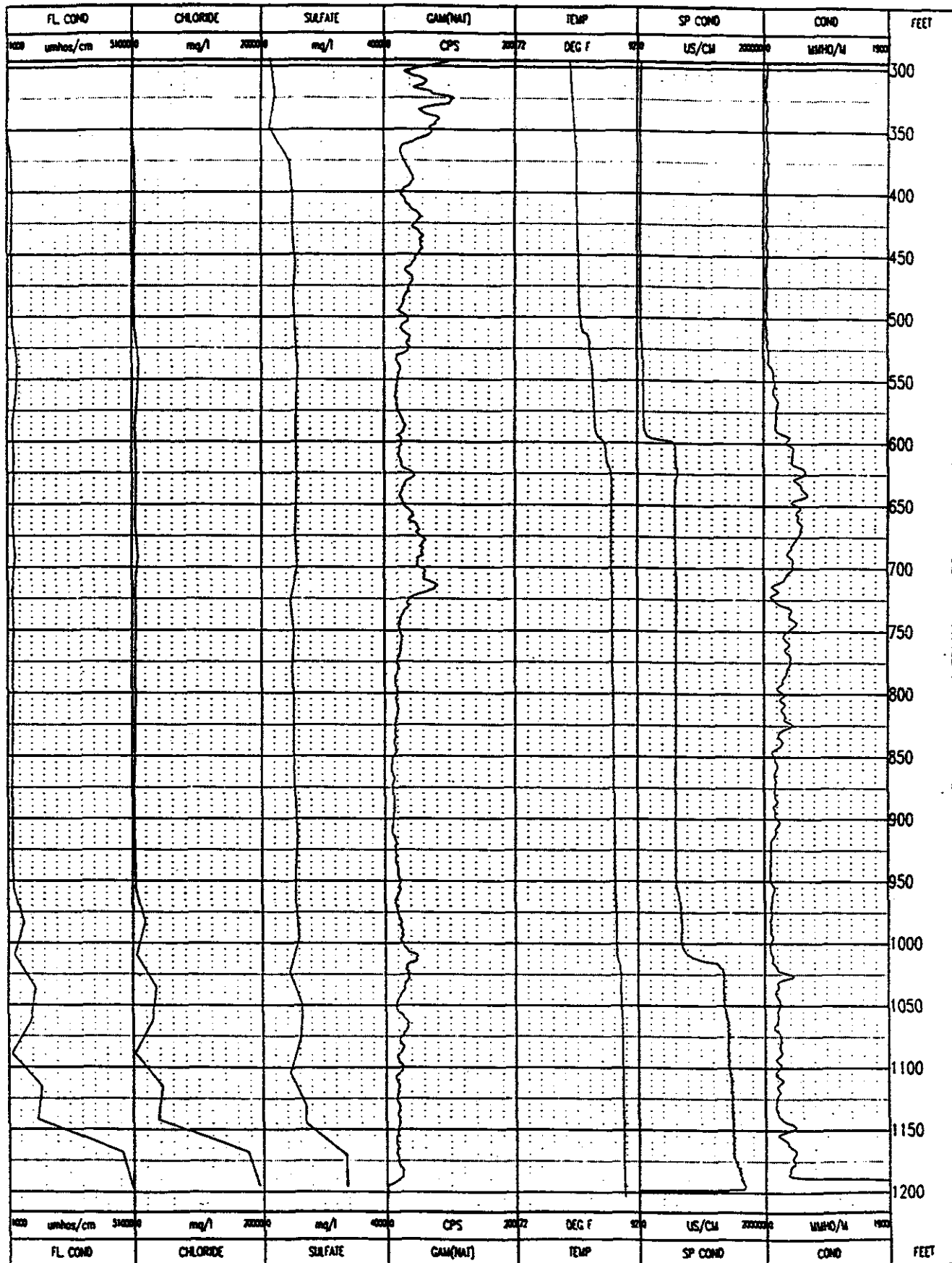


FIGURE 5. TR SA-1 (PAYNE TERMINAL)  
GEOPHYSICAL ELECTRIC LOGS OF COREHOLE





**FIGURE 6. TR SA-1 (PAYNE TERMINAL)**  
**WATER QUALITY AND SELECTED LOGS**

## ROMP TR SA-1 CHLORIDES

### FIELD vs LAB VALUES

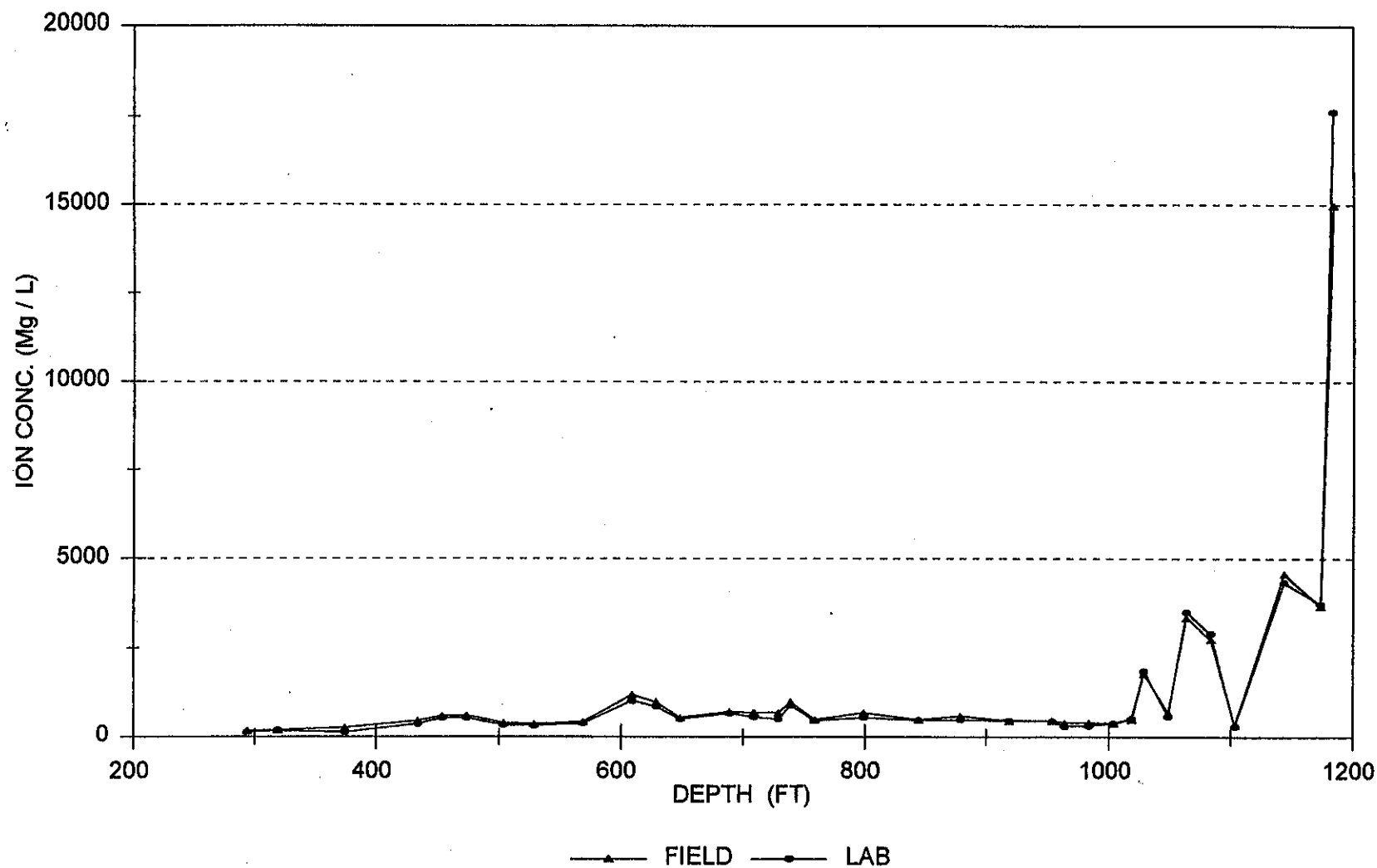
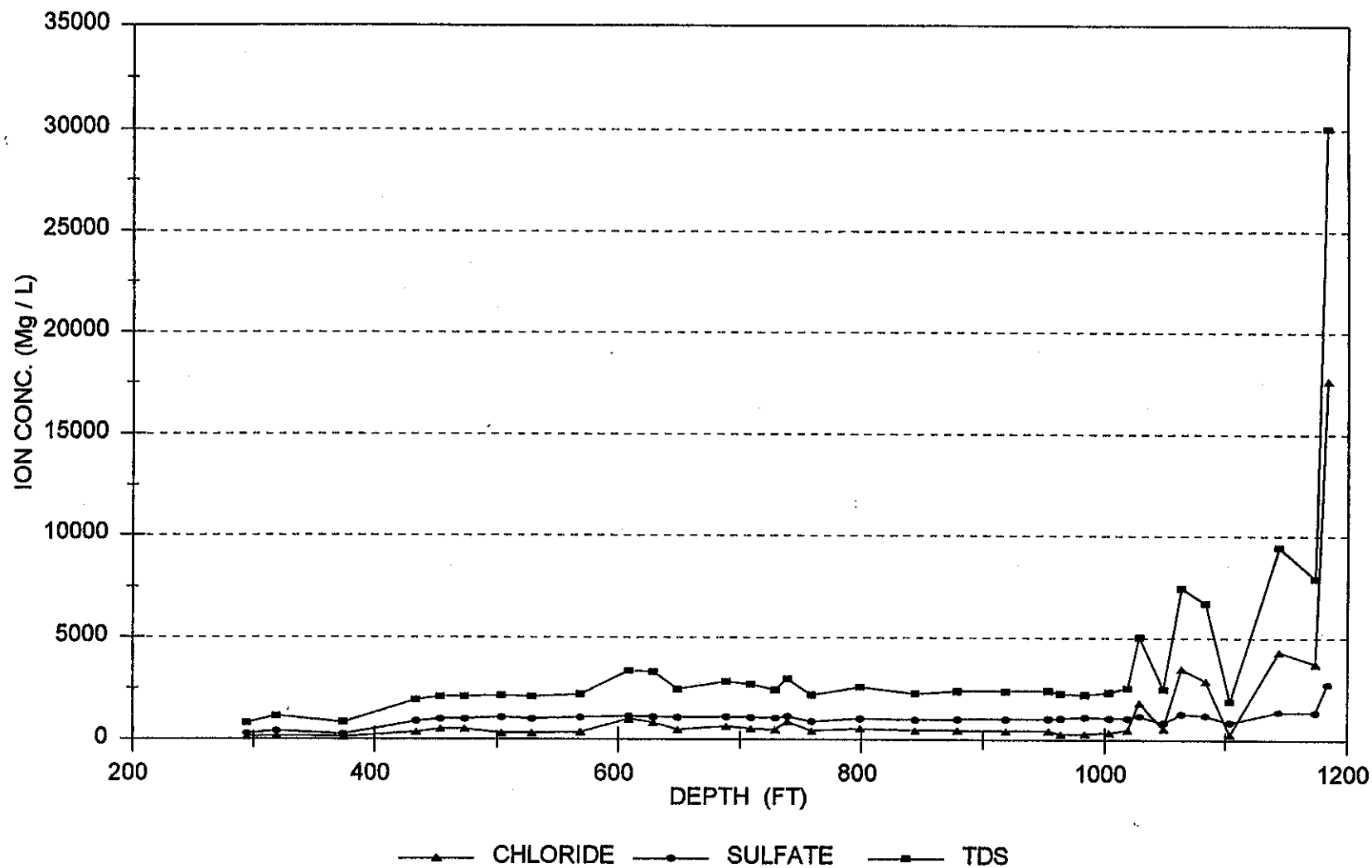
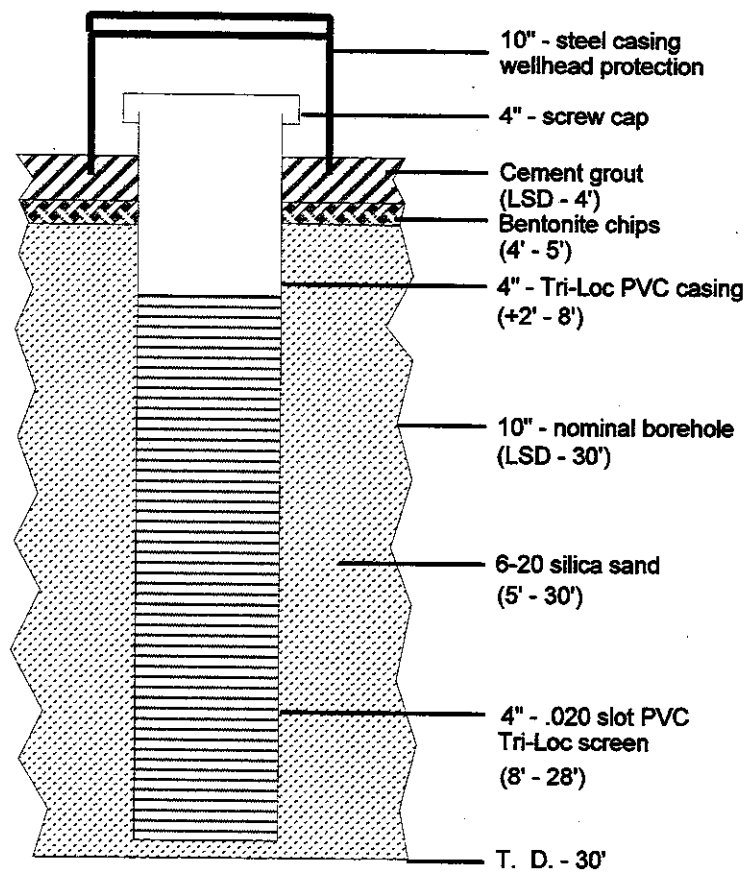


FIGURE 7. TR SA-1 (PAYNE TERMINAL)  
COMPARISON OF CHLORIDE FIELD AND LAB VALUES

# **ROMP TR SA-1** **CHLORIDES vs SULFATES vs TDS**



**FIGURE 8. TR SA-1 (PAYNE TERMINAL)**  
**COMPARISON OF CHLORIDE, SULFATE AND TDS VALUES**



**FIGURE 9. TR SA-1 (PAYNE TERMINAL)**  
**SURFICIAL MONITOR-WELL**  
**AS - BUILT**

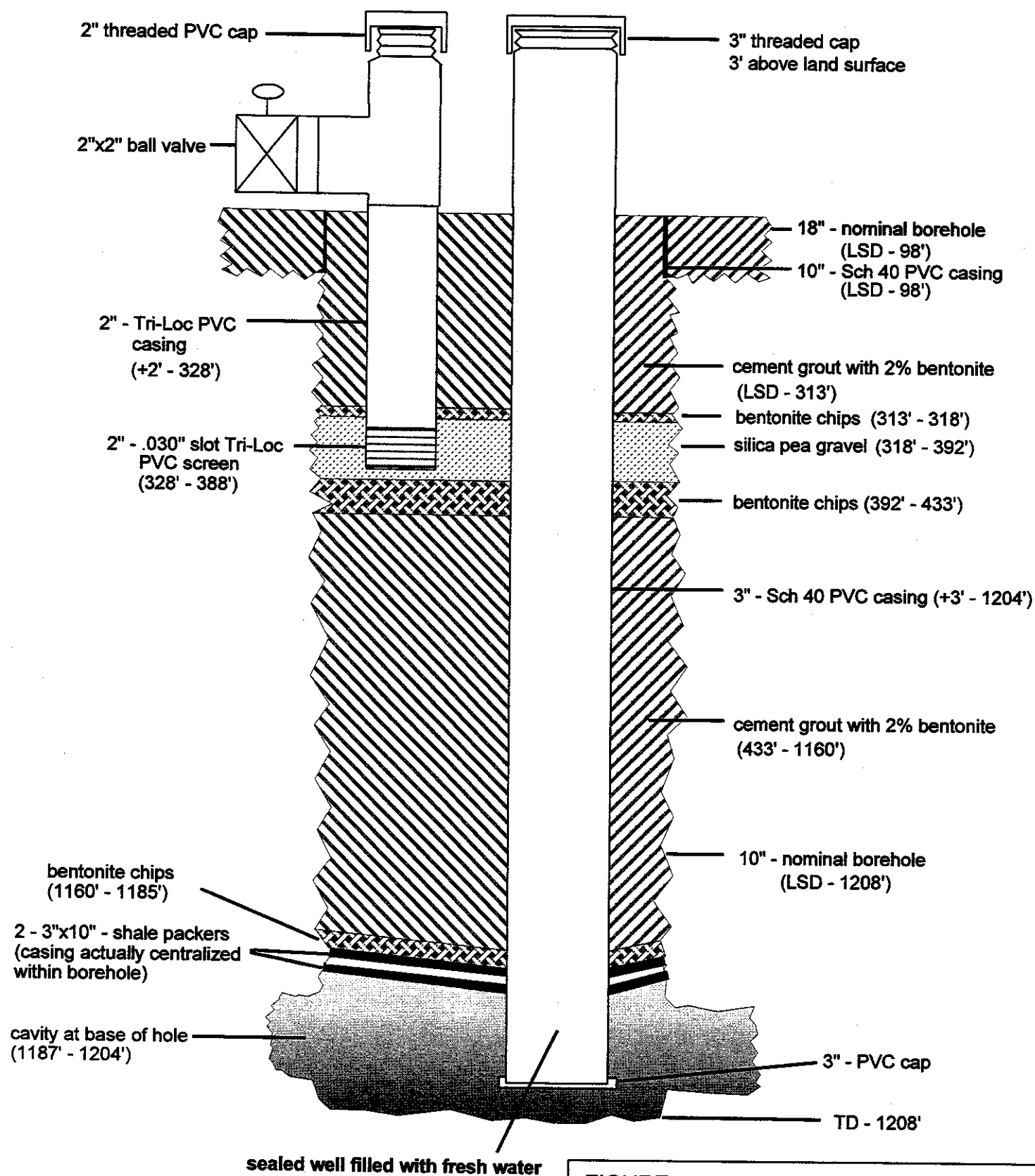


FIGURE 10. TR SA-1 (PAYNE TERMINAL)

INTERMEDIATE and DEEP INDUCTION  
MONITOR-WELLS  
AS - BUILT

WELLHEADS SIMILAR TO INTERMEDIATE MONITOR'S  
4"x4" ball valves with threaded caps on top

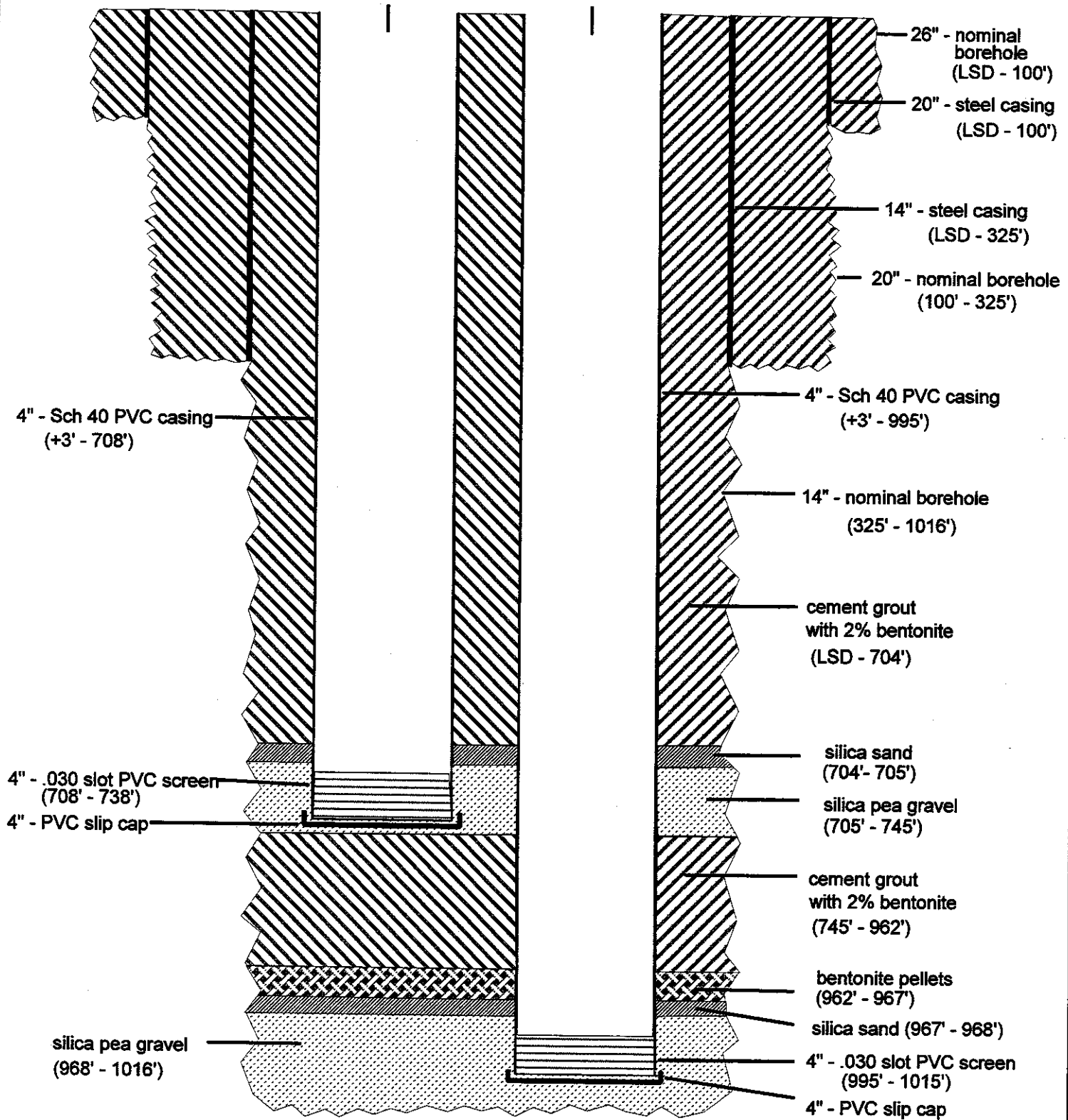


FIGURE 11. TR SA-1 (PAYNE TERMINAL)  
SUWANNEE and AVON PARK WATER QUALITY  
MONITOR-WELLS  
AS-BUILT

## Appendix A

LITHOLOGIC WELL LOG PRINTOUT      SOURCE - FGS

WELL NUMBER: W-17452  
TOTAL DEPTH: 1210 FT.  
SAMPLES - NONE

COUNTY - SARASOTA  
LOCATION: T.36S R.18E S.18 CC  
LAT = 27D 20M 49S  
LON = 82D 32M 45S

COMPLETION DATE: 04/20/95

ELEVATION: 8 FT

OTHER TYPES OF LOGS AVAILABLE - FLUID VELOCITY, CALIPER, GAMMA, ELECTRIC, INDUCTION, SONIC

OWNER/DRILLER:SWFWMD ROMP TR SA-1 PAYNE TERMINAL (SARASOTA)  
J. PAT MEADORS, DRILLER

WORKED BY:RICHARD A. LEE, SWFWMD GEOLOGIST

HOLLOW STEM AUGER SAMPLES, 0-26.5 FT.

NQ WIRELINE CORE SAMPLES, 26.5 FT. - 1184 FT.

REVERSE-AIR DRILL CUTTINGS, 1184 FT. - 1200 FT.

CORE DRILLING CONDUCTED WITH MUNICIPAL SUPPLY WATER AND FRESH WATER FROM INTERMEDIATE AQUIFER.  
ROUTINE POTENTIOMETRIC AND WATER QUALITY PROFILING CONDUCTED DURING CORE DRILLING. DETAILED TEST  
DATA AVAILABLE FROM SWFWMD GEOHYDRO. DATA SECTION. POSSIBLE VENICE CLAY FROM 40-45' BLS  
FGS PICKS (ARTHUR, LLOYD, WERNER, WILLIAMS) ARE:

- 0.0 - 29. 090UDSC UNDIFFERENTIATED SAND AND CLAY
- 29. - 484. 122HTRN HAWTHORN GROUP
- 29. - 484. 122ARCA ARCADIA FM.
- 367. - 484. 122TAMP TAMPA MEMBER OF ARCADIA FM.
- 484. - 739. 123SWNN SUWANNEE LIMESTONE
- 739. - 984. 124OCAL OCALA GROUP
- 984. - . 124AVPK AVON PARK FM.

0 - 3            SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN  
15% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY  
UNCONSOLIDATED  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PEAT-05%  
OTHER FEATURES: VARIEGATED  
ORGANIC SAND, @1.5' BLS. PLANT DEBRIS (ROOTS).

3 - 4            SAND; DARK YELLOWISH BROWN TO DARK YELLOWISH BROWN  
POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE; LOW SPHERICITY  
UNCONSOLIDATED  
SEDIMENTARY STRUCTURES: LAMINATED, BEDDED  
ACCESSORY MINERALS: IRON STAIN-10%, CLAY-20%  
OTHER FEATURES: MUDDY

4 - 9.5          SAND; OLIVE GRAY  
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
ROUNDNESS: SUB-ANGULAR TO SUB-ROUNDED; LOW SPHERICITY  
UNCONSOLIDATED  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: SILT-10%, ORGANICS-10%  
OTHER FEATURES: MUDDY  
TRACE PLANT REMAINS @4.0' BLS.



- 9.5- 11.5      SAND; GRAYISH BROWN  
POROSITY: INTRAGRANULAR, LOW PERMEABILITY  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
HIGH SPHERICITY  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: GLAUCONITE-02%  
OTHER FEATURES: CALCAREOUS  
CLAYEY MARL
- 11.5- 26.5      CLAY; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY  
SEDIMENTARY STRUCTURES: STREAKED  
ACCESSORY MINERALS: IRON STAIN-40%  
TRACE PLANT REMAINS. CLAYEY MARL WITH IRREGULAR LIMESTONE CLASTS.
- 26.5- 29        CALCILUTITE; YELLOWISH GRAY  
POROSITY: NOT OBSERVED  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO CRYPTOCRYSTALLINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, BIOTURBATED  
ACCESSORY MINERALS: CLAY-02%  
OTHER FEATURES: CALCAREOUS, WEATHERED  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, BRACHIOPOD  
MOLLUSKS
- 29 - 31        CLAY; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION      SEDIMENTARY STRUCTURES:  
BEDDED  
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-02%
- 31 - 34.8      LIMESTONE; YELLOWISH GRAY  
GRAIN TYPE: BIOGENIC  
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, BIOTURBATED  
OTHER FEATURES: CHALKY, SPECKLED
- 34.8- 39        CALCILUTITE; VERY LIGHT ORANGE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE  
POOR INDURATION  
SEDIMENTARY STRUCTURES: BEDDED, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, GLAUCONITE-02%  
FRACTURE INFILLED W/PHOSPHATIC SAND AND GRAVEL.

- 39 - 40.5      CALCILUTITE; YELLOWISH GRAY TO LIGHT GREENISH YELLOW  
 POROSITY: LOW PERMEABILITY, NOT OBSERVED  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE  
 POOR INDURATION  
 SEDIMENTARY STRUCTURES: BEDDED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-01%  
 OTHER FEATURES: SPECKLED
- 40.5- 44      CALCILUTITE; YELLOWISH GRAY  
 POROSITY: LOW PERMEABILITY, NOT OBSERVED  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE  
 MODERATE INDURATION  
 SEDIMENTARY STRUCTURES: BEDDED  
 OTHER FEATURES: SPECKLED
- 44 - 45.2      CLAY; LIGHT OLIVE GRAY  
 POROSITY: LOW PERMEABILITY, NOT OBSERVED  
 MODERATE INDURATION  
 SEDIMENTARY STRUCTURES: BEDDED
- 45.2- 47.4      LIMESTONE; VERY LIGHT ORANGE  
 POROSITY: PIN POINT VUGS, LOW PERMEABILITY  
 GRAIN TYPE: CALCILUTITE  
 GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO CRYPTOCRYSTALLINE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 ACCESSORY MINERALS: CLAY-10%  
 OTHER FEATURES: WEATHERED  
 FOSSILS: WORM TRACES
- 47.4- 50.1      CALCILUTITE; VERY LIGHT ORANGE  
 POROSITY: PIN POINT VUGS, NOT OBSERVED  
 GRAIN SIZE: MICROCRYSTALLINE  
 RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE  
 MODERATE INDURATION  
 SEDIMENTARY STRUCTURES: BEDDED  
 ACCESSORY MINERALS: PHOSPHATIC SAND-02%  
 PHOSPHATIC GRAVEL-01%  
 OTHER FEATURES: SPECKLED, CHALKY  
 FOSSILS: CORAL, BRACHIOPOD
- 50.1- 54      LIMESTONE; VERY LIGHT ORANGE  
 POROSITY: VUGULAR, MOLDIC  
 GRAIN TYPE: CALCILUTITE  
 GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MICROCRYSTALLINE  
 POOR INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%  
OTHER FEATURES: CALCAREOUS  
FOSSILS: FOSSIL MOLDS, BRACHIOPOD, WORM TRACES

- 54 - 54.3      CHERT; DARK GRAY
- 54.3- 59      LIMESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN  
POROSITY: VUGULAR, MOLDIC, POSSIBLY HIGH PERMEABILITY  
GRAIN TYPE: BIOGENIC  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MICROCRYSTALLINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%  
OTHER FEATURES: SPECKLED, CHALKY  
FOSSILS: WORM TRACES, BRACHIOPOD, FOSSIL MOLDS  
CLAY BED 54.3 TO 54.5.
- 59 - 67      CALCILUTITE; VERY LIGHT ORANGE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%  
PHOSPHATIC GRAVEL-01%  
OTHER FEATURES: SPECKLED, CHALKY
- 67 - 70.3      CLAY; GRAYISH BROWN  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%  
PHOSPHATIC GRAVEL-05%  
OTHER FEATURES: SPECKLED, PLASTIC  
PHOSPHATE GRAVEL BED @66.0-69.0.
- 70.3- 74      LIMESTONE; VERY LIGHT ORANGE  
POROSITY: VUGULAR, PIN POINT VUGS  
GRAIN TYPE: BIOGENIC  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MICROCRYSTALLINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CLAY-02%

OTHER FEATURES: SPECKLED  
FOSSILS: WORM TRACES, FOSSIL MOLDS

- 74 - 79      CALCILUTITE; VERY LIGHT ORANGE  
POROSITY: INTERGRANULAR, VUGULAR  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO CRYPTOCRYSTALLINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%, CLAY-05%  
OTHER FEATURES: SPECKLED, CHALKY  
PHOSPHATIC CLAY BED @76.9-77.1.
- 79 - 81.5      CLAY; GRAYISH BROWN  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-20%  
OTHER FEATURES: SPECKLED
- 81.5- 83.1      CLAY; VERY LIGHT ORANGE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-20%  
OTHER FEATURES: SPECKLED
- 83.1- 91.1      LIMESTONE; VERY LIGHT ORANGE  
POROSITY: PIN POINT VUGS, LOW PERMEABILITY  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MICROCRYSTALLINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED, LAMINATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, CLAY-05%  
OTHER FEATURES: SPECKLED  
FOSSILS: WORM TRACES  
CLAY/CALCILUTITE INTERBEDS, HIGH PERCENTAGE PHOSPHATE.
- 91.1- 98      LIMESTONE; GRAYISH BROWN  
POROSITY: PIN POINT VUGS, LOW PERMEABILITY  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO MICROCRYSTALLINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, LAMINATED, BEDDED

ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CLAY-15%  
OTHER FEATURES: SPECKLED, CHALKY  
FOSSILS: WORM TRACES

- 98 - 106.5      LIMESTONE; GRAYISH ORANGE PINK  
POROSITY: MOLDIC, LOW PERMEABILITY  
GRAIN TYPE: BIOGENIC, CALCILUTITE  
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%  
PHOSPHATIC GRAVEL-05%  
OTHER FEATURES: SPECKLED, WEATHERED  
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS
- 106.5- 109.8      LIMESTONE; GRAYISH ORANGE PINK  
POROSITY: PIN POINT VUGS, VUGULAR  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE  
MODERATE INDURATION  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%, CLAY-05%  
OTHER FEATURES: SPECKLED, PARTINGS  
FOSSILS: NO FOSSILS
- 109.8- 115.5      LIMESTONE; GRAYISH ORANGE PINK  
POROSITY: PIN POINT VUGS, VUGULAR  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE  
MODERATE INDURATION  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, CLAY-15%  
OTHER FEATURES: SPECKLED
- 115.5- 116.2      CLAY; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%  
PHOSPHATIC GRAVEL-05%  
OTHER FEATURES: SPECKLED  
FOSSILS: NO FOSSILS
- 116.2- 119.5      LIMESTONE; YELLOWISH GRAY TO DARK GRAYISH YELLOW  
POROSITY: LOW PERMEABILITY, MOLDIC, PIN POINT VUGS  
GRAIN TYPE: BIOGENIC, INTRACLASTS  
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE  
MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, BRECCIATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, CHERT-02%  
OTHER FEATURES: SPECKLED  
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, FOSSIL MOLDS, CORAL

- 119.5- 124.5      CALCILUTITE; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, MOLDIC, PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-10%  
PHOSPHATIC GRAVEL-05%  
OTHER FEATURES: SPECKLED, VARIEGATED  
FOSSILS: MOLLUSKS, WORM TRACES
- 124.5- 139      NO SAMPLES
- 139 - 144      CLAY; VERY LIGHT ORANGE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%  
OTHER FEATURES: SPECKLED, CHALKY  
FOSSILS: NO FOSSILS
- 144 - 145.1      CLAY; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED, VUGULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, NODULAR  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%  
PHOSPHATIC GRAVEL-05%, QUARTZ SAND-05%  
OTHER FEATURES: WEATHERED, SPECKLED  
FOSSILS: NO FOSSILS
- 145.1- 146.7      CLAY; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED, VUGULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ SAND-10%  
PHOSPHATIC GRAVEL-05%  
OTHER FEATURES: CHALKY  
FOSSILS: NO FOSSILS
- 146.7- 154.5      CLAY; LIGHT OLIVE

POROSITY: LOW PERMEABILITY, NOT OBSERVED, VUGULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
FOSSILS: NO FOSSILS

154.5- 155.6 CLAY; LIGHT OLIVE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%  
PHOSPHATIC GRAVEL-05%, QUARTZ SAND-05%, LIMESTONE-15%  
FOSSILS: WORM TRACES  
LT. GREEN ABUNDANT IRREGULAR LIMESTONE CLASTS.

155.6- 156.5 LIMESTONE; VERY LIGHT ORANGE  
POROSITY: LOW PERMEABILITY, PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE  
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%  
FOSSILS: WORM TRACES

156.5- 160.2 CLAY; VERY LIGHT ORANGE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: LIMESTONE-02%, QUARTZ SAND-02%  
OTHER FEATURES: CALCAREOUS  
FOSSILS: PLANT REMAINS

160.2- 160.9 CLAY; LIGHT OLIVE GRAY TO LIGHT OLIVE  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-02%  
OTHER FEATURES: CALCAREOUS

160.9- 163 CLAY; YELLOWISH GRAY TO LIGHT GREENISH YELLOW  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: LIMESTONE-10%, QUARTZ SAND-02%  
PHOSPHATIC SAND-02%

OTHER FEATURES: CALCAREOUS  
FOSSILS: NO FOSSILS

- 163 - 180.7      CLAY; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
OTHER FEATURES: CALCAREOUS  
FOSSILS: NO FOSSILS
- 180.7- 181.2      CLAY; MODERATE DARK GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, NODULAR  
ACCESSORY MINERALS: DOLOMITE-08%, PHOSPHATIC SAND-05%  
OTHER FEATURES: CALCAREOUS  
FOSSILS: OOLITES
- 181.2- 188      CLAY; VERY LIGHT ORANGE TO GRAYISH BROWN  
POROSITY: LOW PERMEABILITY, NOT OBSERVED  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED, FISSILE  
ACCESSORY MINERALS: LIMESTONE-15%, PHOSPHATIC SAND-05%  
QUARTZ SAND-10%  
OTHER FEATURES: CALCAREOUS, SPECKLED, SPLINTERY  
FOSSILS: FOSSIL FRAGMENTS, CORAL
- 188 - 189      SAND; YELLOWISH GRAY TO GRAYISH BROWN  
02% POROSITY: LOW PERMEABILITY, NOT OBSERVED  
GRAIN SIZE: MEDIUM; RANGE: FINE TO VERY COARSE  
ROUNDNESS: SUB-ANGULAR TO ANGULAR; LOW SPHERICITY  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-10%  
PHOSPHATIC GRAVEL-05%, CALCILUTITE-02%  
OTHER FEATURES: CALCAREOUS, SPECKLED, PLATY  
FOSSILS: SHARKS TEETH, FOSSIL FRAGMENTS
- 189 - 190.4      CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
02% POROSITY: LOW PERMEABILITY, NOT OBSERVED  
GRAIN TYPE: CALCILUTITE, CRYSTALS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE  
CEMENT TYPE(S): CLAY MATRIX



SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC GRAVEL-02%  
QUARTZ SAND-02%  
OTHER FEATURES: FROSTED, GRANULAR, SPECKLED  
FOSSILS: CORAL

190.4- 190.8 CLAY; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: CALCILUTITE-01%, QUARTZ SAND-05%  
PHOSPHATIC GRAVEL-02%, PHOSPHATIC SAND-03%  
OTHER FEATURES: CALCAREOUS, SPECKLED

190.8- 191.1 DOLOSTONE; LIGHT OLIVE GRAY TO DARK GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; 10-50% ALTERED  
SUBHEDRAL  
GRAIN SIZE: CRYPTOCRYSTALLINE  
RANGE: CRYPTOCRYSTALLINE TO CRYPTOCRYSTALLINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE

191.1- 193.7 CALCILUTITE; YELLOWISH GRAY  
POROSITY: LOW PERMEABILITY, FRACTURE  
GRAIN TYPE: CRYSTALS, CALCILUTITE  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-03%, PHOSPHATIC SAND-03%  
CLAY-01%  
OTHER FEATURES: PARTINGS

193.7- 194.2 DOLOSTONE; LIGHT OLIVE GRAY TO DARK GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; 10-50% ALTERED  
SUBHEDRAL  
GRAIN SIZE: CRYPTOCRYSTALLINE  
RANGE: CRYPTOCRYSTALLINE TO CRYPTOCRYSTALLINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MASSIVE

194.2- 198.1 CALCILUTITE; YELLOWISH GRAY TO YELLOWISH GRAY  
04% POROSITY: LOW PERMEABILITY, FRACTURE  
GRAIN TYPE: CRYSTALS, CALCILUTITE  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-03%  
PHOSPHATIC GRAVEL-01%, CLAY-01%  
OTHER FEATURES: PARTINGS, SPECKLED

198.1- 208.1 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
02% POROSITY: LOW PERMEABILITY, INTERGRANULAR  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED, MOTTLED  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-05%  
PHOSPHATIC GRAVEL-02%, CALCILUTITE-01%  
OTHER FEATURES: CALCAREOUS  
FOSSILS: PLANKTONIC FORAMINIFERA

208.1- 209.1 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED  
OTHER FEATURES: MUDDY  
FOSSILS: CONES

209.1- 213.1 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BEDDED  
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-03%  
OTHER FEATURES: CALCAREOUS  
FOSSILS: CONES

213.1- 214.5 CLAY; DARK GREENISH GRAY TO DARK GREENISH GRAY  
01% POROSITY: LOW PERMEABILITY, INTERGRANULAR  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%  
CALCILUTITE-03%  
OTHER FEATURES: CALCAREOUS, GRANULAR, SPECKLED  
FOSSILS: DIATOMS, FOSSIL MOLDS

214.5- 219.2 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
01% POROSITY: LOW PERMEABILITY, INTERGRANULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-12%  
CALCILUTITE-01%

OTHER FEATURES: CALCAREOUS, GRANULAR, SPECKLED  
FOSSILS: SHARKS TEETH, FOSSIL MOLDS

- 219.2- 229.2 CLAY; YELLOWISH GRAY TO LIGHT GREENISH GRAY  
01% POROSITY: LOW PERMEABILITY, INTERGRANULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-05%  
CALCILUTITE-01%  
OTHER FEATURES: CALCAREOUS, GRANULAR, SPECKLED  
CLAY, INTERBEDDED QTZ SAND, SMALL TEETH.
- 229.2- 229.8 CALCILUTITE; YELLOWISH GRAY  
04% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL CAST  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-01%  
FOSSILS: FOSSIL MOLDS
- 229.8- 233 CLAY; MODERATE GRAY TO MODERATE DARK GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
FOSSILS: CONES
- 233 - 234 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: BANDED  
OTHER FEATURES: PLASTIC  
FOSSILS: CONES
- 234 - 236 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%  
OTHER FEATURES: PLASTIC, SPECKLED  
FOSSILS: CONES
- 236 - 237 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
POROSITY: LOW PERMEABILITY, NOT OBSERVED; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%  
OTHER FEATURES: PLASTIC, SPECKLED  
FOSSILS: CONES

- 237 - 238.8 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
01% POROSITY: LOW PERMEABILITY, INTERGRANULAR  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-03%, PHOSPHATIC SAND-05%  
PHOSPHATIC GRAVEL-02%  
OTHER FEATURES: SPECKLED  
FOSSILS: SHARKS TEETH
- 238.8- 244 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
02% POROSITY: INTERGRANULAR, LOW PERMEABILITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-03%, PHOSPHATIC SAND-07%  
CALCILUTITE-02%, PHOSPHATIC GRAVEL-03%  
OTHER FEATURES: GRANULAR, SPECKLED  
FOSSILS: SHARKS TEETH
- 244 - 245.6 CLAY; LIGHT OLIVE GRAY TO GREENISH GRAY  
02% POROSITY: LOW PERMEABILITY, INTERGRANULAR  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-07%  
PHOSPHATIC GRAVEL-03%, CALCILUTITE-01%  
FOSSILS: SHARKS TEETH  
CLAY, INTERBEDDED W/NUMEROUS PIECES OF PHOSPHATIC SAND &  
GRAVEL
- 245.6- 249.2 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
04% POROSITY: INTERGRANULAR, FRACTURE  
GRAIN TYPE: CALCILUTITE, BIOGENIC  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-03%  
PHOSPHATIC GRAVEL-02%  
OTHER FEATURES: SPECKLED, CALCAREOUS  
FOSSILS: FOSSIL MOLDS
- 249.2- 252.6 CLAY; VERY LIGHT ORANGE TO YELLOWISH GRAY  
03% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
ACCESSORY MINERALS: QUARTZ SAND-04%, PHOSPHATIC SAND-03%  
PHOSPHATIC GRAVEL-01%  
OTHER FEATURES: SPECKLED, CALCAREOUS
- 252.6- 254 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY

02% POROSITY: INTERGRANULAR, FRACTURE  
GRAIN TYPE: CALCILUTITE, BIOGENIC  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: CLAY-05%, QUARTZ SAND-02%  
PHOSPHATIC SAND-02%, PHOSPHATIC GRAVEL-01%  
OTHER FEATURES: SPECKLED  
FOSSILS: PLANKTONIC FORAMINIFERA

254 - 255

CALCILUTITE; YELLOWISH GRAY  
02% POROSITY: INTERGRANULAR, FRACTURE  
GRAIN TYPE: CALCILUTITE, BIOGENIC  
GRAIN SIZE: LITHOGRAPHIC  
RANGE: LITHOGRAPHIC TO VERY COARSE; GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-10%  
CALCITE-02%  
OTHER FEATURES: SPECKLED

255 - 257.1

CALCILUTITE; VERY LIGHT GRAY  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC  
GRAIN TYPE: CALCILUTITE, BIOGENIC  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO COARSE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED, NODULAR  
ACCESSORY MINERALS: PHOSPHATIC SAND- 02%, QUARTZ- 01%  
CHERT- 02%  
OTHER FEATURES: LOW RECRYSTALLIZATION, CHALKY  
FOSSILS: FOSSIL MOLDS

257.1- 257.6

CALCILUTITE; VERY LIGHT GRAY  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC  
GRAIN TYPE: CALCILUTITE, BIOGENIC  
20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%, QUARTZ- 01%  
OTHER FEATURES: MUDDY, CHALKY  
FOSSILS: FOSSIL MOLDS

257.6- 259

CALCILUTITE; VERY LIGHT GRAY

02% POROSITY: NOT OBSERVED, MOLDIC  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, STREAKED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 02%  
OTHER FEATURES: VARIEGATED  
FOSSILS: FOSSIL MOLDS

259 - 263.9

CALCILUTITE; LIGHT GRAY  
02% POROSITY: INTERGRANULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND- 01%  
SMALL BLACK BANDED LAYER, LITTLE MORE PHOS.

263.9- 265.5

CLAY; LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BANDED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 01%, SHELL-%  
SMALL WELL INDURATED DOLOMITE BED.

265.5- 266

CALCILUTITE; LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 02%

266 - 269

CLAY; LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ-01%  
SOME SMALL POCKETS OF FINE PHOS & QUARTZ-PHOS-20% QTZ-15%.

269 - 269.2

SAME AS ABOVE BUT WELL INDURATED.

269.2- 270

SANDSTONE; LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
MEDIUM SPHERICITY; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, BEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-20%, QUARTZ-10%  
OTHER FEATURES: SPECKLED  
HIGH PHOS & QTZ WITH POCKETS OF CLAY.

- 270 - 274      CALCILUTITE; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ- 05%  
MAY BE DOLOMITE SILT - NO HCL FIZZ. ALSO SMALL LAYERS OF  
WELL INDURATED DOLOMITE.
- 274 - 279      SANDSTONE; MODERATE GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO MEDIUM  
HIGH SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-25%, QUARTZ-15%  
OTHER FEATURES: SPECKLED
- 279 - 282.5      CLAY; LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%  
OTHER FEATURES: PLASTIC, PARTINGS
- 282.5- 284.2      CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%  
OTHER FEATURES: PARTINGS
- 284.2- 288      SANDSTONE; GRAYISH OLIVE  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO VERY COARSE  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, STREAKED  
ACCESSORY MINERALS: PHOSPHATIC SAND-20%, QUARTZ-10%
- 288 - 295      SILT; VERY LIGHT GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%, QUARTZ- 02%  
OTHER FEATURES: CALCAREOUS  
GENERALLY POOR CONSOLIDATION-SOME WELL CONSOLIDATED THIN LAYERS.

- 295 - 298.5      SILT; LIGHT OLIVE GRAY TO OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%  
OTHER FEATURES: PARTINGS, VARIEGATED  
FOSSILS: WORM TRACES
- 298.5- 299      LIMESTONE; VERY LIGHT GRAY  
20% POROSITY: VUGULAR, MOLDIC  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MICROCRYSTALLINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%  
FOSSILS: MOLLUSKS, WORM TRACES
- 299 - 300.5      SILT; OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 05%
- 300.5- 302.4      SILT; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, LIMESTONE-05%  
SILTY WITH GRANULES OF PHOS AND LS.
- 302.4- 303.5      SILT; OLIVE GRAY TO LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%  
OTHER FEATURES: VARIEGATED
- 303.5- 304.1      SAME AS ABOVE BUT WELL INDURATED & SOME BIGGER PHOS  
GRANULES.
- 304.1- 308      SILT; LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%  
OTHER FEATURES: PLASTIC



- 308 - 309      CHERT; BLACK  
GOOD INDURATION  
CEMENT TYPE(S): SILICIC CEMENT  
SEDIMENTARY STRUCTURES: MASSIVE
- 309 - 310.6      SILT; DARK YELLOWISH BROWN  
05% POROSITY: INTERGRANULAR; MODERATE INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PEAT-%
- 310.6- 311.7      CLAY; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED  
ACCESSORY MINERALS: PHOSPHATIC SAND- 01%
- 311.7- 312.9      LIMESTONE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND- 01%  
OTHER FEATURES: GRANULAR  
312.9 UNIT SIMILAR TO UNIT ABOVE & BELOW EXCEPT FOR  
CLUMPING BITS.
- 312.9- 316      LIMESTONE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE, CRYSTALS  
05% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%
- 316 - 316.9      DOLOSTONE; DARK YELLOWISH BROWN TO GRAYISH BROWN  
05% POROSITY: PIN POINT VUGS; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO GRANULE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: QUARTZ-15%, PHOSPHATIC SAND-05%  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION

- 316.9- 318 LIMESTONE; VERY LIGHT ORANGE  
05% POROSITY: PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE, CRYSTALS  
05% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%
- 318 - 319 SAND; DARK YELLOWISH BROWN  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO GRANULE  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED  
ACCESSORY MINERALS: QUARTZ-50%, PHOSPHATIC SAND-05%  
OTHER FEATURES: MUDDY  
SS ABOVE & DOLO ABOVE SEEM VERY SIMILAR EXCEPT FOR  
INDURATION.
- 319 - 319.1 SMALL BLACK CHERT UNIT.
- 319.1- 326.4 LIMESTONE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, FRACTURE, MOLDIC  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ-05%  
OTHER FEATURES: LOW RECRYSTALLIZATION  
FOSSILS: FOSSIL MOLDS
- 326.4- 327.6 LIMESTONE; GRAYISH BROWN  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
GOOD INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, CRYSTALLINE
- 327.6- 327.8 BLACK CHERT NODULE.
- 327.8- 328 CLAY; VERY LIGHT ORANGE

- 05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PLASTIC, MUDDY
- 328 - 329.5      SANDSTONE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ-40%, PHOSPHATIC SAND-10%  
OTHER FEATURES: SPECKLED
- 329.5- 330.2      SILT-SIZE DOLOMITE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
MODERATE INDURATION
- 330.2- 330.5      SAND; DARK BROWN  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MEDIUM SPHERICITY; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, MASSIVE  
ACCESSORY MINERALS: QUARTZ-15%, PHOSPHATIC SAND-10%  
CLAY-20%, ORGANICS-10%  
OTHER FEATURES: PLASTIC, MUDDY
- 330.5- 333.7      DOLOSTONE; PINKISH GRAY  
05% POROSITY: MOLDIC; 0-10% ALTERED; ANHEDRAL  
GRAIN SIZE: LITHOGRAPHIC  
RANGE: LITHOGRAPHIC TO LITHOGRAPHIC; GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-01%
- 333.7- 336      LIMESTONE; PINKISH GRAY  
08% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE; 50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ-10%  
OTHER FEATURES: SPECKLED
- 336 - 339      LIMESTONE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
10% POROSITY: MOLDIC, INTERGRANULAR

GRAIN TYPE: CALCILUTITE; 60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ-05%  
CHERT-05%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
<1 FOOT RECOVERY FOR 3 FEET SECTION-BROKEN CHUNKS.

- 339 - 341      CALCARENITE; GRAYISH ORANGE  
20% POROSITY: MOLDIC, VUGULAR, INTERGRANULAR  
GRAIN TYPE: CALCILUTITE, SKELETAL  
10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO VERY FINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ-05%  
OTHER FEATURES: DOLOMITIC  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS
- 341 - 343.7      CALCILUTITE; YELLOWISH GRAY  
05% POROSITY: MOLDIC, PIN POINT VUGS  
GRAIN TYPE: CALCILUTITE; 05% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO VERY FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ-05%  
OTHER FEATURES: DOLOMITIC, LOW RECRYSTALLIZATION  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 343.7- 348.8      SAND; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
ROUNDNESS: SUB-ROUNDED TO ROUNDED; MEDIUM SPHERICITY  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-70%, PHOSPHATIC SAND-05%  
OTHER FEATURES: MUDDY  
ONLY 1.5 FEET OF SAMPLE FOR 5 FEET OF SECTION.
- 348.8- 350.4      DOLOSTONE; VERY LIGHT GRAY  
02% POROSITY: INTERGRANULAR; 0-10% ALTERED; ANHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MOTTLED, MASSIVE

ACCESSORY MINERALS: PHOSPHATIC SAND-05%

- 350.4- 351.2 DOLOSTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR; 10-50% ALTERED; ANHEDRAL  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, STREAKED  
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-05%  
ORGANICS-02%  
OTHER FEATURES: DOLOMITIC
- 351.2- 351.5 CLAY; PINKISH GRAY  
02% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, ORGANICS-02%  
OTHER FEATURES: CHALKY
- 351.5- 352.2 CALCARENITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-15%, QUARTZ SAND-10%  
SHELL-05%, CLAY-10%  
OTHER FEATURES: CHALKY  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 352.2- 352.5 CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-03%, QUARTZ SAND-02%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 352.5- 354.2 CALCARENITE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-04%  
OTHER FEATURES: SPECKLED  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

354.2- 361      CALCARENITE; YELLOWISH GRAY  
25% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, SKELETAL CAST  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-10%  
CHERT-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

361 - 362      CALCARENITE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED  
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-05%  
OTHER FEATURES: SPECKLED  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

362 - 365      CALCARENITE; YELLOWISH GRAY  
15% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, SKELETAL CAST  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-10%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

365 - 368      CALCARENITE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
UNCONSOLIDATED  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE

ACCESSORY MINERALS: PHOSPHATIC SAND-02%, ORGANICS-05%  
QUARTZ SAND-40%  
OTHER FEATURES: SPECKLED, GRANULAR  
FOSSILS: SPICULES

- 368 - 391      CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE  
30% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE, SKELETAL CAST  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MOTTLED  
ACCESSORY MINERALS: CALCITE-10%, QUARTZ SAND-05%  
ORGANICS-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS  
BAG OF FINE QTZ, PHOS & CALCARENITE SAND 369'-374'
- 391 - 402.5      CALCARENITE; WHITE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-50%, PHOSPHATIC SAND-02%  
OTHER FEATURES: GRANULAR, SUCROSIC
- 402.5- 404.5      CALCARENITE; PINKISH GRAY TO VERY LIGHT GRAY  
15% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, SKELETAL CAST, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-02%  
CALCITE-05%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, CORAL, FOSSIL MOLDS
- 404.5- 419.2      CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
05% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MOTTLED

ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%  
CALCITE-05%

FOSSILS: CORAL, MOLLUSKS, FOSSIL MOLDS

BAG OF FINE QTZ, PHOS & CALCARENITE SAND 404'-409'

87-COLOR.

419.2- 419.4

CALCARENITE; LIGHT GRAYISH GREEN

05% POROSITY: INTERGRANULAR

GRAIN TYPE: INTRACLASTS, SKELETAL CAST

50% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE

POOR INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

ACCESSORY MINERALS: GLAUCONITE-30%, QUARTZ SAND-20%

OTHER FEATURES: PLASTIC

419.4- 430.7

CALCARENITE; VERY LIGHT ORANGE

15% POROSITY: MOLDIC, INTERGRANULAR

GRAIN TYPE: INTRACLASTS, SKELETAL CAST, CALCILUTITE

60% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: BIOTURBATED

ACCESSORY MINERALS: QUARTZ SAND-25%, PHOSPHATIC SAND-02%

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: MOLLUSKS, FOSSIL MOLDS, BENTHIC FORAMINIFERA

PELLETS, SORITES.

430.7- 431.4

CALCARENITE; VERY LIGHT ORANGE TO PINKISH GRAY

05% POROSITY: MOLDIC

GRAIN TYPE: INTRACLASTS, CALCILUTITE

40% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MOTTLED, NODULAR, BIOTURBATED  
BRECCIATED

ACCESSORY MINERALS: QUARTZ SAND-10%, CALCILUTITE-60%  
CALCITE-02%

FOSSILS: MOLLUSKS, FOSSIL MOLDS

ABOVE MOLDIC LS WAS INJECTED W/ WHITE CALCILUTITE.

431.4- 434.9

CALCARENITE; VERY LIGHT GRAY TO PINKISH GRAY

05% POROSITY: MOLDIC, FRACTURE



GRAIN TYPE: INTRACLASTS; 50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED, MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-15%  
PHOSPHATIC SAND-02%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
INTERBEDDED CLASTS + SOME XLS IN FLOW ZONES.

434.9- 436

CALCARENITE; VERY LIGHT GRAY TO PINKISH GRAY  
20% POROSITY: MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC, SKELETAL CAST  
50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%  
CALCITE-05%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, WORM TRACES, BRYOZOA, FOSSIL MOLDS

436 - 437

CALCARENITE; PINKISH GRAY  
05% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED, NODULAR  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

437 - 438.8

CALCARENITE; VERY LIGHT GRAY TO PINKISH GRAY  
15% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, BIOGENIC, SKELETAL CAST  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, NODULAR  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCITE-05%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
SORITES.

438.8- 443

CALCARENITE; PINKISH GRAY TO YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO COARSE

POOR INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%

OTHER FEATURES: POOR SAMPLE

FOSSILS: MOLLUSKS, FOSSIL MOLDS

RUBBLE FROM 439'-454' & MISSING 2/3 OF CORE.

443 - 444

CALCARENITE; PINKISH GRAY TO VERY LIGHT ORANGE

05% POROSITY: MOLDIC, INTERGRANULAR, FRACTURE

GRAIN TYPE: INTRACLASTS, SKELETAL CAST

70% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MOTTLED

ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%

CALCITE-02%

FOSSILS: MOLLUSKS, FOSSIL MOLDS

DEFORMATION W/ INFILLING OF FINE LS BY WHITER LARGER  
GRAINED LS.

444 - 454

CALCARENITE; VERY LIGHT ORANGE

10% POROSITY: MOLDIC, INTERGRANULAR

GRAIN TYPE: INTRACLASTS, CALCILUTITE

60% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO COARSE

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MOTTLED, NODULAR

ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-02%

CALCITE-03%

OTHER FEATURES: FOSSILIFEROUS

FOSSILS: MOLLUSKS, FOSSIL MOLDS

454 - 462.5

CALCARENITE; VERY LIGHT ORANGE

05% POROSITY: MOLDIC, INTERGRANULAR

GRAIN TYPE: INTRACLASTS, CALCILUTITE

40% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MASSIVE, BEDDED

ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%

FOSSILS: MOLLUSKS, FOSSIL MOLDS

462.5- 463.8

CALCARENITE; VERY LIGHT ORANGE

10% POROSITY: MOLDIC, INTERGRANULAR

GRAIN TYPE: INTRACLASTS, CALCILUTITE

50% ALLOCHEMICAL CONSTITUENTS

GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM

MODERATE INDURATION

CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED

ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-02%  
CALCITE-02%

FOSSILS: MOLLUSKS, FOSSIL MOLDS

- 463.8- 469.4      CALCARENITE; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, NODULAR  
ACCESSORY MINERALS: CHERT-40%  
OTHER FEATURES: POOR SAMPLE  
TWO BAG SAMPLES OF FINE CALCARENITE, QTZ + PHOS SAND-CHERT  
IS IRREGULAR + MORE VERTICAL.
- 469.4- 475.2      CALCARENITE; VERY LIGHT ORANGE  
25% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, FOSSIL MOLDS, CORAL
- 475.2- 476.8      CALCARENITE; YELLOWISH GRAY  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE, INTRACLASTS  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED  
ACCESSORY MINERALS: QUARTZ SAND-15%, PHOSPHATIC SAND-01%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 476.8- 482      CALCARENITE; YELLOWISH GRAY  
08% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED

ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-03%  
OTHER FEATURES: FOSSILIFEROUS, POOR SAMPLE  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
BAG OF LS, QTZ + PHOS MEDIUM SAND.

- 482 - 486      CALCARENITE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, MOLDIC, FRACTURE  
GRAIN TYPE: CALCILUTITE, INTRACLASTS  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BRECCIATED, MOTTLED  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 486 - 489      CALCARENITE; YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE, INTRACLASTS  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-05%  
OTHER FEATURES: POOR SAMPLE
- 489 - 495      CALCARENITE; PINKISH GRAY  
05% POROSITY: INTERGRANULAR, FRACTURE  
GRAIN TYPE: CALCILUTITE, INTRACLASTS  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%  
OTHER FEATURES: POOR SAMPLE, LOW RECRYSTALLIZATION  
BAG OF FINE LS, QTZ + PHOS SAND.
- 495 - 499.5      CALCARENITE; MODERATE YELLOWISH BROWN TO PINKISH GRAY  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: INTRACLASTS, SKELETAL  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BRECCIATED, MOTTLED  
ACCESSORY MINERALS: QUARTZ SAND-05%  
OTHER FEATURES: POOR SAMPLE, LOW RECRYSTALLIZATION

FOSSILS: BENTHIC FORAMINIFERA  
BAG OF FINE LS, QTZ + PHOS SAND.

- 499.5- 503      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, MOLDIC, FRACTURE  
GRAIN TYPE: CALCILUTITE, SKELETAL, INTRACLASTS  
50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-02%  
OTHER FEATURES: GRANULAR, MEDIUM RECRYSTALLIZATION  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 503 - 505.3      CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
05% POROSITY: MOLDIC  
GRAIN TYPE: CALCILUTITE, PELLET  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: QUARTZ-02%  
OTHER FEATURES: DOLOMITIC, HIGH RECRYSTALLIZATION  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
MOTTLED AND ZONED GRAY DOLOSTONE BLEBS ONLY 30%  
RECOVERY-SANDBAG 505.3-524 SAND BAGS-VERY FINE SAND W/  
FLECKS OF ORGANICS COLOR-29.
- 505.3- 529      524-529 FINE SAND COLOR-29 SAME AS ABOVE. HARD PIECES FROM  
~504- 509' BROUGHT UP AND HAVE BEEN GRINDING UP SAND ABOVE  
.7' THICK.
- 529 - 534      CALCARENITE; VERY LIGHT ORANGE  
10% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: CALCILUTITE, SKELETAL  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS  
SORITES.
- 534 - 540.2      CALCILUTITE; VERY LIGHT ORANGE TO PINKISH GRAY  
15% POROSITY: MOLDIC  
GRAIN TYPE: CALCILUTITE, SKELETAL CAST

20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, FOSSILIFEROUS  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
SORITES.

540.2- 609.5      CALCARENITE; VERY LIGHT ORANGE TO PINKISH GRAY  
10% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY  
GRAIN TYPE: CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCILUTITE-20%, QUARTZ SAND-02%  
OTHER FEATURES: SUCROSIC, GRANULAR  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
ALL SIMILAR BUT DIFFERENT INDURATION-SOME JUST SANDY-SOME  
MODERATE

609.5- 614      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE; 70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCILUTITE-20%

614 - 644      CALCARENITE; VERY LIGHT ORANGE  
10% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: CALCILUTITE, PELLET  
80% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED  
ACCESSORY MINERALS: CALCILUTITE-10%  
OTHER FEATURES: LOW RECRYSTALLIZATION  
FOSSILS: MOLLUSKS, FOSSIL MOLDS  
SOME SMALL ZONES OF FOSSILS OR HIGH RECRYSTALLIZATION ALSO  
CHERT AT 629 BUT PROBABLY FILL IN.  
CELESTITE XLS AT 629

644 - 649      CALCARENITE; WHITE TO VERY LIGHT GRAY  
08% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: BIOGENIC, INTRACLASTS, SKELETAL

60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO VERY COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: CALCITE-20%  
OTHER FEATURES: CHALKY  
FOSSILS: MOLLUSKS, BENTHIC FORAMINIFERA, FOSSIL MOLDS  
SAMPLE IS MISSING ~3' OF RUBBLE ~1' IS MODERATELY  
INDURATED.

649 - 659      CALCARENITE; VERY LIGHT ORANGE TO PINKISH GRAY  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: BIOGENIC, INTRACLASTS  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
OTHER FEATURES: GRANULAR  
FOSSILS: MOLLUSKS, ECHINOID, BENTHIC FORAMINIFERA  
FOSSIL MOLDS  
SIMILAR TO ABOVE- A LOT OF MISSING SAMPLE-GROUND UP SOME IS  
VERY LS SANDY WHITE SOME IS MODERATELY INDURATED.

659 - 674.5      CALCARENITE; WHITE TO VERY LIGHT GRAY  
10% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, BIOGENIC, SKELETAL  
80% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO VERY COARSE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: SHELL-05%  
OTHER FEATURES: GRANULAR, CHALKY  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

674.5- 675      CLAY; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PLASTIC

675 - 679      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE

- 679 - 679.5 AS ABOVE EXCEPT MODERATE INDURATION.
- 679.5- 685 CALCARENITE; VERY LIGHT ORANGE TO WHITE  
 15% POROSITY: MOLDIC, INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, SKELETAL  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
 ACCESSORY MINERALS: CALCITE-05%  
 OTHER FEATURES: FOSSILIFEROUS, GRANULAR  
 FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 685 - 689.5 CALCARENITE; VERY LIGHT ORANGE TO PINKISH GRAY  
 05% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: CALCILUTITE, PELLET, SKELETAL CAST  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO GRANULE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE  
 OTHER FEATURES: GRANULAR, MEDIUM RECRYSTALLIZATION  
 FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 689.5- 703.8 CALCARENITE; VERY LIGHT ORANGE  
 10% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, CALCILUTITE  
 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED  
 ACCESSORY MINERALS: CALCITE-02%, SHELL-02%  
 FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 703.8- 707.5 CALCARENITE; VERY LIGHT ORANGE  
 15% POROSITY: MOLDIC, INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, BIOGENIC, SKELETAL CAST  
 80% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO VERY COARSE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: BIOTURBATED  
 ACCESSORY MINERALS: SHELL-02%, CALCITE-05%  
 OTHER FEATURES: CHALKY, FOSSILIFEROUS  
 FOSSILS: MOLLUSKS, CORAL, BENTHIC FORAMINIFERA  
 FOSSIL MOLDS



- 707.5 - 709.3      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: INTRACLASTS; 60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED
- 709.3- 713.6      BAG SAMPLE OF MEDIUM LS SAND-BLACK SPECKS MAY BE DUST  
29-COLOR
- 713.6- 714        DOLOSTONE; GRAYISH ORANGE  
05% POROSITY: MOLDIC; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO LITHOGRAPHIC  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED, NODULAR  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 714 - 715.6      DOLOSTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN  
01% POROSITY: PIN POINT VUGS, NOT OBSERVED; 50-90% ALTERED  
SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO LITHOGRAPHIC  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MASSIVE
- 715.6- 716.4      CALCARENITE; PINKISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO LITHOGRAPHIC  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: CROSS-BEDDED, MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-05%  
OTHER FEATURES: GRANULAR, SPECKLED
- 716.4- 719        BAG SAMPLE OF MEDIUM CALCARENITE SAND-BLACK SPECS PRESENT  
29-COLOR
- 719 - 719.6      CALCARENITE; VERY LIGHT ORANGE TO PINKISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO LITHOGRAPHIC  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: CROSS-BEDDED, MASSIVE

ACCESSORY MINERALS: QUARTZ SAND-05%

OTHER FEATURES: GRANULAR, SPECKLED

- 719.6- 723 DOLOSTONE; GRAYISH BROWN  
05% POROSITY: INTERGRANULAR, NOT OBSERVED; 50-90% ALTERED  
SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO LITHOGRAPHIC  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-05%
- 723 - 727.5 CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, NOT OBSERVED  
GRAIN TYPE: INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO LITHOGRAPHIC  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, GRADED BEDDING  
ACCESSORY MINERALS: QUARTZ SAND-05%  
OTHER FEATURES: SPECKLED  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 727.5- 729 CLAY COLOR-89 W/ VERY FINE SAND
- 729 - 748.5 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH BROWN  
07% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE, SKELETAL CAST  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, GRADED BEDDING  
ACCESSORY MINERALS: CHERT-03%, CALCITE-05%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS
- 748.5- 755 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH BROWN  
15% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE, SKELETAL CAST  
50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: CALCITE-05%  
FOSSILS: MOLLUSKS, PLANKTONIC FORAMINIFERA, FOSSIL MOLDS
- 755 - 767 CALCARENITE; VERY LIGHT ORANGE

05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-05%, SHELL-05%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

767 - 768      CLAY; VERY LIGHT ORANGE  
01% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PLASTIC

768 - 772      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-05%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

772 - 774      CLAY; VERY LIGHT ORANGE  
01% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PLASTIC

774 - 775.5      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-05%

775.5- 779      CLAY; VERY LIGHT ORANGE  
01% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PLASTIC

779 - 780      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS

GRAIN TYPE: INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-05%  
FOSSILS: MOLLUSKS, FOSSIL MOLDS

780 - 784

CLAY; VERY LIGHT ORANGE  
01% POROSITY: INTERGRANULAR; POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PLASTIC  
FOSSILS: BENTHIC FORAMINIFERA

784 - 785.1 C

CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: SHELL-01%, ORGANICS-01%, CALCITE-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA  
NUMMULITES STARTING IN CLAY AND GETTING MORE NUMEROUS W/  
DEPTH

785.1- 790.8

CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, SKELETAL  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-05%, CALCITE-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
NUMMULITES VERY ABUNDANT BECOMING LESS SO W/ DEPTH.

790.8- 795.2

CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS; 30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX

SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-05%  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
NUMMULITES PRESENT BUT MUCH LESS ABUNDANT

795.2- 795.5      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
NUMMULITES

795.5- 816.8      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-05%, CALCITE-05%  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
NUMS-FEW

816.8- 819      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS; 40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED  
ACCESSORY MINERALS: CALCITE-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS  
FOSSIL MOLDS  
LEPS, NUMS

819 - 822.5      CALCILUTITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: VERY FINE TO LITHOGRAPHIC

MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-02%  
OTHER FEATURES: CHALKY  
FOSSILS: BENTHIC FORAMINIFERA

822.5- 825.7      CALCARENITE; VERY LIGHT ORANGE  
20% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, BIOGENIC, SKELETAL  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: COARSE; RANGE: LITHOGRAPHIC TO VERY COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: CALCITE-05%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: MOLLUSKS, FOSSIL MOLDS, BENTHIC FORAMINIFERA  
LEPS, NUMS

825.7- 829      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-02%  
FOSSILS: BENTHIC FORAMINIFERA  
LEPS, NUMS

829 - 829.7      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, BIOGENIC  
75% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: COARSE; RANGE: LITHOGRAPHIC TO VERY COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: CALCITE-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA  
NUMS, LEPS

829.7- 843.3      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE

30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-02%  
FOSSILS: BENTHIC FORAMINIFERA  
NUMS

843.3- 844.4      CALCILUTITE; VERY LIGHT ORANGE TO LIGHT OLIVE GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
15% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: FINE TO LITHOGRAPHIC  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: PARTINGS, PLATY  
FOSSILS: BENTHIC FORAMINIFERA  
NUMS

844.4- 851      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: CALCITE-02%  
FOSSILS: BENTHIC FORAMINIFERA  
NUMS, LEPS

851 - 853      CALCILUTITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: VERY FINE TO LITHOGRAPHIC  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY  
FOSSILS: BENTHIC FORAMINIFERA  
FEW NUMS

853 - 856.5      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE

20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-05%, ORGANICS-02%  
CALCITE-02%  
OTHER FEATURES: CHALKY  
FOSSILS: BENTHIC FORAMINIFERA  
NUMS, LEPS

856.5- 858      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, SKELETAL  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCITE-15%  
ORGANICS-02%  
OTHER FEATURES: FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS  
NUMS, LEPS. ABUNDANT SHELL FRAGMENTS 854-LARGE MOLLUSK

858 - 909.2      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
25% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, GRADED BEDDING  
ACCESSORY MINERALS: QUARTZ SAND-05%, ORGANICS-02%  
CALCITE-05%  
FOSSILS: BENTHIC FORAMINIFERA  
NUMS, LEPS

909.2- 910.8      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, SKELETAL  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-02%, CALCITE-05%  
OTHER FEATURES: FOSSILIFEROUS



FOSSILS: BENTHIC FORAMINIFERA  
LEPS, NUMS

- 910.8- 922.5      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: QUARTZ SAND-05%, CALCITE-02%  
ORGANICS-02%  
FOSSILS: BENTHIC FORAMINIFERA  
LEPS, NUMS
- 922.5- 923.1      CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE, INTRACLASTS  
10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO VERY FINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: INTERBEDDED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: PARTINGS  
FOSSILS: BENTHIC FORAMINIFERA
- 923.1- 934.1      CALCARENITE; YELLOWISH GRAY TO VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-05%, QUARTZ SAND-05%  
CALCITE-02%  
FOSSILS: BENTHIC FORAMINIFERA  
LEPS, NUMS
- 934.1- 934.9      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO COARSE  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX

ACCESSORY MINERALS: ORGANICS-02%, QUARTZ SAND-05%  
OTHER FEATURES: GRANULAR  
FOSSILS: BENTHIC FORAMINIFERA

- 934.9- 947.1      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
25% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
MODERATE INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-01%  
FOSSILS: BENTHIC FORAMINIFERA  
RAISED CENTER FORAM-OPERCV. MOST COMMON-LEPS. TURNING BROWN  
W/ MORE RECRYSTALLIZATION W/ DEPTH, WHITE LEPS CONTRAST
- 947.1- 952      CALCARENITE; GRAYISH ORANGE TO LIGHT OLIVE BROWN  
05% POROSITY: INTERGRANULAR, PIN POINT VUGS  
GRAIN TYPE: INTRACLASTS; 80% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MASSIVE  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, GRANULAR  
DOLOMITIC  
FOSSILS: BENTHIC FORAMINIFERA  
LEPS
- 952 - 953.5      DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH BROWN  
10% POROSITY: MOLDIC, INTERCRYSTALLINE; 50-90% ALTERED  
SUBHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: GRANULAR, MEDIUM RECRYSTALLIZATION  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
LEPS THAT WERE PRESENT ABOVE NOW VOIDS
- 953.5- 955.9      DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
05% POROSITY: INTERCRYSTALLINE, PIN POINT VUGS  
50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
MODERATE INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT

SEDIMENTARY STRUCTURES: MOTTLED  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION  
FOSSILS: NO FOSSILS

955.9- 961 DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
30% POROSITY: MOLDIC, PIN POINT VUGS, INTERCRYSTALLINE  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
PREDOMINATELY LEP MOLDS W/ SOME NUM MOLDS

961 - 967.5 DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
20% POROSITY: MOLDIC, FRACTURE, PIN POINT VUGS  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
POROSITY LOWER DUE TO LESS LEPS AND MORE NUMS

967.5- 969 DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
25% POROSITY: MOLDIC, PIN POINT VUGS, INTERCRYSTALLINE  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-08%  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
ALMOST ALL NUMS AND NOT MANY LEPS

969 - 971.3 DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
20% POROSITY: MOLDIC, PIN POINT VUGS, FRACTURE  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: HIGH RECRYSTALLIZATION

FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
MORE LEPS BUT DIMINISHING W/ DEPTH.

- 971.3- 972.2 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH ORANGE  
05% POROSITY: MOLDIC, PIN POINT VUGS, INTERCRYSTALLINE  
50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, MASSIVE  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, GRANULAR  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
LEPS
- 972.2- 976.2 DOLOSTONE; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN  
25% POROSITY: MOLDIC, PIN POINT VUGS; 50-90% ALTERED  
EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BIOTURBATED, MOTTLED  
ACCESSORY MINERALS: ORGANICS-02%, CALCARENITE-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS  
LEPS, NUMS
- 976.2- 979.6 DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
05% POROSITY: MOLDIC, PIN POINT VUGS; 50-90% ALTERED  
EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: ORGANICS-02%, CALCARENITE-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
LEPS FADING, BEING REPLACED W/ ONLY NUMS
- 979.6- 981.5 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH ORANGE  
05% POROSITY: MOLDIC, FRACTURE, PIN POINT VUGS  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BIOTURBATED, MOTTLED  
ACCESSORY MINERALS: ORGANICS-03%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, GRANULAR

FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
NUMS

- 981.5- 988 DOLOSTONE; MODERATE YELLOWISH BROWN  
20% POROSITY: MOLDIC, FRACTURE; 50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS  
NUMEROUS NUMS MOLDS
- 988 - 989.4 DOLOSTONE; MODERATE OLIVE BROWN TO GRAYISH BROWN  
01% POROSITY: NOT OBSERVED; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, MASSIVE  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: NO FOSSILS
- 989.4- 989.9 DOLOSTONE; MODERATE YELLOWISH BROWN  
01% POROSITY: MOLDIC, NOT OBSERVED; 50-90% ALTERED  
SUBHEDRAL  
GRAIN SIZE: VERY FINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
- 989.9- 999.9 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH ORANGE  
05% POROSITY: MOLDIC; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-02%, CALCARENITE-03%  
OTHER FEATURES: VARIEGATED  
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS, MOLLUSKS  
NUMS
- 999.9- 1002.5 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH BROWN  
01% POROSITY: MOLDIC; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE

GOOD INDURATION

CEMENT TYPE(S): DOLOMITE CEMENT

SEDIMENTARY STRUCTURES: MOTTLED, MASSIVE

ACCESSORY MINERALS: ORGANICS-03%, CALCARENITE-03%

OTHER FEATURES: HIGH RECRYSTALLIZATION

FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS

NUMS

- 1002.5- 1002.9 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN  
01% POROSITY: NOT OBSERVED; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE  
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BEDDED, LAMINATED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: NO FOSSILS  
THIN UNIT W/OUT FOSSILS BETWEEN SIMILAR UNITS
- 1002.9- 1008.7 DOLOSTONE; DARK YELLOWISH BROWN TO GRAYISH BROWN  
15% POROSITY: MOLDIC, FRACTURE; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: ORGANICS-02%, CALCARENITE-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, FOSSILIFEROUS  
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID  
VARYING DENSITIES OF NUMMULITES
- 1008.7- 1008.9 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH ORANGE  
03% POROSITY: PIN POINT VUGS; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION  
AVON PARK TOP
- 1008.9- 1009.3 SILT-SIZE DOLOMITE; DARK YELLOWISH BROWN TO DARK BROWN  
05% POROSITY: PIN POINT VUGS, INTERGRANULAR  
POOR INDURATION  
CEMENT TYPE(S): ORGANIC MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED, MOTTLED  
ACCESSORY MINERALS: ORGANICS-30%
- 1009.3- 1010.1 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH ORANGE

03% POROSITY: PIN POINT VUGS; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION

1010.1- 1010.6 DOLOSTONE; GRAYISH BROWN  
40% POROSITY: MOLDIC; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: CALCARENITE-10%  
OTHER FEATURES: FOSSILIFEROUS, HIGH RECRYSTALLIZATION  
FOSSILS: ECHINOID  
NEO NIDS. ECHINOID TESTS CALCAREOUS

1010.6- 1015.1 DOLOSTONE; GRAYISH BROWN TO YELLOWISH GRAY  
05% POROSITY: MOLDIC, PIN POINT VUGS, FRACTURE  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED, BEDDED  
CROSS-BEDDED  
ACCESSORY MINERALS: ORGANICS-05%, CALCARENITE-05%  
OTHER FEATURES: HIGH RECRYSTALLIZATION  
FOSSILS: ECHINOID  
NEO

1015.1- 1016.2 DOLOSTONE; GRAYISH ORANGE TO GRAYISH BROWN  
25% POROSITY: MOLDIC, FRACTURE; 50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: MEDIUM; RANGE: VERY FINE TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: GRANULAR, HIGH RECRYSTALLIZATION  
FOSSILS: ECHINOID  
NEO

1016.2- 1017.7 DOLOSTONE; GRAYISH BROWN TO YELLOWISH GRAY  
10% POROSITY: MOLDIC, FRACTURE; 50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT

SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: VARIEGATED  
FOSSILS: ECHINOID

- 1017.7- 1019.8 DOLOSTONE; GRAYISH BROWN TO DARK GRAYISH YELLOW  
05% POROSITY: FRACTURE, MOLDIC; 50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BANDED, BEDDED  
ACCESSORY MINERALS: ORGANICS-10%  
FOSSILS: ECHINOID
- 1019.8- 1023.7 DOLOSTONE; GRAYISH BROWN TO LIGHT GRAYISH BROWN  
05% POROSITY: FRACTURE, MOLDIC; 50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED, MASSIVE  
ACCESSORY MINERALS: ORGANICS-03%  
OTHER FEATURES: FOSSILIFEROUS, HIGH RECRYSTALLIZATION  
FOSSILS: ECHINOID  
NEO
- 1023.7- 1025 DOLOSTONE; MODERATE YELLOWISH BROWN TO LIGHT OLIVE BROWN  
05% POROSITY: FRACTURE, MOLDIC, INTERGRANULAR  
50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BANDED, BEDDED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: GRANULAR, HIGH RECRYSTALLIZATION  
END OF DS-FADES INTO LS
- 1025 - 1036 CALCARENITE; VERY LIGHT ORANGE TO PINKISH GRAY  
05% POROSITY: MOLDIC, INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED  
ACCESSORY MINERALS: ORGANICS-03%, CALCITE-02%  
OTHER FEATURES: CHALKY, FOSSILIFEROUS  
FOSSILS: ECHINOID  
NEO



- 1036 - 1036.6    CALCILUTITE; VERY LIGHT ORANGE  
 01% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, CALCILUTITE  
 15% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: LITHOGRAPHIC; RANGE: LITHOGRAPHIC TO VERY FINE  
 MODERATE INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE  
 OTHER FEATURES: CHALKY
- 1036.6- 1040.8    CALCARENITE; GRAYISH BROWN TO YELLOWISH GRAY  
 05% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC  
 GRAIN TYPE: INTRACLASTS; 70% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT  
 SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED, MASSIVE  
 ACCESSORY MINERALS: ORGANICS-05%  
 OTHER FEATURES: LOW RECRYSTALLIZATION, DOLOMITIC  
 FOSSILS: ECHINOID, MOLLUSKS  
 ABOVE INTERVAL GRADES IN + OUT OF DOLOMITIC LS
- 1040.8- 1042.5    CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
 05% POROSITY: INTERGRANULAR, MOLDIC  
 GRAIN TYPE: INTRACLASTS, CALCILUTITE  
 40% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE  
 ACCESSORY MINERALS: QUARTZ SAND-02%  
 OTHER FEATURES: CHALKY  
 FOSSILS: ECHINOID
- 1042.5- 1043.1    CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
 20% POROSITY: MOLDIC, INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, SKELETAL, BIOGENIC  
 80% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT  
 SEDIMENTARY STRUCTURES: BIOTURBATED  
 ACCESSORY MINERALS: CALCITE-05%  
 OTHER FEATURES: FOSSILIFEROUS  
 FOSSILS: ECHINOID, MOLLUSKS  
 NEO
- 1043.1- 1054.3    CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE

02% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
25% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED, MASSIVE  
OTHER FEATURES: CHALKY  
FOSSILS: ECHINOID  
SOME CALCILUTITE + ISOLATED ECHINOIDS

- 1054.3- 1057.6    CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED  
OTHER FEATURES: PLATY
- 1057.6- 1059.5    DOLOSTONE; GRAYISH BROWN TO MODERATE YELLOWISH BROWN  
02% POROSITY: INTERCRYSTALLINE; 10-50% ALTERED; ANHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: LOW RECRYSTALLIZATION
- 1059.5- 1059.9    CALCILUTITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE, INTRACLASTS  
10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY
- 1059.9- 1065.1    DOLOSTONE; GRAYISH BROWN TO MODERATE BROWN  
05% POROSITY: MOLDIC; 50-90% ALTERED; SUBHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, VARIEGATED

- 1065.1- 1067.6 DOLOSTONE; GRAYISH BROWN TO MODERATE YELLOWISH BROWN  
10% POROSITY: MOLDIC; 50-90% ALTERED; Euhedral  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BEDDED, MOTTLED  
ACCESSORY MINERALS: ORGANICS-05%  
OTHER FEATURES: HIGH RECRYSTALLIZATION, VARIEGATED
- 1067.6- 1068.8 CALCARENITE; GRAYISH ORANGE TO VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED  
ACCESSORY MINERALS: ORGANICS-10%  
OTHER FEATURES: VARIEGATED
- 1068.8- 1069.6 CALCARENITE; VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY
- 1069.6- 1070.3 CALCILUTITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: CALCILUTITE; 10% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
POOR INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY
- 1070.3- 1082.9 CALCARENITE; VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY

- 1082.9- 1084.2    CALCARENITE; YELLOWISH GRAY TO VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED, CROSS-BEDDED  
ACCESSORY MINERALS: ORGANICS-05%
- 1084.2- 1090      CALCARENITE; VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
20% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY
- 1090 - 1092.4    CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
30% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED, MASSIVE  
ACCESSORY MINERALS: CALCILUTITE-05%  
OTHER FEATURES: CHALKY  
GRADES INTO DS
- 1092.4- 1093.9    DOLOSTONE; GRAYISH BROWN TO MODERATE YELLOWISH BROWN  
03% POROSITY: MOLDIC, FRACTURE; 50-90% ALTERED; EUHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MOTTLED, INTERBEDDED  
FOSSILS: ECHINOID
- 1093.9- 1100.3    CALCARENITE; GRAYISH ORANGE TO GRAYISH BROWN  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED, LAMINATED

ACCESSORY MINERALS: CALCILUTITE-20%  
OTHER FEATURES: DOLOMITIC  
GRADES INTO LS W/ DEFORMATION OF SEDIMENTS

- 1100.3- 1102.8    CALCARENITE; VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: CHALKY
- 1102.8- 1105.5    CALCARENITE; VERY LIGHT ORANGE  
04% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
80% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: GRANULAR
- 1105.5- 1109      CALCARENITE; VERY LIGHT ORANGE  
03% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
70% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: MEDIUM; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: GRANULAR
- 1109 - 1109.5    CALCARENITE; VERY LIGHT ORANGE  
07% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
FOSSILS: MOLLUSKS
- 1109.5- 1141      CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, MOLDIC  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM

GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE  
 OTHER FEATURES: CHALKY  
 FOSSILS: ECHINOID, MOLLUSKS  
 NEO. LARGE SECTION OF LS W/ ISOLATED ECHINOIDS + GASTROPODS

1141 - 1142 DOLOSTONE; GRAYISH ORANGE TO YELLOWISH GRAY  
 02% POROSITY: INTERGRANULAR; 10-50% ALTERED; SUBHEDRAL  
 GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MOTTLED  
 OTHER FEATURES: CALCAREOUS

1142 - 1148 CALCARENITE; VERY LIGHT ORANGE  
 10% POROSITY: FRACTURE  
 GRAIN TYPE: INTRACLASTS, CALCILUTITE  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE  
 OTHER FEATURES: CHALKY  
 MAJOR VERTICAL FRACTURES

1148 - 1148.7 CALCILUTITE; VERY LIGHT ORANGE TO GRAYISH BROWN  
 02% POROSITY: INTERGRANULAR  
 GRAIN TYPE: CALCILUTITE; 15% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: VERY FINE; RANGE: LITHOGRAPHIC TO VERY FINE  
 POOR INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 OTHER FEATURES: PLATY, PLASTIC, MUDDY

1148.7- 1170.2 CALCARENITE; VERY LIGHT ORANGE  
 02% POROSITY: INTERGRANULAR  
 GRAIN TYPE: INTRACLASTS, CALCILUTITE  
 60% ALLOCHEMICAL CONSTITUENTS  
 GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
 GOOD INDURATION  
 CEMENT TYPE(S): CALCILUTITE MATRIX  
 SEDIMENTARY STRUCTURES: MASSIVE  
 OTHER FEATURES: GRANULAR  
 FOSSILS: ECHINOID  
 ABOVE UNIT HAD ISOLATED ECHINOIDS

1170.2- 1170.5 CALCARENITE; VERY LIGHT ORANGE  
 10% POROSITY: MOLDIC, INTERGRANULAR

GRAIN TYPE: INTRACLASTS, CALCILUTITE  
40% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MOTTLED  
FOSSILS: MOLLUSKS

- 1170.5- 1171.2    CALCARENITE; VERY LIGHT ORANGE  
02% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
OTHER FEATURES: GRANULAR
- 1171.2- 1173.2    CALCARENITE; GRAYISH BROWN TO VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
60% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO MEDIUM  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: BANDED, BEDDED, LAMINATED, MOTTLED  
ACCESSORY MINERALS: DOLOMITE-25%  
OTHER FEATURES: DOLOMITIC, LOW RECRYSTALLIZATION  
VARIEGATED  
DOLOMITIC BANDED W/ LS-DEFORMED
- 1173.2- 1177.3    CALCARENITE; VERY LIGHT ORANGE  
05% POROSITY: INTERGRANULAR, FRACTURE  
GRAIN TYPE: INTRACLASTS, CALCILUTITE  
50% ALLOCHEMICAL CONSTITUENTS  
GRAIN SIZE: FINE; RANGE: LITHOGRAPHIC TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: MASSIVE  
ONE MAJOR VERTICAL FRACTURE.
- 1177.3- 1180.7    DOLOSTONE; DARK YELLOWISH BROWN TO YELLOWISH GRAY  
05% POROSITY: INTERCRYSTALLINE, INTERGRANULAR  
10-50% ALTERED; ANHEDRAL  
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX  
SEDIMENTARY STRUCTURES: BANDED, BEDDED, INTERBEDDED

LAMINATED

ACCESSORY MINERALS: CALCILUTITE-40%

OTHER FEATURES: CALCAREOUS, MEDIUM RECRYSTALLIZATION

VARIEGATED

LS + DS INTERBEDDED

1180.7- 1184 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN  
05% POROSITY: INTERCRYSTALLINE, FRACTURE; 90-100% ALTERED  
Euhedral  
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE  
GOOD INDURATION  
CEMENT TYPE(S): DOLOMITE CEMENT  
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED  
ACCESSORY MINERALS: ORGANICS-02%  
OTHER FEATURES: HIGH RECRYSTALLIZATION

1184 - 1204 NO SAMPLES  
CAVITY TO TD AT 1204.

1204 TOTAL DEPTH



## Appendix B

# Appendix B

**SNFVMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME	CREW Pete Meadors Ben Tomlinson	REPORT NO.	
PROGRESS	TASK CR	DATE 8/31/94	SITE HYDROLOGIST Don Thompson
DEPTH	PROPOSED TOTAL DEPTH	FORMATION/AQUIFER	DATE MOVED ON SITE 8/31/94
MILITARY TIME TIME LOG	ELAPSED TIME	ROMP SITE NAME/NUMBER TR-SA-1	
FROM	TO	DETAILS OF OPERATIONS	
0720	0800	1	Kuhlman. Don used the lock-line for a st.
			time then we loaded it up.
0800	1100	3	Pulled lock-line to TR-SA.
1100	1230	1 1/2	Met Don on site.
1230	1300	1/2	Lunch.
1300	1400	1	Hot time reads ready and discussed site a little more.
1400	1430	2	Dug pit.
1635	1745	1 1/4	Loaded lock-line and moved it to Service office and hooked off.
			Pickups right door was damaged under - wire broken out. Ben a police report and Lucy was notified.

**SUNFED GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Port Members Ben Harrison		REPORT NO.	
PROGRESS		TASK CR	DATE 9/1/94	SITE HYDROLOGIST Don Thompson	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE 8/31/94	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER TR-SA-1		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	Planned to be a lot of picking up repaired door to entrance could be a lot of trouble and time to do it.		
0800	0900	1/2	The bait set signal worked in a moment.		
0900	1000	1/2	Started to Re-entrance. Got to SR 31 the new level was broken and the radiator leaking. Had to go back to site and have lunch.		
1000	1100	1	Lunch to 1100.		
1100	1200	1/2	Lunch		
1200	1300	1/2	Got a horrible sunset and pit.		
1300	1400	1	Lunch to Thompson and back off. Had a good day.		

**SWPMED GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Ben Hamlinson</b>		REPORT NO.	
PROGRESS			TASK <b>CR</b>	DATE <b>9/6/94</b>	SITE HYDROLOGIST <b>Don Thompson</b>
DEPTH	PROPOSED TOTAL DEPTH <b>900'</b>		FORMATION/AQUIFER		DATE MOVED ON SITE <b>8/31/94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Sarasota / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	Hampa. Truck #400 is not ready, transfer tools to truck #444. Called in.		
0800	0930	1 1/2	Drive to Sarasota.		
0930	1030	1	Went by site, everything is ok. Arranged to get a key for SWP (Sarasota Water Plant Compound).		
1030	1200	1 1/2	Drive to ROMP #13 to meet Dave.		
1200	1300	1	Dave was on site working on rig, we help some then got ready to transport with load.		
1300	1430	1 1/2	Started out with water truck, equipment tra and pipe trailer. Before we got to SR-31 the truck a Öring is Hi-Lo shifter blew out and bled the air out of the system. A tire the pipe trailer came apart. Dave had rig ready so we left the water truck, equip trailer and pipe trailer for Dave to fix. Transported rig and air compressor to SW Compound and secured for the day.		
1430	1730	3			

**SNFVMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME	CREW Pat Meadors Ben Linderson	REPORT NO.	
PROGRESS	TASK CR	DATE 9/7/94	SITE HYDROLOGIST Don Thompson
DEPTH	PROPOSED TOTAL DEPTH 900'	FORMATION/AQUIFER	DATE MOVED ON SITE 8/31/94
MILITARY TIME TIME LOG	ELAPSED TIME	RAMP SITE NAME/NUMBER Saratoga / TR-SA-1	
FROM	TO	DETAILS OF OPERATIONS	
0700	0900	②	Drive from SWP to RAMP #13
0900	0930	½	Called in, hooked up to pipe trailer. Pipe trailers have to be pulled slow, all the tires have dragged!
0930	1230	3	Mobilized water truck, equipment trailer and pipe trailer to SWP.
1230	1300	½	Lunch
1300	1500	2	Drive to Saratoga to RAMP #13.
1500	1730	2 ½	Mobilized casing trailer to SWP and back for the day.

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Ben Hamlinson</b>		REPORT NO.	
PROGRESS		TASK <b>CR</b>	DATE <b>9/8/94</b>	SITE HYDROLOGIST <b>Don Thompson</b>	
DEPTH	PROPOSED TOTAL DEPTH <b>900'</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Sarasota / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0900	2	SWP, loaded all the tools and equipment that we needed then moved rig to site.		
0900	0930	1/2	Got our paper work read for Don to pick up		
0930	1130	2	Set rig up and set up to auger.		
1130	1200	1/2	Lunch.		
1200	1300	1	Don came by for paper work and we discuss site plans.		
1300	1500	2	Had some problems getting the auger rig working, we worked on it the rest of the afternoon.		
1500	1600	1	Broke rig down and moved it to site		
1600	1730	1 1/2	Drove to Tampa and knocked off.		

# SUNFIND GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

RIG NO/NAME CME		CREW Pat Meadors Ben Homlinson		REPORT NO.	
PROGRESS 24'		TASK C R		DATE 9/12/94	
DEPTH 24'		PROPOSED TOTAL DEPTH 900'		FORMATION/AQUIFER	
MILITARY TIME TIME LOG		ELAPSED TIME		SITE HYDROLOGIST Don Thompson	
FROM		TO		DATE MOVED ON SITE 8/31/94	
				ROMP SITE NAME/NUMBER Saratoga / TR-SA-1	
				DETAILS OF OPERATIONS	
0700 0800		1		Lampa. I went by Brooksville and picked up truck #290 on the way to Lampa.	
0800 0930		1 1/2		Drove to SWP.	
0930 1000		1/2		Checked all the equipment good. all the gas had been taken out of the water truck.	
1000 1100		1		Move rig from SWP to site and set rig up. Nothing on site has been bothered.	
1100 1530		4 1/2		Hollow stem cased 24'. 0'-4' = 75%, 4'-9' = 20%, 9'-11 1/2' = 88%, 11 1/2'-14' = 76%, 14'-19' = 100% 19'-21 1/2' = 100%, 21 1/2'-24' = 100%.	
1530 1730		2		Thunder <del>storm</del> storms. Rig had to be looked down in the storm. Secured for the day.	



**SMPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Ben Handlinson</b>		REPORT NO.	
PROGRESS <b>24 1/2'</b>		TASK <b>C R</b>	DATE <b>9/13/94</b>	SITE HYDROLOGIST <b>Don Thompson</b>	
DEPTH <b>49'</b>	PROPOSED TOTAL DEPTH <b>900</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Sarrata / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	SWP. Checked all equipment and moved site. Set up rig.		
0800	0900	1	Hollow stem augered 2 1/2', 24-26 1/2' = 200%. Adjusted inner barrel. Hit rock at 26 1/2'. Stopped augering.		
0900	1330	2 1/2	Went to SWP for water truck and pipe trailer. Changed over to n.o. Lunch.		
1330	1330	1	Started casing. 24 1/2'. 26 1/2' to 27 1/2' = 100%, 27 1/2' to 29' = 10% 29-34 = 40%. NO sub were out.		
1330	1430	1	Went to SWP pick up <del>sub</del> sub and replace old sub.		
1430	1130	2-	Casing 34-39 = 76%, 39-44 = 100%, 44-49 = 70%		
1130	1730	1	Moved all equipment back to SWP and Decu		

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CINE</i>		CREW <i>Pat Measler Ben Lankins</i>		REPORT NO.	
PROGRESS <i>50'</i>		TASK <i>CR</i>	DATE <i>9/14/94</i>	SITE HYDROLOGIST <i>Don Thompson</i>	
DEPTH <i>99'</i>	PROPOSED TOTAL DEPTH <i>900'</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>8/31/94</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Saradota / TR-SA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0700</i>	<i>0830</i>	<i>1 1/2</i>	<i>SWP. Back 5' down on water truck and p trailer will not have to be moved. SWP compound is getting soft from the rain. Moved rig to site and set up.</i>		
<i>0830</i>	<i>1400</i>	<i>5 1/2</i>	<i>And Core 50'. 49-54=64%, 59=50%, 64=50%, 69=100%, 74=80% 89=90%, 84=70%, 89=64%, 94=88%, 99=80%</i>		
<i>1400</i>	<i>1500</i>	<i>1</i>	<i>Pulled rods and back 5' out. Left auger in</i>		
<i>1500</i>	<i>1530</i>	<i>1/2</i>	<i>Went to SWP for mud mixer.</i>		
<i>1530</i>	<i>1700</i>	<i>1 1/2</i>	<i>Started mixing mud.</i>		
<i>1700</i>	<i>1730</i>	<i>1/2</i>	<i>Secured pit.</i>		

*QPA*

**SMPMD GEOPHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Ben Hollinson</b>		REPORT NO.	
PROGRESS		TASK <b>CR</b>	DATE <b>9/15/94</b>	SITE HYDROLOGIST <b>Don Thompson</b>	
DEPTH <b>99'</b>	PROPOSED TOTAL DEPTH <b>900'</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Sarasota / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	SWP. Replaced one tire on the pipe trailer Moved water truck and air compressor to sit		
0800	0930	1 1/2	Started mixing mud. hooked Wilden up had work on it to get it going. Worked on drill reports.		
0930	1000	1/2	Tried to pull augers they are stuck.		
1000	1100	1	Went to SWP to get tool box, gas for rig and fuel air compressor.		
1100	1200	1	Changed over to hollow stem adapter, since		
1200	1430	2 1/2	Storm moved in, we got augers back free. & is raining to hard to work so I left a in hole to secure it -		
1430	1530	1	We broke down in the rain and moved equipment to SWP.		
1530	1730	2	<del>Went to</del> Drove to Tampa, & had to go on to Brooksville.		

Problems we have had this week.

1. Transporting all equipment morning and afternoon.
2. Equipment trailer not on site.
3. Our pickup (#400) with 2 diesel and gas tanks in in shop
4. Storms.

# SNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

**SWFSD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Bar Hanlinson</b>		REPORT NO.	
PROGRESS <b>74'</b>		TASK <b>CR</b>	DATE <b>9/20/94</b>	SITE HYDROLOGIST <b>Dan Thompson</b>	
DEPTH <b>97'</b>	PROPOSED TOTAL DEPTH <b>250</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0830	1 1/2	Hooked rig. Lowered rods, 5' of fallin, mixed in and circulated hole clean. Started adding collar and hysd. line on clutch burst.		
0830	1200 <del>0900</del>	4 1/2	Removed clutch hysd. line and had another one made up. Were able to drill until		
<del>1200</del>	<del>1230</del>	<del>1/2</del>	<del>Dave same.</del>		
1200	1230	1/2	Dave repaired brake line, linch		
1230	1400	1 1/2	Added 2 more collars. Drilling clay and is slow.		
1400	1500	1	Weld brake on brake-out wrench, Dan go it repaired. Had to take compressor for		
1500	1600		Compressor started acting up, but were able to T.O. at 97'		
1600	1730		Circulated hole clean when secured site.		
			Drilled 74'		

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadors Ben Hollinson</b>		REPORT NO.	
PROGRESS		TASK <b>CR</b>	DATE <b>9/21/94</b>	SITE HYDROLOGIST <b>Don Thompson</b>	
DEPTH <b>97'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	Lowered rods and circulated hole, figured grout amounts (240 gts)		
0800	1000	2	Pulled string out, filled water truck, ran up pressure head and moved 30 bags of cement over to the rig.		
1000	1200	2	Ran 6" pvc in (100'), ran 90'x1" trimmer inside 1/2" and connected pressure gauge head		
1200	1230	1/2	lunch.		
1230	1430	2	Mixed 250 gals of grout (5 barrels), cement 50 bags (47 1/2 bags), 25 lbs. bentonite		
1430	1500	1/2	Pumped grout.		
1500	1730	2 1/2	Cleaned up, cleaned up site, broke <del>structure</del> out and paper work. Secured site.		

**SFMMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Ben Tomlinson</b>		REPORT NO.	
PROGRESS <b>33'</b>		TASK <b>CR</b>	DATE <b>9/22/94</b>	SITE HYDROLOGIST <b>Don Thompson</b>	
DEPTH <b>123'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
<b>0700</b>	<b>0800</b>	<b>1</b>	<b>Good grout job, pulled grout head off and set up to drill. Grout is 3' down on outside of casing. mixed 2 bags cement to bring it to surface.</b>		
<b>0800</b>	<b>0900</b>	<b>1</b>	<b>Ran 3 collars on string. Logged grout at 90'.</b>		
<b>0900</b>	<b>1006</b>	<b>1</b>	<b>Dave and Bob serviced compressor. We continued to drill with air pump bc it is not working very good.</b>		
<b>1000</b>	<b>1130</b>	<b>1 1/2</b>	<b>Shut rig for service, lunch</b>		
<b>1130</b>	<b>1300</b>	<b>1 1/2</b>	<b>Drilled a total of 33' today. Artesian 103'.</b>		
<b>1300</b>	<b>1330</b>	<b>1/2</b>	<b>Hooked up direct air for 10 mins. and checked hole. It took 1 hr. 5 mins for well to recover.</b>		
<b>1330</b>	<b>1530</b>	<b>2</b>	<b>Broke down and mobilized to SWP.</b>		
<b>1530</b>	<b>1730</b>	<b>2</b>	<b>Drove to Brooksville, dropped compressor off at Tampa. Secured</b>		

# SMTWMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]



[illegible]

## Results

RIG NO./NAME CME		CREW Buttinson Mark Price		REPORT NO.	
PROGRESS		TASK CR	DATE 9-29-94	SITE HYDROLOGIST Don Thompson	
DEPTH 337'		PROPOSED TOTAL DEPTH	FORMATION/AQUIFER	DATE MOVED ON SITE 8-31-94	
MILITARY TIME TIME LOG		RAMP SITE NAME/NUMBER Pioneer Park IR-5A-1			
ELAPSED TIME		DETAILS OF OPERATIONS			
FROM	TO				
0700	0730	1/2 Active on site - work on 2 K2 pump			
0730	0800	1/2 Start pump test producing 5 gpm 15' draw down			
0800	0830	1/2 Direct air down the well			
0830	0900	1/2 Let well recover from 107' to 3 1/2'			
0900	1000	1 Start pump test - w/ 40' of drop pipe 5-6 gpm 22'-24' draw down			
1000	1000	3 Start drilling at 327', replace air hose unloa supplies from Murphy. Took lunch			
1300	1400	1 Start direct air			
1400	1600	2 Broke down drill rods and move equipment to water tanks			
1600	1730	1 1/2 Drive to Tampa office			

**SMPND GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

[illegible]

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CMF</b>		CREW <b>Ben Tomlinson Mark Pike</b>		REPORT NO.
PROGRESS		TASK <b>CR</b>	DATE <b>10-4-94</b>	SITE HYDROLOGIST <b>Don Thompson</b>
DEPTH <b>40'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8-31-94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park TR-SA 1</b>	
FROM	TO		DETAILS OF OPERATIONS	
0700			Arrive on site check oil and water on Rig. Called Dave	
			and tell him about the <del>over</del> rig overheating. Greg	
			called me and said to develop the water supply we	
			took out thermostat out of Rig and see if it st	
	0800	1	is overheating.	
0800			Begin developing water supply well Bobison his way	
			to repair rig. Put thermostat in Rig still is overheating.	
	1200	4	Bob cleaned radiator vent Rig run a little bit cooler	
1200	<del>1200</del>	<del>4</del>	start to drill at 15', shut down wilden pump on	
	1800	6	water supply well	
1800	1830		Rig shuts off overheating again. Finally got r	
			to start. Runs rough pulled up 20ft. Put tools and	
			leaving site.	

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**[illegible]

[illegible]

[illegible]

**SMPWD GEOHYDROLOGIC DATA**  
**DAILY DRILLING/CORE REPORT**

[illegible]



# SNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

# SWMND GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT[illegible]

**SNFWM D GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Ben Tomlinson</b> <b>Pat Meadors</b>		REPORT NO.																													
PROGRESS <b>55'</b>		TASK <b>CR</b>	DATE <b>10-25-94</b>	SITE HYDROLOGIST <b>Don Thompson</b>																													
DEPTH <b>174'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8-31-94</b>																													
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park TR-SA-1</b>																														
FROM	TO		DETAILS OF OPERATIONS																														
<b>0700</b>	<b>0900</b>	<b>2</b>	<b>Arrived on site begin coring at 119'</b>																														
<b>0900</b>	<b>0930</b>	<b>1/2</b>	<b>Stop coring at 129' begin to air lift well</b>																														
<b>0930</b>	<b>1130</b>	<b>2</b>	<b>Stop air lifting and begin coring at 129'</b>																														
<b>1130</b>	<b>1200</b>	<b>1/2</b>	<b>Stop coring at 149' Take lunch</b>																														
<b>1200</b>	<b>1300</b>	<b>1</b>	<b>Let water truck fill up</b>																														
<b>1300</b>			<b>Start coring at 149' Take A/C to gas station</b>																														
	<b>1600</b>	<b>3</b>	<b>fill up</b>																														
<b>1600</b>	<b>1630</b>	<b>1/2</b>	<b>Stop coring at 169' Let water <sup>truck</sup> fill up.</b>																														
<b>1630</b>	<b>1700</b>	<b>1/2</b>	<b>Begin coring at 169'</b>																														
<b>1700</b>	<b>1730</b>	<b>1/2</b>	<b>Stop coring at 174' Let water truck fill up.</b>																														
<b>1730</b>			<b>Leave site</b>																														
			<table border="1"> <thead> <tr> <th>Depth ft</th> <th>%</th> <th>Depth ft</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>119-124</td> <td>93%</td> <td>149-154</td> <td>70%</td> </tr> <tr> <td>124-129</td> <td>80%</td> <td>154-159</td> <td>100%</td> </tr> <tr> <td>129-134</td> <td>74%</td> <td>159-164</td> <td>92%</td> </tr> <tr> <td>134-139</td> <td>0%</td> <td>164-169</td> <td>100%</td> </tr> <tr> <td>139-144</td> <td>50%</td> <td>169-174</td> <td>94%</td> </tr> <tr> <td>144-149</td> <td>84%</td> <td></td> <td></td> </tr> </tbody> </table>			Depth ft	%	Depth ft	%	119-124	93%	149-154	70%	124-129	80%	154-159	100%	129-134	74%	159-164	92%	134-139	0%	164-169	100%	139-144	50%	169-174	94%	144-149	84%		
Depth ft	%	Depth ft	%																														
119-124	93%	149-154	70%																														
124-129	80%	154-159	100%																														
129-134	74%	159-164	92%																														
134-139	0%	164-169	100%																														
139-144	50%	169-174	94%																														
144-149	84%																																

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Ben Tomlinson Pat Meadors</b>		REPORT NO.	
PROGRESS <b>40'</b>		TASK	DATE <b>10-26-94</b>	SITE HYDROLOGIST <b>Don Thompson</b>	
DEPTH <b>214'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8-31-94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park</b>		
FROM	TO		DETAILS OF OPERATIONS		
<b>0700</b>	<b>0730</b>	$\frac{1}{2}$	Arrived on site let water truck fill up.		
<b>0730</b>	<b>1130</b>	<b>4</b>	Begin coring at 174'		
<b>1130</b>			Stop coring at 194' flush hole out to take		
	<b>1200</b>	$\frac{1}{2}$	water sample.		
<b>1200</b>	<b>1400</b>	<b>2</b>	Begin to airlift. Take lunch. Take water sample		
<b>1400</b>	<b>1630</b>	$2\frac{1}{2}$	Start coring at 194'		
<b>1630</b>			Stop coring at 214' Let water truck fill up w		
	<b>1730</b>	<b>1</b>	water and let lighting pass us by.		
<b>1730</b>			leave site.		
			depths Ft                      %		
			174- 179                      80%		
			179- 184                      86%		
			184- 189                      100%		
			189- 194                      80%      water sample.		
			194- 199                      50%		
			199- 204                      72%		
			204- 209                      96%		
			209- 214                      97%		

SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME CME		CREW Ben Tomlinson Pat Meadors		REPORT NO.																													
PROGRESS 55'		TASK	DATE 27 10-28-94	SITE HYDROLOGIST Ted Gates																													
DEPTH 269'	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE 8-31-94																													
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park TR-SA-1																														
FROM	TO		DETAILS OF OPERATIONS																														
0700			Arrived on site. Take A/C to gas station and f																														
	0800	1	it up. fuel up Rig																														
0800	1130	3 1/2	Begin coring at 214'																														
1130	1200	1/2	top coring at 244' Take Lunch																														
1200	1500	3	Begin coring at 249'																														
1500			Stop coring at 269'. Take A/C to compound																														
	1530	1/2	put tools away. clean up site.																														
1530			Drive to Tampa																														
			<table border="1"> <thead> <tr> <th>Depths Ft</th> <th>%</th> <th>Depths Ft</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>214-219</td> <td>100%</td> <td>244-249</td> <td>91%</td> </tr> <tr> <td>219-224</td> <td>100%</td> <td>249-254</td> <td>86%</td> </tr> <tr> <td>224-229</td> <td>96%</td> <td>254-259</td> <td>81%</td> </tr> <tr> <td>229-234</td> <td>46%</td> <td>259-264</td> <td>100%</td> </tr> <tr> <td>234-239</td> <td>98%</td> <td>264-269</td> <td>97%</td> </tr> <tr> <td>239-244</td> <td>100%</td> <td></td> <td></td> </tr> </tbody> </table>			Depths Ft	%	Depths Ft	%	214-219	100%	244-249	91%	219-224	100%	249-254	86%	224-229	96%	254-259	81%	229-234	46%	259-264	100%	234-239	98%	264-269	97%	239-244	100%		
Depths Ft	%	Depths Ft	%																														
214-219	100%	244-249	91%																														
219-224	100%	249-254	86%																														
224-229	96%	254-259	81%																														
229-234	46%	259-264	100%																														
234-239	98%	264-269	97%																														
239-244	100%																																

**SWFWMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Ben Tomlinson Pat Meadows</b>		REPORT NO.	
PROGRESS <b>25'</b>		TASK <b>CR</b>	DATE <b>10-31-94</b>	SITE HYDROLOGIST <b>RICK Lee</b>	
DEPTH <b>294'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8-31-94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park TR-SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700			Arrived in Tampa, call in, Fuel truck, ice cooler		
	0800	1	and wash pick up.		
0800	0930	1½	Drive to Sarasota.		
0930			Arrived in Sarasota. Go to compound and pick		
			up A/C. Set up to take water level reading on		
	1130	2	core hole. let water trucks fill up.		
1130	1200		Lunch		
1200	1630	4½	Begin coring at 269'. At 237' coring tool		
1630	1730	1	stop coring at 294'. Start air lifting.		
1730			leave site		
			Depths		
			269 - 274 81		
			274 - 279 100		
			279 - 284 86		
			284 - 289 56		
			289 - 294 96		

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Ben Tomlinson Pat Meadows</b>		REPORT NO.
PROGRESS <b>30'</b>		TASK <b>CR</b>	DATE <b>11-1-94</b>	SITE HYDROLOGIST <b>Ricky Lee</b>
DEPTH <b>324'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8-31-94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park TR-SA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
0700	0730	$\frac{1}{2}$	Arrived on site. Take water sample at 294'	
0730			Begin coring at 294'. Loss hole site at 295' coring	
	1200	$4\frac{1}{2}$	slow at 307'	
1200	1430	$2\frac{1}{2}$	Stop coring at 319'. Begin to airlift well. Take 1 in.	
1430	1500	$\frac{1}{2}$	Stop airlifting. Take water sample at 310'	
1500			Begin coring at 319'. Had trouble with cuttings	
			the inner barrel. Pull barrel back out. Clean barrel &	
			back down hole. Resume coring at 310'. coring is	
	1700	2	slow	
1700	1730	$\frac{1}{2}$	Stop coring at 324'. Begin to airlift.	
1730			Leave site.	
			Deaths <u>0%</u>	
			244 - 260 <u>0%</u>	
			260 - 280 <u>10%</u>	
			280 - 300 <u>0%</u>	
			300 - 320 <u>0%</u>	
			320 - 340 <u>10%</u>	
			340 - 364 <u>4%</u>	



**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Ben Tomlinson Pat Meadows</b>		REPORT NO.	
PROGRESS <b>50'</b>		TASK	DATE <b>11-2-04</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>374'</b>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8-31-94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park TR-SF-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0730	$\frac{1}{2}$	Arrived on site. Fuel rig.		
0730	0800	$\frac{1}{2}$	Get water level. Water level is at 2' 8" inside of 4".		
0800	1300	5	Begin coring at 324'		
1300	1330	$\frac{1}{2}$	Stop coring at 349'. Take lunch.		
1330			Pull rods out. Replace bits w/ new one, landing ring, & centerizer ring. Run rods back in.		
	1530	2			
1530	1730		Begin coring at 349'.		
1730			Stop coring at 374'. Leave site.		
			<div style="display: flex; justify-content: space-between;"> <span>Depths</span> <span>90</span> <span>Depths</span> <span>90</span> </div>		
			324-329	78	324-329 50
			329-334	90	329-334 50
			334-339	46	334-339 70
			339-344	84	339-344 26
			344-349	24	
			349-354	96	

**SMFWD GEONHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Pat Meadors Ben Hamlinson		REPORT NO.	
PROGRESS 30'		TASK CR	DATE 11/7/94	SITE HYDROLOGIST Rick Lee	
DEPTH 434	PROPOSED TOTAL DEPTH 1000'		FORMATION/AQUIFER Hawthorn	DATE MOVED ON SITE 8/31/94	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park / TR 8A-1		
FROM	TO		DETAILS OF OPERATIONS		
0700	0945	2 $\frac{3}{4}$	Lampson: Hearing evaluation and respiratory protection testing.		
0945	1115	1 $\frac{1}{2}$	Drive to site.		
1115	1130	$\frac{1}{4}$	On site. Water level + 4.10.		
1130	1200	$\frac{1}{2}$	Lunch		
1200	1230	$\frac{1}{2}$	8' of fill in, circulated hole clean.		
1230	1600	3 $\frac{1}{2}$	Coring. Amount raised 30'		
1600	1730	1 $\frac{1}{2}$	Air lift and sample. Secure site.		
			409' = 28% and large sample		
			414' = 18% " " "		
			414' = 40%		
			414' = 40%		
			424' = 40%		
			429' = 36%		
			434' = 82%		

SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT[illegible]

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meschore Ben Hamlinson</b>		REPORT NO.
PROGRESS <b>30'</b>		TASK <b>CR</b>	DATE <b>11/9/94</b>	SITE HYDROLOGIST <b>Rick Lee</b>
DEPTH <b>504</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Hawthorn</b>	DATE MOVED ON SITE <b>8/31/94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR 3A-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
0700	0930	2 1/2	Fueled up; Water level +4.12; Air lifted and sampled. 25 gpm	
0930	1430	5	Cored 30'. Having problems with recovery formation is like 1" crushed stone and will not stay in inner barrel.	
1430	1600	1 1/2	Air lifted hole clean and set up for a water level Monday. Secured site and to air compressor to S.W.P.	
1600	1730	1 1/2	Drove to Tampa and secured for the weekend.	
			Recovery: 479 = 83%	
			484 = 29% and log.	
			489 = 62%	
			494 = 22% and log.	
			499 = 26% and log.	
			504 = 82%	

# SNEFMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**[illegible]

# SNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

# SUNFIND GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

RIG NO/NAME CIME	CREW Pat Meadows Ben Hamlinson	REPORT NO.	
PROGRESS 59'	TASK CR	DATE 11/17/04	SITE HYDROLOGIST Rick Lee
DEPTH 498'	PROPOSED TOTAL DEPTH 498' TD	FORMATION/AQUIFER	DATE MOVED ON SITE 8/31/04
MILITARY TIME TIME LOG	ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park / TR SA-1	
FROM	TO	DETAILS OF OPERATIONS	
5700	0800	1	Fueled up; done time cards and travel time
0500	1230	4 ½	Resumed to TD 498'; circulated hole also
			Put on bust room came off; yr repaired it
1230	1530	3	Lipped rods and collar out.
1530	1600	½	Put a stand pipe on well and secured.
1600	1730	1 ½	Dropped air compressor off at 910 and drove to Tampa. Secured!
			Resumed 59'; Depth 498'



# SNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

RIG NO/NAME CME		CREW Pat Menzies Ben Homlinson		REPORT NO.
PROGRESS 5'		TASK CR	DATE 11/28/94	SITE HYDROLOGIST Rick Lee
DEPTH 509'	PROPOSED TOTAL DEPTH 1000'		FORMATION/AQUIFER	DATE MOVED ON SITE 8/31/94
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park / TR SA-1	
FROM	TO		DETAILS OF OPERATIONS	
0700	0730	1/2	Lampa. Fuelled up, inc. water and called in	
0730	0900	1 1/2	Drove to site.	
0900	1300	4	Set up to trip 504' of HW casing in. Fuelled and air compressor up.	
			HW casing was set at 501'	
1300	1600	3	Switched over to NR, readjusted inner. Load hooked up water supply, moved casing trail out of the way and moved road trailer in position to <del>trip</del> trip 504' of NR in.	
1600	1730	1 1/2	Cased 5'. 509' = 30% + bag. Had run problems with core blockage. Circulate hole clean and set up for a water log in the morning. Secured site. Rick came by and picked up 2x2 adaptors 2" x 1 1/2", 2- 2" hoses, 2 barrels and 1- 13" pipe wrench.	

**SMTWMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Pat Meadows Barb Tomlinson		REPORT NO.	
PROGRESS 20'		TASK CR		DATE 11/29/94	
DEPTH 529'		PROPOSED TOTAL DEPTH 1000'		SITE HYDROLOGIST Rick Lee	
		FORMATION/AQUIFER Savannee		DATE MOVED ON SITE 8/31/94	
MILITARY TIME TIME LOG		ELAPSED TIME		ROMP SITE NAME/NUMBER Pioneer Park / TA SA-1	
FROM		TO		DETAILS OF OPERATIONS	
0700		0730		1/2 water level +5.4, fueled up.	
0730		1100		4 1/2 Cored 20'. Having a lot of problems with core blockage. 514' = 0% bag, 519' = 3% bag 524' = 0% bag, 529' = 4% bag.	
1100		1530		4 1/2 Chain coupling on mono pump broke, ca Drove. Rebuilt water service. Air lifted sample, the cond. wouldn't stabilize. Took sample. Cond. 2870	
1530		1730		2 Pulled rods to check outer barrel. Drove has it called me back about chain coupling. Secured site. Outer barrel had blockage. (chick)	

**SMFED GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Ben Hornlinson</b>		REPORT NO.	
PROGRESS <b>40'</b>		TASK <b>C R</b>	DATE <b>11/30/94</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>569'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Sumner</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR SA - 1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0900	2	Water level + 4.9'. Cleared water truck out, filled it for Kevin, he used to borrow it for a well rehab.		
0900	1100	2	Ripped N & S rods in and circulated hole.		
1100	1200	1	Cored 20'.		
1200	1330	1 1/2	Dave replaced the mono pump drive chain couplings.		
1330	1530	2	Cored 20'.		
1530	1730	2	Air lifted and damped. During air lift, for the rest of the afternoon we prepared rig to move to L.W.R.Y. Secured.		
			Recovery		
			534' = 48%		
			539' = 96%		
			544' = 24%		
			549' = 36%		
			554' = 40%		
			559' = 22%		
			564' = 34%		
			569' = 0% bag		

# SNFVMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

# SUNFORD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

Red Meadows

Ben Hamlinson

David Lee

**SMPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <i>Pat Meadows Ben Hamilton Harris Lee</i>		REPORT NO.
PROGRESS <b>40'</b>		TASK <b>CR</b>	DATE <b>12/07/94</b>	SITE HYDROLOGIST <b>Rick Lee</b>
DEPTH <b>609'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR SA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
0700	0900	2	LWRV. Finished cleaning up site and broke rig down.	
0900	1000	1	Drove to Garretts.	
1000	1300	3	Set rig up, got water level 5.4' and filled pit with water. Lunch.	
1300	1430	1 1/2	Cored 20'.	
1430	1500	1/2	Air lifted cuttings out.	
1500	1630	1 1/2	Cored 20'.	
1630	1730	1 1/2	Air lifted but didn't sample, we will run in the morning.	
			Secured.	
			Recovery	
			574 = 16%	
			579 = 10%	
			584 = 34%	
			589 = 16%	
			594 = 32%	
			599 = 40%	
			604 = 40%	
			609 = 12%	

[illegible]



**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Travis Love</b>		REPORT NO.	
PROGRESS		TASK <b>CR</b>	DATE <b>12/12/94</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>629'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR SR-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0730	1/2	Lampson. Fueled up, called in and in water.		
0730	0900	1 1/2	Drove to site, picked up air compressor at SWP.		
0900	1000	1	Water level + 4.05, ran sampler temp 25.4°C.		
			coul. 2980, let antenna floor. Worked on		
			site and started reorganizing equipment		
			trailer.		
1000	1230	2 1/2	Ran sampler again. Temp. 26.6, coul 3440.		
			Continued working in equipment trailer.		
1230	1600	3 1/2	Rep from TAM about. Come to demonstrate a new		
			wire line packer. Greg and Lloyd were		
			on site for demonstration.		
1600	1720	1 1/2	Had to postpone part of the demonstration		
			because the packer would not pass through		
			a squeeze where the hook joins grip		
			core rods. Secured site.		

**SHFMD GEOMORPHOLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Masters Luis Lora</b>		REPORT NO.	
PROGRESS			TASK <b>CR</b>	DATE <b>12/13/94</b>	SITE HYDROLOGIST <b>Rich Lee</b>
DEPTH <b>629'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER		DATE MOVED ON SITE <b>8/3/94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TA SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0900	2	Fabricated an adaptor so the packer could tripper in.		
0900	1230	3 1/2	Inflated packer 3 times above ground and reset it make sure it was working prop- erly. It was tripped in.		
1230	1300	1/2	Lunch		
1300	1730	4 1/2	Tripped packer in, it hung up at 480'. Tripped packer out, tripped 480' of rods out replaced bad rod and made sure packer was up to bottom. Tripped rods in when tripped packer in.		
			Packer wouldn't inflate. We tried every things but worked. Tripped packer out completely broke it down and found 11 flakes from the rods had plugged the inflating ports.		
			Secured.		

**SNFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Pat Meadows Harris Lane		REPORT NO.	
PROGRESS 40'		TASK C.R.		DATE 12/20/94	
SITE HYDROLOGIST Rick Lee		DATE MOVED ON SITE 8/31/94			
DEPTH 624'	PROPOSED TOTAL DEPTH 1000'		FORMATION/AQUIFER		
MILITARY TIME TIME LOG		ELAPSED TIME		ROMP SITE NAME/NUMBER Pioneer Park / TR SR-1	
FROM	TO	DETAILS OF OPERATIONS			
0700	0830	1 1/2	Water level + 4.13 - Went to hardware store and bought 4 1/2 inches and purchased for packer		
0830	1130	3	Core 20'		
1130	1300	1 1/2	Air lifted cuttings, adjusted for level and level		
1300	1500	2	Core 20'		
1500	1730	2 1/2	Air lifted for sample, Packer dilated during lift. Break packer down and haul out. We will sample after the holidays.		
			644 = 60%		
			654 = 32%		
			664 = 32%		
			664 = 38%		
			674 = 70%		
			674 = 58%		
			694 = 98%		
			684 = 76%		

## SWFIND GEOHYDROLOGIC DATA

# DAILY DRILLING/CORE REPORT

[illegible]

**SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meschers Jerrisa Lore</b>		REPORT NO.	
PROGRESS <b>20'</b>		TASK <b>CR</b>	DATE <b>12/19/94</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>649'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Riviera Park / TR SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	Lumpers. Dead batteries in pickup, had the shop check it out. Called in, fuel, ice and water.		
0800	0930	1 1/2	Drove to site, picked up air compressor at SWP.		
0930	1030	1	Water level + 4.13, fueled everything on site, set up to core.		
1030	1030	2	Cored 20'		
1030	1100	3 1/2	Air lifting, <del>sample</del> <sup>sample</sup> batteries, packer and air lifted till sand stable when sampled.		
1600	1730	1 1/2	Pulled packer and broke it down complete. Successful.		
			634 = 70%		
			639 = 100%		
			644 = 50%		
			649 = 60%		

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Pat Meadows Lewie Lane		REPORT NO.	
PROGRESS 40'		TASK CR		DATE 12/20/94	
SITE HYDROLOGIST Rick Lee		DATE MOVED ON SITE 8/31/94			
DEPTH 624'		PROPOSED TOTAL DEPTH 1000'		FORMATION/AQUIFER	
MILITARY TIME TIME LOG		ELAPSED TIME		RIMP SITE NAME/NUMBER Pioneer Park / TR SP-1	
FROM		TO		DETAILS OF OPERATIONS	
0700		0830		1 1/2 Water level + 4.13. Went to hardware store and bought allen wrenches and puncher for rocks	
0830		1130		3 Cored 30'	
1130		1300		1 1/2 Air lifted cuttings, adjusted core barrel and lens	
1300		1500		2 Cored 28'	
1500		1730		2 1/2 Air lifted for sample, Parker deflated during lift. Brake packer down and hand out. We will sample after the holidays.	
				644 = 60%	
				654 = 32%	
				664 = 32%	
				669 = 35%	
				674 = 70%	
				679 = 58%	
				694 = 98%	
				689 = 76%	

[illegible]

# SUNFIND GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]



**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Pat Meadows Harris Lore		REPORT NO.	
PROGRESS		TASK CR	DATE 1/17/95		SITE HYDROLOGIST Rick Lee
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER		DATE MOVED ON SITE 2/31/04
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Pineville Park / TR SA-1		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	Breakville, Pickled up #400, inc, water and fuel. Discussed packer problems.		
0800	1030	2 1/2	Leave to site.		
1030	1230	2	Water level. Fiddle loaded battery has go to more packer test and set some packer parts.		
1230	1300	1/2	Lunch		
1300	1730	4 1/2	Tested packer above ground. we found the band check wasn't seating properly. Installed packer down hole and inflated, packer deflated. Pulled it and broke it down, for nothing. Under the band check we will try it again tomorrow. Secured.		

[illegible]

**SMPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME	CREW Pat Meadows Harris Lore	REPORT NO.
PROGRESS	TASK CR	DATE 1/12/95
DEPTH	PROPOSED TOTAL DEPTH	SITE HYDROLOGIST Rick Lee
	FORMATION/AQUIFER	DATE MOVED ON SITE 8/31/04
MILITARY TIME LOG	ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park / TR SA-1
FROM	TO	DETAILS OF OPERATIONS
0700	1300	6 Set up ring around equipment for coring water level + 4.4. Built a brace to support the brake out winch. Lunch.
1300	1500	2 Set packer. Packer deflated. Pulled packer out and started running down hole until to true and determine what was causing it to deflate.
1500	1730	2 1/2 Drove to Brooksville and secured.

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME		CREW Pat Meadors Aravis Lore		REPORT NO.
PROGRESS 25'		TASK CR	DATE 1/18/95	SITE HYDROLOGIST Rick Lee
DEPTH 714'	PROPOSED TOTAL DEPTH 1000'		FORMATION/AQUIFER Succumnes	DATE MOVED ON SITE 8/31/95
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park / TR SR-1	
FROM	TO		DETAILS OF OPERATIONS	
0700	1030	3 1/2	had some vandalism, had to replace 1/2" PVC air line. Air lifted hole clean, set packer and got sample. Packer didn't stay inflated. B. Packer down and found some cutting under sand check. Set up to core.	
1030	1300	2 1/2	Cored 20'	
1300	1500	2	Air lifted hole, lunch, worked on packer and inflated it down hole. Packer deflated. We took a water sample and worked on packer	
1500	1730	2 1/2	Cored 5'. Barrel didn't latch, spent the rest of the afternoon cleaning core out of rig Secured	
			695 = 40%	
			699 = 58%	
			704 = 54%	
			709 = 55%	
			714 = 18% + log	

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

[illegible]

**SFWMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME CME	CREW Pat Meadows Hravis Lore	REPORT NO.
PROGRESS 0	TASK CR	DATE 1/23/95
SITE HYDROLOGIST Rick Lee		
DEPTH 729'	PROPOSED TOTAL DEPTH 1000'	FORMATION/AQUIFER Ocala
DATE MOVED ON SITE 8/31/94		
MILITARY TIME TIME LOG	ELAPSED TIME	ROMP SITE NAME/NUMBER Pioneer Park / TPA SA-1
FROM	TO	DETAILS OF OPERATIONS
0700	0730	1 1/2 Hangers. Filled up water in and called in.
0730	0900	1 1/2 Drove to site.
0900	1000	1 Water level + 5.90. Bleared up the Port-Lt.
		rechecked wiring to trailer light fixtures
		Bath had some malodorous.
1000	1815	Also factory rep from Gann Ltd. came solve
		problem problems. We tested problem the rest
		of the day.
		Secured site.

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Harris Lane</b>		REPORT NO.	
PROGRESS <b>30'</b>		TASK <b>CR</b>	DATE <b>1/24/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>759'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Ocala</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pinecrest Park / TR SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0930	0930	2 1/2	Broke packer completely down. Hasting my feel that the bond check area is the problem and are going to take it back with for redesign.		
0930	1100	1 1/2	Set up to core and lowered <del>rod</del> rods. Cored 10'. Had a change in cond.		
1100	1300	2	Air lifted till cond stabilized. Sampled. g.p.m. 32, Cond. 4540, Temp 27.1		
1300	1330	1/2	Lunch		
1230	1600	2 1/2	Cored 20'.		
1600	1730	1 1/2	Air lifted but cond has not stabilized, we will sample in the morning.		
			Secured.		
			734 = 80%		
	A.L. Sun		739 = 43% } High T		
			744 = 50%		
			749 = 45%		
			754 = 90%		
			759 = 75%		

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CME</i>		CREW <i>Pat Meadows Lorris Love</i>		REPORT NO.	
PROGRESS <i>40'</i>		TASK <i>CR</i>	DATE <i>1/25/95</i>	SITE HYDROLOGIST <i>Rick Lee</i>	
DEPTH <i>799'</i>	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Ocala</i>	DATE MOVED ON SITE <i>8/31/94</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pineau Park / TR SA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0700</i>	<i>0930</i>	<i>2 1/2</i>	<i>Water level + 5.65, pushed up and air lifted till and stabilized. Sampled.</i>		
<i>0930</i>	<i>1130</i>	<i>2</i>	<i>Cored 20'</i>		
<i>1130</i>	<i>1200</i>	<i>1/2</i>	<i>Air lifted cullings and lunch.</i>		
<i>1200</i>	<i>1300</i>	<i>1</i>	<i>Cored 20'</i>		
<i>1300</i>	<i>1530</i>	<i>2 1/2</i>	<i>Air lifted. Wire line is starting to part, we removed old wire line and replaced with 1100' of new. Sampled site.</i>		
			<i>764 = 92%</i>		
			<i>769 = 90%</i>		
			<i>774 = 54%</i>		
			<i>779 = 80%</i>		
			<i>784 = 56%</i>		
			<i>789 = 100%</i>		
			<i>794 = 100%</i>		
			<i>799 = 60%</i>		



**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CME</i>		CREW <i>Pat Meadows Travers Lore</i>		REPORT NO.
PROGRESS		TASK <i>CR</i>	DATE <i>1/21/95</i>	SITE HYDROLOGIST <i>Pick Lee</i>
DEPTH	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Chalk</i>	DATE MOVED ON SITE <i>8/31/05</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pioneer Park / T-RAS-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>0900</i>	<i>0930</i>	<i>2</i>	<i>1/2</i>	<i>Water level +5.52, air lifted till consol. stabilizing and sampled.</i>
<i>0930</i>	<i>1030</i>	<i>1</i>		<i>Cored 10'.</i>
<i>1030</i>	<i>1200</i>	<i>1</i>	<i>1/2</i>	<i>Broke the mast over to do a temporary repairs on wire line pulley. Lunch</i>
<i>1200</i>	<i>1300</i>	<i>1</i>		<i>Cored 10'.</i>
<i>1300</i>	<i>1330</i>		<i>1/2</i>	<i>Air lift cuttings.</i>
<i>1330</i>	<i>1530</i>	<i>2</i>		<i>Cored 20'.</i>
<i>1530</i>	<i>1600</i>		<i>1/2</i>	<i>Air lifted cuttings and recovered site.</i>
<i>1600</i>	<i>1730</i>	<i>1</i>	<i>1/2</i>	<i>Drove to Tampa and sampled for the week.</i>
				<i>S24 = 100%</i>
				<i>S29 = 100%</i>
				<i>S14 = 100%</i>
				<i>S19 = 100%</i>
				<i>S24 = 92%</i>
				<i>S29 = 100%</i>
				<i>S34 = 100%</i>
				<i>S39 = 100%</i>

## SUNFIND GEOHYDROLOGIC DATA

# DAILY DRILLING/CORE REPORT

[illegible]

**SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CME</i>		CREW <i>Pat Meadows Harris Lane</i>		REPORT NO.
PROGRESS <i>60'</i>		TASK <i>CR</i>	DATE <i>1/31/95</i>	SITE HYDROLOGIST <i>Rich Lee</i>
DEPTH <i>919'</i>	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Ocala</i>	DATE MOVED ON SITE <i>8/31/94</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pinnaroo Park / TR SA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>0700</i>	<i>0730</i>	<i>1/2</i>	<i>Water level + 5.67</i>	
<i>0730</i>	<i>1030</i>	<i>3</i>	<i>Core 20'</i>	
<i>1030</i>	<i>1230</i>	<i>2</i>	<i>Air lifted, sampled</i>	
<i>1230</i>	<i>1500</i>	<i>2 1/2</i>	<i>Core 20'</i>	
<i>1500</i>	<i>1530</i>	<i>1/2</i>	<i>Air lifted cuttings</i>	
<i>1530</i>	<i>1700</i>	<i>1 1/2</i>	<i>Core 20'</i>	
<i>1700</i>	<i>1730</i>	<i>1/2</i>	<i>Air lifted cuttings, and secured. We are at a sample point, we will sample the morning</i>	
			<i>864 = 100%</i>	
			<i>869 = 100</i>	
			<i>874 = 100</i>	
			<i>879 = 100</i>	
			<i>884 = 100</i>	
			<i>889 = 100</i>	
			<i>894 = 96</i>	
			<i>899 = 100</i>	
			<i>904 = 85</i>	
			<i>909 = 100</i>	
			<i>914 = 100</i>	
			<i>919 = 82</i>	

**SMPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Lorrian Lore</b>		REPORT NO.	
PROGRESS <b>30'</b>		TASK <b>CR</b>	DATE <b>2/1/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>949</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Coalm</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR 3A-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	1030	3 1/2	Water level + 5.74. Air lifted and sampled while Dave worked on rig.		
1030	1300	2 1/2	Dave finished with rig, and serviced air compressor.		
			Cored 5'. Dave ran in to problems with the air compressor's electrical system. He made a temporary repair so we could core.		
1300	1400	1	Transferred pump for fuel on #290 unit as we siphoned fuel to fill rig.		
1400	1530	1 1/2	Cored 15'		
1530	1600	1/2	Air lifted cuttings		
1600	1700	1	Cored 10'		
1700	1730	1/2	Air lifted cuttings and recovered.		
			924 = 100%      939 = 100% 929 = 100%      944 = 98% 934 = 89%      949 = 100%		

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Port Meadows Harris Love</b>		REPORT NO.	
PROGRESS <b>15'</b>		TASK <b>CR</b>	DATE <b>2/2/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>964'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Ocala</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pinner Park / TR SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0730	1/2	Water level +5.66		
0730	0800	1/2	Cored 5'. Formation change, we need to sample.		
0800	1000	2	Drive works on compressor but it is problem. We will have to take it by dealer.		
1000	1130	1 1/2	Air lifted and sampled.		
1130	1300	1 1/2	Cored 10'		
1300	1400	1	Air lifted nothing, we will sample Monday		
1400	1630	2 1/2	Went by TR SA-3 to start plan site layout. Then took our air con to the dealership in Tampa and drop it off.		
1630	1730	1	Drive from Tampa to Brooksville and to #290 in Seawent.		

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>OME</i>		CREW <i>Pet Meadows Harris Linc</i>		REPORT NO.	
PROGRESS <i>10'</i>		TASK <i>CR</i>	DATE <i>02/06/95</i>	SITE HYDROLOGIST <i>Rich Lee</i>	
DEPTH <i>974'</i>	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Ocala</i>	DATE MOVED ON SITE <i>8/31/04</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	RONE SITE NAME/NUMBER <i>Pioneer Park</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0700</i>	<i>0830</i>	<i>1 1/2</i>	<i>Harris started in Brooksville so he sailed a truck down if needed. I went to survey for some help in locating the markers on TR 50-3. Harris had to bring a truck down.</i>		
<i>0830</i>	<i>1100</i>	<i>2 1/2</i>	<i>Went by Air Center of Florida and picked up compressor, then drove to site.</i>		
<i>1100</i>	<i>1330</i>	<i>2 1/2</i>	<i>Water level +5.72. Rig cable was broken. The wing windows were broken but I don't need to be wearing.</i>		
<i>1330</i>	<i>1430</i>	<i>1</i>	<i>Rich on site, took a water sample and finished police report. (Case #95-007899)</i>		
<i>1430</i>	<i>1630</i>	<i>2</i>	<i>Cored 10' hard dolomite. <span style="float:right">969 = 100 % 894 = 100 %</span></i>		
<i>1630</i>	<i>1730</i>	<i>1</i>	<i>Rich found coral just a small area of sand. We were able to air lift but clean. 2015</i>		

SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME CME	CREW Pat Meadors Luis Lopez	REPORT NO.
PROGRESS 20'	TASK CR	DATE 2/7/05
SITE HYDROLOGIST Rick Lee		
DEPTH 994'	PROPOSED TOTAL DEPTH 1000'	FORMATION/AQUIFER Ocala
		DATE MOVED ON SITE 8/31/90
MILITARY TIME TIME LOG	ELAPSED TIME	ROMP SITE NAME/NUMBER Piney Park / TR SA-1
FROM	TO	DETAILS OF OPERATIONS
0700	0830	1 1/2 Water level +6.05. Fuelled rig by siphoning out of #2 90's aux tank.
0830	1100	2 1/2 Cored 10'. Very hard dolomite.
1100	1500	4 Air lifted assembled packer, ran it and redressed it 2 times we are still having same problem. Took regular sample.
1500	1700	2 Cored 10'.
1700	1730	1/2 Air lifted cuttings - General

# DAILY DRILLING/CORE REPORT

[illegible]



# SNEFMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Harris Lane</b>		REPORT NO.	
PROGRESS <b>10'</b>		TASK <b>CR</b>	DATE <b>2/13/95</b>	SITE HYDROLOGIST <b>Pick Lee</b>	
DEPTH <b>1029'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Arvon Park</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0745	$\frac{3}{4}$	Dampa. Truck #400 is ready, hooked up, ice, water and roller in.		
0745	0930	1 $\frac{3}{4}$	Drove to site		
0930	1030	1	water level + 11.05. Reloaded tools and other items that belonged on pick up. Hooked everything up.		
1030	1100	$\frac{1}{2}$	Hook 2 water samples		
1100	1200	1	Cored 5'. Had to fill water supply.		
1200	1430	2 $\frac{1}{2}$	Hook water sample. Started to core and red turned up. Worked them free and cleaned hole good. No more problems.		
1430	1530	1	Cored 5'. Core! increased to 9100. Necessary to do a proton sample.		
1530	1830	3	Air lift cuttings, run packer and started air lifting for sample when thunder storms were in. Hook sample, removed packer and draw 1 hr O.T.		

1024 = 98%

1029 = 68%

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

[illegible]

# SMPMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

**SMPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Port Meadows Hravid Lore</b>		REPORT NO.
PROGRESS <b>0</b>		TASK <b>CR</b>	DATE <b>2/16/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>
DEPTH <b>1049</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Avon Park</b>	DATE MOVED ON SITE <b>8/4/94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pinner Park / TR SA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
0700	0730	1/2	Water level +4.83.	
0730	0830	1	Dripped rods back to bottom.	
0830	0900	1/2	Dripped packer in and inflated it but it was plugged off.	
0900	1000	1	Dripped overshot in to retrieve packer, as overshot malfunctioned. Pulled overshot out and got it to working properly. Retrieved packer.	
1000	1130	1 1/2	Completely redressed packer. Air lifted white packer was being redressed.	
1130				
1130	1200	1/2	Lunch	
1200	1230	1/2	Inflated packer	
1230	1330	1	Air lift	
1330	1400	1/2	Sample and secured site	
1400	1530	1 1/2	Drove to Tampa and secured.	
			Used 2 hrs OT, (1 hr Monday and 1 hr Tuesday)	

## DAILY DRILLING/CORE REPORT

[illegible]

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pert Meadows Harris Lane</b>		REPORT NO.	
PROGRESS <b>20'</b>		TASK <b>CR</b>	DATE <b>2/21/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>1084'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Avon Park</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR 8A-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0815	1 1/4	Water level, fueled rig & air compressor and got a bottom hole sample.		
0815	0945	1 1/2	Set packer.		
0945	1115	2 1/2	air lift for sample. got 6.1.		
1115	1245	1 1/2	Retrieved packer.		
1145	1245	1 1/2	Lowered rods and took 1 thief sample.		
1245	1430	2 1/4	Cored 16'. 75% of the core dropped out of core barrel.		
1430	1630	1 1/2	Was able to retrieve core and core is 5'. Sample point.		
1630	1730	1 1/2	Air lift cuttings. We will be ready sample in the morning. Secured		
			1069 = 90%		
			1074 = 96%		
			1079 = 92%		
			1084 = 80%		

**SNFWD GEOTHERMOLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pert Mesalors Loravis Lore</b>		REPORT NO.	
PROGRESS <b>20'</b>		TASK <b>C R</b>	DATE <b>2/22/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>1104'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Avon Park</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / T R 8A-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0800	1	Water level +2.1, fueled up and took a thief sample		
0800	0830	1/2	Set packer. Time brake down for each phase of setting packer. Trip packer in 12 mins, release overshoot 7 mins, inflating packer 8 mins and hooking air head up 4 mins. = 31 mins.		
0830	1115	2	3/4	Air lift for sample: gpm 2.4 later increased to 4.1. Cond. started at 11,000 then to 3,000 and back up to 16,000. Stabilized.	
1115	1145	1/2	Water level +1.04		
1145	1215	1/2	3 thief samples. Each thief sample takes 10 mins		
1215	1245	1/2	Retrieve packer. Time brake down for each phase of retrieving packer. Trip over shot in 4m 8 blows with overshoot pass and wait 5 mins, if packer has started deflating, wait 10 mins, packer to complete deflate. Retrieve packer = 29 mins. At this depth packer operation sample take 1 1/2 hrs. This is not an air lift time.		

over



**SNFWD GEOPHYROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pet Meadows Harris Lane</b>		REPORT NO.	
PROGRESS		TASK <b>CR</b>	DATE <b>2/23/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Arroyo Park</b>	DATE MOVED ON SITE <b>8/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TA SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0730	1/2	Fueled air compressor and rig. Checked fluid level.		
0730	0830	1	Finished air lift.		
0830	0900	1/2	Set packer.		
0900	1030	1 1/2	Air lifted for sample. 4.7 gpm. Cnd went up to 18,000 when down to 2,500 and stabilized.		
1030	1215	1 3/4	Water level 13.95. Water level has come up slow.		
1215	1245	1/2	Sample. 2 thick samples.		
1245	1345	1	Retuned packer. We are having problem with the overshot staying connected to packer spearpoint.		
1345	1600	2 3/4	Worked on packer and solved problem. The material that the spearpoint is constructed out of is too soft and is allowing the spearpoint to mushroom. Reported findings to Greg and gave a permission work on problem with main.		

HAM will send us a new spearpoint in five days. We try to dress the old one up and use it till the new one gets here.

1600 1730 1 1/2 Drove to Tampa and secured.

**SNFWD GEOTHERMOLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CME</i>		CREW <i>Pat Winkler Harris Love</i>		REPORT NO.	
PROGRESS <i>35'</i>		TASK <i>CR</i>	DATE <i>2/28/95</i>	SITE HYDROLOGIST <i>Pick Lee</i>	
DEPTH <i>1139</i>	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Arroyo Pando</i>	DATE MOVED ON SITE <i>8/31/94</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pioneer Park / TR SA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0700</i>	<i>0745</i>	<i>3/4</i>	<i>Temp. Fuel, ice, water and call in time.</i>		
<i>0745</i>	<i>0930</i>	<i>1 3/4</i>	<i>Down to site.</i>		
<i>0930</i>	<i>1030</i>	<i>1</i>	<i>Water level +4.23. Had some vandalism, 4 or 5 lb. of small bricks, all of the 1 and 2 pieces of them were thrown in a ditch or in the woods.</i>		
			<i>Build up.</i>		
<i>1030</i>	<i>1130</i>		<i>Diversed spoon point up on picker, filled pit, took one thick sample. Temp 29.4, Cond. 2</i>		
<i>1130</i>	<i>1200</i>		<i>Tripped rods back to station. Lunch.</i>		
<i>1200</i>	<i>1445</i>	<i>2 3/4</i>	<i>Cored 20'.</i>		
<i>1445</i>	<i>1515</i>	<i>1/2</i>	<i>Air lift cuttings.</i>		
<i>1515</i>	<i>1700</i>	<i>1 3/4</i>	<i>Cored 15'.</i>		
<i>1700</i>	<i>1730</i>	<i>1/2</i>	<i>Air lift cuttings.</i>		
			<i>1109 = 96 %</i>		
			<i>1114 = 100 %</i>		
			<i>1119 = 100 %</i>		
			<i>1124 = 91 %</i>		
			<i>1129 = 94 %</i>		
			<i>1134 = 92 %</i>		
			<i>1139 = 10 %</i>		

**SNPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pet Meadors Travis Lore</b>		REPORT NO.
PROGRESS <b>20'</b>		TASK <b>CR</b>	DATE <b>2/28/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>
DEPTH <b>1159'</b>	PROPOSED TOTAL DEPTH <b>1000'</b>		FORMATION/AQUIFER <b>Arroyo Park</b>	DATE MOVED ON SITE <b>3/31/94</b>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR SA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
0700	0730	1/2	<del>20' lift</del> Air lift cuttings.	
0730	0830	1	Cored 5'	
0830	0930	1	Air lift cuttings. 30 gpm.	
0930	1000	1/2	Set packer.	
1000	1030	1/2	Air lift. 16 gpm.	
1030	1045	1/4	1 thick sample.	
1045	1100	1/4	Air lift.	
1100	1130	1/2	2 thick samples	
1130	1400	2 1/2	Water level +6.74. Replaced sand line.	
1400	1500	1	Retrieved packer. Had some problems shear packer pins.	
1500	1700	2	Cored 15'.	
1700	1730	1/2	Air lift cuttings.	
			1144 = 100%	
			1149 = 100%	
			1154 = 100%	
			1159 = 100%	

**SNEFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME		CREW		REPORT NO.	
IME		Pat Meadows Travis Love			
PROGRESS		TASK	DATE	SITE HYDROLOGIST	
		CA	3/1/95	Rick Lee	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE	
	1000		Avon Park	8/31/94	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER		
FROM	TO		Pioneer Park / TR SA-1		
			DETAILS OF OPERATIONS		
0700	0900	2	Air lift. Raining.		
0900	1100	2	Cored 15'.		
1100	1215	1 1/4	Air lift cullings. Lunch		
1215	1315	1	Ran packer in, fall in hung it up but was able to work it free. Retrieved it, no damage but pins were sheared.		
1315	1345	1/2	Pulled rods up 5', and redressed packer.		
1345	1415	1/2	Ran packer in and set it, no problems.		
1415	1500	3/4	Air lift.		
1500	1530	1/2	2 thief samples.		
1530	1700	2 1/2	Water level +9.2. Slow recovery. We pull cap off of 4" H.W. to check packer for leak or connection, there was none. Water level stayed at +9.2.		

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CME</i>		CREW <i>P. J. Meadows Harris Lore.</i>		REPORT NO.	
PROGRESS <i>10'</i>		TASK <i>CR</i>	DATE <i>3/2/95</i>		SITE HYDROLOGIST <i>Rick Lee</i>
DEPTH <i>1184'</i>	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Quarry Park</i>		DATE MOVED ON SITE <i>8/31/94</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pioneer Park / TR SA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0700</i>	<i>0730</i>	<i>1/2</i>	<i>Water level +5.72. Lowered rods to bottom.</i>		
<i>0730</i>	<i>1000</i>	<i>2 1/2</i>	<i>Cored 10' - Very hard dolomite.</i>		
<i>1000</i>	<i>1030</i>	<i>1/2</i>	<i>Air lift cutting.</i>		
<i>1030</i>	<i>1100</i>	<i>1/2</i>	<i>Set Packer.</i>		
<i>1100</i>	<i>1400</i>	<i>3</i>	<i>Air lift - 149pm, consd. 45,000, water level -7</i>		
<i>1400</i>	<i>1430</i>	<i>1/2</i>	<i>Look &amp; thud, samples.</i>		
<i>1430</i>	<i>1500</i>		<i>Secured site.</i>		
<i>1500</i>	<i>1630</i>	<i>1 1/2</i>	<i>Drove to Tampa.</i>		
<i>1630</i>	<i>1730</i>	<i>1</i>	<i>Tampa. Harris cleaned up #400, I went to</i>		
			<i>Branksville office - and secured.</i>		
			<i>1149' = 100%</i>		
			<i>1184' = 98%</i>		

T.D.

# SNEWMED GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

RIG NO/NAME CME		CREW Pat Meadors Harris Lane	REPORT NO.
PROGRESS		TASK CR	DATE 3/7/95
DEPTH 1184'		PROPOSED TOTAL DEPTH 1000'	FORMATION/AQUIFER aven Park
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Pineau Park / TRSA-1
FROM	TO		DETAILS OF OPERATIONS
0700	0730	1/2	Fueled up.
0730	1230	5	Unipped 500' of H.W. casing out.
1030	1330	1	Pulled casing trailer to Casperson Beach.
1330	1600	2 1/2	Dropped casing trailer and unloaded everything that we could by hand.
1600	1700	1	Drove to TRSA-1
1700	1800	1	Unloaded all heavy items. (Collins, between roads)
			1/2 O.T.

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>CME</i>		CREW <i>Pat Meadows Harris Loe</i>		REPORT NO.	
PROGRESS		TASK <i>CR</i>	DATE <i>3/8/96</i>	SITE HYDROLOGIST <i>Rick Lee</i>	
DEPTH <i>1184'</i>	PROPOSED TOTAL DEPTH <i>1000'</i>		FORMATION/AQUIFER <i>Anton Park</i>	DATE MOVED ON SITE <i>8/31/94</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Lincoln Park / TR SA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0900</i>	<i>0900</i>	<i>2</i>	<i>Storm.</i>		
<i>0900</i>	<i>1000</i>	<i>1</i>	<i>Worked on the trailer to water truck, no sure everything was working. Getting ready for driver test, (CDL)</i>		
<i>1000</i>	<i>1130</i>	<i>1 1/2</i>	<i>Drove to Lampa office.</i>		
<i>1130</i>	<i>1215</i>	<i>3/4</i>	<i>Hooked up and checked everything out again.</i>		
<i>1215</i>	<i>1300</i>	<i>3/4</i>	<i>Drove to CDL test center.</i>		
<i>1300</i>	<i>1500</i>	<i>2</i>	<i>CDL test. Harris passed every, but he can take the road test. The examiner said one tire was bad.</i>		
<i>1500</i>	<i>1600</i>		<i>Went to Lampa office and tried to fix a tire, no luck. Dropped trailer off.</i>		
<i>1600</i>	<i>1730</i>	<i>1 1/2</i>	<i>Drove back to site and secured.</i>		



**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>OME</i>		CREW <i>Pat Meadows Lance Lee</i>		REPORT NO.	
PROGRESS		TASK <i>CR</i>	DATE <i>3/9/95</i>	SITE HYDROLOGIST <i>Rick Lee</i>	
DEPTH <i>1194'</i>	PROPOSED TOTAL DEPTH <i>1500</i>		FORMATION/AQUIFER <i>Arvon Park</i>	DATE MOVED ON SITE <i>8/31/94</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pioneer Park / R 5A-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
<i>0720</i>	<i>0830</i>	<i>1 1/2</i>	<i>Glued 2' of 1" pvc together and tagged in in the water supply well at 250.</i>		
<i>0830</i>	<i>1030</i>	<i>2</i>	<i>Mixed 50 gals of grout. 12 - 47 lbs. bags of cement and 10 lbs of bentonite Pumped it down hole and cleaned up</i>		
<i>1030</i>	<i>1300</i>	<i>2 1/2</i>	<i>Moved Equipment trailer, then move rig on to install a superficial. Changed ring on to super. All series were all tight and the barrels were ready out. It took 2 hrs to set them.</i>		
<i>1300</i>	<i>1330</i>	<i>1/2</i>	<i>Lunch</i>		
<i>1330</i>	<i>1500</i>	<i>1 1/2</i>	<i>Hook bar cable and changed tone on water to Set up to mix grout. Tagged 2' 15" R. ask us to hold upon grout and start a log</i>		
<i>1500</i>	<i>1600</i>	<i>1</i>	<i>Augment 10' and secured site.</i>		
<i>1600</i>	<i>1730</i>	<i>1 1/2</i>	<i>Drive to Lampa and secured.</i>		

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>CME</b>		CREW <b>Pat Meadows Harris Lee</b>		REPORT NO.	
PROGRESS		TASK <b>CR</b>	DATE <b>3/13/95</b>	SITE HYDROLOGIST <b>Rick Lee</b>	
DEPTH <b>1184</b>	PROPOSED TOTAL DEPTH <b>1200</b>		FORMATION/AQUIFER <b>Arroyo Park</b>	DATE MOVED ON SITE <b>2/31/94</b>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Pioneer Park / TR SA-1</b>		
FROM	TO		DETAILS OF OPERATIONS		
0700	0730	$\frac{1}{2}$	Lamps & fueled, water, ice and called in.		
0730	0900	1 $\frac{1}{2}$	Drove to site.		
0900	1200	3	Lagged grant in water supply well at 215'. Augered 20', TD 30'. Set up to grout.		
1200	1230	$\frac{1}{2}$	Lunch		
1230	1330	1	Mixed 50 gal. grout. 12-47 lb. bags cement, 10 lbs. bentonite. pumped grout in water supply cleaned up.		
1330	1630		Gripped 28' of tri lock in, 20 cty screen on the bot (4"). Plug wouldn't tap out of the auger. Pull 4" tri lock out. Gripped 35' of 2 7/8" IF rod in a beat plug out.		
1630	1800	1 $\frac{1}{2}$	Mixed 50 gals. of grout. 12-47 lb. bags cement, 10 bentonite. Started pumping it down hole on rig. stopped running. Work on it and got it going before grout set up. Finished pumping grout and cleaned up. Secured		

$\frac{1}{2}$  hr O.T.

RIG NO/NAME CME		CREW Pat Meadows Harris Lore		REPORT NO.	
PROGRESS		TASK CR		DATE 3/14/95	
DEPTH 1184		PROPOSED TOTAL DEPTH 1000'		SITE HYDROLOGIST Rick Lee	
		FORMATION/AQUIFER Avon Park		DATE MOVED ON SITE 8/31/94	
MILITARY TIME TIME LOG		ELAPSED TIME		ROMP SITE NAME/NUMBER Pioneer Park / T R S A-1	
FROM		TO		DETAILS OF OPERATIONS	
0700		0800		1	
				Hogged grout in water supply at 142'. Moved 24 bags of cement to mixing area. Called in talked to Al Doug and Dave Samko.	
0800		1000		2	
				Mixed 100 gal of grout. 24-47 lb. bags of cement, 5 lbs of bentonite. Pumped it and closed up.	
1000		1400		4	
				Dripped 28' of 4" tri lock back in augers. 20' of sound on bottom. Sampled well up to 5', 23-50 lb. bags of 6/20 sand. 1 bag of hole plug. Mixed 20 gals grout. 5-47 lb bags cement. 5 lbs of bentonite. Well is complete.	
1400		1730		3 1/2	
				Mixed 100 gals of grout. (Tapped water supply at 24' bags of cement, 10 lbs of bentonite, pump grout. Grout came to surface. Cleaned up. cleaned up trash around site. See well	

# SNFMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

[illegible]

## Appendix C

C-2

Paid Time - 9 hrs.  
Non Paid Time - 0 hrs.  
Total Time - 9 hrs.

4-31-95

C-2

Pay Time -  $11\frac{3}{4}$   
No Pay -  $1\frac{1}{4}$   
Total Time - 13

Frank C. [unclear]  
4-3-95  
Bob Mann  
4-3-95



C-2

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

<b>RIG NO/NAME</b> Layne		<b>CREW</b> Frank Singleton Ray Parkerson, Dave W.		<b>REPORT NO.</b>
<b>PROGRESS</b> Moving		<b>TASK</b> C-2	<b>DATE</b> Mon. 4-3-95	<b>SITE HYDROLOGIST</b> Bob Marse
<b>DEPTH</b>	<b>PROPOSED TOTAL DEPTH</b>		<b>FORMATION/AQUIFER</b>	<b>DATE MOVED ON SITE</b>
<b>MILITARY TIME TIME LOG</b>		<b>ELAPSED TIME</b>	<b>ROMP SITE NAME/NUMBER</b> North Port Romp #9 / Payne Terminal TRSA-1	
<b>FROM</b>	<b>TO</b>		<b>DETAILS OF OPERATIONS</b>	
	7:00	9:30	2 1/2	Load Trucks to move to Sarasota
NPT	9:30	10:00	1/2	Flat Tire on Mack Truck went into Town to get air in tire & Re bead Tire
	10:00	11:30	1 1/2	Travel To Sarasota
	11:30	12:00	1/2	Unload Materials
	12:00	1:00	1	Travel to North Port
NPT	1:00	1:45	3/4	Lunch
	1:45	3:00	1 1/4	Bring Grout Pump to Sarasota
	3:00	4:00	1	Travel to North Port
NPT	4:00	4:30	1/2	Go into town to get correct size hitch Ball to pull Dog House trailer to Sarasota
	4:30	5:45	1 1/2	Travel to Sarasota
	5:45	6:00	1/4	unload Hoses
	6:00	8:00	2	Back Rig over well Raise Derrick, Unload Floor Put Floor in Place, Align Rod Trailer up to Rig Floor Flag off Area.

Paid Time — 11 3/4 hrs.

Non Paid Time — 1 1/4 hrs.

Total Time — 13 hrs

Bobbi Mann K.  
4-3-95

Frank Singleton  
4-3-95

C-2

Pay Time - 9 1/2  
No Pay - 0  
Total Time - 9 1/2

Jimmie E. S. [unclear]  
 4-4-95  
 Robbie M. [unclear]  
 4-4-95

SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Parkerson Dave W.</i>		REPORT NO.
PROGRESS <i>Moving &amp; Rigging up</i>		TASK <i>C-2</i>	DATE <i>Tues 4-4-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp # TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Inventory Bits</i>	
<i>7:15</i>	<i>8:15</i>	<i>1</i>	<i>Move Air compressor &amp; Hook up for Reverse Air</i>	
<i>8:15</i>	<i>9:15</i>	<i>1</i>	<i>Take head pipe off Well, Put Safety Rails &amp; Flange on</i>	
<i>9:15</i>	<i>1:15</i>	<i>4</i>	<i>Dig Ditch by hand from Retention Pond to Creek with pick &amp; Shovels</i>	
<i>1:15</i>	<i>2:15</i>	<i>1</i>	<i>Travel to North Port to get Water tank trailer and finish Cleaning Site</i>	
<i>2:15</i>	<i>3:30</i>	<i>1 1/4</i>	<i>Clean North Port Romp #9</i>	
<i>3:30</i>	<i>3:45</i>	<i>1/4</i>	<i>Hook up Water tank Trailer</i>	
<i>3:45</i>	<i>4:30</i>	<i>3/4</i>	<i>Travel to Sacaseta Unhook Trailer</i>	

*Paid Time - 9 1/2*  
*Non Paid Time - 0*  
*Total Time - 9 1/2*

*Paul E. Sykes*  
*4-4-95*

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME GN 2000		CREW F. Singleton, R Parkerson D Wyboff		REPORT NO.
PROGRESS		TASK C-2	DATE Wed 4-5-95	SITE HYDROLOGIST Bob Marse
DEPTH 765'	PROPOSED TOTAL DEPTH 1200'		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER	
FROM	TO		DETAILS OF OPERATIONS	
0700	800	1	rig up chain & snatch block to run in wireline down hole tag 95' in load frame pipe off of Drill pipe trailer	
0800	0845	3/4	start running in hole	
845	900	1/4	went to call about blowline found some on trimmer pipe trailer	
900	1045	9 3/4	make up blowline start back in hole and drill to 245.5	
			1110 - circulate 2 <sup>nd</sup> DC 530 Add Dr 7 drill to 245.5	
			1120 Add Dr 3	
			215 - circulate 620 circulate	
			220 Add Dr 4 645 pull up Dr	
			310 circulate put on PVC 5	
			320 Add Dr 5 pipe for Arto	
			425 circulate secure site	
			435 Add Dr 6	
			515 circulate	

Pay Time - 11 1/2

No Pay - 1/4

Total Time - 11 3/4

Jim O. Singleton  
4-5-95

Bob Marse  
4-5-95

SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

Page 1 of 2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Markerson Dave Wyoff</i>		REPORT NO.
PROGRESS <i>90' BLS to 244' 5" BLS</i>		TASK <i>C-2</i>	DATE <i>wed 4-5-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>244'</i>	PROPOSED TOTAL DEPTH <i>1250' BLS</i>	FORMATION/AQUIFER		DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp # TRSA-1 (Deep Induction)</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Unload 1 1/2 Steel Tremmie off Rod Trailer</i>	
<i>7:15</i>	<i>7:30</i>	<i>1/4</i>	<i>Run Survey Line down well Tag 1017' BLS</i>	
<i>7:30</i>	<i>8:45</i>	<i>1 1/4</i>	<i>Trip DC's # 1, 2, 3 in Well 9 7/8" Drill Bit</i>	
<i>8:45</i>	<i>9:00</i>	<i>1/4</i>	<i>check on Blow Line</i>	
<i>9:00</i>	<i>9:15</i>	<i>1/4</i>	<i>Assemble 3/4" Blow Line</i>	
<i>9:15</i>	<i>9:30</i>	<i>1/4</i>	<i>Pull one DC Kelly Bushing would Not go in table</i>	
<i>9:30</i>	<i>10:00</i>	<i>1/2</i>	<i>Try Reverse Air + Adjust</i>	
<i>10:00</i>	<i>10:15</i>	<i>1/4</i>	<i>Adjust Air Haul on Compressor</i>	
<i>10:15</i>	<i>11:00</i>	<i>3/4</i>	<i>Drill to 95' 1"</i>	
<i>11:00</i>	<i>11:15</i>	<i>1/4</i>	<i>Connection D.C. #3 30' 3"</i>	
<i>11:15</i>	<i>2:15</i>	<i>2</i>	<i>Drill 95' 1" to 125' 4"</i>	
<i>2:15</i>	<i>2:30</i>	<i>1/4</i>	<i>Circulate Hole</i>	
<i>2:30</i>	<i>2:45</i>	<i>1/4</i>	<i>Connection D.C. #4 29' 7"</i>	
<i>2:45</i>	<i>3:00</i>	<i>1/4</i>	<i>Drill 125' 4" to 154' 11"</i>	
<i>3:00</i>	<i>3:15</i>	<i>1/4</i>	<i>Circulate Hole</i>	
<i>3:15</i>	<i>3:30</i>	<i>1/4</i>	<i>Connection D.C. #5 29' 3"</i>	
<i>3:30</i>	<i>4:15</i>	<i>3/4</i>	<i>Drill 154' 11" to 184' 2"</i>	

NPT

Paid Time -  $11 \frac{1}{2}$

Non Paid Time -  $\frac{1}{4}$

Total Time -  $11 \frac{3}{4}$

4-5-95 *Bob Marse*

*Frank Singleton*

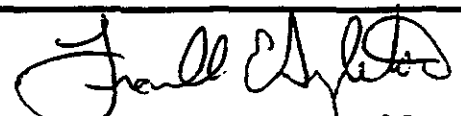
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**SWFSD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME GD 2000		CREW F. Singleton, R Parkerson D Wykoff		REPORT NO.
PROGRESS		TASK C-2	DATE Thurs 4-6-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Ramp #TRSA	
FROM	TO		DETAILS OF OPERATIONS	
0700	730	1/2	Service rig let build Air Glue Airline together put on DR 1	
730	1230	5	kept getting clog. begin pulling out of hole to put (weld) skirts on bit. weld skirt on bit. Begin tripping back in hole	
T 1230	100	1/2	lunch	
100	730	6 1/2	resume drilling circulate DR 1 add DR 2 begin drilling Airline broke, pull out 2 rods fix Airline (15 rods) finish drilling dr down circulate secure site head for Orlando	

Pay Time - 11 3/4  
No Pay - 3/4  
Total Time - 12 1/2

  
 4-6-95  
 Bob Marse  
 4-6-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Parkerson Dave Wycoff</i>		REPORT NO.
PROGRESS <i>61'</i>		TASK <i>C-2</i>	DATE <i>Thur 4-6-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>306'</i>	PROPOSED TOTAL DEPTH <i>1250' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp# TRSA-1 (Induction Well)</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Connection D.R.#1 30' 10"</i>	
<i>7:30</i>	<i>8:15</i>	<i>3/4</i>	<i>Drill 244' 5" +o 275' 3" *</i>	
<i>8:15</i>	<i>9:00</i>	<i>3/4</i>	<i>Plug Rods did not finish Drilling Kelly</i>	
<i>9:00</i>	<i>10:00</i>	<i>1</i>	<i>Trip out of Hole</i>	
<i>10:00</i>	<i>11:00</i>	<i>1</i>	<i>Weld Skirts on Drill Bit</i>	
<i>11:00</i>	<i>12:00</i>	<i>1</i>	<i>Trip in Hole</i>	
<i>12:00</i>	<i>12:45</i>	<i>3/4</i>	<i>Lunch</i>	
<i>12:45</i>	<i>1:45</i>	<i>1</i>	<i>Resume Drilling 244' 5" +o 275' 3"</i>	
<i>1:45</i>	<i>2:30</i>	<i>3/4</i>	<i>Adjust Air Compressor</i>	
<i>2:30</i>	<i>3:00</i>	<i>1/2</i>	<i>Resume Drilling 244' 5" +o 275' 3"</i>	
<i>3:00</i>	<i>3:15</i>	<i>1/4</i>	<i>Circulate Hole</i>	
<i>3:15</i>	<i>3:30</i>	<i>1/4</i>	<i>Connection D.R.#2 31' 4" * (Left site at 4:00pm BLS)</i>	
<i>3:30</i>	<i>7:00</i>	<i>3 1/2</i>	<i>Drill 275' 3" +o 306' 7"</i>	
<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Circulate hole Pull one Rod up in Derrick</i>	
			<i>* Told Driller to Take Slips into Orlando to repa</i>	
			<i>replace the dies' (Safety Factor)</i>	

NPT

*Paid Time — 11 3/4 hr*  
*NonPaid Time — 3/4 hr.*  
*Total Time — 12 1/2 hr.*

*4-6-95*

*Bob Marse Jr.*  
*Frank C. Wycoff*  
*4-6-95*



C-2

Paid Time - 8 3/4  
No pay - 0  
Total Time - 8 3/4

Frank R. [unclear]  
4-10-95

Bob Maize  
4-10-95

C-2

Paid Time - 8 1/4 hr.  
 Non Paid Time - 0 hr.  
 Total Time - 8 1/4 hr.

4-10-95 Bob Mance Jr.

Frank Chyba  
4-10-95

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME 602000		CREW F. Singleton R. Parkerson D. Wykoff		REPORT NO.
PROGRESS		TASK C-2	DATE Tues. 4-11-95	SITE HYDROLOGIST Bob Marse
DEPTH 367	PROPOSED TOTAL DEPTH 1250	FORMATION/AQUIFER		DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
0645	800	1 1/4	Service rig finishing running back in hole	
800	1030	2 1/2	Add DR 3 start drilling let circulate	
1030	1200	1 1/2	pull out of hole to change bit	
1200	130	1 1/2	run back in hole	
130	200	1/2	circulate	
200	500	3 1/4	dig new pits put fence around them	
500	630	1 1/2	Add DR 4 begin drilling to 367.01	
630	815	1 3/4	stop getting returns. Airline came apart	
			pull out 5 rods repair Airline. start running	
			back in hole.	

Pay Time - 11 1/2  
 No Pay - 1 3/4  
 Total Time - 13 1/4

*Frank [Signature]*  
 4-11-95  
*Bob Marse*  
 4-11-95

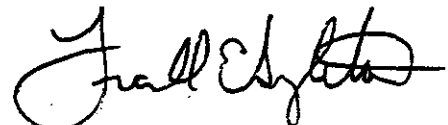
**SWFMD GEOSYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME -ayne		CREW Frank Singleton Ray Peterson Dave Wycoff		REPORT NO.
PROGRESS 345'		TASK C-2	DATE Thurs 4-11-95	SITE HYDROLOGIST Bob Marse
DEPTH 360'	PROPOSED TOTAL DEPTH 1250' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE 4-4-95
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp TRSA-1 Induction Well	
FROM	TO		DETAILS OF OPERATIONS	
7:00	7:45	3/4	Trip Rods in hole	
7:45	8:15	1/2	Adjust Air Compressor	
8:15	10:30	2 1/4	Resume Drilling DC#3 306' 7" to 336' 11"	
10:30	10:45	1/4	Plug Rods Pull Blowline	
10:45	12:30	1 3/4	Trip out of Hole to change Bit 9 1/2"	
12:30	1:30	1	Resume Drilling 306' 7" to 336' 11"	
1:30	2:00	1/2	Circulate hole	
2:00	5:00	3	Stop Drilling Dig Pit & Clean out old pit dig ditch	
			Put up fence around newly dug pit	
5:00	5:30	1/2	Connection DR#4 31' 2"	
5:30	6:30	1	Drill 336' 11" to 367' 1" * Did not finish Rod	
NPT 6:30	8:15	1 3/4	Blow Line Came Apart Fell in Rods Trip out to	
			Retrieve Air Line Tripped most of Rods in Hole	

Paid Time — 11 1/2  
 Non Paid Time — 1 3/4  
 Total Time — 13 1/4 hr

4-11-95 Bob Marse

  
 4-11-95

C-2

Pay Time - 9  
No Pay -  $3\frac{3}{4}$   
Total Time -  $12\frac{3}{4}$

Frank Chilton  
4-12-95  
Sub. Mann  
4-12-95

**SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Parkerson Dave Wyroff</i>		REPORT NO.
PROGRESS <i>100'</i>		TASK <i>C-2</i>	DATE <i>Wed 4-12-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>460 BLS</i>	PROPOSED TOTAL DEPTH <i>1250' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Termin Romp TRSA-1 (Induction Well)</i>	
FROM	TO		DETAILS OF OPERATIONS	
NPT	7:00	8:00	1	Trip Rods in Hole
	8:00	10:00	2	Resume Drilling DR#4 336' 11" to 367' 1"
NPT	10:00	12:45	2 3/4	Need More Blow Line None on Site Driller Left to go Buy more Blowline (Gary on site 10:45-12:45)
	12:45	1:00	1/4	Connection DR#5 31' 5"
	1:00	2:30	1 1/2	Drill 367' 1" to 398' 4"
	2:30	3:00	1/2	Circulate Hole
	3:00	3:15	1/4	Connection DR#6 31' 3"
	3:15	5:00	1 3/4	Drill 398' 4" to 429' 7"
	5:00	5:15	1/4	Circulate Hole
	5:15	5:30	1/4	Connection DR#7 31' 3"
	5:30	7:15	1 3/4	Drill 429' 7" to 460' 10"
	7:15	7:30	1/4	Circulate Hole
	7:30	7:45	1/4	Connection DR#8 31' 2"

Paid Time — 9 hr.  
 Non Paid Time — 3 3/4 hr.  
 Total Time — 12 3/4 hr.

4-12-95 *Bob Marse*  
*Janell Chylo*  
 4-12-95

C-2

Pay Time	- 11
No Pay	- 0
Total Time	- 11

Bob Mause  
4-13-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <b>Layne</b>		CREW <b>Frank Singleton Ray Perkinson Deew Wyckoff</b>		REPORT NO.
PROGRESS <b>219'</b>		TASK <b>C-2</b>	DATE <b>Thurs.</b> <b>4-13-95</b>	SITE HYDROLOGIST <b>Bob Marse</b>
DEPTH <b>679</b>	PROPOSED TOTAL DEPTH <b>1250</b>	FORMATION/AQUIFER		DATE MOVED ON SITE <b>4-4-95</b>
MILITARY TIME TIME LOG		ELAPSED TIME	PUMP SITE NAME/NUMBER <b>Payne Terminal Pump #TRSA-1 Induction We</b>	
FROM	TO		DETAILS OF OPERATIONS	
7:00	9:45	2 3/4	Drill 460' 10" to 492'	
9:45	10:00	1/4	Circulate Connection DR#9 30' 10"	
10:00	11:45	1 3/4	Drill 492' to 522' 10"	
11:45	12:00	1/4	Circulate	
12:00	12:15	1/4	Connection DR#10 31' 1"	
12:15	1:00	3/4	Drill 522' 10" to 553' 11"	
1:00	1:15	1/4	Circulate	
1:15	1:30	1/4	Connection DR#11 31' 5"	
1:30	2:15	3/4	Drill 553' 11" to 585' 4"	
2:15	2:30	1/4	Circulate	
2:30	2:45	1/4	Connection DR#12 31' 4"	
2:45	3:15	1/2	Drill 585' 4" to 616' 8"	
3:15	3:30	1/4	Circulate	
3:30	3:45	1/4	Connection DR#13 31'	
3:45	4:30	3/4	Drill 616' 8" to 647' 8"	
4:30	4:45	1/4	Circulate	
4:45	5:00	1/4	Connection DR#14	
5:00	5:45	3/4	Drill <del>617</del> 619' 8" to 678' 11"	
5:45	6:00	1/4	Circulate Pull up off Bottom	

Paid — 11  
 Non Paid — 0  
 Total — 11

4-13-95 *Bob Marse*  
*Joell Elzy*  
 4-13-95

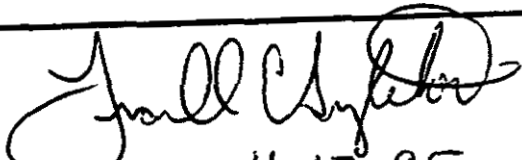
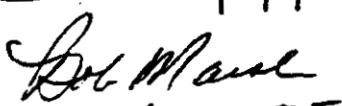


**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME GD2000		CREW F. Singleton, A Parkerson D. Wykoff		REPORT NO.
PROGRESS		TASK C-2	DATE Mon 4-17-95	SITE HYDROLOGIST Bob Marse
DEPTH 709	PROPOSED TOTAL DEPTH 1250'		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # TRSA-2 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
730	800	1/2	circulate DR 14	
800	945	1 3/4	Add DR 15 drill down circulate	
945	1245	3	Add DR 16, Add 100' more casing drill down let circulate	
1245	145	1	ream hole finish circulating	
145	245	1	Add DR 18 ream down circulate	
245	345	1	Add DR 19 circulate	
345	530	1 3/4	Add DR 20 Circulate	
530	630	1	Add DR 21 Circulate	
630	700	1/2	pull up rods lock down & secure site	

Pay Time - 11  
No Pay - 1/2  
Total Time - 11 1/2

  
 4-17-95  
  
 4-17-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

Page 1 of 2

RIG NO/NAME <b>Layne</b>		CREW <b>Frank Singleton Ray Parkerson Dade Wyeoff</b>		REPORT NO.
PROGRESS <b>217</b>		TASK <b>C-2</b>	DATE <b>Mon 4-17-95</b>	SITE HYDROLOGIST <b>Bob Marse</b>
DEPTH <b>896'</b>	PROPOSED TOTAL DEPTH <b>1250' BLS</b>		FORMATION/AQUIFER	DATE MOVED ON SITE <b>4-4-95</b>
MILITARY TIME TIME LOG		ELAPSED TIME	RIMP SITE NAME/NUMBER <b>Payne Terminal Ramp # TRSA-1 Induction Well</b>	
FROM	TO		DETAILS OF OPERATIONS	
7:30	8:00	1/2	Circulate	
8:00	8:15	1/4	Connection DR# 15 30' 11"	
8:15	9:15	1/2	Drill 6' 78' 11" to 709' 10"	
9:15	9:30	1/4	Circulate	
9:30	9:45	1/4	Connection DR# 16 31' 7"	
9:45	12:30	2 3/4	Drill 709' 10" to 741' 5"	
12:30	12:45	1/4	Circulate	
12:45	1:00	1/4	Connection DR# 17 31' 4"	
1:00	1:30	1/2	Drill 741' 5" to 772' 9"	
1:30	1:45	1/4	Circulate	
1:45	2:00	1/4	Connection DR# 18 30' 8"	
2:00	2:30	1/2	Drill 772' 9" to 803' 5"	
2:30	2:45	1/4	Circulate	
2:45	3:00	1/4	Connection DR# 19 31' 1"	
3:00	3:45	3/4	Drill 803' 5" to 834' 6"	
3:45	4:00	1/4	Circulate	
4:00	4:15	1/4	Connection DR# 20 30' 11"	

Paid — 11  
 Non Paid — 1/2  
 Total — 11 1/2

4-17-95

Bob Marse Jr.  
 Frank Singleton  
 4-17-95

Page 2 of 2

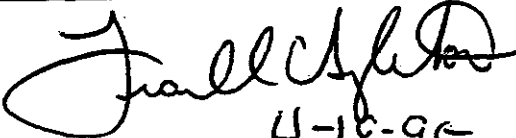
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**SWPMMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME 602000		CREW F. Singleton R. Parkerson D. Wykoff		REPORT NO.
PROGRESS		TASK C-2	DATE Tues 4-18-95	SITE HYDROLOGIST Bob Marse
DEPTH 1053	PROPOSED TOTAL DEPTH 1250		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # TRSA-2 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
0645	0700	1/4	Service rig build AIR	
0700	0715	1/4	Circulate well	
0715	0800	3/4	Add DR 22 load up 30 joints trimmer pipe clean out pit	
0800	0830	1/2	begin drilling DR #22	
0830	0900	1/2	ream & circulate hole	
0900	1045	1 3/4	Add DR #23 ream & circulate	
1045	1115	2 1/2	Add DR #24 ream & circulate	
1115	0515	4	Add DR 25 ream & circulate (real hard) glue 3" pvc together stack next to 4 track	
0515	0745	2 1/2	Add DR 26 ream & circulate (hard)	

Pay Time - 12 3/4  
 No Pay - 1/4  
 Total Time - 13

  
 4-18-95  
 Bob Marse  
 4-18-95

**SMFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Parker Dave West</i>		REPORT NO.
PROGRESS <i>157'</i>		TASK <i>C-2</i>	DATE <i>Tues 4-18-95</i>	SITE HYDROLOGIST <i>Bob Maise</i>
DEPTH <i>1053'</i>	PROPOSED TOTAL DEPTH <i>1250' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp# TRSA-1 Induction Well</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Connection DR#22 30'6"</i>	
<i>7:15</i>	<i>8:00</i>	<i>3/4</i>	<i>Load 1 1/2" Steel Tremmie for C-1 Dig out Pits/White Load</i>	
<i>8:00</i>	<i>8:30</i>	<i>1/2</i>	<i>Drill 926'5" to 926'11"</i>	
<i>8:30</i>	<i>9:00</i>	<i>1/2</i>	<i>Circulate</i>	
<i>9:00</i>	<i>9:15</i>	<i>1/4</i>	<i>Connection DR#23 32'2"</i>	
<i>9:15</i>	<i>10:15</i>	<i>1</i>	<i>Drill 926'11" to 959'1"</i>	
<i>10:15</i>	<i>10:45</i>	<i>1/2</i>	<i>Circulate</i>	
<i>10:45</i>	<i>11:00</i>	<i>1/4</i>	<i>Connection DR#24 32'2"</i>	
<i>11:00</i>	<i>12:30</i>	<i>1 1/2</i>	<i>Drill 959'1" to 991'3"</i>	
<i>12:30</i>	<i>1:00</i>	<i>1/4</i>	<i>Circulate</i>	
<i>1:00</i>	<i>1:15</i>	<i>1/4</i>	<i>Connection DR#25 31'</i>	
<i>1:15</i>	<i>4:45</i>	<i>3 1/2</i>	<i>Drill 991'3" to 1022'3"</i>	
<i>4:45</i>	<i>5:15</i>	<i>1/2</i>	<i>Circulate</i>	
<i>5:15</i>	<i>5:30</i>	<i>1/4</i>	<i>Connection DR#26 31'3" * Slip would not Hold</i>	
<i>5:30</i>	<i>7:30</i>	<i>2</i>	<i>Drill 1022'3" to 1053'6"</i>	
<i>7:30</i>	<i>7:45</i>	<i>1/4</i>	<i>Circulate pull up off Bottom</i>	

Paid — *12 3/4*  
 Non Paid — *0*  
 Total Time — *12 3/4*

*4-18-95 Bob Maise*  
*Jonell Chiles*  
*4-18-95*

**SFMWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME 6DZACC		CREW F. Singleton, R Parkerson D. Wykeff		REPORT NO. n
PROGRESS		TASK C-2	DATE Wed 4-19-95	SITE HYDROLOGIST Bob Marse
DEPTH 1208	PROPOSED TOTAL DEPTH 1250		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Romp # TRSA-1 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
700	715	1/4	Circulate # 26	
715	945	2 1/2	Add DR # 27 ream & circulate	
945	1130	1 3/4	Add DR # 28 ream & circulate	
1130	1245	1 1/4	Add DR # 29 ream & circulate	
1245	145	1	Add DR # 30 drill	
145	415	2 1/2	Airline broke trip out of hole make up new airline trip back in hole	
415	530	1 1/4	restart drilling DR # 30 ream & circulate	
530	815	2 3/4	Add drill Rod # 31 drill 1180 Geo to take samples every 5' hit cavern take slack out of line 17' drop hole (cavern)	

11:12  
2:12

Pay Time - 10 3/4  
No Pay - 2 1/2  
Total Time - 13 1/4

*Frank Singleton*  
4-19-95  
*Bob Marse*  
4-19-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

Page 1 of 2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Parker son Doug Ray</i>		REPORT NO.	
PROGRESS		TASK <i>C-2</i>	DATE <i>Wed. 4-19-95</i>	SITE HYDROLOGIST <i>Bob Marse &amp; Rick Lee</i>	
DEPTH	PROPOSED TOTAL DEPTH <i>1250' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp # TRSA-1 Induction Well</i>		
FROM	TO		DETAILS OF OPERATIONS		
7:00	7:15	1/4	Circulate		
7:15	7:30	1/4	Connection D.R. #27 31'3"		
7:30	9:30	2	Drill 1053'6" to 1084'9"		
9:30	9:45	1/4	Circulate		
9:45	10:00	1/4	Connection DR#28 31'9"		
10:00	11:15	1 1/4	Drill 1084'9" to 1116'6"		
11:15	11:30	1/4	Circulate		
11:30	11:45	1/4	Connection DR#29 30'8"		
11:45	12:30	3/4	Drill 1116'6" to 1147'2"		
12:30	12:45	1/4	Circulate		
12:45	1:00	1/4	* Connection DR#30 30'9"		
1:00	1:45	3/4	* Drill 1147'2" to 1177'6" Did not finish Rod		
1:45	4:15	2 1/2	Blow line Parted 20' from Kelly Trip in hole to Petrique		
4:15	5:00	3/4	Resume Drilling DR#30 1147'2" to 1177'6"		
5:00	5:15	1/4	Circulate		
5:15	5:30	1/4	Connection DR#31 31'		
5:30	7:00	1 1/2	Drill 1177'6" to 1208'6" Began Samples 1185'		

NPT

Paid — 10 3/4  
Nonpaid — 2 1/2  
Total — 13 1/4

4-19-95 Bob Marse  
*Frank Singleton*  
4-19-95

Page 2 of 2

[illegible]



C-2

Pay Time -  $7\frac{1}{2}$   
No Pay - 0  
Total Time -  $7\frac{1}{2}$

Jack Chilton  
4-20-95  
Bob Marshall  
4-20-95

C-2

Paid Time — 7½  
Non Paid Time — 0  
Total Time — 7½

Bob Mann L.  
4-20-95  
Frank Chubb  
4-20-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME 60 2000		CREW F. Singleton, R Parkerson, Dave Wykoff		REPORT NO.
PROGRESS		TASK C-2	DATE Mon 4-24-95	SITE HYDROLOGIST Bob Marsh
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # TRSA-1 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
700	1200	5	unload trimmer pipe tighten coupling & put in 40' sections load on trailer to run in hole After making sure they are clear p. 2" pvc together load on trailer clean & glue 6' tailpiece w/cap on last Join of well casing	
NFT 1200	1230	1/2	lunch	
1230	430	4	standby, finish check to see if pipe is clear move pvc for truck to dump gra cut slots in last piece of trimmer pvc to pump cement thro, clean up trash on site	

Pay Time — 9  
No Pay — 9/2  
Total Time — 9 1/2

*Frank Singleton*  
4-24-95  
*Bob Marsh*  
4-24-95

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Ray Parkerson Paul Hoff</i>		REPORT NO.
PROGRESS		TASK <i>C-2</i>	DATE <i>Mon.</i> <i>4-24-95</i>	SITE HYDROLOGIST <i>Rick Lee</i>
DEPTH <i>1208</i>	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp TR SA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>11:00</i>	<i>4</i>	<i>Put together New Tremmie Pipe</i>	
<i>11:00</i>	<i>12:00</i>	<i>1</i>	<i>Prepare 3" SCH40 PVC &amp; check &amp; clean Water Me</i>	
<i>12:00</i>	<i>12:30</i>	<i>1/2</i>	<i>Lunch</i>	
<i>12:30</i>	<i>1:00</i>	<i>1/2</i>	<i>Make sure old Tremmie clear &amp; open</i>	
<i>1:00</i>	<i>1:30</i>	<i>1/2</i>	<i>Screw 2" PVC Together</i>	
<i>1:30</i>	<i>2:00</i>	<i>1/2</i>	<i>Put Cap on Bottom of Tremmie to Tag Wit</i>	
			<i>Cut Hole in Tremmie to cement with</i>	
<i>2:00</i>	<i>2:45</i>	<i>3/4</i>	<i>Load Tremmie on Rod Trailer</i>	
<i>2:45</i>	<i>3:00</i>	<i>1/4</i>	<i>check out Water pump to ensure operation</i>	
<i>3:00</i>	<i>4:30</i>	<i>1 1/2</i>	<i>on Stand By Waiting on Log Working on Packs</i>	

NPT

*Paid Time — 9*  
*Non Paid Time — 1/2*  
*Total Time — 9 1/2*

*Bob Mase Jr.*  
*4-24-95*  
*Frank Singleton*

# SUNFIND GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

Pay Time	- 11 <sup>3</sup> / <sub>4</sub>
No Pay	- 0
Total Time	- 11 <sup>3</sup> / <sub>4</sub>

J. M. C. L.  
 4-25-95  
 B. M. C. L.  
 4-25-95

C-2

Paid Time — 11<sup>3</sup>/<sub>4</sub>  
 Non Paid Time — 0  
 Total Time — 11<sup>3</sup>/<sub>4</sub>

Bob Mares  
4-25-95  
J. H. H. H.  
4-25-95

C-2

Pay Time -  $8\frac{1}{2}$   
No Pay - 0  
Total Time -  $8\frac{1}{2}$

Jack O'Connell  
 4-26-95  
 Bob Mann  
 4-26-95

C-2

SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME		CREW		REPORT NO.	
		Frank Singleton, Ray Parkerson, Dave Wyeoff			
PROGRESS		TASK	DATE	SITE HYDROLOGIST	
		C-2	Wed 4-26-95	Bob Marse	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE	
1208	1208 ALS			4-4-95	
MILITARY TIME		ELAPSED TIME	ROMP SITE NAME/NUMBER		
TIME LOG			Payne Terminal Romp # TR SA -1 Induction Well		
FROM	TO	DETAILS OF OPERATIONS			
7:00	7:30	1/2	Resume Setting 3" sch 40 PVC		
7:30	8:00	1/2	Fill Water Tank * Told Driller to get new nipple and valve to fix leak.		
8:00	11:15	3 1/4	Resume Setting 3" sch 40 PVC to 1204.5 * 00.		
11:15	11:30	1/4	Pull Tension on 3" sch 40 PVC pipe		
11:30	1:15	1 3/4	Pour 19 Bags Enviro Plug on top of packers		
			2 min Per Bag 5 bags wait 10 min 5 more		
1:15	3:30	2 1/4	Set 1 1/2 Steel Tremmie * only 1,134' on site		
			Shut down for the Day		
			NO Grout Pump on site NPT		
			Grout Pump at other Rig		

Paid Time — 8 1/2  
Non Paid Time — 0  
Total Time — 8 1/2

Bob Marse Jr.  
4-26-95  
Frank Singleton  
4-26-95





C-2.

SMFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME GO 2000		CREW F. Singleton, Dave Wykoff R. Parkerson		REPORT NO.
PROGRESS		TASK C-2	DATE Thurs 4-27-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom #9 RSA-7 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
0700	1015	3 1/4	pour 7 5gal buckets gravel down hole wait to settle then tag tag at 1166 set up cement tub & hoses. mix up 350lbs bag bentonite fill up water tank pump water down trimmer pipe. pipe is open	
1015	<del>1000</del> 1000	2 3/4	shut down waiting on cement pump	
100	600	5	Arrived onsite with pump hook up hoses pump to circulate wait on cement truck pump cement down hole pull out 6 dev pump rest of cement down hole finish pulling out rest of trimmer pipe clean out pump pump water down trimmer pipe to clean clean and secure site	

Pay Time - 8 1/4  
 No Pay - 2 3/4  
 Total Time - 11

  
 4-27-95  
  
 4-27-95

C-2

SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

Page 1 of 2

RIG NO/NAME		CREW		REPORT NO.
Layne		Frank Singleton, Dave Wyckoff, Wilson D.		
PROGRESS		TASK	DATE	SITE HYDROLOGIST
DUMP Slurry		C-2	Thur 4-27-95	Bob Marse
DEPTH	PROPOSED TOTAL DEPTH	FORMATION/AQUIFER		DATE MOVED ON SITE
1208'	1208' BLS			
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER	
FROM	TO		Payne Terminal Romp TRSA-1 Induction Well	
			DETAILS OF OPERATIONS	
7:00	7:15	1/4	Pour 7-5 gal Buckets of Pea Gravel	
7:15	7:30	1/4	Move Grout Tub & Hopper to Place for Cementing	
7:30	8:00	1/2	Fill water tank	
8:00	8:30	1/2	Tag Hole Plug & Gravel w/tremmie 1166' BLS / 18'	
			Talked to Greg McQuinn "Pump Big Batch"	
8:30	9:15	3/4	Bring tremmie + 1155' BLS / Pump water down Tremmie to get return	
			fill 3" sch 40 PVC w/water	
9:15	10:00	3/4	300 gal water mix 3 Bags gel	
10:00	10:15	1/4	Top off water Tank	
10:15	1:00	2 3/4	Grout Pump not on site / Waiting for Grout Pump	
1:15	2:30	1 1/4	Wait on Cement truck (clean Site)	
2:30	2:45	1/4	Cement Truck on site Pump 300 gal mud into Track mix 10 min Rap	
2:45	3:00	1/4	pump 1/2 of cement down Tremmie 2.5 cu. yds.	
3:00	3:15	1/4	Pull 168' Tremmie	
3:15	3:30	1/4	pump Rest of Cement down Tremmie 2.5 cu. yds.	
			Flush pump, pump 100 gal water down Tremmie	
3:30	4:15	3/4	Pull 462' Tremmie	

NPT

Paid — 8 1/4  
Non Paid — 2 3/4  
Total Time — 11

Bob Marse  
4-27-95  
Jared Chilton  
4-27-95

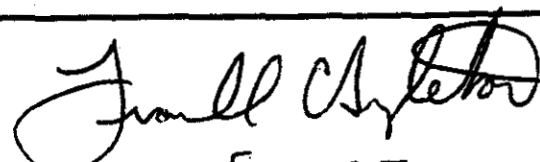
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**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2.

RIG NO/NAME GD2000		CREW F. Singleton D Wykoff W OnkST		REPORT NO.
PROGRESS		TASK C-2	DATE Mon 5-1-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA-	
FROM	TO		DETAILS OF OPERATIONS	
745	4:45	6:00	pour bag of sand down hole run in with trimmer pipe to tag cement tag cement at 946. wait on cement truck cement truck arrived pump in half batch pull out 4 stands pump in other batch. pull out 12 more stands of trimmer pipe flush with 900 gallons water clean cement pot & hoses secure site	
145	430	2 3/4	drive to Port Charlotte to pick up pressure heads and steel for lifting eyes on casing	

Pay Time - 6  
No Pay - 2 3/4  
Total Time - 8 3/4

  
 5-1-95  
 Bob Marse  
 5-1-95

C-2

SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME Layne		CREW Frank Singleton Page Wyck Wilson		REPORT NO.
PROGRESS Dump Slurry		TASK C-2	DATE Mon 5-1-95	SITE HYDROLOGIST Bob Marse
DEPTH 1208'	PROPOSED TOTAL DEPTH 1208' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE 4-4-95
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp #TRSA-1 Induction Well	
FROM	TO		DETAILS OF OPERATIONS	
7:45	8:15	1/2	Pour One Bag Sand / Let Settle	
8:15	9:30	1 1/4	Trip in w/ Tremmie to tag Cement Tag 937' BLS	
9:30	9:45	1/4	Pull up to within 7' of cement 930 BLS	
9:45	10:15	1/2	Fill Water tank	
10:15	10:30	1/4	Circulate Tremmie	
10:30	11:00	1/2	250 gals water in tub mix 2 1/2 Bags gel	
11:00	11:15	1/4	wait on Cement Truck	
11:15	11:30	1/4	Truck on site pump 250 gal mud in Truck mix rapidly 10 min	
11:30	11:45	1/4	Pump 2.5 cu. yds cement	
11:45	12:00	1/4	Pull 168' Tremmie	
12:00	12:15	1/4	Pump 2.5 cu. yds cement	
12:15	1:00	3/4	Flush Grout Pump / Pump 100 gal fresh water down 1 1/2 Tremmie Pull 504' of Tremmie	
1:00	1:45	3/4	Clean Grout Pump	
NPT# 1:45	4:30		Hook, Dave & Wilson went to North Port to check for Well Head & Steel for tabs on casing No steel on site to weld to casing for next well	

Paid — 6  
Non Paid — 2 3/4  
Total Time — 8 3/4

Bob Marse  
5-1-95

Frank Singleton  
5-1-95

C-2.

Pay Time -  $7\frac{1}{2}$   
No Pay -  $\frac{1}{2}$   
Total Time - 8

Frank Chytrý  
5-2-95  
Bob Mauer  
5-2-95

C-2

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, Dave Wycoff, Wilson</i>		REPORT NO.
PROGRESS <i>Pump Sherry</i>		TASK <i>C-2</i>	DATE <i>Tues 5-2-95</i>	SITE HYDROLOGIST <i>Bob Morse</i>
DEPTH <i>1208'</i>	PROPOSED TOTAL DEPTH <i>1208' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp # TRSA-1 Induction Well</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Pour One Bag Sand on top of Cement to tag</i>	
<i>7:15</i>	<i>8:00</i>	<i>3/4</i>	<i>Trip in with 1 1/2 Steel Tremmie Tag cement 8 1/4</i>	
<i>8:00</i>	<i>8:15</i>	<i>1/4</i>	<i>Circulate Tremmie</i>	
<i>8:15</i>	<i>8:30</i>	<i>1/4</i>	<i>200 gal Water Mix 2 Bags. Gel for Cementing</i>	
<i>8:30</i>	<i>9:00</i>	<i>1/2</i>	<i>Fill Water Tank</i>	
<i>9:00</i>	<i>9:30</i>	<i>1/2</i>	<i>Weld Tabs on casing for next well</i>	
<i>9:30</i>	<i>9:45</i>	<i>1/4</i>	<i>Cement Truck on Site Pump 200 gal gel mix</i>	
			<i>Rapidly in Truck 10 min.</i>	
<i>9:45</i>	<i>10:00</i>	<i>1/4</i>	<i>Pump 2.5 cu. yds Cement</i>	
<i>10:00</i>	<i>10:15</i>	<i>1/4</i>	<i>Pull 168' 1 1/2 Steel Tremmie</i>	
<i>10:15</i>	<i>10:30</i>	<i>1/4</i>	<i>Pump 2.5 cu. yds cement</i>	
<i>10:30</i>	<i>11:15</i>	<i>3/4</i>	<i>Pull 504' 1 1/2 Steel Tremmie</i>	
<i>11:15</i>	<i>11:30</i>	<i>1/4</i>	<i>Flush 100 gal Down Tremmie</i>	
<i>11:30</i>	<i>12:00</i>	<i>1/2</i>	<i>Clean Grout Pump</i>	
<i>12:00</i>	<i>1:15</i>	<i>1 1/4</i>	<i>Weld Tabs on casing for next well</i>	
<i>1:15</i>	<i>1:45</i>	<i>1/2</i>	<i>Lunch</i>	
<i>1:45</i>	<i>3:00</i>	<i>1 1/4</i>	<i>Weld Tabs on Casing for next well</i>	

NPT

*2 1/2* — *7 1/2* \* *3:00* Hook Took Grout Pump to Venice  
*NonPaid* — *1/2*  
*Total Time* — *8*

*Bob Morse*  
*5-2-95*  
*Frank Singleton*  
*5-2-95*

C-2

Pay Time	-	5
No Pay	-	0
Total Time	-	5

Frank Chilton  
5-3-95  
Bob Marse  
5-3-95



C-2

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Dave Wyckoff Wilcomb</i>		REPORT NO.
PROGRESS <i>Pump Slurry</i>		TASK <i>C-2</i>	DATE <i>Wed. 5-3-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>1208' BLS</i>	PROPOSED TOTAL DEPTH <i>1208' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp # TR SA-1 Induction Well</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Pour one bag Sand / Fill water tank</i>	
<i>7:30</i>	<i>8:30</i>	<i>1</i>	<i>Trip in w/ Tremmie Tag 601' BLS (cement)</i>	
<i>8:30</i>	<i>8:45</i>	<i>1/4</i>	<i>Pul' off Bottom 11' to 590'</i>	
<i>8:45</i>	<i>9:15</i>	<i>1/2</i>	<i>Mix 200 gal water w/ 2 Bags Gel</i>	
<i>9:15</i>	<i>10:15</i>	<i>1</i>	<i>Wait on Cement Truck</i>	
<i>10:15</i>	<i>10:30</i>	<i>1/4</i>	<i>Truck on site Pump 200 gal mud in Truck mix Romp</i>	
<i>10:30</i>	<i>10:45</i>	<i>1/4</i>	<i>Pump 4 cu. yds Slurry</i>	
<i>10:45</i>	<i>11:00</i>	<i>1/4</i>	<i>Flush Grout Pump / Pump 125 water down Tremmie</i>	
<i>11:00</i>	<i>11:30</i>	<i>1/2</i>	<i>Pull 420' Tremmie / pump 500 gal Water down Tr</i>	
<i>11:30</i>	<i>12:00</i>	<i>1/2</i>	<i>Clean Grout Pump</i>	
			<i>* Took Grout Pump to Walbridge</i>	

Paid — 5  
Nonpaid — 0  
Total Time — 5

*Bob Marse*  
*5-3-95*  
*Frank Singleton*  
*5-3-95*

C-2

Pay Time -  $4\frac{3}{4}$   
No Pay - 0  
Total Time -  $4\frac{3}{4}$

Frankly  
5-4-95  
Bob Mauer  
5-4-95

**SHFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Dave Wycoff Wilam D.</i>		REPORT NO.
PROGRESS <i>Pump Slurry</i>		TASK <i>C-2</i>	DATE <i>Thurs 5-4-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>1208 ft</i>	PROPOSED TOTAL DEPTH <i>1208 ft</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp #TRSH-1 Induction Well</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Pour one Bag Sand</i>	
<i>7:15</i>	<i>7:30</i>	<i>1/4</i>	<i>Measure Tremmie w/ Tape to Check accuracy</i>	
<i>7:30</i>	<i>8:30</i>	<i>1</i>	<i>Trip in w/ Tremmie to tag Cement Tag 483' RL</i>	
<i>8:30</i>	<i>8:45</i>	<i>1/4</i>	<i>Pull up 8' off Tremmie Circulate Tremmie</i>	
<i>8:45</i>	<i>9:00</i>	<i>1/4</i>	<i>221 gal. Water mix 34 lbs gel</i>	
<i>9:00</i>	<i>9:45</i>	<i>1/4</i>	<i>Mix 54 Bag #47 portland Total gal. 295.966</i>	
			<i>Cement thickened Rapidly Suppose to have</i>	
			<i>64-#47 portland</i>	
<i>9:45</i>	<i>10:00</i>	<i>1/4</i>	<i>Pump Cement Down Tremmie</i>	
<i>10:00</i>	<i>10:15</i>	<i>1/4</i>	<i>Flush Grout Pump</i>	
<i>10:15</i>	<i>11:00</i>	<i>3/4</i>	<i>Pull 7 Stands Tremmie 294'</i>	
<i>11:00</i>	<i>11:15</i>	<i>1/4</i>	<i>Flush Tremmie w/ 500 gal water</i>	
<i>11:15</i>	<i>11:45</i>	<i>1/2</i>	<i>Break down &amp; Clean out Grout Pump</i>	
			<i>* Hook had to take Grout Pump to another Job For</i>	

Paid — *4 3/4*  
 NonPaid — *0*  
 Total Time — *4 3/4*

*Bob Marse*  
*5-4-95*  
*Frank Singleton*  
*5-4-95*

**SWFWD GEOHYDROLOGIC DATA**  
**DAILY DRILLING/CORE REPORT**

Pay Time - 1  
No Pay - 0  
Total Time - 1

Paul C. [unclear]  
5-8-95  
Bob Mearns  
5-8-95

C-2

Paid ——— 1  
Non Paid ——— 0  
Total Time ——— 1

5-8-95 Bob Marshall  
Frank Elyth  
5-8-95

C-2

Pay Time	- 11
No Pay	- 0
Total Time	- 11

Frank E. Sinton  
5-9-95

Bobbi Mae  
5-9-95

Page 1 of 2

SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton, Darrell Poff, Wilson Drost		REPORT NO.
PROGRESS		TASK C-2	DATE Tues 5-9-95	SITE HYDROLOGIST Bob Marse
DEPTH 1208'	PROPOSED TOTAL DEPTH 1208' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp #TRSA-1 Induction Well	
FROM	TO		DETAILS OF OPERATIONS	
6:30	7:00	1/2	Fill Water Tank	
7:00	7:30	1/2	Pour 5- 5/8 gal Buckets Hole Plug	
7:30	7:45	1/4	Load 2" PVC & Screen on Trailer to go in Well	
7:45	8:15	1/2	Pour 5- 5/8 gal Buckets Hole Plug	
8:15	8:45	1/2	Let Settle to Bottom (Hole Plug)	
8:45	9:15	1/2	Pour 5- 5/8 gal Buckets Hole Plug	
9:15	9:45	1/2	Let Hole Plug Settle to Bottom	
9:45	10:00	1/4	Pour 1- Bag Sand	
10:00	10:15	1/4	Tag Hole Plug 402' BLS	
10:15	10:45	1/2	Pull up Tremmie measure w/ tape to Confirm tag	
			Go Back down w/ Tremmie Tag 401' BLS	
10:45	11:00	1/4	Pour 4- 5/8 gal Buckets Hole Plug	
11:00	11:30	1/2	Let Hole Plug Settle	
11:30	12:00	1/2	Pour 1- Bag Sand Let Settle for Tag: 397' BLS	
12:00	12:15	1/4	Pour 4 5/8 gal Buckets Hole Plug Let Settle	
12:15	1:00	1/4	Pour 1 Bag Sand Tag * 392' BLS	
			115 gals Hole Plug 23- 5/8 gal Buckets	

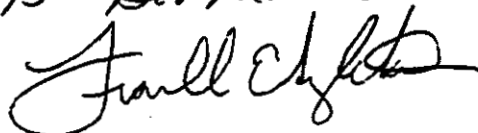
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SUPPLEMENTAL GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton Dave Wycoff Wilton Oxnst.		REPORT NO.
PROGRESS Set Screen Gravel back		TASK C-2	DATE Tues. 5-9-95	SITE HYDROLOGIST Bob Marse
DEPTH 1208'	PROPOSED TOTAL DEPTH 1208' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	RMP SITE NAME/NUMBER Payne Terminal Rmp # TR SA-1 Induction W.	
FROM	TO		DETAILS OF OPERATIONS	
1:00	1:30	1/2	Set 60' 0.30 Tri-loc Screen, 328' 2" Tri-loc PVC	
1:30	2:30	1	Pour 38- 5/8 gal. Buckets Gravel	
2:30	2:45	1/4	Tag Gravel 356' BLS	
2:45	3:00	1/4	Pour 20- 5/8 gal. Buckets Gravel	
3:00	3:15	1/4	Tag Gravel 333' BLS	
3:15	3:30	1/4	Pour 5- 5/8 gal. Buckets Gravel Tag 324' BLS	
3:30	3:45	1/4	Pour 3- 5/8 gal. Buckets Gravel Tag *320' BLS.	
			* 66- 5/8 gal Bucket Gravel Total	
			330 gals Gravel Total	
3:45	4:00	1/4	pour 5- 5/8 gal Buckets Hole Plug Let Settle	
4:00	5:00	1	pour 5- 5/8 gal Buckets Hole Plug Lot Settle	
5:00	5:15	1/4	Pour 1- Bag Sand Let Settle	
5:15	5:30	1/4	Tag Hole Plug *300' BLS	

Paid ——— 11  
 Non Paid ——— 0  
 Total Time ——— 11

5-9-95 Bob Marse  
  
 5-9-95



C-2

487

Total Time - 12

5-10-95

**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, Darbyhoff, Wilson, Ornest</i>		REPORT NO.
PROGRESS		TASK <i>C-2</i>	DATE <i>Wed</i> <i>5-10-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>1208</i>	PROPOSED TOTAL DEPTH <i>1208' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Yayne Terminal Pump # TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Tag Hole Plug</i>	
<i>7:30</i>	<i>8:00</i>	<i>1/2</i>	<i>Clean Site Stack POC</i>	
<i>8:00</i>	<i>8:30</i>	<i>1/2</i>	<i>Fill water Tank</i>	
<i>8:30</i>	<i>8:45</i>	<i>1/4</i>	<i>Mix 250 gal water w/ 2 Bags gel</i>	
<i>8:45</i>	<i>9:00</i>	<i>1/4</i>	<i>Pump 250 gal gel into Cement Truck Mix 10 min Rapidly</i>	
<i>9:00</i>	<i>9:15</i>	<i>1/4</i>	<i>Pump 5 cu. yds Cement (Portland)</i>	
<i>9:15</i>	<i>9:30</i>	<i>1/4</i>	<i>Flush 100 gal water to Clean Pump, Lines, Tremmie</i>	
<i>9:30</i>	<i>9:45</i>	<i>1/4</i>	<i>Pull Tremmie Completely out of well</i>	
<i>9:45</i>	<i>10:00</i>	<i>1/4</i>	<i>Tear Down Grant Pump &amp; Clean</i>	
<i>10:00</i>	<i>10:15</i>	<i>1/4</i>	<i>Center Casing in Well All Tension</i>	
<i>10:15</i>	<i>10:30</i>	<i>1/4</i>	<i>Clean Site / Prepare to Move</i>	
<i>10:30</i>	<i>7:00</i>	<i>8 1/2</i>	<i>* Pull Transmission out of Rig Throw out Bearing</i>	

NPT

*Bid ~~1208~~ — 3 1/2*  
*Not Paid — 8 1/2*  
*Total — 12*

*5-10-95 Bob Marse Jr.*  
*Frank Singleton*  
*5-10-95*

C-2

Pay Time - 3  
No Pay - 9 1/2  
Total Time - 12 1/2

5-11-95 Bob Maser

**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

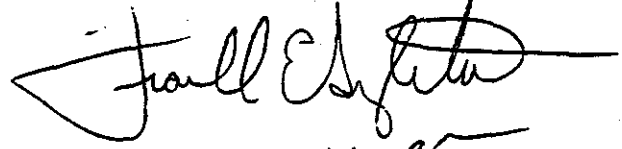
C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank B. Singleton Dave W. Giff. W. Giff. O. K. H.</i>		REPORT NO.
PROGRESS <i>Pump Slurry Finish Well</i>		TASK <i>C-2</i>	DATE <i>Thur 5-11-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>1208</i>	PROPOSED TOTAL DEPTH <i>1208 BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	RAMP SITE NAME/NUMBER <i>Payne Terminal Ramp # TRSA-1 Induction Well</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Pour One Bag Sand Tag Cement 26' BLS w/irc</i>	
<i>7:15</i>	<i>7:30</i>	<i>1/4</i>	<i>75 gal water #10 gel (mix)</i>	
<i>7:30</i>	<i>7:45</i>	<i>1/4</i>	<i>Mix 23 bags #47 portland</i>	
<i>7:45</i>	<i>8:00</i>	<i>1/4</i>	<i>Pump Cement to Surface</i>	
<i>8:00</i>	<i>8:15</i>	<i>1/4</i>	<i>Flush Grout Pump pull Tremmie out of Well</i>	
<i>8:15</i>	<i>8:45</i>	<i>1/2</i>	<i>Tear Down Grout Pump &amp; Clean</i>	
<i>8:45</i>	<i>10:00</i>	<i>1 1/4</i>	<i>Began Moving Equipment (Air Compressor, Grout)</i>	
<i>12:00</i>	<i>7:30</i>	<i>9 1/2</i>	<i>Work on Pig Put New Throw out Bearing in</i>	

NPT

Paid — 3  
 Non Paid — 9 1/2  
 Total Time — 12 1/2

5-11-95 Bob Marse

  
 5-11-95

C-2

Pay Time - ~~5~~ 5 <sup>3</sup>/<sub>4</sub>  
No Pay - 2 <sup>1</sup>/<sub>2</sub>  
Total Time - 8 <sup>1</sup>/<sub>4</sub>

5-15-95 Bob M. J.

C-2

NPT

5-15-95

C-2

Pay Time —  $7\frac{3}{4}$   
 No Pay —  $3\frac{1}{4}$   
 Total Time — 11

5-16-95 5-16-95 *Bob Marnie*

C-2

SHFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Duvellycott Wilson Ernst</i>		REPORT NO.
PROGRESS <i>Move/Setup</i>		TASK <i>C-2</i>	DATE <i>Tues 5-16-95</i>	SITE HYDROLOGIST <i>Bob Masse</i>
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal / Romp TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>10:30</i>	<i>3 1/2</i>	<i>Clear Brush to make Room for Grout Pump</i>	
			<i>Move Pallets Cement / Move Pallet Molds &amp; Hook Plug</i>	
			<i>Move Welder, Move 20" Casing, Move Air Com</i>	
<i>10:30</i>	<i>11:00</i>	<i>1/2</i>	<i>Fill Water Tank</i>	
<i>11:00</i>	<i>11:30</i>	<i>1/2</i>	<i>Mud up Goose</i>	
<i>11:30</i>	<i>12:15</i>	<i>3/4</i>	<i>Dig out Pit Load in Dump Truck</i>	
<i>NPT 12:15</i>	<i>12:45</i>	<i>1/2</i>	<i>Lunch</i>	
<i>12:45</i>	<i>1:15</i>	<i>1/2</i>	<i>Finish Welding Tabs on 20" Steel</i>	
<i>1:15</i>	<i>2:15</i>	<i>1</i>	<i>Cut Tabs for 14" Steel</i>	
<i>2:15</i>	<i>3:15</i>	<i>1</i>	<i>Load Dump Truck (clean out Pit)</i>	
<i>NPT 3:15</i>	<i>6:00</i>	<i>2 3/4</i>	<i>Try to Break Sub off 9 1/2" Drill Bit</i>	
			<i>No Bit Breaker for 9 1/2" Bit had to use</i>	
			<i>chain Tong &amp; 48" pipe Wrench to Break wit</i>	
			<i>Back Hole * Told Driller to get all chain</i>	
			<i>Tongs Repaired (New chains, Jaws)</i>	

Paid ——— *7 3/4*  
Non Paid ——— *3 1/4*  
Total Time ——— *11*

*5-16-95 Bob Masse*  
*Frank Singleton*  
*5-16-95*



**SHFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

Pay Time - 14  
No Pay - 0  
Total Time - 14

5-17-95

**SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Dave Wyeoff Wilson Orest</i>		REPORT NO.
PROGRESS <i>71' BLS</i>		TASK <i>C-2</i>	DATE <i>Wed 5-17-95</i>	SITE HYDROLOGIST <i>Bob Maize</i>
DEPTH <i>71'</i>	PROPOSED TOTAL DEPTH <i>1015' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE <i>4-4-95</i>
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal / Romp TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:45</i>	<i>3/4</i>	<i>Put 17" Tri-Cone Bit on 26" Hole Opener 6'4"</i>	
<i>7:45</i>	<i>8:45</i>	<i>1</i>	<i>Dig Hole for Bit to gain so Kelly Bushings will gain Rotary Table</i>	
<i>8:45</i>	<i>10:15</i>	<i>1 1/2</i>	<i>Drill Kelly 38'2" Sub#1-1'3" Sub#2 1'3"</i>	
<i>10:15</i>	<i>10:45</i>	<i>1/2</i>	<i>Bit Balled up in Clay Clean Bit Thin Mud</i>	
<i>10:45</i>	<i>11:30</i>	<i>3/4</i>	<i>Drill Kelly</i>	
<i>11:30</i>	<i>12:00</i>	<i>1/2</i>	<i>Bit Balled up in Clay Clean Bit Thin Mud</i>	
<i>12:00</i>	<i>1:15</i>	<i>1 1/4</i>	<i>Drill Kelly</i>	
<i>1:15</i>	<i>1:30</i>	<i>1/4</i>	<i>Thin Mud</i>	
<i>1:30</i>	<i>4:45</i>	<i>3 1/4</i>	<i>Drill Kelly / Ream Hole / Thin mud / Circulate</i>	
<i>4:45</i>	<i>5:00</i>	<i>1/4</i>	<i>Break Bit off Kelly</i>	
<i>5:00</i>	<i>5:15</i>	<i>1/4</i>	<i>Pickup DC #1 30'</i>	
<i>5:15</i>	<i>6:00</i>	<i>3/4</i>	<i>Attach DC#1 to 26" Hole opener / connection DC#1</i>	
<i>6:00</i>	<i>8:30</i>	<i>2 1/2</i>	<i>Drill DC#1</i>	
<i>8:30</i>	<i>9:00</i>	<i>1/2</i>	<i>Circulate Hole Clean / Cover Hole</i>	

Paid ——— 14  
 Non Paid ——— 0  
 Total Time ——— 14

5-17-95 *Bob Maize*  
*Frank Singleton*  
 5-17-95

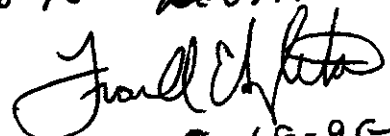
**SHWED GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME Layne		CREW Frank Singleton, Dave Wyckoff, Wilson Oxnast		REPORT NO.
PROGRESS Drill to 105' BLS.		TASK C-2	DATE Thur. 5-18-95	SITE HYDROLOGIST Bob Marse
DEPTH 105' BLS	PROPOSED TOTAL DEPTH 105' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / Romp # 788A-1	
FROM	TO		DETAILS OF OPERATIONS	
7:00	7:30	1/2	Fill Water Tank	
7:30	8:00	1/2	Ream Hole & Circulate	
8:00	8:30	1/2	Connection D.C. #2 (6")	
8:30	11:00	2 1/2	Drill D.C. #2	
11:00	11:30	1/2	Ream Hole & Circulate	
11:30	11:45	1/4	Circulate / Thin Mud	
11:45	12:00	1/4	Connection D.C. #3 (6")	
12:00	1:00	1	Drill D.C. #3 - 5' & Ream	
1:00	1:30	1/2	Circulate Hole Clean	
1:30	2:15	3/4	Trip out of Hole	
2:15	2:30	1/4	Clean Site & Secure Hole	

Paid — 7 1/2  
 Non Paid — 0  
 Total Time — 7 1/2

5-18-95 Bob Marse

  
 5-18-95

C-2

Pay Time -  $7\frac{1}{2}$   
No Pay - 0  
Total Time -  $7\frac{1}{2}$

Frank E. Hyatt  
5-18-95  
Bob Mann  
5-18-95

C-2

**SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME GD2000		CREW F. Singleton D. Wykoff W. Onkst		REPORT NO.	
PROGRESS		TASK C-7	DATE Mon 5-22-95	SITE HYDROLOGIST Bob Marse	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA 1		
FROM	TO		DETAILS OF OPERATIONS		
700	800	1	Trip in hole w/ 8" DC		
NPT 800	930	1 1/2	Went to find another fire hose Groot pump not on site		
930	1015	3/4	Trip DC in hole mix mud circulate		
NPT 1015	1115	1	Belts broke on goose go to parts store to get new hoses repair goose		
1115	145	2 1/2	circulate hole clean Trip DC's out of hole break off 26" hole opener.		
NPT 145	215	1/2	Lunch		
215	530	6 1/4	weld 20" casing together run in 105' 1 1/2"		
			trimmer pipe get circulation mix cement 118		
			bags 59 lbs gel pump down hole pull trimmer		
			pipe lower casing down hole clean pump &		
			site secure site		

Pay Time - 10 1/2

No Pay - 3

Total Time - 13 1/2

*Frank Chyba*  
5-22-95

*Bob Marse*  
5-22-95

C-2

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

Page 1 of 2

RIG NO/NAME Layne		CREW Frank Singleton Dave Wycoff Wilson Orant		REPORT NO.
PROGRESS Set 20" Steel Cement Bottom		TASK C-2	DATE Mon. 5-22-95	SITE HYDROLOGIST Bob Marse
DEPTH 105'	PROPOSED TOTAL DEPTH 1015' BLS	FORMATION/AQUIFER		DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terrenal / Romp # TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
7:00	8:00	1	Trip D.C.'s in Hole	
8:00	9:30	1 1/2	No fire hose, Hose was not put in dog house over the week and was stolen; Hook Left site to find Hose. Groat pump not on site told Driller Thursday to have it today	
9:30	9:45	1/4	Trip one D.C. in Hole to get to Bottom 105' BLS	
9:45	10:00	1/4	Mix Fresh Mud	
10:00	10:15	1/4	Circulate Hole	
10:15	11:15	1	Belts Broke on Goose (Drive Belts from Engine) 10:30 Groat Pump	
11:15	11:45	1/2	Circulate Hole Clean	
11:45	12:45	1	Trip D.C.'s 6' out of Hole	
12:45	1:30	3/4	Break off & Remove 26' Hole opener Bit	
1:30	1:45	1/4	Set 42' of 20" steel casing Tack weld Next R. 84'	
1:45	2:15	1/2	Lunch	
2:15	3:30	1 1/4	Weld Casing together	
3:30	3:45	1/4	Stand 21' of 20" steel	
3:45	5:00	1 1/4	Weld Casing together	
5:00	5:15	1/4	Prime Groat Pump	

Paid ——— 10 1/2  
 Non Paid ——— 3  
 Total Time ——— 13 1/2

5-22-95 Bob Marse  
*Frank Singleton*  
 5-22-95

Page 2 of 2

SMPMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton, Dave Wycoff, Wilson Oynst.		REPORT NO.
PROGRESS Set 20" Steel Cement Bottom		TASK	DATE Mon. 5-22-95	SITE HYDROLOGIST Bob Murse
DEPTH 105'	PROPOSED TOTAL DEPTH 1015' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / Romp # TRSK-1	
FROM	TO		DETAILS OF OPERATIONS	
5:15	5:45	1/2	Run 105' 1 1/2 Steel Tremmie / Get Circulation	
5:45	6:15	1/2	Mix Batch #1 Cement 204 Gal water, 31 gal 40 Bgs Portland Batch Called for 62 Bags, But cement Thickened Rapidly	
6:15	6:30	1/4	Pump Cement - threw 1 1/2 Tremmie	
6:30	7:00	1/2	Mix Batch #2 Cement 182 gal water 28 gal 52 Bgs Portland Batch Called for 56 Bags, But Cement got too thick	
7:00	7:15	1/4	Put threw Tremmie / Pull Tremmie	
7:15	7:30	1/4	Lower Casing 20' (Twice) Set Casing 102' BLS	
7:30	8:00	1/2	Clean Grout Pump	
8:00	8:30	1/2	Clean up Site Secure top of 20" Steel Casing	

Paid \_\_\_\_\_  
 Non Paid \_\_\_\_\_ on Page 1  
 Total Time \_\_\_\_\_

C-2

Ed Mann 5-23-95



**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

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RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, Dave Wyckoff, Wilson G. Yost.</i>		REPORT NO.
PROGRESS <i>Grout Surface Casing</i>		TASK <i>C-2</i>	DATE <i>Tues 5-23-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>105 BLS</i>	PROPOSED TOTAL DEPTH <i>1015' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal / Romp TRSA-1 Swanensee Area Park</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:15</i>	<i>1/4</i>	<i>Pour one Bag Sand to tag / Move Grout Tub, Hopper, Tag 92'30, 99'</i>	
<i>7:15</i>	<i>7:30</i>	<i>1/4</i>	<i>Run 84' 1 1/2 Steel Tremmie down annulus</i>	
<i>7:30</i>	<i>7:45</i>	<i>1/4</i>	<i>Circulate Tremmie</i>	
<i>7:45</i>	<i>8:00</i>	<i>1/4</i>	<i>250 gal water in mixing tub</i>	
<i>8:00</i>	<i>8:15</i>	<i>1/4</i>	<i>Mix 75# gel intub 1 1/2 Bags</i>	
<i>8:15</i>	<i>9:30</i>	<i>1 1/4</i>	<i>Talked to Greg McGowan "Run 8" D.C.'s"</i>	
			<i>Only one in running condition other D.C.'s are plugged</i>	
			<i>Told Hook &amp; Gary 4-12-95 to get them cleaned</i>	
			<i>Try Cleaning 8" D.C.</i>	
<i>9:30</i>	<i>9:45</i>	<i>1/4</i>	<i>Cement Truck on Site / Pump 250 gal Mud in truck mix 10 min for</i>	
<i>9:45</i>	<i>10:00</i>	<i>1/4</i>	<i>Pump 4 cu. yds G.I. Slurry Threw 1 1/2 Tremmie / Cement to Ground here</i>	
			<i>* Mud Pump on Rig not staying engaged, sometime will not dis.</i>	
			<i>Told Hook to get it fixed Before it gets worse</i>	
<i>10:00</i>	<i>10:15</i>	<i>1/4</i>	<i>Pull Tremmie out</i>	
<i>10:15</i>	<i>11:15</i>	<i>1</i>	<i>Tear Down Rig Pump &amp; Clean Cement out of it</i>	
<i>11:15</i>	<i>11:30</i>	<i>1/4</i>	<i>Clean Cement out of Flow Ditch</i>	
<i>11:30</i>	<i>1:45</i>	<i>2 1/4</i>	<i>Cut &amp; Weld Ends on 14" steel / Pump a well off /</i>	
<i>1:45</i>	<i>5:30</i>	<i>3 3/4</i>	<i>Hook Took Dave &amp; Wilson to motel, Left Site to get Drill Collar</i>	

NPTX

Did not Return By 5:30

Paid ————— 5 1/2  
 Non Paid ————— 5  
 Total Time ————— 10 1/2

5-23-95 *Bob Marse*  
*Jonell Ely*  
 5-23-95

**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME GD2000		CREW F. Singleton D. Wykoff W. Ontst		REPORT NO.
PROGRESS		TASK C-2	DATE Wed 5-24-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # 7RSA-2 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
045	730	12 3/4	cut 20" casing down to ground level for mud drilling run in hole with 1st 8" DC circulate after putting on 14" bit and 20" hole opener get load of water tag cement with bit 86.3 get water begin drilling out cement plug circulate Add DC 3 drill to 126.1 circulate	
130	200	1/2	repair throttle linkage circulate well Add DC 4" drill to 156.1	
345	415	1/2	replace fuel filter drill 4" DC down 156.1 circulate clean & secure site	

LPT

Pay Time - 10 3/4  
No Pay - 1 3/4  
Total Time - 12 1/2

*Frank [Signature]*  
5-24-95 Bob Marse

C-2

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

Page 1 of 2

RIG NO/NAME Layne		CREW Frank Singleton, Dave Wyckoff, Wilson Oxenst.		REPORT NO.
PROGRESS		TASK C-2	DATE Wed 5-24-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH 1015		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payle Terminal / Romp TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
7:00	7:30	1/2	Cut 20" Steel Casing Ground Level	
7:30	8:00	1/2	Attach 14" Bit on Bottom of 19" Hole opener Bit - (8')	
8:00	8:30	1/2	Set Hole opener in Casing	
8:30	9:00	1/2	Trip in hole with one D.C. <sup>30'</sup> & Kelly <sup>38'2"</sup> Circulate old mud out	
9:00	9:15	1/4	Fill water Tank	
9:15	9:30	1/4	Thin mud	
9:30	10:00	1/2	Connection D.C. #2 29'4"	
10:00	10:15	1/4	Circulate / Fill water Tank	
10:15	10:45	1/2	Drill Cement out of Casing * Talked to Hook <sup>Assigned (Dave)</sup> one person for	
10:45	11:00	1/4	Circulate at 99' 6"	
11:00	11:30	1/2	Connection D.C. #3 26'7" * use hammer to get tang on	
11:30	11:15	1 3/4	Drill 99' 6" to 126' 1"	
11:15	11:30	1/4	Circulate hole Clean	
NPT 1:30	2:00	1/2	Throttle on Rig <del>was</del> not operating properly will not increase or decrease at times	
2:00	2:15	1/4	Run Hole	
2:15	2:45	1/2	Circulate Hole	

Paid — 10 3/4  
 Non Paid — 1 3/4  
 Total Time — 12 1/2

5-24-95

Bob Marse  
 Frank Singleton  
 5-24-95

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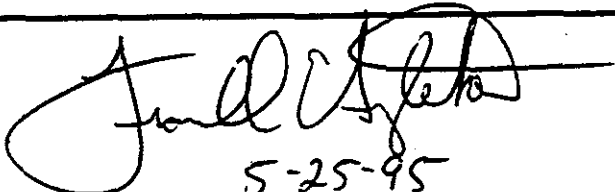
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**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME G02000		CREW F Singleton D. Wykoff W. Onkst		REPORT NO.	
PROGRESS			TASK C-2	DATE Thurs 5-25-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER		DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # TRSA-2 Paya Terminal		
FROM	TO		DETAILS OF OPERATIONS		
0645	1000	3 1/4	get a load of water fill goose to thin mud. Add 4" DC #2 drill to 185.5 get another load of water circulate hole. Add 4" DC #3 begin drilling		
1000	1015	1/4	Adjust mud pump clutch		
1015	1215	2	start back drilling get another load of water ream & circulate hole. Add 4" DC #4 Begin drillin to 245.3 Clutch start smoking real bad shut down rig get another load of water for goose		

Pay Time - 5  
No Pay - 1/2  
Total Time - 5 1/2

  
 5-25-95  
 Bob Marse  
 5-25-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <b>Layne</b>		CREW <b>Frank Singleton David Wycoff Wilso Onkst</b>		REPORT NO.
PROGRESS <b>Drill from 156' to 245'</b>		TASK <b>C-2</b>	DATE <b>Thur 5-25-95</b>	SITE HYDROLOGIST <b>Bob Marse</b>
DEPTH <b>245'</b>	PROPOSED TOTAL DEPTH <b>1815 BLS</b>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Payne Terminal / Romp TRSA-1 M.W.</b>	
FROM	TO		DETAILS OF OPERATIONS	
7:00	7:15	1/4	Fill Water Tank	
7:15	7:30	1/4	Thin Mud	
7:30	7:45	1/4	Connection 4" D.C. # 2 29'4"	
7:45	8:15	1/2	Drill 156'1" to 185'5"	
8:15	8:30	1/4	Thin Mud	
8:30	9:45		Resume drilling to 185'5" circulate 10.	
			* Told Hook to get mud gauge repaired	
			* To Have <sup>Contract</sup> Welder & Grout pump	
			Ready to Run Casing next week	
9:45	10:00	1/4	Connection 4" D.C. #3 30'3"	
NPT 10:00	10:30	1/2	work on Throttle & Clutch	
10:30	11:15	3/4	Drill 185'5" to 215'8" Ream & Circulate	
11:15	11:30	1/4	Connection 4" D.C. #4 29'7"	
11:30	12:30	1	Drill 215'8" to 245'3"	
12:30	NPT		Clutch caught on fire going to Madf.	
			Lock 5' & completing Kelly	
			Left to go to ORLANDO	

Paid — 5

Non Paid — 1/2

Total Time — 5 1/2

5-25-95 Bob Marse Jr.

*Janell Chylita*

5-25-95

C-2

Frank Chilton  
5-29-95  
Bob Marshall  
5-29-95

C-2

[illegible]



C-2

Pay Time —  $5\frac{1}{4}$   
 No pay —  $\frac{1}{2}$   
 Total Time —  $5\frac{3}{4}$

Frank E. Nelson  
5-30-95  
Bob Mance  
5-30-95

**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Dave W. Coff</i>		REPORT NO.
PROGRESS <i>Drill from 245' to 276'</i>		TASK <i>C-2</i>	DATE <i>Tues. 5-30-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>276</i>	PROPOSED TOTAL DEPTH <i>1015 BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	RAMP SITE NAME/NUMBER <i>Layne Terminal Ramp TRSA-1 M.W.</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>8:45</i>	<i>9:30</i>	<i>3/4</i>	<i>Had a flat tire late St. Pits</i>	
<i>9:30</i>	<i>10:45</i>	<i>1 1/4</i>	<i>11'00' Hic Compressor, welder, Pasing</i>	
			<i>*10:45 I Left Site to take backhoe to C-</i>	
			<i>Returned 4:15</i>	
<i>10:45</i>	<i>11:30</i>	<i>3/4</i>	<i>Resume Drilling 4" D.C. #4 &amp; Circulate</i>	
<i>11:30</i>	<i>11:45</i>	<i>1/4</i>	<i>Correction 4" D.C. #5 31'</i>	
<i>11:45</i>	<i>1:30</i>	<i>1 3/4</i>	<i>Drill 245'3" to 276'3"</i>	
<i>1:30</i>	<i>2:00</i>	<i>1/2</i>	<i>Fill Water Tank Clutch on Pump Caught anti.</i>	
<i>2:00</i>	<i>4:00</i>	<i>2</i>	<i>Wait on Septic Truck; * Did not weld</i>	
			<i>Left eyes on casing while waiting</i>	

NT

*Paid — 5 1/4*  
*Not Paid — 2*  
*Total Time — 7 1/4*

*5-30-95 Bob Marse R.*

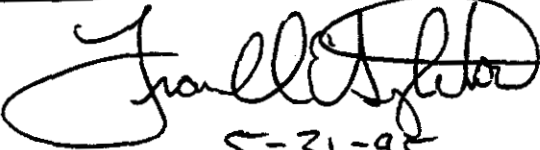
*Frank Singleton*  
*5-30-95*

C-2

SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME CD2000		CREW F. Singleton D Wykoff W. Onkst		REPORT NO.	
PROGRESS		TASK C-2	DATE Wed 5-31-95	SITE HYDROLOGIST Bob Marse	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA-7		
FROM	TO		DETAILS OF OPERATIONS		
1415	700	1/4	warm up rig & goose		
700	745	3/4	finish drilling DC #9 & circulate		
745	800	1/4	Add 4" DC #5		
800	930	1 1/2	drill 4" DC #6 circulate get load of water		
930	1145	2 1/4	Add 4" DC #7 circulate to thin mud get load of water circulate rig up catline to pull out of hole drill a extra 3'		
1145	1245	1	pull out of hole		
1245	100	1/4	pick up tools & secure site		
100	130	1/2	Lunch		
130	515	3 3/4	finish moving casing over to rig weld lifting eyes on casing get a load of water for pits clean and secure site		

Pay Time - 9 3/4  
No pay - 1/2  
Total Time - 10 1/4

  
 5-31-95  
 Bob Marse Jr.  
 5-31-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Dave Wiscoff W. Lynn Davis</i>		REPORT NO.
PROGRESS <i>Drill from 276 to 328</i>		TASK <i>C-2</i>	DATE <i>Wed 5-31-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>328'</i>	PROPOSED TOTAL DEPTH <i>1015 B.S.</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Layne Terminal / Romp # TRSA-1 D.W.</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Resume Drilling 4" D.C. #5 to 276' 1" 4 Circ.</i>	
<i>7:30</i>	<i>7:45</i>	<i>1/4</i>	<i>Connection 4" D.C. #6 29' 3"</i>	
<i>7:45</i>	<i>9:30</i>	<i>1 3/4</i>	<i>Drill 276' 3" to 305' 6" Ream &amp; Circulate</i>	
<i>9:30</i>	<i>9:45</i>	<i>1/4</i>	<i>Connection 4" D.C. #7 29' 3"</i>	
<i>9:45</i>	<i>11:30</i>	<i>1 3/4</i>	<i>Drill 305' 6" to 328'</i>	
<i>11:30</i>	<i>2:00</i>	<i>1/2</i>	<i>Circulate Hole Clean</i>	
<i>12:00</i>	<i>1:00</i>	<i>1</i>	<i>Trip Dr. up into 20" steel Casing</i>	
<i>1:00</i>	<i>1:30</i>	<i>1/2</i>	<i>Lunch</i>	
<i>1:30</i>	<i>5:15</i>	<i>3 3/4</i>	<i>Weld Left eyes on 14" steel Casing</i>	
			<i>move Casing in Place with Cat Line,</i>	
			<i>Fill Water Tank</i>	

NPT

*Paid — 9 3/4*  
*Not Paid — 1/2*  
*Total Time — 10 1/4*

*5-31-95 Bob Marse Jr.*  
*John A. [Signature]*  
*5-31-95*

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SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, Duell, Coff, Wilson, Oxt</i>		REPORT NO.
PROGRESS <i>Set 325' 14" Steel &amp; Grout</i>		TASK <i>C-2</i>	DATE <i>Thur. 6-1-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>328' BLS</i>	PROPOSED TOTAL DEPTH <i>1015 BLS</i>	FORMATION/AQUIFER		DATE MOVED ON SITE
MILITARY TIME TIME LOG		ROMP SITE NAME/NUMBER <i>Payne Terminal / Romp TRSA-1 M.W.</i>		
FROM	TO	ELAPSED TIME	DETAILS OF OPERATIONS	
<i>6:15</i>	<i>6:30</i>	<i>1/4</i>	<i>Fill goose / w water</i>	
<i>6:30</i>	<i>7:45</i>	<i>1 1/4</i>	<i>Trip in Hole 3 D.C.'s to Bottom 325' BLS</i>	
<i>7:45</i>	<i>8:30</i>	<i>3/4</i>	<i>Circulate Hole Clean to Set Steel Casing 14"</i>	
<i>8:30</i>	<i>10:30</i>	<i>2</i>	<i>Trip out of Hole to set 14" Steel Casing</i> <sup><i>Welder on site 9:15</i></sup>	
<i>10:30</i>	<i>1:30</i>	<i>3</i>	<i>Set 325' 14" Steel Casing, Gary Hkers on site w/ Pressure Head</i> <sup><i>1:00</i></sup>	
<i>1:30</i>	<i>2:00</i>	<i>1/2</i>	<i>Weld Pressure Head on 14" steel</i>	
<i>2:00</i>	<i>2:45</i>	<i>3/4</i>	<i>Run 282' 1 1/2 Tremmie Bottom 40' PVC</i>	
<i>2:45</i>	<i>3:30</i>	<i>3/4</i>	<i>* Do not Have 20' of 2" Tremmie, Setup 8" 2" nipple to seal Packer on Pressure Head (will not be able to Pull Tremmie 20' after Grouting * Keep them on the clock</i>	
<i>3:30</i>	<i>3:45</i>	<i>1/4</i>	<i>Circulate Thru 14" Steel Casing * (Grout Pump on site 3:45</i>	
<i>3:45</i>	<i>4:15</i>	<i>1/2</i>	<i>Setup Grout Pump</i>	
<i>4:15</i>	<i>4:30</i>	<i>1/4</i>	<i>Mix 300 gal. Water w/ 3 Bags Mud</i>	
<i>4:30</i>	<i>4:45</i>	<i>1/4</i>	<i>Wait on Cement Truck (Still Circulating 14" Steel)</i>	
<i>4:45</i>	<i>5:00</i>	<i>1/4</i>	<i>Cement Truck #1 on site Pump mud in Truck</i>	
<i>5:00</i>	<i>5:15</i>	<i>1/4</i>	<i>Mix 300 gal Water w/ 3 Bags mud</i>	
<i>5:15</i>	<i>5:30</i>	<i>1/4</i>	<i>Cement Truck #2 on site Pump mud in truck</i>	

Paid ————— 14  
 Non Paid ————— 0  
 Total Time ————— 14

6-1-95 Bob Marse

*Frank Singleton*  
 6-1-95

C-2

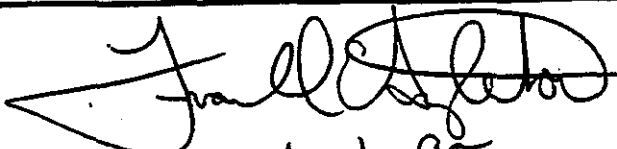
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**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME GD2000		CREW F. Singleton, D Wykoff W. Onkst		REPORT NO.
PROGRESS		TASK C-2	DATE 6-1-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rayne Terminal Romp # TRSA-2	
FROM	TO		DETAILS OF OPERATIONS	
615	630	1/4	fill goose & water tank	
635	830	2	trip in hole to 325'	
			circulate clean to set casing	
830	1030	2	trip out of hole	
1030	130	3	set 325' 14 steel casing	
130	200	1/2	weld Pressure head	
200	815	6 1/4	run 282' 1 1/2 trimmer pipe 40' PVC on bottom, circulate thru trimmer pipe (ops)	
			set up cement pump, mix 300 gal water	
			with 3 bags bentonite pump in cement	
			truck pump down hole 14 yds break down	
			pump & clean lost pressure in hole	
			pull trimmer pipe reset packer on	
			14" steel casing	

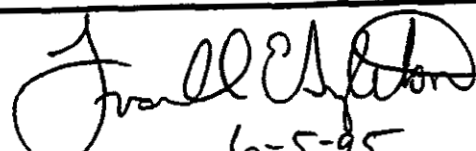
Pay Time - 14  
No Pay - 0  
Total Time 14

  
 6-1-95  
 Bob Marse  
 6-1-95

**SNFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME 6D2000		CREW F. Singleton, D. Wykoff W. Onkst		REPORT NO.
PROGRESS		TASK C-2	DATE Mon 6-5-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA I	
FROM	TO		DETAILS OF OPERATIONS	
730	800	1/2	service Rig	
800	830	1/2	tag cement inside/outside of casing	
830	900	1/2	cut top of 14" steel casing	
900	700	10	breat 13 7/8 bit off of hole opener lay on ground. Trip in hole w/ 13 7/8 bit tag cement <del>top</del> tag at 256'	
1230	130	1	Lunch	
			Add DC #6 get water drill to 298'	
			Add DC #7 drill 298' 327 circulate	
			Add DR #1 drill to 358.7 "	
			Add DR #2 drill to 389.11 "	
			Add DR #3 drill to 426.3" "	
			Add DR #4 drill to 451.5" "	
			thru mud get water mix hexaphas	

Pay Time - 10  
No Pay - 1 1/2  
Total Time - 11 1/2

  
 6-5-95  
 Bob Marse  
 6-5-95



Page 1 of 2

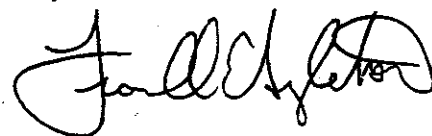
SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton, David Dyckoff, Wilson Orest		REPORT NO.
PROGRESS Drill to 451 BLS.		TASK C-2	DATE Mon 6-5-95	SITE HYDROLOGIST Bob Merse
DEPTH 451 BLS	PROPOSED TOTAL DEPTH 1015 BLS.		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / Romp TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
NPT 7:30	8:00	1/2	Service Rig	
8:00	8:30	1/2	Try to tag Cement w/tape	
8:30	9:00	1/2	Cut Top of 14" Steel Casing Ground level	
9:00	9:30	1/2	Break 13 3/8 Bit off Hole opener	
9:30	9:45	1/4	Lay 14" Hole opener on the Ground	
9:45	12:15	2 1/2	Trip in Hole With 13 3/8 Bit & D.C. to tag Cement washing out Heavy Mud while going in Hole Tagged	
12:15	12:30	1/4	Drill 256' to 269' 3" & Circulate	
NPT 12:30	1:30	1	Lunch	
1:30	1:45	1/4	Conn. D.C. #6 29' 3" Get load Water	
1:45	2:00	1/4	Drill 269' 3" to 298' 6" No Cement from 274' to 298'	
2:00	2:15	1/4	Conn. D.C. #7 29' 3"	
2:15	2:30	1/4	Drill Cement 298' 6" to 327' 9"	
2:30	2:45	1/4	Conn. D.R. #1 30' 10"	
2:45	3:45	1	Drill 327' 9" to 358' 7" String Wt. 23,250 lbs 19'	
3:45	4:00	1/4	Conn. P.R. #2 31' 4"	
4:00	4:45	3/4	Drill 358' 7" to 389' 11"	
4:45	5:00	1/4	Conn. D.R. #3 30' 4"	

Paid — 10  
 Non Paid — 1 1/2  
 Total Time — 11 1/2

6-5-95 Bob Merse f.



6-5-95

[illegible]

**SMPMD GEONHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME GD-2000		CREW F. Singleton; D. Wykoff W. Onkst		REPORT NO.
PROGRESS		TASK C-2	DATE Tues 6-6-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # TRSA-7 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
700	800	1	rig up for reverse air	
800	1015	2 1/4	move & glue 800' 4" sch 40 PVC	
1015	1045	1/2	Fix and replace silt screens	
1045	1100	1/4	glue blow line together	
1100	1230	1 1/2	load & move and glue 4" sch 40 PVC (900)	
			into 40' joints	
1230	1245	1/4	lunch	
1245	745	7	Put 200' 3/4" blowline in hole start	
			reverse air. then mud get load of water	
			Air line got bridged trip out of hole	
			4 DR's & 2 DC's flush drill string w/	
			A air trip back in hole	

Pay Time - 12 1/2  
No Pay - 1/4  
Total Time - 12 3/4

*Frank Wykoff*  
6-6-95  
*Bob Marse*  
6-6-95

C-2

 SWFMD GEOHYDROLOGIC DATA  
 DAILY DRILLING/CORE REPORT

Page 1 of 2

RIG NO/NAME Layne		CREW Frank Singleton, Dezel Dycroff, Wilson O'Keefe		REPORT NO.
PROGRESS None		TASK C-2	DATE /AOS 6-6-95	SITE HYDROLOGIST Bob Merse
DEPTH. 45'	PROPOSED TOTAL DEPTH 1015' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / Romp TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
7:00	8:00	1	Prepare for Reverse Air., Move Compressor	
8:00	10:15	2 1/4	Move & Glue together 800' 4" SCH 40 PVC. into 4	
10:15	10:45	1/2	Fix & Replace Silt Screens in ditch leading to Cr.	
10:45	11:00	1/4	Glue Blow line Together * Rest of Log from Driller	
11:00	12:30	1 1/2	Load & Move, Glue 4" SCH 40 PVC. 900' into 40' Length	
			* I left site 11:30, Gave Driller List of Duties and	
			Phone Number where I could be reached in case	
			of Trouble or Questions, Gary Akers was Present.	
			* Kept lane on Paid Time while wait on flow by Glue	
			PVC Together.	
NPT	12:30	12:45	1/4	Luach
	12:45	1:30	3/4	Put 200' 3/4" Blowline in hole Start Reverse Air
	1:30	2:00	1/2	Thin Mud and Cuttings
	2:00	3:30	1 1/2	Get Load of Water, Thin Mud
	3:30	4:15	3/4	Get Load of Water
	4:15	4:45	1/4	Airline Got Bridged
	4:45	5:30	3/4	Trip out of hole 4 D.R.'s + 2 D.C.'s

Paid — 12 1/2  
 Non Paid — 1/4  
 Total Time — 12 3/4

6-6-95 Bob Merse  
 Jonell O'Keefe  
 6-6-95

[illegible]

C.2

Pay Time	- 2 1/4
No Pay	- 0
Total Time	- 2 1/4

Juall Oyster  
 6-7-95  
 Bob Mann  
 6-7-95

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, Dave Wycott, Wilson Oust</i>		REPORT NO.
PROGRESS <i>None</i>		TASK <i>C-2</i>	DATE <i>Wed 6-7-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>451'</i>	PROPOSED TOTAL DEPTH <i>1015' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	RAMP SITE NAME/NUMBER <i>Payne Terminal / Ramp TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>9:00</i>		<i>Air Line Stuck in Rods from yesterday, Trip out to unstick Blow line* (Slips Still Not Repaired)</i>	
			<i>Slips not Biting on "D.R.'s" or P.C.'s</i>	
			<i>*Told Driller (Frank S.) That the time for 6-6-9 when I was not Present and he had Trouble Tryin to get Reverse Air to work &amp; did not call me was Paid Time. Told him he should have called me or Somebody (Greg or Lloyd) From Swift mud. Next time it happens we will Request for another Driller one with more <del>Responsibility</del> Responsibility</i>	
<i>9:00</i>	<i>9:15</i>		<i>Trip One P.C. in Hole</i>	
<i>9:15</i>	<i>X</i>		<i>Rotary Table Messed up (GEAR or Bear went Down Mechanic on site 10:15)</i>	

NPT

Paid ——— 2 1/4  
 Non Paid ———  
 Total Time ——— 2 1/4

6-7-95 *Bob Marse*  
*Frank Singleton*  
 6-7-95

**SWFWD GEOHYDROLOGIC DATA**  
**DAILY DRILLING/CORE REPORT**

Pay Time - 0  
No Pay - 0  
Total Time - 0

Jonell Chilton  
 6-8-95  
 Bob Mance  
 6-8-95



C2

Paid - 0  
Non Paid - 0  
Total - 0

6-8-95 Bob Mame Jr.  
Full Sister

C-2

NPT

6-12-45 Bob Mann

Janell E. Letwin  
6-12-95

## C-2

WNT

6-13-95 Prob. Max.

Frank E. Perkins

C-2

NPT

6-14-95 Bob Mann

Frank C. [Signature]  
6-14-95

700-945- Service mg & air

6/15

Compressor change oil

2 945-1145 - trip in hole glue  $3/4"$

pvc Airline together 360'

$\frac{1}{2}$  1145-1215 - Lunch

1215-500 - circulate hole clean out  
after getting plugged clean site secure  
site.

after finishing  
tripping in hole  
45'

3- 8" Collars

7- 4" Collars

5- 3" Drill Rod

Pay Time -  $6 \frac{3}{4}$

No Pay -  $3 \frac{1}{4}$

Total Time - 10

C-2

NP-

NP -

Pay Time -  $6\frac{3}{4}$   
No Pay -  $3\frac{1}{4}$   
Total Time - 10

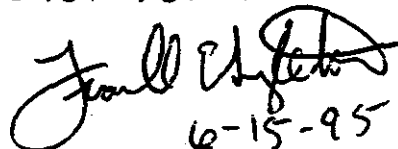
Frank W. Spector  
6-15-95  
Bob Mann Jr  
6-15-95

C-2

SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME <b>Layne</b>		CREW <b>Frank Singleton, Wilson Oust. Jerry H.</b>		REPORT NO. <b>42</b>
PROGRESS		TASK <b>C-2</b>	DATE <b>Thurs 6-15-95</b>	SITE HYDROLOGIST <b>Bob Marse</b>
DEPTH <b>451</b>	PROPOSED TOTAL DEPTH <b>1015'</b>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Payne Terminal / Romp TRSA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
NPT	7:00	9:45	2 <sup>3</sup> / <sub>4</sub>	Change Oil in Rig + Air Compressor, weld Bracket on Rotary Table
	9:45	11:30	1 <sup>3</sup> / <sub>4</sub>	Trip in hole all Bat 60' + Kelly
NPT	11:30	11:45	<sup>1</sup> / <sub>4</sub>	Glue 360' <sup>3</sup> / <sub>4</sub> " SCH 40 PVC Blowline together
NPT	11:45	12:15	<sup>1</sup> / <sub>2</sub>	Lunch
	12:15	1:15	1	Regulate Air for Best Returns on Reverse Air
	1:15	1:30	<sup>1</sup> / <sub>4</sub>	Add D.R.
	1:30	2:15	<sup>3</sup> / <sub>4</sub>	Circulate Rod Down
	2:15	2:30	<sup>1</sup> / <sub>4</sub>	Add D.R.
	2:30	3:15	<sup>3</sup> / <sub>4</sub>	Circulate down to Bottom of Hole
	3:15	5:00	1 <sup>3</sup> / <sub>4</sub>	Plugged Rods

Paid Time — 6 <sup>1</sup>/<sub>2</sub>  
 Non Paid Time — 3 <sup>1</sup>/<sub>2</sub>  
 Total Time — 10 hr.

6-15-95 Bob Marse  
  
 6-15-95

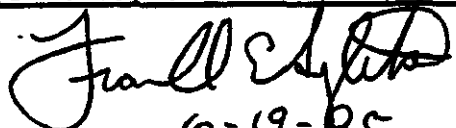
SWPMMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME 6D2000		CREW F. Singleton, D. Wycoff W. Onkst		REPORT NO.
PROGRESS		TASK C-2	DATE Mon 6-19-95	SITE HYDROLOGIST Bob Marse
DEPTH 513	PROPOSED TOTAL DEPTH 1015	FORMATION/AQUIFER		DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
700	830	1 1/2	Try Reverse Air, would not work switch back to mud Rotary	
830	845	1/4	get water	
845	900	1/4	add water to goose	
900	945	3/4	goose fuel full of water had to drain and fill back up plus add new fuel filter	
945	1045	1	flush mud out of goose, get a load of water and pump in goose circulate Kelly down	
1045	1200	1 1/4	mix 2 bags mud Circulate, Talley pipe Add DR #5 Drill to 462.. get water	
1200	145	1 3/4	finish drilling DR #5 down circulate	
145	215	1/2	Lunch	
215	500	2 3/4	Add DR #6 Drill to 513 get water, circulate Add DR #7. <del>DR #7</del>	
500	545	3/4	slip dye fell out try to fix, secure site.	

NPT

Pay Time - 8 3/4  
No Pay - 1 3/4  
Total Time - 10 1/2

  
 6-19-95  
 Bob Marse  
 6-19-95



Page 1 of 2

SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Wilson Oxner Dave Wycoff</i>		REPORT NO. <i>43</i>
PROGRESS <i>451' to 513'</i>		TASK <i>C-2</i>	DATE <i>Mon 6-19-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>513'</i>	PROPOSED TOTAL DEPTH <i>1015'</i>	FORMATION/AQUIFER		DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Layne Terminal / Romp TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Try Reverse Air</i>	
<i>7:30</i>	<i>8:30</i>	<i>1</i>	<i>Switch Back over to mud Rotary</i>	
<i>8:30</i>	<i>8:45</i>	<i>1/4</i>	<i>Get Load of Water</i>	
<i>8:45</i>	<i>9:00</i>	<i>1/4</i>	<i>Add Fresh Water To goose</i>	
<i>9:00</i>	<i>9:45</i>	<i>3/4</i>	<i>Goose will not Start Fuel Filters Plugged <sup>feet</sup></i>	
<i>9:45</i>	<i>10:15</i>	<i>1/2</i>	<i>Flush Mud out of Goose w/ Fresh Water.</i>	
<i>10:15</i>	<i>10:30</i>	<i>1/4</i>	<i>Get Load Water</i>	
<i>10:30</i>	<i>10:45</i>	<i>1/4</i>	<i>Circulate Kelly Down</i>	
<i>10:45</i>	<i>11:15</i>	<i>1/2</i>	<i>Mix 2 Bg mud + Circulate; Talley Pipe</i>	
<i>11:15</i>	<i>11:30</i>	<i>1/4</i>	<i>Conn D.R.#5 31.3"</i>	
<i>11:30</i>	<i>11:45</i>	<i>1/4</i>	<i>Drill 451.5" to 462.0" out of Water</i>	
<i>11:45</i>	<i>12:00</i>	<i>1/4</i>	<i>Get Load of Water</i>	
<i>12:00</i>	<i>1:30</i>	<i>1 1/2</i>	<i>Resume Drilling 451.5" to 482.8"</i>	
<i>1:30</i>	<i>1:45</i>	<i>1/4</i>	<i>Circulate</i>	
<i>1:45</i>	<i>2:15</i>	<i>1/2</i>	<i>Lunch</i>	
<i>2:15</i>	<i>2:30</i>	<i>1/4</i>	<i>Conn. DR.#6 31.3"</i>	
<i>2:30</i>	<i>4:30</i>	<i>2</i>	<i>Drill 482.8 to 513.11" And get 2 Loads Wat</i>	

Paid Time — *8 3/4*  
 Non Paid Time — *1 3/4*  
 Total Time — *10 1/2*

6-19-95 Bob Marse

*Frank Singleton*  
 6-19-95

[illegible]

SWFMD GEOHYDROLOGIC DATA  
 DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME 602000		CREW F. Singleton, D Wykoff W. Onkst		REPORT NO.
PROGRESS		TASK C-2	DATE Tues 6-20-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH 1015		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Ramp #TRSA-2	
FROM	TO		DETAILS OF OPERATIONS	
700	830	1 1/2	Change back to reverse air from mud Rotary.	
830	1200	3 1/2	Add DR # 7 put in hole but hole is filled with cuttings wouldn't go all the way to bottom pull DR 7 back up and layed down put Kelly on to try and clean hole replace 2" valve stop getting return filled Dp with water 6 times to try and blow out pull out one rod and boost Air Comp. up to 215 PSZ. blow out plug and let circulate	
1200	1230	1/2	circulate	
1230	600	5 1/2	readded DR 9 rotate down slowly to clean hole became plugged (Rick) said to drop Jack pipe airline came apart begin tripping out of hole reached Airline reeved start circulate readded DR #6 circulate & clean down.	

Pay Time - 11 1/2  
 No Pay - 2 1/2  
 Total Time - 13 1/2

Frank C. [Signature]  
 6-20-95


## Pay Time

**SWFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Wilson Rust Dave/John</i>		REPORT NO. <i>44</i>
PROGRESS <i>None -30</i>		TASK <i>C-2</i>	DATE <i>Tues 6-20-95</i>	SITE HYDROLOGIST <i>Rick Lee</i>
DEPTH	PROPOSED TOTAL DEPTH <i>1015</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal Romp TRSA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7:00</i>	<i>8:30</i>	<i>1 1/2</i>	<i>I Left Site to go to C-1 for Lloyd J. 7:00 Rave.</i>	
			<i>Switch over from mud to R. Air. Rick L. on site</i>	
<i>9:00</i>	<i>9:45</i>	<i>3/4</i>	<i>Circulate w/ Reverse Air</i>	
<i>9:45</i>	<i>12:00</i>	<i>2 1/4</i>	<i>Plugged Bit</i>	
<i>12:00</i>	<i>1:00</i>	<i>1</i>	<i>Circulate w/ Reverse Air</i>	
<i>NPT 1:00</i>	<i>1:30</i>	<i>1/2</i>	<i>Lunch</i>	
<i>1:30</i>	<i>3:45</i>	<i>2 1/4</i>	<i>* Slips for Drill Rod not in working Condition; Using Drill Collar Slips on Tool Joints of Rods Circulate w/ Reverse Air.</i>	
<i>NPT 3:45</i>	<i>5:30</i>	<i>1 3/4</i>	<i>Reverse Air Quit; Blowline Came unscrewed. Kelly Trip in Hole to Retrieve Blow Line</i>	
<i>5:30</i>	<i>6:00</i>	<i>1/2</i>	<i>* Back on Site) Circulate w/ Reverse Air</i>	
<i>NPT 6:00</i>	<i>6:15</i>	<i>1/4</i>	<i>Replace Blow Line Female Adaptor at Kelly</i>	
<i>6:15</i>	<i>6:30</i>	<i>1/4</i>	<i>Conn. D.P. #6</i>	
<i>6:30</i>	<i>8:30</i>	<i>2</i>	<i>Circulate to 485.5" Would not clean up pickup 3' clean hole in 5-10 min Go back down to 485.5 Larger amount of Cuttings will not clean up</i>	

Paid Time *11 1/2*  
 Not Paid Time *2 1/2*  
 Total Time *13 1/2*

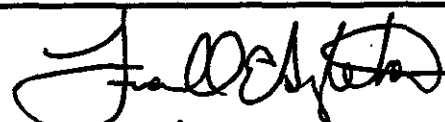
*6-20-95 Bob Mann*  
  
*6-20-95*

C-2

SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME 60-2000		CREW F. Singleton, D. Wykoff W. Onkst		REPORT NO.
PROGRESS		TASK C-2	DATE Wed 6-21-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Ramp T&SA-1	
FROM	TO		DETAILS OF OPERATIONS	
700	800	1	warm up rig Try Reverse Air would not work right	
800	900	1	Switch over to mud	
900	1015	1 1/4	mix mud & circulate get water circulate to bottom of hole get water	
1015	1215	2	Add DR#7 Drill down to 545.1 mix 14 bags mud	
1215	1245	1/2	Add DR#8 drill no mud on site wait on bobby to return with mud	
1245	815	7 1/2	finish drilling DR#8 to bottom circulate, Add DR# drill to 667. <sup>Circulate</sup> added DR#10 drill to 638.5 circulate Add DR#11 drill to 669.9 circulate Add DR#12 drill to 700.9 circulate. clean	
			Pull Kelly & 2 rods off bottom Pick up tools & equipment & secure site	

Pay Time - 13  
No Pay - 1/4  
Total Time - 13 3/4

  
 6-21-95  
 Bob Marse  
 6-21-95

Page 1 of 2

SFWMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <b>Layne</b>		CREW <b>Frank Singleton Wilson Orest Paul Wroble</b>		REPORT NO. <b>45</b>
PROGRESS <b>249'</b>		TASK <b>G-2</b>	DATE <b>Wed 6-21-95</b>	SITE HYDROLOGIST <b>Bob Marse</b>
DEPTH <b>700'</b>	PROPOSED TOTAL DEPTH <b>1015 BLS</b>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	RMP SITE NAME/NUMBER <b>Payne Terminal / Rmp TSA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
NPT 7:00	7:15	1/4	Service Rig	
7:15	8:00	3/4	Try Reverse Air * Talk to Greg	
8:00	9:00	1	Switch over to mud	
9:00	9:30	1/2	Mix Mud & Circulate; Get Load of Water	
9:30	10:15	3/4	Circulate to Bottom of hole 513.11"; GET Load of Water	
10:15	10:30	1/4	Conn D.R.#7 31.2"	
10:30	12:15	1 3/4	Drill 513.11" to 545.1" mix 14 Sp. Mud	
12:15	12:30	1/4	Conn D.R.#8 * Could not Get Back to Bottom	
12:30	12:45	1/4	Circulate * Waiting on Mud	
* 12:45	1:30	3/4	* 10:45 <sup>pm</sup> I left to get mud in Venice Returned 12:45 <sup>pm</sup>	
			Driller not on Site Driller Returned 1:30 <sup>pm</sup> (went to call on)	
1:30	2:15	3/4	Back on Bottom Resume Drilling D.R.#8	
			Drill 545.1 to 575.11	
			* I <sup>am</sup> left to get Backhoe at Myrtle City Branch	
			Returned 4:30	
2:15	2:30	1/4	Conn D.R.#9 31.1'	
2:30	4:00	1 1/2	Drill 575.11 to 607	

Paid Time — 13  
Non Paid Time — 1/4  
Total Time — 13 1/4

6-21-95 Bob Marse  
*Frank Singleton*  
6-21-95

[illegible]



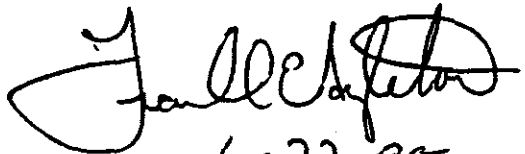
**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME		CREW F. Singleton, W. Onkst D. Wykoff		REPORT NO.
PROGRESS		TASK C-2	DATE Thur 6-22-95	SITE HYDROLOGIST Bob Marse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal Romp # TRSA-7	
FROM	TO		DETAILS OF OPERATIONS	
000	745	3/4	Trip 2 DR's in hole circulate well	
745	800	1/4	Weight indicator not working add fluid	
800	1200	4	Dr down 700.9 to 732.1 thru mud	
1200	1245	3/4	I left site to make phone call loaded up	
			Bushings, Slips other materials to go to shop	
1245	145	1	Dig pits after taking down fences	
145	245	1	Bachor over heated try and work out	
245	345	1	move and restack PVC clutch on pump	
			start smoking pick up rods off bottom	
			and secure well	

NPT

Pay Time - 7 1/2  
No Pay - 1 1/4  
Total Time - 8 3/4

  
6-22-95  
Bob Marse 6-22-95

Page 1 of 2

SWMMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton, Wilson Oknot Dade W.		REPORT NO. 46
PROGRESS 32'		TASK C-2	DATE Thur. 6-22-95	SITE HYDROLOGIST Bob Marsie
DEPTH 732.1	PROPOSED TOTAL DEPTH 1015 BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / Romp TR SA-1	
FROM	TO		DETAILS OF OPERATIONS	
7:00	7:45	3/4	Trip 2 D.R.'s Circulate Kelly to Bottom m. conn D.R.#13 31.3	
7:45	8:00	1/4	Weight indicator not working; Add Fluid Bled Line	
8:00	11:00	3	Drill DR.#13 700.9 to 732.1 Begin Thinning mud Half way down on Kelly Talked to Greg Stay on mud.	
11:00	12:00	1	Circulate while clearing place to dig out Pits (Pit Over Flowing) *Backhoe Over heated	
12:00	12:15	1/4	Driller Left Site to make Phone Call.	
12:00	12:45	3/4	Gary A. Called about NPT; Brouse of Blowh Driller Loaded Bushings, Slips, & Other Materials + as to Orlando; Driller Said "I'm going to Orlando	
12:45	1:45	1	Remove Fence & Dig Retention Pits	
1:05	2:45	1	Backhoe Overheated; work on Backhoe ch coolant & Oil Levels, Fan Belt, & Water Pump	
2:45	3:15	1/2	Move PLC & Restack; For Mowing in Park	

NPT

NPT  
NPT

Paid Time — 7 1/2  
Non Paid — 1 1/4  
Total — 8 3/4 hr.

Bob Marsie 6-22-95

\* *[Signature]*  
6-22-95

[illegible]

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Pay Time - 2 1/2  
No Pay - 8  
Total Time - 10 1/2

Frank C. [Signature]  
6-26-95  
Bob Mann  
6-26-95

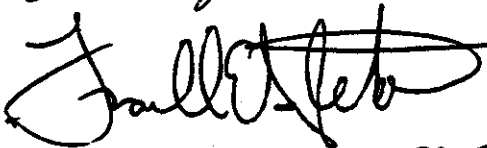
Pay Time	- 2 1/2
No Pay	- 8
Total Time	- 10 1/2

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton Wilson Okist, John Webster</i>		REPORT NO. <i>47</i>
PROGRESS <i>None</i>		TASK <i>C-2</i>	DATE <i>Mon 6-26-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>
DEPTH <i>732.1</i>	PROPOSED TOTAL DEPTH <i>1015' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal / Romp TR SA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>NPT 7:00</i>	<i>2:00</i>	<i>7</i>	<i>Layne's Crew not on site; Called Orlando talked to Gary A. Crew having Truck trouble</i>	
<i>2:00</i>	<i>3:30</i>	<i>1 1/2</i>	<i>Dug out Pits &amp; Repair fence</i>	
<i>3:30</i>	<i>3:45</i>	<i>1/4</i>	<i>Trip one Rod in Hole</i>	
<i>NPT 3:45</i>	<i>4:45</i>	<i>1</i>	<i>Work on Clutch to Mud Pump Clutch Slippin</i>	
			<i>Hard to engage + disengage</i>	
<i>4:45</i>	<i>5:00</i>	<i>1/4</i>	<i>Circulate Kelly to Bottom</i>	
<i>5:00</i>	<i>5:15</i>	<i>1/4</i>	<i>Conn D.R. #14 30.11</i>	
			<i>* Crew Still using D.C Slips on tool Joint + D.R.</i>	
<i>5:15</i>	<i>5:30</i>	<i>1/4</i>	<i>Mud Pump Clutch Still Slipping to Hot to we</i>	
			<i>nn it. Trip one Rod up Secure well. Call</i>	
			<i>a day is what the Driller Said.</i>	

Paid Time — *2 1/2*  
 NonPaid — *8*  
 Total Time — *10 1/2*

*Bob Marse Jr. 6-26-95*  
  
*6-26-95*

C-2

**SMFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME		CREW F. Singleton, W Onkst J. Webster		REPORT NO.	
PROGRESS		TASK C-2	DATE Tues 6-27-95	SITE HYDROLOGIST Bob Marse	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Romps # TRSA-1 Payne Terminal		
FROM	TO		DETAILS OF OPERATIONS		
700	730	1/2	Adjust clutch on pump		
730	115	5 1/4	Trip & Rod in hole circulate to bottom		
			Add DR # 14 drill to 762.11		
			circulate		
			Add DR # 15 drill to 794.6 circulate		
			Add DR # 16 drill to 825.10 circulate		
			Add DR # 17 drill to 856.8 circulate get wa		
			Add DR # 18 drill to 887.9 circulate		
			Add DR # 19 drill to 918.7 circulate get wa		
530			Add DR # 20 drill to 949.1 but clutch wen		
			out would not move shut down rig left		
			side to get mechanic		

Pay Time - 5 3/4  
 No Pay - 4 3/4  
 Total Time - 10 1/2

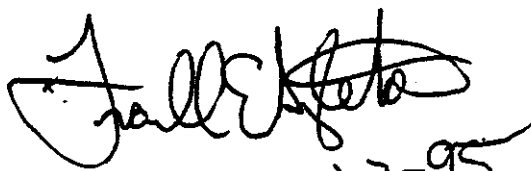
*Paul Singleton*  
 6-27-95  
*Bob Marse*  
 6-27-95

C-2

SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME <b>Layne</b>		CREW <b>Frank Singleton, Wiken Okrest, Dave Wycoff</b>		REPORT NO. <b>48</b>
PROGRESS <b>186</b>		TASK <b>C-2</b>	DATE <b>Tues 6-27-95</b>	SITE HYDROLOGIST <b>Bob Marse</b>
DEPTH <b>918.7</b>	PROPOSED TOTAL DEPTH <b>1015' BLS</b>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>Payne Terminal / Romp TR SA-1</b>	
FROM	TO		DETAILS OF OPERATIONS	
<b>NPT 7:00</b>	<b>7:30</b>	<b>1/2</b>	<b>Work on Mud Pump Clutch &amp; Measure Derrick</b>	
<b>7:30</b>	<b>7:45</b>	<b>1/4</b>	<b>Trip one rod in hole to bottom conn. Kelly</b>	
<b>7:45</b>	<b>8:15</b>	<b>1/2</b>	<b>Drill D.R. #14 732.0 to 762.11</b>	
<b>8:15</b>	<b>8:30</b>	<b>1/4</b>	<b>Circulate</b>	
<b>8:30</b>	<b>8:45</b>	<b>1/4</b>	<b>conn. D.R. #15 31.7</b>	
<b>8:45</b>	<b>9:15</b>	<b>1/4</b>	<b>Drill D.R. #15 762.11 to 794.6</b>	
<b>9:15</b>	<b>9:30</b>	<b>1/4</b>	<b>conn D.R. #16 31.4</b>	
<b>9:30</b>	<b>9:45</b>	<b>1/2</b>	<b>Drill D.R. #16 794.6 to 825.10</b>	
<b>9:45</b>	<b>10:00</b>	<b>1/4</b>	<b>conn D.R. #17 30.10</b>	
<b>10:00</b>	<b>10:45</b>	<b>3/4</b>	<b>Drill D.R. #17 825.10 to 856.8</b>	
<b>10:45</b>	<b>11:00</b>	<b>1/4</b>	<b>conn D.R. #18 31.1</b>	
<b>11:00</b>	<b>11:30</b>	<b>1/2</b>	<b>Drill D.R. #18 856.8 to 887.9</b>	
<b>11:30</b>	<b>11:45</b>	<b>1/4</b>	<b>conn D.R. #19 30.10</b>	
<b>11:45</b>	<b>12:30</b>	<b>3/4</b>	<b>Drill D.R. #19 887.9 to 918.7</b>	
<b>12:30</b>	<b>1:00</b>	<b>1/2</b>	<b>Circulate; Get Load of Water</b>	
<b>1:00</b>	<b>1:15</b>	<b>1/4</b>	<b>conn. D.R. #20</b>	
<b>NPT 1:15</b>	<b>5:30</b>	<b>4 1/4</b>	<b>Mud Pump Clutch will not engage; Driller left site to get</b>	

**Paid Time — 5 3/4**  
**Non Paid Time — 4 3/4**  
**Total Time — 10 1/2**

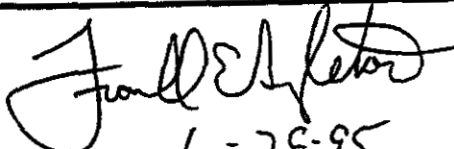
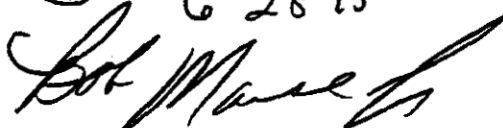
**Bob Marse 6-27-95**  
  
**6-27-95**

C-2

SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

RIG NO/NAME GD 2000		CREW F. Singleton, W. Onkst J. Horan		REPORT NO.
PROGRESS		TASK C-2	DATE Wed 6-28-95	SITE HYDROLOGIST Bob Marsse
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Rom # TRSA-2 Payne Terminal	
FROM	TO		DETAILS OF OPERATIONS	
760	945	2 3/4	mechanic on site working on clutch to mud pump. would not disengage	
945	1000	1/4	get load of water	
1000	1015	1/4	Add kelly to DR #20	
1015	1030	1/4	Fix suction on goose	
1030	1100	1/2	Drill DR # 20 down	
1100	215	3 1/4	clutch on mud pump started smoking & slipping try to fix & adjust didn't work	
215	415	2	trip rods out of hole for holiday	

Pay Time - 3  
No Pay - 6 1/4  
Total Time - 9 1/4

  
 6-28-95  
  
 B. Marsse



SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, Wilson Oost Jervuven</i>		REPORT NO. <i>49</i>
PROGRESS <i>7'</i>		TASK <i>C-2</i>	DATE <i>Wed 6-28-95</i>	SITE HYDROLOGIST <i>Bob Morse</i>
DEPTH <i>925'</i>	PROPOSED TOTAL DEPTH <i>1015' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal / Romp TR SA-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>NPT 7:00</i>	<i>9:45</i>	<i>2 3/4</i>	<i>Work on mud Pump Clutch; Throw out Bearing assembly broken; Pump won't disengage Contractor elected to continue drilling. I warned the driller of the possible Hazards; Not being able to dis clutch at drilling console</i>	
<i>9:45</i>	<i>10:00</i>	<i>1/4</i>	<i>Get load of water</i>	
<i>10:00</i>	<i>10:15</i>	<i>1/4</i>	<i>Lower D.R. #20 31.0' Conn. Kelly</i>	
<i>NPT 10:15</i>	<i>10:30</i>	<i>1/4</i>	<i>Goose Suction not operating (Free up shaft.)</i>	
<i>10:30</i>	<i>11:00</i>	<i>1/2</i>	<i>Drill D.R. 20 918.7 to 949.7 drilled to 925'</i>	
<i>NPT 11:00</i>	<i>2:15</i>	<i>3 1/4</i>	<i>Clutch on mud pump started Smoking &amp; Slipping</i>	
<i>2:15</i>	<i>4:15</i>	<i>2</i>	<i>Trip Rods up into casing 325' BLS for the Holiday</i>	

*Laid — 3*  
*Non Laid — 6 1/4*  
*Total Time — 9 1/4*

*6-28-95 Get Marge p.*  
*J. U. [Signature]*  
*6-28-95*

0.2

Paid Time - 0  
 Non Paid All Day  
 Total Time - 0

6-29-95. Pat Maughan  
Franklin D. Smith  
6-29-95

## C-2

Paid = 0  
 Received of Mr. Par  
 1/2 Time - 0

July 25  
7-25-98

## C-2

Aid - 0  
 Non Aid - 11/12/13  
 Total Time - 0

Small Gift

02

Paid - 0  
 Unpaid All Day  
 Total Time - 0

7-5-95 Bob Macek  
L. Macek  
7-5-95

0-2

1st - 0  
 2nd - 0  
 3rd - 0

Full Circle  
7-6-95

6-2

22

7-10-95 Del. Ware

7-10-95

7/21 - 10

C-2

Pay Time - 2  
No Pay - 6  
Total Time - 8

Frank Ely  
7-11-95

Bob Munn  
7-11-00



**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank Singleton, W. Ken Dast, Dave Wyant</i>		REPORT NO. <i>56</i>
PROGRESS <i>None</i>		TASK <i>C-2</i>	DATE <i>Tues 7-11-95</i>	SITE HYDROLOGIST <i>Bob Mars</i>
DEPTH <i>925'</i>	PROPOSED TOTAL DEPTH <i>1015' BLS</i>		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Layne Terminal / Romp TR SH-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
	<i>7:00</i>	<i>7:30</i>	<i>1/2</i>	<i>Trip Rods in Hole</i>
<i>NPT</i>	<i>7:30</i>	<i>7:45</i>	<i>1/4</i>	<i>Work on weight indicator</i>
	<i>7:45</i>	<i>8:00</i>	<i>1/4</i>	<i>Resume Tripping in Hole</i>
<i>NPT</i>	<i>8:00</i>	<i>8:15</i>	<i>1/4</i>	<i>Work on Weight Indicator / Break &amp; Fluid Fluid</i>
	<i>8:15</i>	<i>9:15</i>	<i>1</i>	<i>Resume Tripping in Hole</i>
	<i>9:15</i>	<i>9:30</i>	<i>1/4</i>	<i>Hit Bridge at 780' Begin Washing Down Rods</i>
<i>NPT</i>	<i>9:30</i>	<i>10:00</i>	<i>1/2</i>	<i>Crack in 90° Elbow Above Surface Well Head</i>
<i>NPT</i>	<i>10:00</i>	<i>11:30</i>	<i>1 1/2</i>	<i>Clutch going to mud pump w/ 11 not engage</i>
<i>NPT</i>	<i>11:30</i>	<i>12:30</i>	<i>1</i>	<i>Trip Drill Rods up into casing; Because mud pump broke down to go safe</i>
<i>NPT</i>	<i>12:30</i>	<i>3:00</i>	<i>2 1/2</i>	<i>Take Clutch apart / Clutch piece broken into pieces</i>
				<i>Layne's crew left site 3:00 pm.</i>

*aid — 2*  
*Non aid — 6*  
*Total Time — 8*

*7-11-95 Robbie E. Marvel Jr*  
*Frank Singleton*  
*7-11-95*

C-2

Paid - 0  
Non Paid - All Pay  
Total Time - 0

7-12-95 Bob Mause  
J. H. Mause

7-13-95 Bob Ma  
Hall County  
7-13-95

C-2

7-17-95 Bob Mance  
J. A. Chilton  
7-17-95

SNFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton, Dave W. off Wilson D. K. St		REPORT NO. 60	
PROGRESS None		TASK C-2	DATE Tues 7-18-95	SITE HYDROLOGIST Bob Marse	
DEPTH 925'	PROPOSED TOTAL DEPTH 1015' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / TRS A-1		
FROM	TO		DETAILS OF OPERATIONS		
NPT	7:00	9:00	2	Pig Broke Down (Kelly Hose) Storming No one from Layne on Site?	
NPT	9:00	9:30	1/2	Driller & One Helper on site Left Because of Weather	
NPT	9:30	1:30	4	No one from Layne on Site because of Weather	
NPT	1:30	3:00	1 1/2	Rain Stopped No one from Layne on Site Called Greg then Called Barry A.	
NPT	3:00	5:00	2	Fix Kelly Hose trip Rods into Safer Zone Layne Shut Down for the day Driller's Choice	

Paid — C  
Non Paid — 10  
Total Time — X

7-18-95 Bob Marse  
[Signature]  
7-18-95

Page 1 of 2

SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME Layne		CREW Frank Singleton Dave Wycoff Wilson Onkst		REPORT NO. 61
PROGRESS 9011-55'		TASK C-2	DATE Wed 7-14-95	SITE HYDROLOGIST Bob Marsel
DEPTH 980.10"	PROPOSED TOTAL DEPTH 1015' BLS		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER Payne Terminal / TRSA-1	
FROM	TO		DETAILS OF OPERATIONS	
NPT	7:00	7:30	1/2	NPT for Layne until drilling resumes, Because they had to trip D.R.'s out of the hole to install new Kelly Hose, Then the fittings leaked and had to replace Boss fittings on Kelly Hose
NPT	7:30	8:30	1	Trip D.R.'s in Hole
NPT	8:30	9:45	1 1/4	Started to Circulate lost 2 D.R.'s to Bottom; Mud pump started knocking, Checked out Mud Pump, Liner sliding on piston, * Pump will not pump full volume. Driller called Orlo Laynes driller decided after talking to Orlando to continue drilling. Washed down last 2 D.R. to Bottom. * Greg
	9:45	10:15	1/2	Resume drilling at 925' to 949.7"
	10:15	10:45	1/2	Circulate Hole
	10:45	11:00	1/4	Conn. D.R. #21 31' 3"
	11:00	12:30	1 1/2	Drill D.R. #21 949.7 to 980.10"
				* I Left Site 11:00 with Greg M. to Show him S
				I Returned at 11:50 12:00 to 12:30 I went to L

~~Handwritten signature~~  
7-19-95

C-2

7-20-95 Bob Mause



## C-2

7-24-95 Bob Mauer

C-2

7-25-95 Bob Mance

C-2

7-26-95 Bob Marse

C-2

7-27-95 Rob/Mare

C-2

Paid  
Non Paid — 10 hr.  
Total

Bob Maure 7-31-6

## C-2

Bob Mase 8-1-4

Paid  
Non Paid — 10 hr.  
Total

62

Paid —  
 Non Paid — 10 hr.  
 Total Time —

72th March-8-24

C-2

Paid	
Now Paid	10 Mar
Total	

Rob Ware 8-3-98



SMFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <i>Layne</i>		CREW <i>Frank S.</i>		REPORT NO. <i>71</i>	
PROGRESS <i>None</i>		TASK <i>C-2</i>	DATE <i>Mon 8-7-95</i>	SITE HYDROLOGIST <i>Bob Mann</i>	
DEPTH <i>980</i>	PROPOSED TOTAL DEPTH <i>1015</i>		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Layne Terminal TR-SF-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
			<i>10 hr. NPT</i>		
			<i>Rig Broke Down</i>		
			<i>Mud Pump, Table, Swivel, Lines</i>		
			<i>No one from Layne on site</i>		
			<i>Site had 4000 lbs. of cement when arrived</i>		
			<i>10 samples take it off ???</i>		

*Paid  
Non Paid - 10 hr.  
Total*

*8-7-95 Bob Mann*

C-2

Paid —  
 Bon Paid — 10 m.  
 Total —

Bob Marshall 8-8-9

C-2

Paid —  
 Not Paid — 10 hrs.  
 Total —

Rep. Mrs. P. 8-9-9

C-2

Paid —  
 on hand — 10 hrs.  
 Total —

Bob Moore 8-10.

C-2

Total - 0

SFWMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT

C-2

RIG NO/NAME <i>Layne</i>		CREW		REPORT NO. <i>76</i>	
PROGRESS <i>None</i>		TASK <i>C-2</i>	DATE <i>Tues 8-15-95</i>	SITE HYDROLOGIST <i>Bob Marse</i>	
DEPTH <i>980</i>	PROPOSED TOTAL DEPTH <i>1015 BLS.</i>		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Payne Terminal TRSA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
			<i>Rig Broke Down</i>		
			<i>Called Joe from Layne</i>		
			<i>Still waiting on parts</i>		
			<i>Talked to Layne's Mech. (Gary)</i>		
			<i>1 Mech. coming from Pensacola</i>		
			<i>Monday with parts.</i>		
			<i>10 hr. NPT</i>		

*Paid - 0*  
*Non Paid - 10*  
*Total - 10*

*8-15-95 Bobbie Mark*

C-2

Paid - 0  
Non Paid - 10 hr.  
Total Time - 0

8-16-95 Bobbie Maurer

C-2

Paid - 0  
Non Paid - 10  
Total - 10

8-17-95 Bobbi Mae



C-2

Paid - 0  
 Non Paid - 10  
 Total - 10

8-21-95  
Bob Mance

## C-2

Paid - 0  
Non Paid - 10  
Total 10

8-22-95  
Bob Moore

52

8-23-95  
Bob Mann

← 2

Paid	C
Paid	10
Total	10

Don Mac 8-24-75

C-2

8-28-95 Bl-Mandf

C-2

Non Paid 10 hrs.

8-29-45  
Bob Mauer

C-2

8-30-95 Bob Mene R

C-2

Work paid 10 hrs. 8-31-95 Bob Mandy



# SMTMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

[illegible]

# SWFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

# SNFVMD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

RIG NO/NAME CON 2		CREW JAMES, RON, MICKY		REPORT NO.
PROGRESS		TASK	DATE 9/12/95	SITE HYDROLOGIST RAL
DEPTH 9835	PROPOSED TOTAL DEPTH 1015		FORMATION/AQUIFER AVPK	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER TR SA-1	
FROM	TO		DETAILS OF OPERATIONS	
			PUT REST OF PIPE BACK IN HOLE BUT ST	
			WAITING FOR A PART FOR THE ROTARY TABLE	
			GOT THE PART AND THEN THE MUD PUMP	
			CLUTCH WOULDN'T WORK - JAMES CALLED FOR	
			A MECHANIC AND HE GOT ON SITE @ 1500 A	
			REPLACED A BROKEN CLUTCH PLATE.	
			BACK CIRCULATING @ 1730	
			NEW PIPE IN HOLE @ 1745	
			PROBLEMS @ 1800 BROKEN FITTINGS ON HOS	
			DRILLING STOPPED BUT CIRCULATION TO CONTINUE	
			30 MINS	
			30 MINS PAID TIME THE REST LAYWET TIME	
			James Armstrong	

[illegible]

# SNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

# SNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]

# SUNFWD GEOHYDROLOGIC DATA DAILY DRILLING/CORE REPORT

[illegible]



[illegible]

## C 2

Paid time 11 1/4 hrs  
 Van Paid 0  
 total time 11 1/4 hrs.

Lloyd H Johnson Jr. 9/2  
 James C Armstrong

**SFMWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

C 2

RIG NO/NAME <i>Styne</i>		CREW <i>James A. Donald S.</i>		REPORT NO.
PROGRESS		TASK <i>C2</i>	DATE <i>Fri 9-22-95</i>	SITE HYDROLOGIST <i>L. Johnson</i>
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Romp TR 5A-1</i>	
FROM	TO		DETAILS OF OPERATIONS	
<i>7</i>	<i>10:15</i>	<i>3 1/4</i>	<i>T.I.H w/ 400 ft DK</i>	
<i>10:15</i>	<i>12:30</i>	<i>2 1/4</i>	<i>circulate well from bottom added 15 bags gel</i>	
<i>12:30</i>	<i>2</i>	<i>1 1/2</i>	<i>Pulled Kelly up &amp; shut pump down had some fall in mixed 20 bags gel &amp; circulate</i>	
<i>2</i>	<i>5:30</i>	<i>3 1/2</i>	<i>T.I.H w/ all FIK's &amp; L.P.'s &amp; la out on pipe trailer</i>	
<i>5:30</i>	<i>8:30</i>	<i>3</i>	<i>started in well w/ 4 in PVC well screen 30/1000 101.3 to 99.3 ft 20 ft then PVC 99.3 to surface + 6 ft above ground</i>	
<i>8:30</i>	<i>9:30</i>	<i>1</i>	<i>started pouring gravel in well poured 24 total, the secure site</i>	

*Paid time 14 1/2 hrs*  
*Non Paid 0*  
*Total time 14 1/2 hrs*

*Lloyd H Johnson Jr. 9/22,*  
*James Cameron*

**SWPMHD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

2

RIG NO/NAME <i>Doyle</i>		CREW <i>James H Donald S.</i>		REPORT NO. <i>1 of 2</i>	
PROGRESS		TASK <i>C2</i>	DATE <i>Sat 9-23-95</i>	SITE HYDROLOGIST <i>L. Johnson</i>	
DEPTH	PROPOSED TOTAL DEPTH		FORMATION/AQUIFER	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <i>Pump TRSA-1</i>		
FROM	TO		DETAILS OF OPERATIONS		
7	7:30	1/2	<i>measured 1 1/2' steel &amp; lay up on pipe trailer to start in well</i>		
7:30	8	1/2	<i>called Rick L. about well screen, we set 20, not 40</i>		
8	8:30	1/2	<i>poured 20 more buckets of gravel 44 total</i>		
8:30	11	2 1/2	<i>started in w/ 1 1/2' in steel</i>		
11	11:15	1/4	<i>added 1.5 more buckets 55 total</i>		
11:15	12:15	1	<i>lunch</i>		
12:15	12:30	1/4	<i>tried to tag gravel</i>		
12:30	1:30	1	<i>poured 1.5 buckets of gravel 75 buckets total &amp; let settle. started set up gravel pump.</i>		
1:30	7:30	1	<i>trying to tag gravel, 1 1/2' in steel centrifugal pump. tried to use the tag line. motor will not run. temporary pipe plugged off.</i>		

*NPT*

*Paid time 11 hrs  
Non Paid 1 hr.  
total time 12 hrs*

*Lloyd Johnson Jr.  
9/23/95  
James C Armstrong*

C2

[illegible]

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>LAYNE</b>		CREW <b>JAMES, RON, ACPD</b>		REPORT NO.
PROGRESS		TASK <b>C-2</b>	DATE <b>7/24/95</b>	SITE HYDROLOGIST <b>RAL</b>
DEPTH <b>1015</b>	PROPOSED TOTAL DEPTH <b>1015</b>		FORMATION/AQUIFER <b>AN PK</b>	DATE MOVED ON SITE
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>TR SA-1 (PAYNE TERMINAL)</b>	
FROM	TO		DETAILS OF OPERATIONS	
			RAL ON-SITE 0945 GO GET LAYNE CREW @	
			ROOM - HAD BEEN ON SITE UNTIL 0920	
			MEASURE 965' ON WIRE LINE TO THE GRAV	
			WIRE LINE READER @ 968' W/ JUST GRAVEL	
			2 BAGS OF SAND POURED IN W/AT 15 MIN	
			3 1/2 BUCKETS OF BENTONITE PELLETS POURED IN	
			TAGGED @ 936' & LUNCH W/ RON + ACPD W/ HIC	
			JAMES STAYED ON SITE AND RAN THE TREMIE	
			UP + DOWN TO KEEP BENTONITE FROM BRIDGING	
			TREMIE PLUGGED + PULLED 1/2 WAY UP TO CLG	
			TREMIE POKED IN @ 1500 - WIRE LINE OUT @ 153	
			TO BE MEASURED AGAIN 927.8' TO POINT WH	
			IS ~ 5' ABOVE GROUND (922.8' TO TOP OF PELLETS	
			MIXING CEMENT @ 1645 (3 1/2 <sup>LLOYD</sup> 400 GAL TUBS OF	
			MWD FIRST PUT DOWN HOLE TO HELP KEEP HOLE FROM FL	
			WHEN CEMENT PUMPED DOWN). 3RD <sup>400 GAL</sup> TUB OF CEN	
			DOWN HOLE @ 1800. GOING TO PULL B TREMIE	

*James E. Armstrong*  
9.25 HRS  
PMD

767 + FLUSH ONE TUB OF MWD THRU TO CLEAR  
CEMENT THAT MAY BE @ NEXT INTERIM. WE  
SHOULD BRING ANY XTRA CEMENT 55' UP HOLE (IF  
MWD WAS PUMPED DOWN) FINISH PUMPING MWD @ 18  
NOW PULLING 1 SINGLE + 2 DOUBLES (105') I LEFT  
1900 WHILE LAYNE STILL CLEANING GROUT PUMP +

**SNFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>LAYNE</b>		CREW <b>JAMES, RAN, ALPO</b>		REPORT NO.	
PROGRESS		TASK <b>C-2</b>	DATE <b>9/25/95</b> <small>mon</small>	SITE HYDROLOGIST <b>RAL</b>	
DEPTH	PROPOSED TOTAL DEPTH <b>105</b>		FORMATION/AQUIFER <b>AN PK</b>	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>TR SA-1 PAYNE TERMINAL</b>		
FROM	TO		DETAILS OF OPERATIONS		
			0700-0800 LAYNE CREW GETTING PVC (4") READY		
			TO GET (SECOND STRING) WHILE I GOT A 4" CAP +		
			SLIP JOINT THEN THEY STARTED LOWERING 4" PVC SCREEN		
			+ SECTIONS - SCREWING THEM AFTER GLIDING EACH		
			40' SECTION - PIPE IN HOLE TO 745' @ 1115		
			LAYNE CREW CIRCULATE THROUGH TREMIE TO TRY AND		
			FLUSH LOWER PART TO ALLOW PIPE TO GO LOWER		
			ONLY WENT A COUPLE OF FEET ( <del>200'</del> 200') - WILL SET P.		
			THERE - WOULD NEVER PURGE HEAVY MUD + CEMENT &		
			OF FURNISHED WELL.		
			1300 PULLING TREMIE UP + READY TO POUR GR		
			35' (100) BUCKETS) - TAGGED w/ WIRELINE @ 689'-P		
			OF GRAVEL - 2 BAGS OF SAND ON TOP - WILL PUMP CEMENT		
			ON TOP OF SAND/GRAVEL PACK TO TRY AND SEAL DOWN.		
			THE GRAVEL NUTS - WHILE PUMPING CEMENT WILL PUSH		
			TREMIE TO 708' AND SEAL GRAVEL - 1645 CEMENT PAK		
			TO PUMP BUT TREMIE PLUGGED - NEED TO BREAK IT DOWN		

X  
BOTTOM, HELPING TO CLEAR  
MUD FROM WELL. BY 2200  
FAIRLY CLEAR WATER WAS  
BEING PUMPED. CREW OFF  
SITE @ 2200.

15 HRS  
PAID  
TIME

PULL IT OUT OF HOLE SOME UNTIL IT IMPROVES - 1ST BAG  
GOING IN @ 1700, 2ND BATCH GOING INTO GRA  
AND NOW ITS FLOWING OUT THE TOP OF THE F  
STOPPED PUMPING IMMEDIATELY + COMMENCED  
PULLING TREMIE OUT AND PUTTING IT DOWN TO  
PVC TO CLEAR IT. MUD FLOWED OUT + INNOV OF CEM  
FLOWED OUT + NOW THE WELL IS FLOWING SLIGHT  
@ 2030. CREW PUT SMALL PUMP ON TREMIE + PUMPED OUT

[illegible]

James C. Armstrong



**SHFWD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

RIG NO/NAME <b>LAYNE</b>		CREW <b>JAMES, RON, ALPO</b>		REPORT NO.	
PROGRESS		TASK <b>G2</b>	DATE <b>9/27/95</b>	SITE HYDROLOGIST <b>RAL</b>	
DEPTH <b>1015</b>	PROPOSED TOTAL DEPTH <b>1015</b>		FORMATION/AQUIFER <b>AN PK</b>	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>TR SA-1 (PAYNE TERMINAL)</b>		
FROM	TO		DETAILS OF OPERATIONS		
			0700 LAYNE CREW PUTTING IN TRIPLE PIPE-THE		
			CEMENT @ 490' (MIDDLE OF 20'-18" VOID) HAVE		
			CREW PUT 100g (20-Sq) OF GRAVEL TO MAKE		
			UP 10' AND CLOSE VOID - MIXED CEMENT FOR		
			2 BATCHES OUTSIDE OF GRAVELS SIMBELTARY		
			TO DELIVER 6yds @ 1500 (CALLED FOR 7 more,		
			TOMORROW 1-130). 1ST BATCH OF 400g (DING IN		
			0920-2ND BATCH IN BY 1015. WILL START		
			PULPING DEEP 4" w/ AIR AGAIN <sup>1100</sup> - CLEARED		
			AND PIPES BY 1030. HEAVY MUD IN DEEP 4" OUT		
			+ AIR SHOT OFF @ 1300 - IT STARTS FLOWING		
			SIMBELTARY ON SITE 1110 TO PUMP 6yds - CREW P		
			3-50LB BAGS OF BESTONITE INTO TRUCK + THEN DOWN		
			CEMENT IN HOLE @ 1145		
			CREW OFF SITE 1745		
			7 3/4 HRS LAYNE TIME		
			<i>James C. Armstrong</i>		

**SWFMD GEOHYDROLOGIC DATA  
DAILY DRILLING/CORE REPORT**

10" - SUEF  
16" - WDOCT

RIG NO/NAME <b>LAYNE</b>		CREW <b>JAMES, Ron, ALBO</b>		REPORT NO.	
PROGRESS		TASK <b>C-2</b>	DATE <b>9/28/95</b>	SITE HYDROLOGIST <b>RAL put her</b>	
DEPTH <b>105</b>	PROPOSED TOTAL DEPTH <b>1015</b>		FORMATION/AQUIFER <b>AV PK</b>	DATE MOVED ON SITE	
MILITARY TIME TIME LOG		ELAPSED TIME	ROMP SITE NAME/NUMBER <b>TR SA-1 (PAYNE TERMINAL)</b>		
FROM	TO		DETAILS OF OPERATIONS		
			<b>0700</b> <b>TABBED CEMENT @ 189' Pumping DEEP 4" / ON</b> <b>W/ AIR Fairly HARD TO DEVELOP STOPPED ON THAT @</b> <b>@ 1000 + BEGAN Pumping THE OTHER (SHALLOW 4"</b> <b>AFTER LUNCH - STEEL CASING FROM AROUND WELL &amp;</b> <b>REMOVED + 400g (200 LBS) OF mud WAS MIXED</b> <b>ADD TO 5 YD<sup>3</sup> TRUCK COMING @ 1315. TREMIE &amp;</b> <b>Down TO 189'. WELDER - LAYNE HIRED TO WEL</b> <b>SECURITY CASING ON WELLS CALLED @ 1305 TO SA</b> <b>HE WAS LEAVING THE SEEBURG LAYNE SITE + HEAD</b> <b>HERE. SUGETARY ARRIVES @ 1315 - DONE Pumping</b> <b>CEMENT @ 1350 cleaning mud Pump + PIPE</b> <b>Pumped ~ 4 yds DOWN HOLE. CREW WORKING ON</b> <b>RIG + SECURING WELL HEAD VALVES: 1500 WELD</b> <b>ARRIVES + IS THROUGH @ 11230 ALL THREE WELL</b> <b>PROTECTIONS ON</b>  <b>8 HRS LAYNE</b> <b>James C. Armstrong</b>		