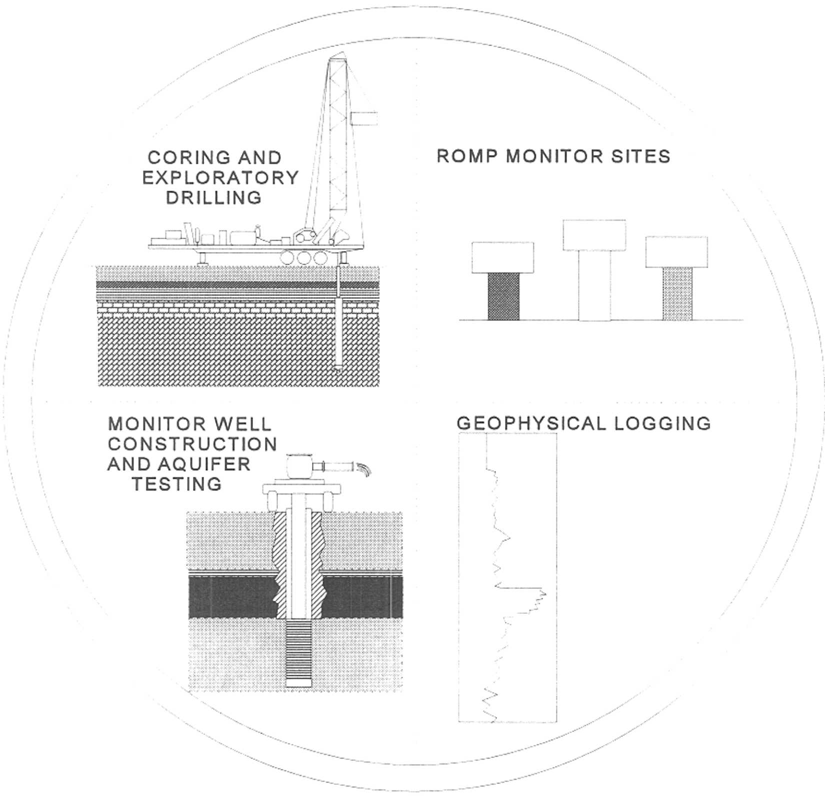
DRILLING AND TESTING REPORT
ROMP 28 KUHLMAN
HIGHLANDS COUNTY, FLORIDA



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The geological evaluations and interpretations contained in the DRILLING AND TESTING REPORT ROMP 28 KUHLMAN HIGHLANDS COUNTY, FLORIDA has been prepared by or approved by a certified Professional Geologist in the State of Florida, in accordance with Chapter 492, Florida Statutes.

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1.0 INTRODUCTION

The Southwest Florida Water Management District (SWFWMD), through the Regional Observation and Monitor-well Program (ROMP), has completed a hydrogeologic study and ground-water monitor well installation at the ROMP 28 site in west-central Highlands County, Florida. The ROMP 28 test drilling site and monitoring location are included in an investigation of the Highlands Ridge Water Use Caution Area.

The Highlands Ridge Water Use Caution Area, (WUCA) is a region encompassing the entire length of the Lake Wales Ridge in eastern Polk County, and western Highlands County. The Lake Wales/Highlands Ridge region of the SWFWMD (District), has been the subject of previous hydrologic studies (Yobbi, 1996; Geraghty and Miller, 1980), to characterize and evaluate declines in both lake levels and potentiometric levels of the upper Floridan aquifer system. The District Resource Projects Department has conducted a water resource investigation of the region, including intensive groundwater studies conducted through the ROMP at several drilling sites in the WUCA. Results of the Highlands Ridge Water Resource Assessment Project (HRWRAP), will be used to determine future groundwater resource management practices and regulatory initiatives for the region. Data acquired from test drilling at the ROMP 28 wellsite will be assimilated with other data within the HRWRAP study area, to aid in determining a "safe yield" threshold for groundwater withdrawals in the WUCA.

2.0 PROJECT LOCATION

The ROMP 28 monitor site is located in west-central Highlands County, approximately 8 miles south of the city of Sebring (Figure 1). The wellsite location is described as in the NE-NE quarters of Section 8, Township 36 south, Range 29 east, on the western boundary of the Jack Creek Preserve, property owned by the State of Florida. The site is approximately 4 miles south of S.R. 66, about 2 miles west of U.S. Hwy. 27 and the Sebring Lakes housing development. The wellsite is located on the east side of an unmarked shell road (Black Booger Rd.), 0.75 miles south of Grand Concourse (Figure 2). Wellsite coordinates, scaled from the 1972 U.S. Geological Survey Lake June In Winter topographic quadrangle (NAD 27), is Latitude 27 22' 07", Longitude 82 26' 04", at a land surface elevation of approximately 84 feet above sea level (NGVD).

3.0 DRILLING METHODS AND DATA COLLECTION

The hydrogeologic investigation and monitor-well drilling program at ROMP 28 was designed to collect and interpret detailed data from a series of test wells, and to complete a set of permanent monitor wells covering all significant aquifer units identified during test drilling. Additionally, discrete-zone observation wells were proposed for construction for use during aquifer pumping tests (APT's) at the site. This was accomplished in three phases: preliminary test-core drilling; deep exploratory drilling; and final well construction. The three project phases were accomplished over a period of five years, involving several stages of drilling operations. A layout of the site is shown in Figure 3.

Preliminary test-core drilling at ROMP 28 commenced in (month) 1991 using the District-operated CME 75 hydraulic rotary core drilling rig. Three wells were constructed to facilitate test drilling, and were proposed for use as temporary observation wells upon completion of continuous test-coring and exploratory drilling. These wells included: a 2-inch diameter surficial aquifer water supply-observation well (Figure 4), with a screen interval from 20 feet to 100 feet below land surface (BLS); a 12-inch PVC surface casing set at a depth of 20-feet BLS during the first stage of continuous core drilling; and an 8-inch steel casing set at a depth of 900 feet BLS for use during stage-two core drilling and the first deep exploratory well. Data generated during core drilling included a detailed geologic description of well samples, water level and water quality profiling, and collection of a partial suite of geophysical logs to aid in identifying formation contacts, and for use in stratigraphic correlation and aquifer delineation.

Additional exploratory drilling was conducted below the test core total depth of 1304 feet, to locate the base of the upper Floridan aquifer, and to identify water quality changes above and within the evaporite beds of the middle confining unit. Exploratory test drilling was conducted to a depth of 2117 feet BLS in three different test wells during the first phase of monitor well construction. A second well construction phase facilitated the completion of permanent monitor wells and multi-zone observation wells used during several aquifer pumping tests (APT's) conducted at the site. Lithologic samples, water quality and borehole geophysical data were collected, and two sets of formation packer tests were conducted in the lower Avon Park Formation and the Ocala Limestone, during exploratory drilling and phase two well construction.

3.1 Lithologic Data Collection Methods

3.1.1 Lithologic Sampling During Test-Core Drilling

Test drilling at ROMP 28 began with continuous sediment and lithologic sampling, using the District's CME-75 core drilling rig. Hollow stem auger core and split spoon sampling was conducted in the unconsolidated surficial deposits from land surface to a depth of 230 feet BLS (Figure 5). A 6 5/8-inch diameter hollow stem auger with a 2.5-inch split core barrel was employed to collect sediment samples from land surface to 24 feet. Split spoon samples were obtained by standard drive-hammer and mud-rotary hole advancement from 24 feet to 230 feet BLS.

Continuous core drilling, using a Longyear NQ wireline retreivable core sampling system, was conducted in two different test holes from 230 feet to 1304 feet BLS (Figure 6). A 3-inch core barrel, with a retreivable 1 7/8 diameter inner sample barrel, was used to collect the core samples. A conventional mud-rotary core barrel was also employed for several core runs between 230 feet and 300 feet, in an attempt to improve core sample quality through poorly consolidated material. Core samples were analyzed in the field and a lithologic description was produced by the District site hydrogeologist.

3.1.2 Lithologic Sampling During Reverse-Air Drilling

Well cuttings were sampled, during additional exploratory drilling, on ten foot intervals from 1304 feet to a total depth of 2117 feet BLS. The drill pipe volume, length of drill pipe and reverse-air pumping rate were used to calculate the travel time for the drill cuttings to circulate to the surface to assure representative collection of formation samples with depth. Several core samples were also obtained across representative intervals of Avon Park Formation for laboratory hydraulic testing. Additional lithologic descriptions of the well cuttings and cores were included with the test-core drilling log. All lithologic samples collected during test drilling have been archived, and are available for future research, at the Florida Geological Survey (FGS) in Tallahassee. A complete lithologic log for ROMP 28 test drilling program is included as Appendix A.

3.2 Ground-Water Quality Sampling Methods

Ground-water samples and water level data were collected during the core drilling phase and additional exploratory drilling to develop a water quality profile and delineate hydrostratigraphy. Water samples were collected on ten to sixty foot intervals, as determined from changes in the lithologic character of core samples, or by a marked increase in potentiometric levels during drilling. Fluctuations in corehole water levels or field water quality data dictated the collection protocol for ground-water samples submitted for analysis to the District laboratory. Tables 1, 2, and 3 presents the results of field and laboratory analyses of ground-water samples collected during coring and reverse-air drilling at ROMP 28. A detailed description of water sampling techniques used during core and exploratory drilling are included in the ROMP comprehensive water quality sampling report (SWFWMD, 1993).

3.2.1 Water Quality Sampling During Test-Core Drilling

A consistent methodology for collecting water samples during core drilling was utilized to ensure reliable and comparative field data. Ground-water samples were collected on 10 to 40 foot intervals as the corehole was advanced. Prior to the collection of a water sample from the core rods the inner barrel is removed using the wireline retrieval system. With the drill rods are positoned near the bottom of the hole, a reverse-air purging technique is utilized to remove excess cuttings and drilling fluid from the borehole. The purging process is continued with the drill rods raised 20 feet off-bottom until a previously measured volume of water, recorded by a totalizing flow-meter during the drilling process, is removed from the borehole. The purging process is determined to be complete after a minimum of one measured volume has been removed from the borehole and stability of field parameters in discharge fluid has been achieved.

Following the purging process, a stainless steel bailer is lowered into the core rods on a wireline to a point approximately 12-feet below the core bit, which corresponds with the sample interval. The water is transferred from the bailer to a pre-cleaned 1 gallon plastic jug, and a small portion is used to measure temperature, specific conductance, and pH (i.e. standard field analysis). The sample is then split, and a portion is analyzed in the field for sulfate and chloride. The remaining sample is run through a filtration apparatus, equipped with a 0.45 micron filter membrane, and retained in the appropriate sample containers for laboratory analysis. A partial or complete standard analysis, based on fluctuations in field data, is logged on chain of custody forms that accompany the samples when submitted to the District analytical laboratory.

3.2.1 Water Quality Sampling During Reverse-Air Drilling

A similar purging process and sampling method was also used during the additional exploratory drilling. Water samples were collected on 30 to 60 foot intervals corresponding with the addition of drill pipe during reverse-air circulation drilling. A larger sample interval was deemed appropriate to expedite the drilling process while still obtaining adequate sample data.

Sampling procedures begin after advancing the exploratory drill string to the target sample interval. Reverse-air circulation is maintained at the bottom of the hole for several minutes to remove drill cuttings, and continued until the discharge water appeared relatively clear. To collect a representative sample, the drill string was raised 20 to 30 feet off-bottom and circulation continued for several more minutes until stability in discharge fluid field parameters is achieved. Finally, the drill string is lowered back to bottom, and a wire-line bailer is lowered inside the drill pipe to the top of the bit for sample retrieval. Water sample handling and field analysis techniques followed the same protocol as for core drilling sample collection.

3.3 Hydraulic Testing and Analysis

3.3.1 Sediment Sieve Analysis

A sieve analysis was performed on unconsolidated sediment samples collected from deposits of the surficial aquifer at the ROMP 28 site. The analysis was completed to provide information on the grain size distribution of the surficial sediments to aid in the design of the surficial aquifer wells proposed for the site. Data obtained from the sieve analysis was used for locating the most productive test interval for the surficial aquifer monitor-test well, and to select the appropriate type of well screen and filterpack for the monitor. Statistical applications were also employed to estimate hydraulic conductivities of the surficial aquifer from the sediment data. A complete description of the sieve analysis and data applications are provided in following report sections, with the procedures and results of the analyses posted in Appendix B.

3.3.2 Core Sample Laboratory Testing

Core samples from selected hydrogeologic units were analyzed in testing laboratories to determine porosity, vertical permeability, and with a limited number of samples, formation or matrix compressibility. Core sections ranging in length from three to ten inches in length were separated from the boxed core samples, marked for depth and upward orientation, and wrapped for shipment to the appropriate laboratory facility. Several samples from the initial core drilling phases were tested for vertical hydraulic conductivity and porosity at the Florida Geological Survey in Tallahassee Florida. Core samples collected from interval core runs during exploratory drilling required compressibility analysis and were sent to Core Laboratories in Carrollton Texas for testing. Results of the laboratory analyses, with methodologies of the core analysis procedures for the FGS, and reports from Core Laboratories given in Appendix C and D, respectively.

3.3.3 Specific Capacity Testing

Specific capacity testing was conducted in the Intermediate and Floridan aquifers to determine the water-producing capabilities of permeable zones identified during exploratory drilling. The testing procedure consisted of measuring a water level drawdown in the test well while pumping through the drilling rods at a constant discharge rate. Single tests were run across the full thickness of the Intermediate aquifer and Suwannee Limestone of the upper Floridan aquifer. A series of six specific capacity tests were conducted in the Avon Park Formation to determine the vertical extent of the highly permeable zone in the Floridan aquifer. Procedures and test results of the specific capacity testing are presented in Section 8.3 of this report.

3.3.4 Formation Packer Testing

Seven formation packer tests were conducted at ROMP 28, across the Ocala Limstone during construction of observation wells, and during deep exploratory drilling in the Avon Park Formation. Four packer tests were run across the Ocala Limestone, which comprises the less permeable section of the Floridan aquifer between the Suwannee Limestone and Avon Park Formation. Three packer tests were conducted in low permeability dolostone and evaporite section of the middle-lower Avon Park Formation. The packer tests were conducted to determine the relative confinement characteristics of low-permeability sections, and to profile the water quality transition above and within the evaporite confining unit. A detailed explanation of the ROMP packer test methodology and data analyses is presented in Appendix E. An explanation of the test results is provided in the following Section 8.0 on hydraulic testing at the site.

3.3.5 Aquifer Pumping Tests (APTs)

Aquifer pumping tests (APT) were conducted in the three aquifers delineated during test drilling at the ROMP 28 site. Aquifer hydraulic parameters were obtained from the surficial aquifer, the Intermediate aquifer, (Hawthorn Group), and from the Suwannee Limestone and Avon Park Formation of the Upper Floridan aquifer. All the pumping tests conducted at the site were multi-well tests, with at least one observation well placed a specified radial distance from the test well. Drawdown and recovery data was collected, through the test durations, in the pumping well and observation wells completed in the test zones.

Test data with analysis methods and results for the surficial APT are provided in Appendix F. Results of the low-volume tests conducted in the Intermediate aquifer (Arcadia Formation), and Suwannee Limestone of the Floridan aquifer are presented in Appendix G and H respectively. Test data, borehole flow logs, and analyses for the Avon Park-Floridan APT are included in Appendix I.

3.4 Geophysical Logging

Borehole geophysical data was collected during test drilling and well construction at ROMP 28 to aid in aquifer delineation and stratigraphic interpretation. Geophysical log suites were run during test-core drilling, deep exploratory drilling, and observation well construction. Log data was also collected to evaluate borehole conditions during formation packer testing, in the Ocala Limestone, and across the evaporite section of the Avon Park Formation. Borehole spinner-flow logs were run during step-drawdown testing prior to the Avon Park-Floridan APT. Composite geophysical data plots from selected log suites are shown in Figures 21 through 23. A discussion of selected geophysical logs with interpretations is included in Section 9.0 of this report.

4.0 SUMMARY OF DRILLING ACTIVITIES

4.1 Test Core Drilling

The initial test drilling phase at ROMP 28 was conducted by hollow stem augering, split spoon sampling, and continuous core drilling techniques. The first phase of core drilling, conducted from October, 1991 to March of 1991, was completed at a depth of 900 feet BLS (Figure 6). The second phase of coring proceeded in May of 1193 at 900 feet, and was completed in June of 1993 at a depth of 1304 feet BLS (Figure 7) .

Prior to starting core drilling, continuous sediment samples were collected during construction of the surficial water-supply well. Samples of unconsolidated deposits were obtained from land surface to 20 feet BLS using a hollow stem auger with a five-foot split spoon assembly. Lithologic sampling was discontinued below 20 feet, due to poor sample recovery below the water table, and the auger hole was advanced to a depth of 100 feet BLS to complete the 2-inch surficial water supply well (Figure 5).

4.1.1 Phase-One Core Drilling

Phase-one core drilling was conducted in a new well approximately 75 feet north of the surficial water supply well (Figure 6). Split spoon sampling and continuous core drilling continued following installation of 12-inch diameter PVC surface casing to a depth of 20 feet BLS. Nearly continuous samples were obtained from 20 feet to 230 feet BLS using two, 2-foot split spoons coupled together to collect 4 foot long samples across five foot intervals. The spoon sampler was advanced by direct hammering, after which the test hole was drilled out using mud rotary methods down to the next sampling interval. Split spoon lithologic sampling was completed when dense clay was encountered at 230 feet BLS.

The 6-inch diameter split spoon hole was reamed to a 10-inch nominal diameter from 20 feet to 235 feet, and 6-inch PVC casing was installed to a depth of 230 feet BLS. A four-inch HW temporary steel casing was also installed to 230 feet to serve as a working casing string for continuous wireline core drilling. Test drilling resumed from 230 feet, and continued to 300 feet BLS, where the first compenent rock unit was encountered. Sample recovery was poor across this interval, due to the occurrence of poorly consolidated clayey sands interbedded with more cohesive clays. Both wireline core drilling and conventional rotary coring, using a modified mud barrel, were employed to obtain the most representative sediment samples.

Wireline core drilling resumed after reaming the test hole to a 6-inch nominal diameter and resetting the 4-inch HW casing to 300 feet BLS. Continuous core and water quality samples were collected from 300 feet to 900 feet BLS, through the Hawthorn Group sediments, both Suwannee and Ocala Limestones, and into the top of the Avon Park Formation. Table 1 contains the water quality and other hydrologic data collected during the first core drilling operation.

Phase-one core drilling was terminated following problems that arose after the 4-inch temporary casing was advanced to the top of the Avon Park Formation. The test well was abandoned when serious caving problems were encountered from the poorly consolidated sediments between 230 feet and 300 feet BLS. The caving problem was exacerbated by an incompetent casing seal, causing the corehole to backfill with sand and making it impossible to continue drilling. Following removal of the temporary casing string, the corehole was abandoned using conventional grouting methods.

4.1.2 Phase-Two Core Drilling

Test core drilling resumed in May of 1993 after installation of a 900-foot deep, 8-inch well casing to facilitate additional coring and exploratory drilling. The 8-inch well was constructed approximately forty feet northeast of the first corehole using the District-owned Speedstar 22 drilling rig. The 8-inch test well was constructed with a 14-inch steel casing set at approximately 300 feet BLS, and 8-inch steel casing set to a depth of 900 feet BLS (Figure 7). This well construction event also included the installation of the 12-inch diameter surficial aquifer test well. Details of these wells are given in Section 7.1 of this report.

Core drilling continued from 900 feet to a total depth of 1304 feet BLS, where hard recrystallized dolostone was encountered in the Avon Park Formation. Phase-two core drilling was terminated at this point. Water quality data collected from the second corehole is presented in Table 2. The test well was left, with a 3-inch diameter corehole from 900 feet to 1304 feet, for future additional exploratory drilling described in the following section.

4.2 Additional Exploratory Drilling

Additional exploratory drilling and testing was initiated following the analysis and interpretation of lithologic core and associated water quality data. Exploratory drilling was conducted with the District-owned Speedstar 40 drilling rig in three separate wells. Lithologic and hydrologic data was collected from the three drilling events from 1304 feet to 2117 feet BLS, over a period from 1993 to 1995. The additional exploratory drilling was designed to fully penetrate the Upper Floridan aquifer and delineate hydrogeology to the top of the evaporite deposits forming the middle confining unit. A series of interval-core samples were collected and analysed for hydraulic properties (Table 6), limited specific capacity data was obtained through the dolostone section of the Avon Park Formation (Table 7), and three formation packer tests were conducted (Table 8), to determine hydraulic properties of the lower Avon Park Formation. Geologic descriptions of well cuttings and core samples collected during exploratory drilling are included in the composite lithologic log under Appendix A.

4.2.1 Stage-One Exploratory Drilling

Exploratory drilling began in the 8-inch diameter test well by reaming the existing 3-inch corehole to a 7 $^{5}/_{8}$-inch diameter, enlarging the hole from 900 feet to the finished core depth of 1304 feet BLS (Figure 7). The 7 $^{5}/_{8}$-inch hole was advanced to a depth of approximately 1950 feet BLS, where drilling was temporarily halted to to investigate borehole conditions through geophysical logging. Field data collected to this depth indicated only minor changes in water quality, and well cuttings did not contain the evaporite minerals identifying the middle confining unit.

Geophysical data confirmed the absense of major lithologic or water quality changes in the test hole, but a separation in the bottom 40 feet of 8-inch casing was recorded on the caliper log, and detected on other log suite responses. Attempts to continue exploratory drilling in the test hole were unsuccessful, due to an offset in the separated casing, which had dropped 50 feet down the well, and exploratory drilling was terminated at 1950 feet BLS. The 8-inch well was plugged back to 1650 feet

BLS with cement grout, and subsequently converted to a 2-inch observation well for use during the Avon Park-Floridan APT. Details of the observation well are described in Section 7.3 on well construction, and is shown in Figure 17.

4.2.2 Stage-Two Exploratory Drilling

The second stage of deep exploratory drilling commenced following construction of the Avon Park-Floridan test well (Figure 16). The large diameter test well, located 100 feet north of the first exploratory hole, was designed primarily as the pumping well for the high-volume Avon Park-Floridan APT. Well construction began with 18-inch steel casing from land surface to 320 feet BLS, and a 12-inch casing was installed from 180 feet to 950 feet BLS. The 11-inch diameter open hole section was drilled from 950 feet to 1650 feet BLS. Stage-two exploratory drilling continued at 1650 feet, from the bottom of the open hole section, with a 7 $^5/_8$-inch diameter test hole extending to 2085 feet BLS. Two 15-foot continuous core samples were collected at the base of the packer test intervals to identify lithology and porosity features in the test zones.

Stage-two exploratory drilling included three formation packer tests run across two intervals as the test hole was advanced. Off-bottom packer tests were conducted above the first occurrence of evaporite minerals, marking the top of the middle confining unit, and below the top of the middle confining unit . The tests were run to obtain in-situ formation hydraulic data and to verify water quality conditions characterized during reverse-air drilling. A comparison was also made between horizontal permeability and vertical hydraulic conductivity determined from core sample testing.

The first packer test was run from 1855 feet to 1920 feet BLS, above the middle confining unit but over 200 feet below the base of the most permeable section of the Avon Park Formation, as identified from specific capacity testing. Test results for the 65 foot dolostone section showed that the formation was still relatively transmissive, with an approximate horizontal hydraulic conductivity of 21 ft/day (Table 8). The core sample collected at the base of the test interval, from 1905 to 1920 feet BLS, consisted of a brown, recrystallized dolostone of relatively low porosity but with no evaporite mineral content. An increase in fluid specific conductance was noted between water quality collected from Stage one drilling at 1920 feet, and the final water sample collected during packer testing (Table 3).

Fluid conductivity increased about 300 uS/cm, which was manifested by a 100 mg/l increase in sulfate concentration in the packer sample, as compared to the reverse-air sample from a similar depth.

Two additional off-bottom packer tests were run below the top of the middle confining unit to characterize hydraulic properties and compare relative permeabilities with the test section above. Packer tests were run at 55 feet and 25 feet off-bottom from the total exploratory depth of 2085 feet attained during Stage-two exploratory drilling. Approximate horizontal hydraulic conductivities varied appreciably, calculated at 0.12 ft/day and 0.006 ft/day for the 55 foot and 25 foot intervals, respectively (Table 8). The core sample from 2070 to 2085 feet BLS consisted of a dolomitic limestone with gypsum-filled fossil molds and vugs. Water quality samples collected from the two packer test intervals were comparable to the reverse-air drilling sample obtained prior to testing. Fluid conductivities ranged from 2700 to 3510 uS/cm across the test intervals, with expected elevated sulfate concentrations of 1735 to over 2300 mg/l.

The large difference in permeability estimated from packer testing may attest to the vertical and areal discontinuity of the middle confining unit in this region of the District. This is also supported by the discontinuous occurrence of evaporite minerals in the lithologic samples collected from the exploratory well. The elevation of the top of the middle confining unit at ROMP 28 is lower than at other ROMP test sites in the southern region of the District (SWFWMD,1995), and is not considered to be the same unit on a regional scale (Miller, 1986). A comparison of water levels above and below the top of the middle confining unit (Figure 19B), suggests a downward gradient exists between the fresh-water permeable section of the Avon Park Formation in the upper Floridan aquifer, and water bearing zones within and below the middle confining unit. Water level responses between the two zones at ROMP 28 also indicates some degree of hydraulic connection through the confining unit separating the upper and lower Floridan aquifers, although vertical permeabilities measured in core samples were still very low (Table 6; Appendix D).

4.2.3 Stage-Three Exploratory Drilling

The third and final stage of deep exploratory drilling was incorporated into the design and construction of a deep "evaporite monitor", intended to monitor potentiometric levels and water quality in the middle confining unit. Based on data collected from previous stages of exploratory drilling, a dual zone deep monitor was proposed for construction at the site. This well would include a deep monitor completed below the top of the evaporite-bearing rock marking the confining unit, and a shallower monitor zone completed immediately above the middle confinig unit. A limited interval of additional exploratory drilling, from 2085 to 2112 feet BLS, including a 15-foot interval core sample from 2085 to 2100 feet, was conducted to further identify and characterize properties of the deep monitor zone.

Exploratory drilling and monitor construction was conducted from a 12-inch well casing set at 500 feet BLS, and drilled out to 2085 feet, the total depth of Stage-two exploratory drilling. The new exploratory hole was positioned approximately 100 feet south of the Stage-2 well, and about 40 feet west of the first exploratory hole. A 15-foot core sample collected from 2085 to 2100 feet BLS exhibited variable amounts of evaporite minerals typical of middle confining unit lithology at the site. The exploratory hole was drilled to a total depth 2112 feet with no observable evaporites in the well cuttings collected below the core interval. Details of the final as-built construction of the dual zone evaporite monitor are included in the subsequent section in this report covering well construction.

4.3 Supplemental Test Drilling

A similar series of core sampling and packer testing was performed on two intervals of the Ocala Limestone during final event of observation and monitor well construction at ROMP 28. The supplemental test drilling was designed to obtain hydraulic data from the Ocala, a thick section of lower permeability rock separating producing zones in the Floridan aquifer. Two sets of core samples and off-bottom packer tests were conducted during drilling of the Suwannee/Ocala observation well that was facilitated through a contracted drilling operation with Layne Central Inc. Details of the final observation well completion following testing are given in the subsequent section of this report covering well construction.

Core samples were obtained in two 15-foot intervals from 710 to 725 feet, and 805 to 825 feet BLS. Results of the hydraulic analysis of core samples are presented in Table 6. Lithologic descriptions of the core samples were not included in the composite lithologic log since a continuous core log was already generated through the Ocala Limestone. Results of the packer test analysis form the Ocala Limestone are summarized in Table 8 and detailed in Appendix E.

5.0 GEOLOGY

The ROMP 28 wellsite is situated in the southern interior of the west-central Florida peninsula in the Highlands Ridge physiographic region (Bishop, 1956), or the intraridge valley of the Lake Wales Ridge (White,1970). The area surrounding the wellsite is a diverse mosaic of landforms, including huge sinkhole-formed lakes, scrub patches covering well-drained upland hills, and flowing creeks that drain isolated bayhead swamps. The south shore of Lake Josephine, a water body formed by three large coalesced sinkholes covering several hundred acres, lies roughly 1.5 miles north of the wellsite. Two prominent surface drainage features in the area are Josephine Creek, which flows out of Lake Josephine, and Jack Creek flowing from the southwest as a tributary to Josephine Creek. A smaller unnamed creek emanates from a large bayhead directly west of the site and flows east into Jack Creek, passing approximately 0.25 miles south of the wellsite.

The following sections describe the subsurface features delineated at ROMP 28 through the test drilling program, with a hydrogeologic interpretation presented in the next report segment. The geologic interpretation is based primarily on the detailed lithologic description generated during core and exploratory drilling. Site hydrogeology was described from both the geologic interpretation and the hydrologic data collected through the course of the drilling and testing program. The relation between geology and aquifer systems at the site is given in Figure 4.

5.1 Undifferentiated Surficial Deposits (Pleistocene-Pliocene)

Sediments comprising the Undifferentiated Surficial Deposits were collected and described during phase one of continuous core drilling. These deposits, described from land surface to approximately 230 feet below land surface (BLS), are composed of medium to coarse grained, subangular to subrounded quartz sand with variable amounts of organic material, iron oxides, heavy minerals and clay. Top soils are thin or absent in the vicinity of the site, with only minor organic material and roots observed in a clean, light gray sand down to about 10 feet BLS. The water table is positioned in the upper 10 to 15 feet of the surficial deposits, where dark brown sand, iron-stained or coated sand grains and brown organic silt, are prevalent in the sediments. Thin beds of iron-organic hardpan accumulations were present to 29 feet, with a dense, competent organic silt and iron hardpan zone from 29 to 37 feet BLS. Medium to coarse grained sand was logged to about 170 feet BLS, with minor increases in clay content below 120 feet. Fine to medium grained quartz sand having variable amounts of clay, mica, and other trace accessory minerals continued to the base of the surficial deposits at 230 feet BLS.

5.2 Hawthorn Group (Pliocene-Oligocene)

The Hawthorn Group sediments consist of the Peace River Formation and Arcadia Formation, and are present from 230 to 479 feet BLS. The Peace River Formation extends from 230 to 288 feet, and consists of sandy phosphatic clays, with thin interbeds of carbonate rocks. The Arcadia Formation underlies the Peace River from 288 to 479 feet BLS, and includes the Nocatee Member, delineated from 441 to 479 feet BLS. The upper Arcadia consists of sandy fossiliferous limestones, interbedded with phosphatic clay and dolostone. The Nocatee Member of the Arcadia Formation is composed primarily of poorly lithified clayey sands and sandy dolostone. An abrupt unconformity is present where the gray-green clayey sands of the Nocatee were deposited on the weathered surface of a light colored carbonate, marking the contact between Hawthorn Group sediments and the underlying Suwannee Limestone.

5.3 Suwannee Limestone (Oligocene)

The Suwannee Limestone was identified from 479 to 580 feet BLS, and is composed of a very light orange, variably indurated fossiliferous limestone. The upper Suwannee section described to 515 feet is a porous, fossiliferous, biogenic calcarenite consisting of mollusks and gastropod molds and fragments in a skeletal matrix. The lower Suwannee from 515 to 580 feet BLS consists of a lower permeability calcarenite, biogenic with a calcilutite matrix and slightly dolomitic in places. Accessory components in the Suwannee lithology includes calcite spar and variable amounts of organic material in laminations or finely disseminated particles. A subtle unconformable contact with the underlying Ocala Limestone was logged at 580 feet BLS, where a slight textural and color change was observed between the two formations.

5.4 Ocala Limestone (Upper Eocene)

The Ocala Limestone was identified in the corehole from 580 feet to 860 feet, and is composed of fine grained, low permeability calcarenite. Lithologic variation between the Ocala and the overlying Suwannee Limestone is very slight, although the Ocala lithology is less indurated and the common diagonstic foraminifers Nummulites sp. and Lepidocyclina sp. were identified both in charateristic biozones and widely dispersed through most of the Ocala section. Generally, the Ocala Limestone consists of a low permeability, fine grained, foraminiferal calcarenite. The contact with the underlying Avon Park Formation at about 860 feet BLS was apparent by a marked textural change to a coarse grained calcarenite, or a packstone, with a unique fossil assemblage.

5.5 Avon Park Formation (Middle Eocene)

The Avon Park Formation was delineated from the overlying Ocala Limestone by lithologic changes and the presence of forams and echinoids common to the formation. As stated above, the Ocala-Avon Park contact was most apparent by a coarsening of the sediments and a decrease in the fine carbonate matrix typical of the Ocala Limestone. Two lithologies were described in the Avon Park Formation at ROMP 28; an upper limestone unit from 860 to 1289 feet, and a dolostone section with limestone interbeds extending from 1289 feet to the total exploration depth of 2112 feet BLS. Texture of the limestone section described in the upper Avon Park was a medium grained skeletal packstone to a grainstone, composed primarily of carbonate pellets and foraminiferal tests. The lower dolostone section consists of a high recrystallized dolomite variably indurated as a well lithified crystalline rock with beds of poorly cemented sucrosic dolostone. Organic material and the evaporite minerals gypsum and anhydrite are common in the lower dolostone section. Fauna described in the Avon Park Formation include the echinoid Neologanum dalli, and diagnostic foraminfers such as Dictyconus americanus, and Coskolina floridana.

5.6 Oldsmar Limestone ??? (Lower Eocene)

6.0 HYDROGEOLOGIC INTERPRETATION

The hydrogeologic framework interpreted from core and exploratory drilling data at ROMP 28 can be characterized as a complex, multi-layered aquifer system. Aquifers delineated during drilling and the relationship between geology and hydrostratigraphy is shown in Figure 4. Identification of aquifer systems and confining units is based on lithology and water level data collected during test drilling. Aquifer boundaries at ROMP 28 generally coincide with geologic contacts where lithology dictates hydrogeologic properties, and where variations in porosity and permeability may be enhanced by increased dissolution from ground-water flow. Three aquifer systems were identified through the course of test drilling conducted at the site; the surficial aquifer, the Intermediate aquifer, and the Floridan Aquifer System. The following sections provide detailed descriptions of the three aquifer systems delineated at ROMP 28.

6.1 Surficial Aquifer

The surficial aquifer extends from land surface to an approximate depth of 200 feet BLS, and is composed primarily of medium to coarse grained quartz sand of the undifferentiated surficial deposits. Most of the sand body comprising the surficial aquifer is moderately sorted, fairly uniform, and permeable. Beds of coarser sand are present between 80 to 120 feet, increasing the water bearing capacity of the aquifer. Analysis of aquifer test data derived from the surficial aquifer, presented in Appendix F and Table 9, produced a transmissivity value of __ ft^2/day, and a hydraulic conductivity of __ ft/day for the 160 foot thick test interval.

Abundant organic and iron-cemented hard pan layers were described in the upper forty feet of the aquifer, although there was no direct evidence of a perched water table, and the beds may be areally discontinuous. Less permeable clayey, micaceous, finer grained sand, present from 200 to 230 feet, may be in hydraulic connection with more permeable overlying sands but were not included in the surficial aquifer delineation. Similarly, interbedded clays and clayey sands from 230 feet to 300 feet are of low permeability, and act as the confining unit between the surficial aquifer and the Intermediate aquifer.

Water levels and water quality data from the surficial aquifer were obtained from the surficial well previously constructed on the site for use as a water supply during drilling operations. Surficial water levels varied from 8 feet to 12 feet BLS through most of the drilling and testing conducted at the site. Water quality in the surficial aquifer was surprisingly pure. A sample retrieved from the water supply well, which extended to 100 feet BLS, had a specific conductance of 25 uS/cm with only a slight odor of hydrogen sulfide. A subsequent water sample collected from the surficial monitor well, that penetrated the surficial sediments to 200 feet BLS, had a specific conductance of 107 uS/cm.

6.2 Intermediate Aquifer

The Intermediate aquifer at ROMP 28 consists of a minor permeable carbonate unit in the Hawthorn Group sediments. The minor permeable zone was identified in the middle Arcadia Formation from 370 to 430 feet BLS, and is separated from the surficial aquifer and underlying Floridan aquifer by thick sections of clay, calcilutite, and clayey sand confining materials. The artesian zone delineated in the Arcadia Formation was the only vertically continuous carbonate section in the Hawthorn Group capable of producing water. Calcilutite beds and thin stringers of dolostone in the upper Arcadia were not permeable, as well as the clayey sands of the Nocatee member below the Intermediate aquifer. An aquifer pumping test conducted in the Intermediate aquifer (Appendix G; Table 9), attests to the generally poor productivity of the Hawthorn sediments in the region.

Potentiometric levels and water quality data were collected through the Intermediate aquifer and confining units during test core drilling (Table 1). Water levels remained stable through most if the system, ranging from 20.2 to 20.9 feet BLS. Water quality was generally good, with specific conductance measured from 320 to 350 uS/cm during coring. The water quality was similar in the top of the Floridan aquifer as sampling continued in the Suwannee Limestone, although a potentiometric level difference of about two feet was observed, indicating an apparent downward gradient between the Intermediate aquifer and the underlying Floridan aquifer system.

6.3 Floridan Aquifer System

The Floridan Aquifer System (FAS), was identified during core drilling from the top of the Suwannee Limestone at 479 feet, to the total exploration depth of 2112 feet BLS, which terminated in the lower Avon Park Formation. The top of the middle confining unit was identified at about 1965 feet BLS, marking the base of the upper Floridan aquifer. A lower Floridan aquifer, the portion of the system below the middle confining unit (Ryder, 1985; Miller, 1986), is presumed to exist at ROMP 28, but was not thoroughly delineated during test drilling. For purposes of this report, the upper Floridan aquifer, which is the potable section above the middle confining unit, will be refered to as the Floridan aquifer in the following sections describing the aquifer system at ROMP 28.

The Floridan aquifer is comprised of two permeable zones separated by thick sequences of less permeable rock that act as semi-confining units between the permeable zones (Figure 4). The two permeable zones within the Floridan have distinct productivity and, to a lesser extent, water quality characteristics. The zones are relatively isolated from one another due to the large vertical separation between them. The upper permeable zone encompasses all of the Suwannee Limestone, and the upper twenty feet of the Ocala Limestone. The top of the permeable zone coincides with the top the Suwannee Limestone at a depth of 479 feet, and continues to approximately 600 feet BLS. The remaining 260 feet of Ocala Limestone separates the upper permeable zone from the lower permeable zone in the Avon Park Formation.

The lower permeable zone of the Floridan aquifer was identified in the Avon Park Formation, from the top of the formation at 860 feet, to approximately 1650 feet BLS. The limestone section of the Avon Park consists of a moderately productive, medium to coarse grained calcarenite down to the dolostone contact at 1289 feet. Fractured crystalline dolostone from 1289 feet to 1650 feet BLS is the most permeable section of the Avon Park Formation, and the Floridan aquifer, at ROMP 28. The highly permeable zone consists of recrystallized, vugular, fractured dolostone interbedded with poorly lithified sucrosic dolostone. The summary of aquifer pumping test data in Table 9 lists the high transmissivity value of the lower permeable zone, in constrast with the hydraulic data shown for the upper permeable zone in the Floridan aquifer.

The dolostone section of the Avon Park continues to the top of the evaporite deposits at 1965 feet, and is still hydraulically connected to the highly permeable zone above, but does not exhibit the water producing characteristics. Some large porosity features and minor fractures were present in core sample from 1805 to 1820 feet BLS, but the effective porosity is apparently lower relative to the dolostone sections above. Specific capacity data, (Table 7) indicates the most permeable section is between 1420 and 1600 feet, which is supported by flow log data collected during the Avon Park-Floridan aquifer pumping test (Appendix I). Water quality trends below the highly permeable zone also indicate a less active flow system, where increased sulfate concentrations are evident as much as 100 feet above the middle confining unit.

Water levels in the lower zone of the Floridan aquifer were essentially the same as the upper permeable zone, averaging about 22 feet BLS (Tables 2, 3, and 4). A decline in potentiometric level was measured in May of 1993, as core drilling progressed from 1100 to 1300 feet BLS, which coincided with a normal seasonal decline in Floridan levels in the region. Water levels also dropped to as low as 27 feet BLS in the exploratory hole as drilling progressed into the middle confining unit. Some of the observed decline can be attributed to an increase in fluid density as ground-water quality degraded below the lower permeable zone. An apparent downward gradient, between the potable Floridan aquifer and non-potable zones within or below the middle confining unit, is evident when comparing water levels in the completed dual-zone evaporite monitor well (Figure 19B). A composite water quality profile from all phases of coring and exploratory drilling is shown in Figures 20A and 20B.

Overall ground-water quality in the Floridan aquifer at ROMP 28 is very good (Tables 1, 2, and 3), with total dissolved solids, (TDS) concentrations well below the secondary drinking-water standard of 500 ppm. Specific conductance through both the upper and lower permeable zones ranged from 287 to 513 uS/cm. Chloride concentrations reached a high of 21 mg/l at a depth of 1360 feet, with sulfate concentrations remaining below 100 mg/l through the potable zones of the Floridan aquifer. Poor water quality was observed below 1750 feet BLS as exploratory drilling continued below the lower permeable zone. Dissolution of evaporite minerals from the top of the middle confining unit is probably responsible for the observed increases in TDS, as seen in the elevated concentrations of sulfate, calcium and magnesium (Table 4). Specific conductance increased from 481 to 3500 uS/cm at 2085 feet BLS, with sulfate concentrations elevated from 100 mg/l to over 2300 mg/l over the same interval. Chloride concentrations remained low across the interval, ranging from 8 to 19 mg/l, which confirmed that saline waters are not a contributing factor in the observed degradation in water quality near the base of the Floridan aquifer.

7.0 SUMMARY OF WELL CONSTRUCTION

Three separate groups of wells were constructed at ROMP 28 for use as permanent monitor wells for collecting water level and quality data, and as pumping or observation wells used for several Aquifer Pumping Tests (APT) conducted at the site. The well groups were designed to have a central monitor pad that contained the primary wells used as pumping points for the APT's, and as the site's main group of potentiometric monitors. Two additional groups of wells were positoned on drilling pads at a 100 foot and 600 foot radius from the central pad, and would contain observation wells utilized during the pumping tests. The 100-foot pad also contained the surficial aquifer pumping well, and wells proposed for use as permanent water quality monitors. A detail of the site layout and approximwtw well positionsis provided in Figure 3.

Well construction took place in three events to complete the work specified from the analysis and interpretation of test drilling data. The first two well construction events were done with District drilling equipment and staff. The 8-inch casing for the Avon Park-Floridan aquifer monitor and the surficial aquifer monitor, were completed in the interim well construction event described in section 4.1.2 on Phase-two core drilling. Two surficial aquifer observation wells were also constructed in this event for use in the surficial APT. The second well construction event was conducted from November 1993 to February of 1995, with two deep wells constructed to facilitate Stage-two and Stage-three exploratory drilling described in sections 4.2.2 and 4.2.3, respectively. A final well construction event, conducted from May 1995 to November of 1995 by a contracted drilling company, completed the remaining monitor and observation wells specified for the site.

7.1 Surficial Aquifer

Three wells were constructed in the surficial aquifer at ROMP 28 for the purpose of conducting a multi-well aquifer pumping test, and provide for long term monitoring of water levels and quality in the aquifer. The surficial aquifer monitor was constructed with 40 feet of 12-inch diameter PVC well casing and a 160 foot 12-inch PVC slotted screen interval from 40 to 200 feet BLS. The surficial monitor was designed and constructed as a large diameter, production-type well to accomodate a high-volume turbine pump specified for the surficial APT. A 20-inch diameter steel surface casing was installed and grouted in place from 31 feet up to land surface. A 19-inch diameter borehole was drilled from 31 feet to a depth of 210 feet BLS for the installation of the 12-inch casing and well screen. Metal band, strap-on casing centralizers were installed at forty foot intervals on the screen section to keep it centrally positioned in the well during final completion. A filterpack of 6/20 grade silica sand was placed across the screen interval from 210 feet up to 35 feet BLS, and the remaining annular space was filled with cement grout back to land surface. An as-built diagram of the surficial monitor is shown in Figure 9.

Two surficial observation wells were constructed adjacent to the surficial monitor and were used as measuring points for the surficial aquifer pumping test. The wells were positioned at a 20 foot and 50 foot radius from the 12-inch monitor well, and were constructed with 2-inch diameter PVC casing and slotted screen interval similar to the 12-inch well. A 6/20 grade silica sand filterpack completed the screen interval, and the annulus was grouted back to land surface. Schematic as-built diagrams of the surficial observation wells construction specifications are given in Figures 8 and 9.

7.2 Intermediate Aquifer

Two wells were completed in the Arcadia Formation, Hawthorn Group to test and monitor the Intermediate aquifer. An 8-inch diameter potentiometric monitor was constructed on the central wellsite pad to be used as the pumping well for an Intermediate APT. The well was completed with 8-inch PVC casing from land surface to a depth of 370 feet BLS, with a 7 $^{5}/_{8}$ inch diameter open hole interval from 370 to 430 feet BLS. Figure 11 details construction specifications for the monitor well.

The Intermediate aquifer observation well was completed as the upper zone of a dual zone, Hawthorn/Ocala-Floridan observation well on the 100-foot pad. Following completion of the lower zone (Ocala-Floridan), the Intermediate observation well was constructed with 2-inch diameter PVC casing and a slotted screen interval similar to the 8-inch Intermediate monitor. An as-built well diagram for the dual zone observation well is presented in Figure 12.

7.3 Floridan Aquifer

A majority of the well construction at ROMP 28 focused on completing monitors and observation wells in the Floridan aquifer. Floridan wells were placed in many different intervals at all three drilling pads, primarily to conduct complex, multi-well pumping tests at the site. Potentiometric monitors were installed in the two permeable zones identified in the Floridan aquifer, with several observation wells completed in and between the permeable zones. A dual-zone "evaporite monitor" was also constructed for monitoring ground-water conditions above and within the middle confining unit. The following sections describe, in descending-depth order, wells constructed in the Floridan aquifer at ROMP 28.

7.3.1 Suwannee Limestone (Upper Permeable Zone)

Three monitor and observation wells were constructed on three separate drilling pads to facilitate the Suwannee-Floridan APT, and for long term hydrologic monitoring of the upper permeable zone in the Floridan aquifer. The three wells consist of a monitor-test well on the central drilling pad, and a Suwannee observation well completed in a dual-zone well on both the 100-foot and 600-foot pads. The Suwannee monitor-test well was constructed with a 14-inch diameter steel casing, installed from land surface to 320 feet BLS, and a 8-inch diameter PVC casing from 180 feet to 485 feet BLS. A 7 $^{5}/_{8}$ -inch diameter open hole was drilled from 485 to 600 feet BLS. The 12-inch diameter casing was included in the well design in order to accomodate a high-volume turbine pump used in the Suwannee-Floridan APT. The well casing was reduced to an 8-inch diameter in order to finish the well with an 8-inch, PVC casing liner following the APT. An as-built diagram of the Suwannee-Floridan, upper permeable zone monitor is shown in Figure 13.

Two Suwannee-Floridan observation wells were completed as the upper zones of dual-zone observation wells on both the 100-foot and 600-foot drilling pads. A Suwannee/Lower Ocala dual-zone well was constructed on the 100-foot drilling pad and a Suwannee/Upper Avon Park dual-zone observation well was completed on the 600-foot pad. As-built well diagrams for the two dual-zone wells that include the Suwannee-Floridan observation wells are given in Figures 14 and 15.

7.3.2 Ocala Limestone (Semi-Confining Unit)

Two Ocala Limestone observation wells were completed as the lower zones of two, dual-zone observation wells constructed on the 100-foot drilling pad. The observation wells were intended for use as APT measuring points within the semi-confining unit separating the Avon Park-Floridan aquifer lower permeable zone from overlying permeable zones. The upper Ocala observation well was constructed as a dual-zone completion with the Intermediate observation well, and the lower Ocala observation well was paired with the Suwannee-Floridan observation well, as described in the previous sections (Figures 12 and 14). The Ocala observation zones were positioned in representative sections of the formation, based on core data interpretation, at specific vertical separations from the Floridan lower permeable zone. Drawdown response in the Ocala observed during the Avon Park-Floridan APT would be related to the vertical permeability across that interval.

Interval core drilling and formation packer testing of the Ocala Limestone, as noted previously in section 3.3 on hydraulic testing, was conducted during construction of the lower Ocala observation well. Information obtained from the core and packer tests (Tables 6 and 8), was used to further assess the confining properties of the Ocala, and provide a basis of comparison for analytical results derived from the Floridan aquifer pumping tests.

7.3.3 Upper Avon Park Formation (Lower Permeable Zone)

Three wells were constructed in the Avon Park Formation of the Floridan aquifer for use in the Avon Park-Floridan APT, and for long term monitoring of the primary ground-water producing zone in the region. A large diameter, production-type well was constructed on the central drilling pad for use as the pumping well and potentiometric monitor, and observation wells for the lower permeable zone were installed on both the 100-foot and 600-foot drilling pads. The observation well on the 100-foot pad was completed by rehabilitating the well used in Phase-two core drilling and Stage-one exploratory drilling (Sections 4.1 and 4.2), and the well placed on the 600-foot pad was constructed as the lower zone of a dual-zone observation well.

The Avon Park-Floridan monitor-test well was designed and constructed as a 12-inch diameter, production-type well, with an 18-inch diameter upper casing interval capable of fitting a high-volume turbine pump. The 18-inch casing extended from land surface to 320 feet BLS, and 12-inch casing was installed from 180 feet to 950 feet BLS. The 11-inch diameter open-hole section was drilled from 950 feet to 1650 feet BLS, where Stage-two exploratory drilling commenced (Section 4.2). Following completion of Stage-two drilling, at a total depth of 2085 feet BLS, the 7 $^5/_8$-inch exploratory hole was plugged back with cement grout to approximately 1642 feet BLS. An as-built diagram of the Avon Park-Floridan monitor-test well is shown in Figure 16.

Two small diameter observation wells were constructed in the Avon Park- lower permeable zone for use as measuring points during the Avon Park-Floridan APT. A 2-inch, PVC cased well was constructed from the 8-inch exploratory well on the 100-foot drilling pad. Following completion of Stage-one exploratory drilling, the 7 $^5/_8$-inch exploratory hole was plugged back with cement grout to approximately 1650 feet BLS and the 2-inch PVC casing was installed and grouted from 950 feet up to land surface (Figure 17). A 3-inch diameter Avon Park-Floridan observation well was completed on the 600-foot drilling pad as a Suwannee/Avon Park, dual-zone well (Figure 15). The Avon Park observation well was built with 3-inch diameter PVC casing from land surface to 950 feet BLS, and a 3-inch slotted PVC well screen from 950 to 1650 feet BLS. A silica pea gravel filterpack was installed across the screen interval and the annular space between the Avon Park zone and Suwannee zone of the dual-zone well completion.

7.3.4 Lower Avon Park Formation (Middle Confining Unit)

Two monitor wells were installed in the lower Avon Park Formation of the Floridan aquifer for observation purposes and long term monitoring of the middle confining unit. The wells were installed as a dual zone monitor on the 100-foot pad following completion of Stage-3 exploratory drilling. The two "evaporite monitors" were intended for use as APT measuring points below the lower permeable zone, and as potentiometric and water quality monitors immediately above and within the confining unit. The upper zone monitor was positioned near the sulfate water quality transition identified during exploratory drilling and the lower evaporite monitor was set over 100 feet below the top of the middle confining unit.

The dual zone confining unit well was constructed with two separate 2-inch diameter PVC monitor tubes set in a 12 inch steel-cased well used for Stage-three exploratory drilling. The well consisted of an 11-inch open hole interval from 500 feet to the total exploratory depth of 2112 feet BLS. The top of the middle confining unit, ie. the first occurrence of evaporite minerals, was encountered at approximately 1965 feet, with intermittent occurrences of nodular gypsum and interstitial evaporites down to 2100 feet BLS. The deep (lower) zone monitor was constructed with 2-inch PVC casing from land surface to 2080 feet, with a 2-inch slotted PVC well screen from 2080 to 2100 feet BLS. A silica pea gravel filterpack was filled around the screen interval and cement grout placed in the annular space between the lower and upper monitor intervals.

The shallow (upper) zone well was constructed with 2-inch PVC casing from land surface to 1930 feet, with a 2-inch slotted PVC well screen from 1930 to 1950 feet BLS. Silica pea gravel was installed as a filterpack around the upper zone screen also, and cement grout filled the annular space from 1920 feet to near the base of the highly permeable zone at about 1700 feet. Pea gravel fill was used as a bridging material across this interval to minimize grout losses into the formation, and cement grouting continued above the permeable zone. The remaining annular space was filled with cement grout back to about 100 feet BLS, where both of the 2-inch well casings were fitted with 4-inch diameter casings in order to allow water level recording instruments to be installed in the wells. An as-built diagram of the dual-zone middle confining unit monitor is given in Figure 18.

8.0 SUMMARY OF HYDRAULIC TESTING

A major component of the drilling and testing program at ROMP 28 was the collection and interpretation of quantitative hydraulic data. The data was obtained through laboratory analysis of sediment and rock core samples, and several methods of in-situ testing, including drill stem and formation packer testing, as well as long duration, multi-well aquifer pumping tests. Hydraulic data was used to quantify aquifer characteristics ie. transmissivity and storage coefficients, and to assess the relative confinement and leakage between aquifers. The following report sections details the testing methods, test setups and well configurations used to collect the hydraulic data.

8.1 Sieve Analysis Data

A sediment sieve analysis was performed on samples from the surficial aquifer collected during continuous split spoon sampling. Representative samples were partitioned in ten foot intervals between 10 and 220 feet BLS, accurately weighed, and run through a standard set of nine sieves ranging in mesh number from 20 (0.84 mm) to 230 (0.062 mm) in sieve size. A weight percent was determined for each fraction of the total sample collected in the sieves, corresponding to the fraction of a particular grain size for the sediment sample. Statistical methods were then applied to determine median and mean grain size, and to estimate a hydraulic conductivity for the sediments. Results of the sediment sieve analysis, and the statistical applications are tabulated in Appendix B.

Sediments comprising the surficial aquifer were determined to be of medium grain size, with samples from 60, 100, and 150 to 170 feet BLS containing a coarse grain size component. The surficial deposits became finer below 170 feet, and much finer grained below 200 feet BLS, and no longer included in the surficial aquifer. Hydraulic conductivity estimates were determined by statistical calculation, based on the grain size millimeter mean and standard deviation (Krumbein and Monk formula), and also by the Hazen equation which uses the effective grain size of the sediment data. References for these empirical methods of determining hydraulic parameters of a granular porous medium are also included in Appendix B.

8.2 Core Analysis Data

Vertical hydraulic conductivity data was obtained by falling-head permeameter testing on ten core samples from the Intermediate and Upper Floridan aquifers at ROMP 28. Core samples exibiting low visible porosity were selected for testing from sections of the Arcadia Formation (Hawthorn Group), Suwannee Limestone, and Ocala Limestone.The hydraulic data was obtained to compare relative confining properties of the carbonate units in the Intermediate aquifer, and between permeable zones in the Floridan aquifer. Core samples were shipped to the FGS in Tallahassee, where the samples were prepared and analyzed for porosity and vertical hydraulic conductivity. Permeameter test results are given in Table 5. Testing procedures and a description of the falling-head permeameter apparatus are presented in Appendix C.

Additional laboratory analyses were conducted on core samples from the Ocala Limestone and Avon Park Formation to obtain necessary hydraulic parameters for the analysis of pumping test data. Core Laboratories analyzed three cores from the Ocala Limestone at the Carrollton Texas laboratory. Two other core samples collected from the lower Avon Park Formation were tested by Ardaman and Associates in Orlando Florida. The cores were tested for porosity, vertical hydraulic conductivity, and pore-volume compressibility. Results of the additional laboratory hydraulic data obtained for these samples are shown in Table 6. A testing report received from Core Labs for the additional core samples is contained in Appendix D.

8.3 Specific Capacity Test Data

Specific capacity testing was conducted across three intervals during exploratory drilling to determine potential well productivity of monitors constructed as APT pumping wells. Separate tests were run across the full thickness of both the Intermediate aquifer and Suwannee Limestone of the Floridan aquifer. The tests were run in a 6-inch diameter pilot hole of the well completed during interim well construction with an 8-inch steel casing, and used in Phase-two core drilling and Stage-one exploratory drilling. A series of specific capacity tests were also conducted as Stage-one exploratory drilling progressed through the highly permeable dolostones in the Avon Park Formation of the Floridan aquifer.

A 14-inch diameter well with a 6-inch diameter open hole interval from 300 to 425 feet BLS was tested for specific capacity to estimate the productivity of the Intermediate aquifer. Drawdown measurements were recorded as the wellbore was pumped by reverse-air circulation methods through the drill rods, which were positioned approximately 20 feet off the bottom of the well. Results of the Intermediate aquifer specific capacity test (Table 7), indicate that the aquifer is of marginal productivity, which was supported further by the results of the APT conducted in the aquifer at a later date.

The 6-inch pilot hole was advanced to a depth of 600 feet BLS, across the entire section of Suwannee Limestone and the upper twenty feet of Ocala Limestone to conduct the next specific capacity test. A formation packer assembly, attached to the bottom of the drilling rods, was inflated at 480 feet BLS to isolate the Intermediate aquifer from the targeted test interval. Again, drawdown was measured in the test zone as the test section was pumped by reverse-air circulation through the drill rods and packer assembly. Results of the Suwannee Limestone specific capacity test (Table 7), shows that the aquifer is of relatively low productivity, which was also supported by the results of the APT in the upper permeable zone of the Floridan aquifer.

A series of six specific capacity tests were conducted during Stage-one exploratory drilling to define the vertical extent of the highly permeable dolostone section in the Avon Park Formation. The drill stem tests were run on roughly 60 foot intervals between 1300 feet and 1600 feet BLS. The tests consisted of drawdown measurements in the 8-inch casing as the well was being pumped, by reverse-air circulation methods, at a constant rate through the drill rods. A final, steady state drawdown measurement was recorded with a corresponding pumping discharge rate to calculate an approximate specific capacity for the test interval. Results of specific capacity testing in the Avon Park Formation are given in Table 7. The test data indicated that the most permeable section of the dolostone unit was intersected between 1480 and 1550 feet BLS, where a six-fold increase in specific capacity was recorded. A final test run between 1550 and 1610 feet resulted in an unusually high specific capacity, which was due to an almost negligible drawdown measurement that may not be accurate, but is an indication that the formation is highly permeable.

8.4 Formation Packer Test Data

Two series of off-bottom formation packer tests were completed during exploratory drilling to provide estimates of permeability in less productive sections of the Floridan aquifer. Packer tests were run across most of the Ocala Limestone, and across two sections of the lower Avon Park Formation. As previously stated, the Ocala packer testing was conducted during construction of the dual zone Suwanne-lower Ocala observation well located on the 100-foot pad. The Avon Park packer tests were run at the terminus of Stage-two exploratory drilling in the Avon Park/Floridan monitor-test well on the central monitor pad.

A single element, water-inflatable packer assembly was used to isolate the targeted test interval from the overlying open borehole in the wells. The test intervals, which includes the formation section from the well bottom up to the packer element, were stressed by reverse-air circulation methods at a constant pumping discharge rate. Drawdown and recovery measurements were recorded via a pressure transducer connected to a data logger instrument. Data was collected through the drawdown phase to a point of maximum displacement and stability, and also through the recovery period as water levels in the test zone rebounded back to near initial conditions. Data analysis consisted of standard calculations for a best fit straight-line slope using the Jacob equation (Fetter,1988). A summary of packer test results in the Ocala Limestone and Avon Park Formation is given in Table 8.

The Ocala packer tests were run in two events from 623 to 725 feet, and 724 to 825 feet BLS. Each event consisted of a short vertical test interval of approximately 50 feet, which was expanded to a longer test interval of about 100 feet. This resulted in four data sets for each event, or a drawdown and recovery data set for each interval tested. Semilog plots of drawdown and recovery data, with the Jacob calculation approximating horizontal hydraulic conductivity, are given in Appendix E.

Packer tests were conducted in the lower Avon Park Formation, below the highly permeable dolostone section, to assess formation hydraulics and water quality variations above and within the middle confining unit. Drawdown and recovery data analyzed for the first test zone from 1855 to 1920 feet BLS (Appendix E), shows that the section of formation is still relatively permeable, and may still be in hydraulic contact with overlying permeable zones. The test also served to verify the absence of a water quality change at this point below the highly permeable section of the Avon Park Formation, which was indicated during water quality sampling through the test zone.

Two additional tests were conducted in the lower Avon Park Formation below the top of the middle confining unit, placed at the first occurrence of the evaporite minerals at 1965 feet BLS. The packer test intervals were positioned from 2030 to 2085 feet BLS, well below the top of the confining unit. The first test was run across the full 55 foot interval and the final test was conducted over the lower 25 feet of the interval, from 2060 to 2085 feet BLS. Data analyses of the packer tests run in the Avon Park Formation are presented in Appendix E.

8.5 Aquifer Pumping Test Data

Four multi-well, long duraton aquifer pumping tests (APT), were conducted at ROMP 28 to obtain in-situ hydraulic data from the surficial, Intermediate, and Floridan aquifers. The tests consisted of using monitor-test wells specifically designed for pumping to serve as withdrawl points, and one or more observation wells completed in the same zone as the pumping well, to serve as drawdown measuring points at specific radial distances from the withdrawl point. The locations of the three drilling pads described in Section 7.0 were designed to place the observation measuring points at these specific radii. Each pumping test contained a pumping or drawdown phase followed by a recovery phase after pumping was terminated. Drawdown phases were from less than one day to five days in duration, with recovery phases lasting from 12 to 48 hours.

8.5.1 Surficial APT

The surficial APT was conducted on March 2, 1993, with a 20 hour pumping drawdown phase phase at a discharge rate of 400 gallons per minute (gpm). A deisel powered, 6-inch vertical lineshaft turbine pump was set at 80 feet BLS in the surficial test well. Discharge was measured by a manometer tube attached to a 4-inch by 8-inch orifice/discharge pipe. The discharge water was routed away from the site through 200 feet 10-inch aluminum irrigation pipe, and was conveyed an additional 400 feet downslope in a lined ditch. The recovery phase was initiated the following day, and continued for approximately 24 hours until near pretest conditions were restored.

Drawdown and recovery measurements were recorded in the test well and three observation wells at approximate radial distances of 20, 50, and 75 feet from the test well. All surficial wells were contained on the 100-foot drilling pad (Figure 3). Data was acquired through pressure transducers installed in each well and connected to a data logger which stored the data for retrieval and processing. Observation wells at the 20 and 50 foot radial distance were completed at similar depth as the test well, fully penetrating the surficial aquifer with open screen intervals from 40 to 200 feet BLS (Figures 9 and 10). The 75-foot radius observation well (Figure 5), was the original surficial water supply well constructed during core drilling, and only partially penetrated the surficial aquifer to a depth of 100 feet BLS.

Analysis of drawdown data was accomplished using the Neuman and Thiem-Dupuit methods for non-steady state test conditions in unconfined aquifers. Average hydraulic conductivity values for the two analysis methods, averaged from results of drawdown analysis from the three observation wells, are from 35 to 38 ft/day, with a transmissivity for an average 190 foot thickness of saturated surficial sediments of 6650 to 7220 ft^2/day (49,700 to 54,000 gpd/ft). Details of the test setup and data analysis for the surficial APT are provided in Appendix F.

8.5.2 Intermediate APT

A 35 hour pumping-phase APT was conducted on February 27-28, 1996 in the Intermediate aquifer, at an average discharge rate of 37 gpm. A four-inch electric submersible pump with a 1 $^1/_4$-inch diameter drop pipe was set in the 8-inch diameter HAWTH-MON test well at 132 feet BLS, with discharge water conveyed through a 2-inch pipe approximately 200 feet to the south end of the wellsite pad. Discharge measurements were recorded from an inline flow meter, and checked with timed-volume measurements using a 5-gallon bucket. A 12 hour recovery phase was initiated following the pumping phase to collect recovery data for the test. Details of the Intermediate APT setup and data analysis are given in Appendix G.

Drawdown and recovery data was collected in the test well and the test zone observation well (HAWTH-100/OCAL-SH dual zone well), located 78 feet south of the test well. Water levels were also monitored in the Surficial monitor well, SUW-MON well, and the OCAL-SH observation well. Water level data was collected with pressure transducers and data logger equipment for background data, and through the drawdown-recovery phases of the test. Data analysis was conducted by best-fit graphical methods, using the non-steady state Hantush type curve for leaky confined aquifers with confining layer storage release. Transmissivity for the 60 foot test interval was calculated at 162 ft^2/day (1211 gpd/ft), with a storativity value of 2.4×10^{-4}.

8.5.3 Suwannee/Floridan APT

A 150 gpm, 83 hour pumping-phase APT was run on a 115-foot interval of the Suwannee Limestone and upper Ocala Limestone. The drawdown phase was conducted on August 19-22, 1996, followed by a 17 hour recovery phase on August 22-23, 1996. A 6-inch vertical lineshaft turbine pump, powered by a 80 HP Perkins deisel engine was installed in the 14x8-inch SUW-MON well at a depth of 180 feet BLS, and a 6-inch discharge hose conveyed the discharge water approximately 500 feet south of the test site. Pumping rates were monitored through the drawdown phase with an inline flow meter and a manometer tube. Details of the Suwannee Ls./U. Floridan APT setup and data analyses are contained in Appendix H.

Drawdown and recovery data was collected in the test well and two observation wells completed in the test zone at approximately 100 ft. and 600 ft distances from the test well. Water levels were also monitored in the Surficial and Intermediate aquifers, and in the Ocala Limestone and Avon Park Fm, of the Floridan aquifer. Water level data was collected with pressure transducers and data logger equipment for background trends and through the drawdown-recovery phases of the test. Data analysis was conducted by graphical methods using the Hantush-Jacob type curves for leaky confined aquifers, and with the Jacob method for best-fit, straight line analysis of recovery data. Average transmissivity and storativity values for the 115 foot test zone for drawdown analysis of the two observation wells are 333 ft^2/day (2490 gpd/ft), with a storativity of $1.9x10^{-4}$.

8.5.4 Avon Park/Floridan APT

A complex, high volume long duration APT was conducted in the Avon Park Formation of the Floridan aquifer at ROMP 28 from February 25 to March 4, 1997. The Avon Park/Floridan APT consisted of background data collection, a multiple step, step-drawdown test to evaluate the test well, geophysical flow logging, and a five day drawdown-pumping phase, with multiple observation wells in the test zone and in confining units and permeable zones both above and below the test zone. Recovery data was also collected over a two-day period following the extended pumping phase of the test. The 3,000 gpm test was conducted with a deisel engine powered 10-inch vertical lineshaft turbine pump set in the 18x12-inch AVPK-MON test well at a depth of 100 feet BLS. Two 8-inch dicharge hoses conveyed the discharge water approximately 1300 feet south of the test site to to a tributary creek that drains eastward to Jack Creek. The discharge rate was recorded from an inline flow meter and a manometer tube for the duration of the test drawdown phase. Complete specifications for the AvonPark/Floridan APT and analytical results from the test data are compiled in Appendix I.

AVON PARK APT

INSERT DATA ANALYSIS PARAGRAPHS

9.0 GEOPHYSICAL LOG INTERPRETATION

Borehole geophysical logs were collected during Phase-one test-core drilling and Stage-two exploratory drilling to obtain additional data for the site hydrogeologic interpretation. An additional set of geophysical logs was collected from the dual-zone SUW-600 / AVPK-600 observation well to obtain a log suite through the entire open section of the Floridan aquifer from the Suwannee Limestone through the upper Avon Park Formation. A typical suite of logs includes caliper, natural gamma-ray, and electric logs, plus borehole fluid temperature and conductivity logs. Both sonic porosity and induction conductivity logs were also collected from the SUW-600 / AVPK-600 well. The three sets of geophysical data are presented in Figures 21, 22, and 23.

Additional geophysical logs were run at various stages of test drilling to aid in well construction and to assess borehole conditions for the placement of downhole packer assemblies during hydraulic testing. Other log data was collected following monitor well installation to verify well construction specifications. These additional logs are not included in this report, but are on file at the SWFWMD. The following paragraphs provide qualitative descriptions and interpretations of geophysical data obtained in the three phases of logging shown in Figures 21 through 23.

9.1 Phase-One Core Drilling Geophysical Logs

The first set of geophysical logs were obtained during Phase-one core drilling after the corehole was reamed prior to setting the temporary 4-inch casing, as described in section 4.1.1. The well was configured with 6-inch PVC casing set at 230 feet BLS, with a 6-inch diameter hole extending from 230 feet to 860 feet BLS. A partial suite of logs are depicted in Figures 21A and 21B, which includes borehole caliper, 16-inch/64-inch resisitivity, natural gamma, spontaneous potential, and a single point resistance log. Since the borehole was filled with drilling mud during the logging operation, the fluid temperature and resistivity logs did not measure formation conditions and are not included. This limited set of log data was obtained primarily for lithologic correlation through the Hawthorn Group formations and intermediate aquifer system. Geophysical data through the Suwnnee Limestone and Ocala Formation of the upper Floridan aquifer was repeated during logging of the SUW-600 / AVPK-600 well, and will be described in context with the Floridan aquifer system. The following paragraphs provide a brief interpretation of the the geophysical data collected during Phase-one core drilling through the Intermediate aquifer and the uppermost formations of the Floridan aquifer.

Borehole caliper and natural gamma logs, depicted in figures 21A and 21B, were recorded from 900 feet to land surface. The caliper log trace shows a open-borehole diameter of six to eight inches, with larger diameters of ten to twelve inches between 230 feet and 270 feet bls. The 6-inch diameter casing is represtented in the caliper log from 230 feet back up to land surface. The natural gamma ray log (Figure 21B), shows a typical low intensity through the surficial sands and clays, with a pronounced increase in gamma activity at about 280 feet BLS, marking the top of the Hawthorn Group sediments. A variably high gamma response is recorded through the Hawthorn Group formations, with a decrease noted through the Nocatee member of the the lower Arcadia Formation from 450 feet to 485 feet BLS. A consistently low gamma activity is present from the top of the Suwannee Limestone at 485 feet, through the Ocala Limestone, to the top of the Avon Park Formation at approximately 860 feet BLS. A minor shift in intensity is apparent in the upper Avon Park Formation, with an increase in gamma activity recorded from 860 feet to 900 feet BLS.

Electric logs run during Phase-one core drilling include spontaneous potential (SP), single point resistance, and the paired 16-inch/64-inch normal resisitivity logs. Electric log resonse shows variations in resistance/resisitivity through the upper Hawthorn where fine grained dolostone is interbedded with phosphatic clays. Higher resisitivity was recorded through the middle Arcadia, from 350 to 430 feet, with a marked decrease in electric response across the Nocatee member, from 430 to 485 feet BLS. Variations in resistance/resistivity, and SP response is evident between the Suwannee Limestone and Ocala Limestone, and in the upper section of Avon Park Formation, providing good correlation with the gamma log interpretation and confirmation of the formation contacts identified from the lithologic data.

9.2 Stage-Two Exploratory Drilling Geophysical Logs

Geophysical logs run during Stage-two exploratory drilling are depicted in Figures 22A and 22B. The log suite was collected from the test zone and exploratory section in the Avon Park monitor-test well, as described in section 4.2.2 under Additional Exploratory Drilling. A full suite of log data was obtained from the total exploratory depth of 2085 feet, and were run up into the 12-inch steel casing, terminating at 900 feet BLS. The log data, including caliper, natural gamma, electrics, fluid resistivity and fluid temperature, were used to aid in characterizing the lithology of the Avon Park Formation, and hydrologic properties of the highly permeable zone of the upper Floridan aquifer, to the top of the middle confining unit.

Geophysical logs depicted in Figure 21A include borehole caliper, natural gamma-ray, and both fluid resistivity and temperature. The caliper log shows an enlarged borehole diameter through the upper section of the highly permeable zone, averaging 30 inches and exceeding 45 inches in diameter in places between 1050 feet and 1300 feet BLS. The rough and enlarged borehole appearance across this interval is probably due to the abrasive effects of reverse-air drilling through the limestone section of the formation. Because of this wash-out or dredging effect, the upper Avon Park section appears to have numerous cavity features that would easily conduct ground-water flow, although lithology and specific capacity data (Section 8.3; Table 7) revealed that the most permeable dolostone section in the Avon Park Formation at the ROMP 28 site occurs below 1300 feet BLS.

Caliper data continued to show a rough borehole character between 1300 feet and 1450 feet, although the average borehole diameter decreased to about 14 inches. A relatively guage $11^1/_2$-inch diameter was logged between 1450 feet and 1600 feet BLS, coinciding with a well indurated and most permeable section of recrystallized dolostone in the Avon Park Formation. Fracture porosity may dominate the permeability of this section, which would explain the very high specific capacity of the unit,although fracture features are not evident in the caliper trace. Fluid logs across this interval also indicate a stable water composition which might be expected across a permeable section of formation.

A slightly rougher and enlarged section of hole was present from 1600 feet to 1700 feet, which showed interesting correlation with a decrease in electrical response. A fairly guage 8-inch diameter hole is depicted through the exploratory section of the well from 1700 feet to the total depth of 2085 feet, with a significant cavity feature present from about 1830 feet to 1845 feet, which also correlates well with the fluid log responses in the hole.

Gamma ray data through the Avon Park Formation typically shows a low gamma activity through most of the section. A marked gamma intensity decrease occurs below 1040 feet, coniciding with a decrease in clay and organic material content common in the uppermost section of the formation. Gamma activity remains low through the limestone and dolostone sections of the Avon Park, to a depth of 1960 feet, where a further decrease in gamma intensity is evident from 1960 feet to 2085 feet BLS, across the gypsiferous section comprising the upper portion of the middle confining unit.

Fluid log responses recorded in the open bore hole usually reflect relative changes in borehole fluid conditions, even when logged under static conditions (ie. non-pumping), since possible mixing effects from vertical water movement or density stratification of borehole water cannot be easily quantified. Borehole fluid logs are still useful in assessing ground-water quality conditions and identifying significant permeable zones contributing water to, or intercepting water from the borehole. These apparent movements in borehole fluid are interpreted from deflections in fluid resistivity and temperature logs, which appear as gradual changes in slope puncuated by sharp steps on the log curves that typically coincide with features observed on the caliper log and lithologic changes.

Fluid temperature and fluid resistivity logs run through the Avon Park Formation during Stage-two drilling depict broad vertical sections of apparently similar ground-water masses separated by both gradual and relatively abrupt changes in borehole fluid composition. An apparent gradual decline in water quality is present through the upper dolostone section, between 1300 feet and about 1470 feet, with an apparently stable water quality composition persisting through the highly permeable dolostone from 1470 to 1700 feet BLS. A minor decrease in borehole fluid resistivity and temperature increase was logged from 1700 to 1830 feet, coinciding with an apparent water-producing cavity between 1830 feet and 1845 feet BLS. Another section of stable water quality was observed to a depth of 1930 feet BLS, with a third minor step resistivity a small increase in fluid temperature marking the top of the remaining fluid log response observed to the bottom of the well. Apparent water quality response in the lower section of the fluid logs from 1930 to 2085 feet is dominated by an increase in sulfate concentration (Tables 3 and 4) from the presence of evaporite minerals in the upper section of the middle confining unit.

Electric log data collected from the Stage-two exploratory hole shows lithology-controlled response through most of the Avon Park Formation. A muted resistance/resisitivity response across the upper limestone section, from 1000 feet to just below 1300 feet, can be attributed to the enlarged borehole diameter observed in the caliper log across this interval, although limestone is typically lower in resisitivity than dolostone. Gradual increased electric response is observed from 1300 to 1500 feet, with a high resistivity logged across highly recrystallized dolostone from 1500 to about 1570 feet BLS. Lower resistivity response occurs from 1570 to 1700 feet possibly from a slightly larger borehole diameter present through this section of moderately recrystallized and indurated dolostone. Higher resisitivity response, with intervening low resisitivity deflections at limestone interbeds, was observed from 1700 feet to about 1930 feet BLS, coinciding with the reduced borehole size of the exploratory section. The lower section of the well from 1930 to 2085 feet shows a low resisitivity signature that probably resulted from the increase in borehole fluid conductivity and the presence of lower resisitivity evaporite minerals in the section.

9.3 Geophysical logs from SUW-600 / AVPK-600 Observation Well

Geophysical log data was collected during observation well construction on the 600-foot drilling pad to obtain a log suite through most of the upper Floridan aquifer, and to observe any changes in geophysical signature over short distances when compared to log data from the exploratory wells. The observation well was also smaller diameter and experienced less drilling-induced enlargement through most of the section which improved geophysical response and the interpretive capability of the data. Geophysical data was obtained from the total well depth of 1650 feet, up to the 8-inch steel casing at 480 feet, and terminated at 400 feet BLS. The log suite included an induction conductivity electric log and a sonic or acoustic porosity log, in addition to the standard log data collected in the other wells. Fluid logs were omitted from the log suite since no changes in water quality were observed or expected in the section of Floridan aquifer penetrated by the observation well.

Caliper data through most of the open hole section of the observation well is smooth and only slightly enlarged, averaging 9 to 10 inches in diameter. Borehole diameters of 10 to 16 inches were logged across the upper dolostone section of the Avon Park Formation, from 1380 to 1480 feet, with a guage hole present through the highly permeable dolostone from 1480 feet to the total well depth of 1650 feet BLS. The gamma ray log showed a similar low intensity response as was seen in log data from the exploratory wells, although gamma activity increases are still apparent at formation contacts and other lihologic changes. The SP and single point resistance logs exhibit good electric response across the dolostone sections of the Avon Park Formation, and clearly identifies the highly permeable dolostone occurring from 1480 feet to 1600 feet BLS.

The induction conductivity log was added to the log suite to compare electric response with the standard electric log suite in identifying formation contacts and other important lithologic features. The induction conductivity data did show good correlation with the electric log deflections at the Suwannee/Ocala contact, and at the top of the Avon Park Formation. The induction log also appeared to be more sensitive to subtle changes in lithologic properties than the other electric logs. Several higher conductivity spikes appear on the induction log trace from the Avon Park contact at 960 feet to just below 1250 feet, possibly due to organic material content or changes in bulk porosity in the limestone section. The highly permeable dolostone section from 1480 to 1600 feet BLS was also apparent as a low conductivity (higher resistivity) response on the induction log.

The sonic porosity log was run in the observation well to obtain relative porosity variations through the potable section of the upper Floridan aquifer at the site. Since the sonic log measurements rely on travel times of acoustic signals, the tool response is sensitive to changes in formation density and borehole geometry, especially sharp changes in borehole diameter that may occur at lithologic breaks. The caliper log from the observation well in general appears to be smooth and optimal for a consistent sonic log response. Sonic porosity ranged between 40% to 45% through much of the Floridan aquifer to a depth of 1380 feet BLS. A porosity of 45% to 50 % was recorded from 1380 feet to about 1470 feet, near the top of the highly permeable dolostone section. Sonic response through the permeable dolostone section from 1480 to 1600 feet was erratic, spiking to zero and 80% to 100% porosities across several intervals, but averaging roughly 20% to 30% porosity across the section. The erratic acoustic response across the highly permeable dolostone section may be evidence of fracture porosity, where the fracture geometry interupts and reverses the order of near-far travel time reception to the tool reciever. The lower section of the hole from 1600 to 1650 feet shows similar porosity values of 40% to near 50% that was observed through most of the borehole.

10.0 SUMMARY

A comprehensive hydrogeologic investigation was conducted at the ROMP 28 Kuhlman monitor site from 1991 to 1997. Detailed hydrogeologic data presented in this report was collected through an exploratory and test drilling program to delineate and assess the aquifer systems at the monitor site. A suite of permanent monitor wells was constructed at ROMP 28 for the purpose of collecting long term, regional ground-water levels and water quality data. The results of this investigation will be incorporated into the report on the Highlands Ridge WRAP, and will also be included in the ongoing assessment of the District's Southern Ground-Water Basin for further evaluation of water resources in the Southern Water Use Caution Area.

Detailed aquifer delineation was accomplished through continuous test core drilling conducted from land surface to a depth of 1304 feet BLS. Characterization of the surficial aquifer included continous sediment sample collection and sieve analyses. Rock core samples from Hawthorn Group sediments in the Intermediate aquifer, the Suwannee Limestone, Ocala Limestone and Avon Park Formation, were analysed for porosity and hydraulic conductivity data. A detailed geologic description and stratigraphic delineation from core samples have also been completed at the ROMP 28 monitor site.

Additional exploratory drilling was completed, from 1300 feet to a total depth of 2112 feet BLS, to delineate the full thickness of the upper Floridan aquifer, conduct hydraulic testing, and provide data on middle confining unit at the base of the upper Floridan aquifer. A complete water quality profile was developed through the upper Floridan aquifer, several suites of geophysical logs were collected to aid in geologic and hydrostratigraphic analysis, and borehole packer testing was conducted in the Ocala Limestone and Avon Park Formation, including the top of the middle confining unit. Detailed geologic and stratigraphic descriptions from exploratory drilling have been incorporated with data collected during continuous test core drilling at the ROMP 28 site

A series of aquifer pumping tests were completed in the surficial aquifer, Intermediate aquifer, and the Suwannee Limestone and Avon Park Formation of the Upper Floridan aquifer, during and following test drilling and monitor well construction. Hydraulic parameters were derived from drawdown and recovery data collected in temporary test-zone observation wells for the four pumping tests conducted at ROMP 28. Tests results can be incorporated in flow models used by District Resource Evaluation and Regulatory staff to aid in determining sustainable threshholds for ground-water withdrawls in the region. Results of the hydrogeologic testing program at the ROMP 28 monitor site will also provide useful information in understanding the hydrology of Highlands Ridge region and the relationships between surface waters and the ground-water system in the Southern Water Use Caution Area.

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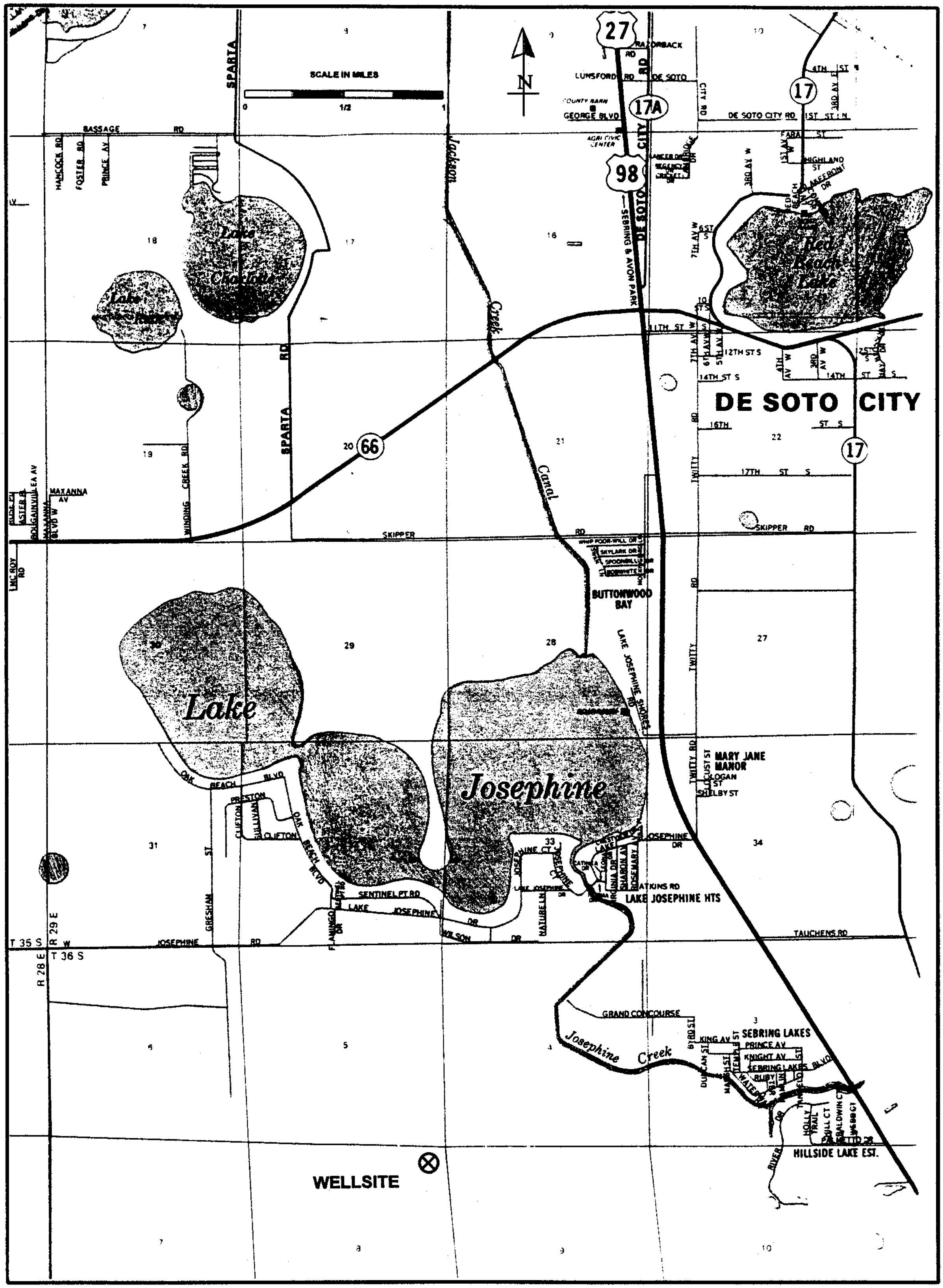
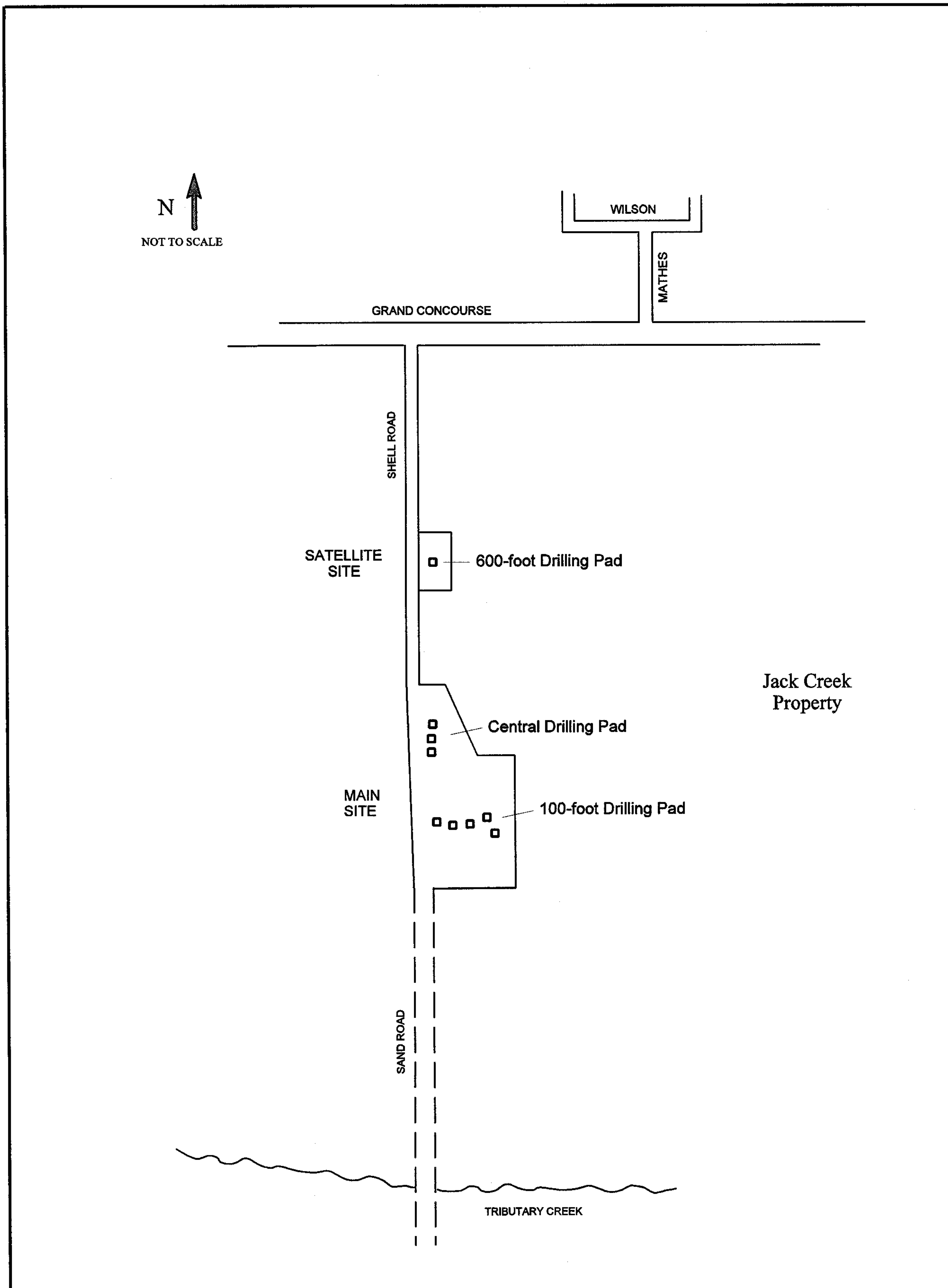
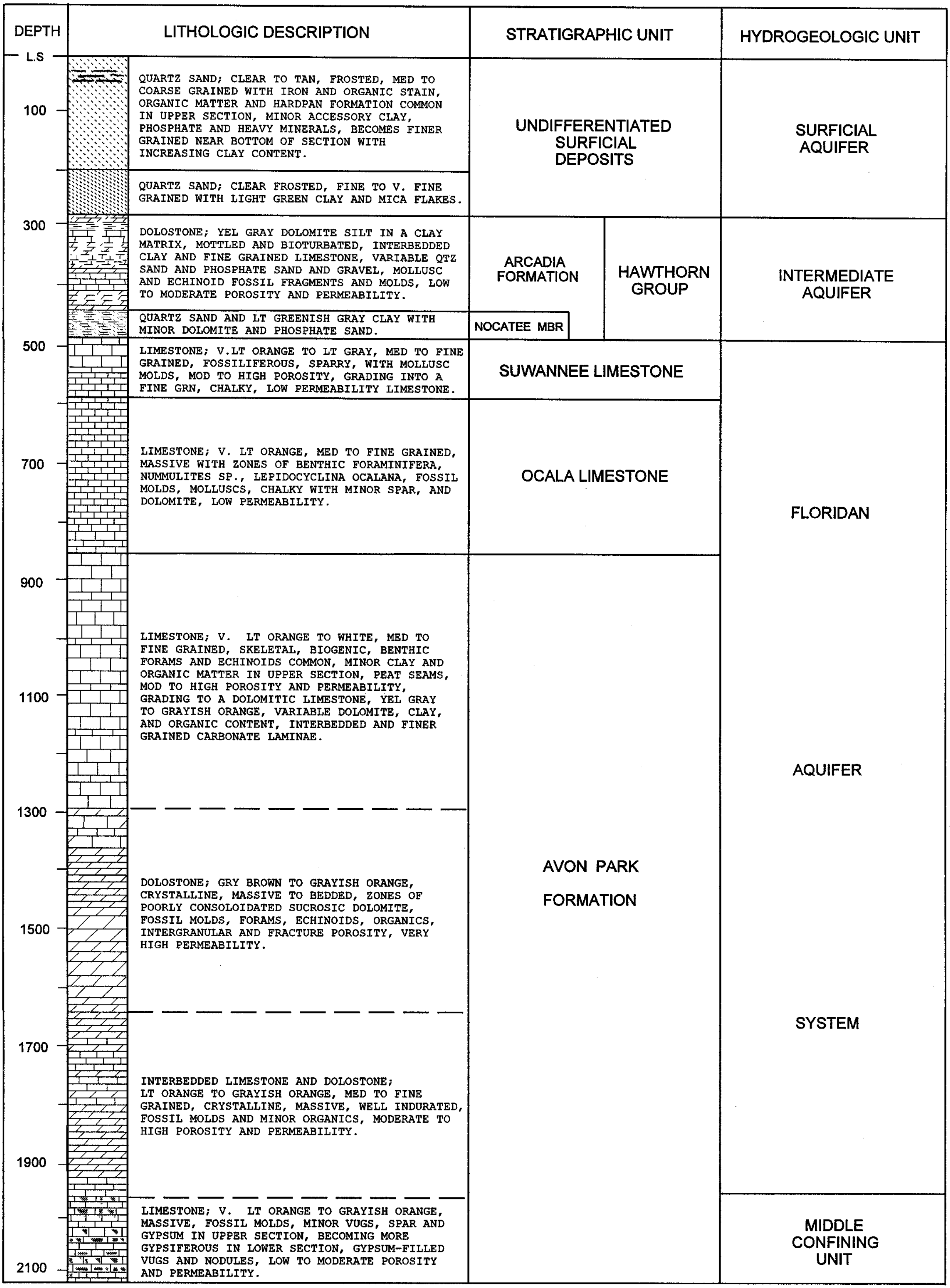
FIGURES



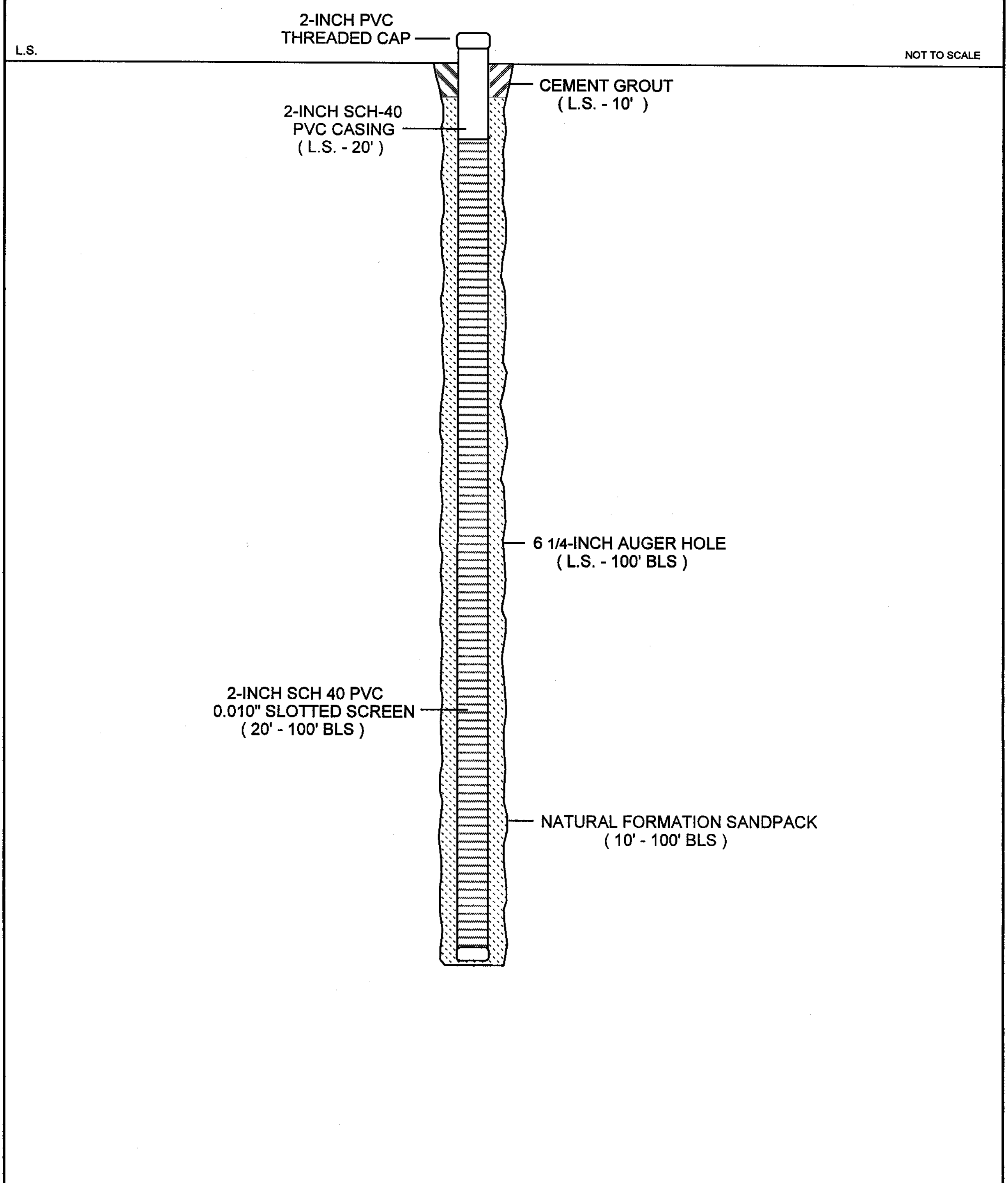
ROMP 28 Kuhlman	Figure 1. General location map, ROMP 28 monitor site, Highlands County. (map source: Rand McNally and Company 1985,1986 Avon Park/Sebring.)



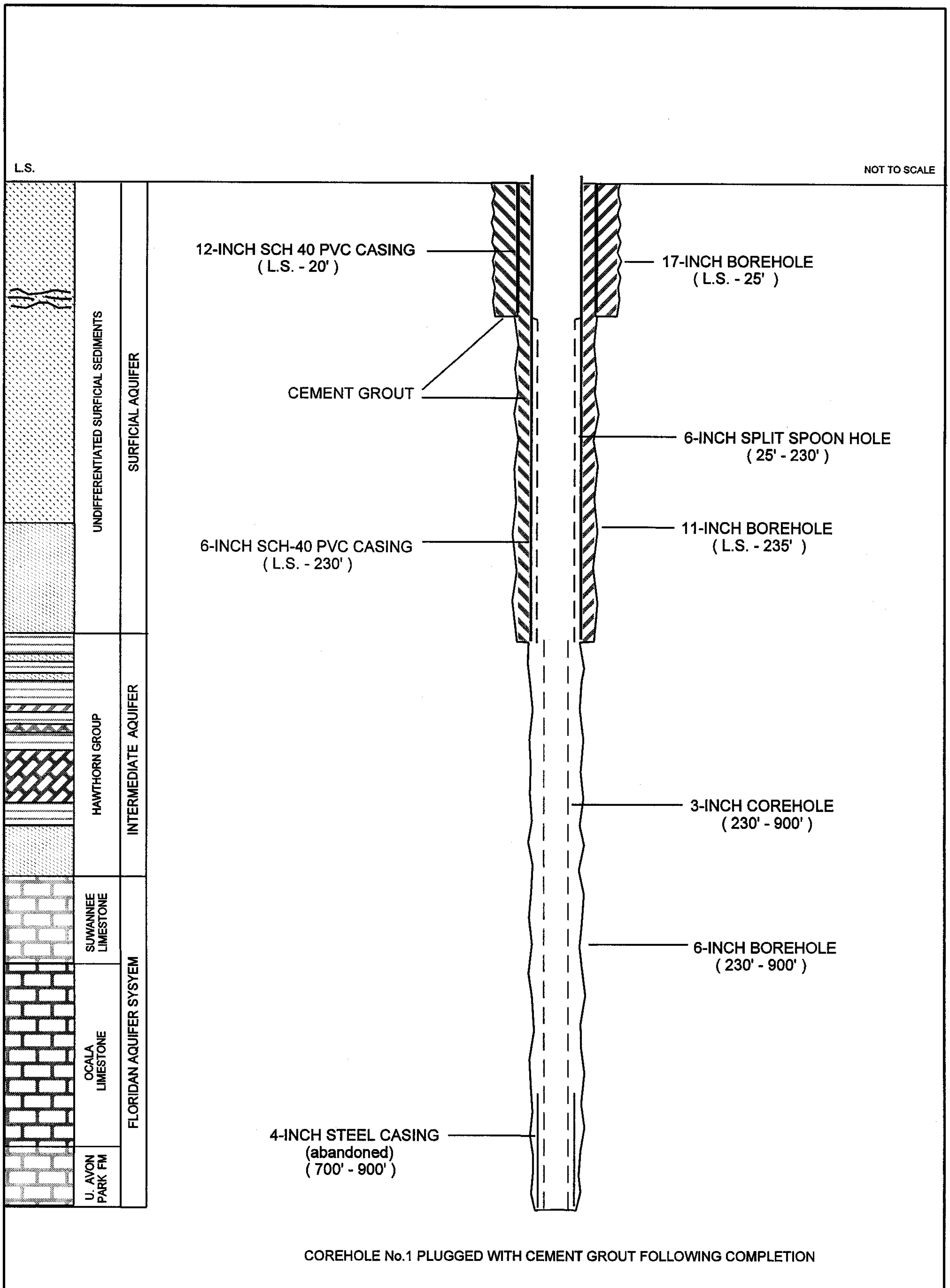
ROMP 28 Kuhlman	Figure 2. Detail of monitor site location.



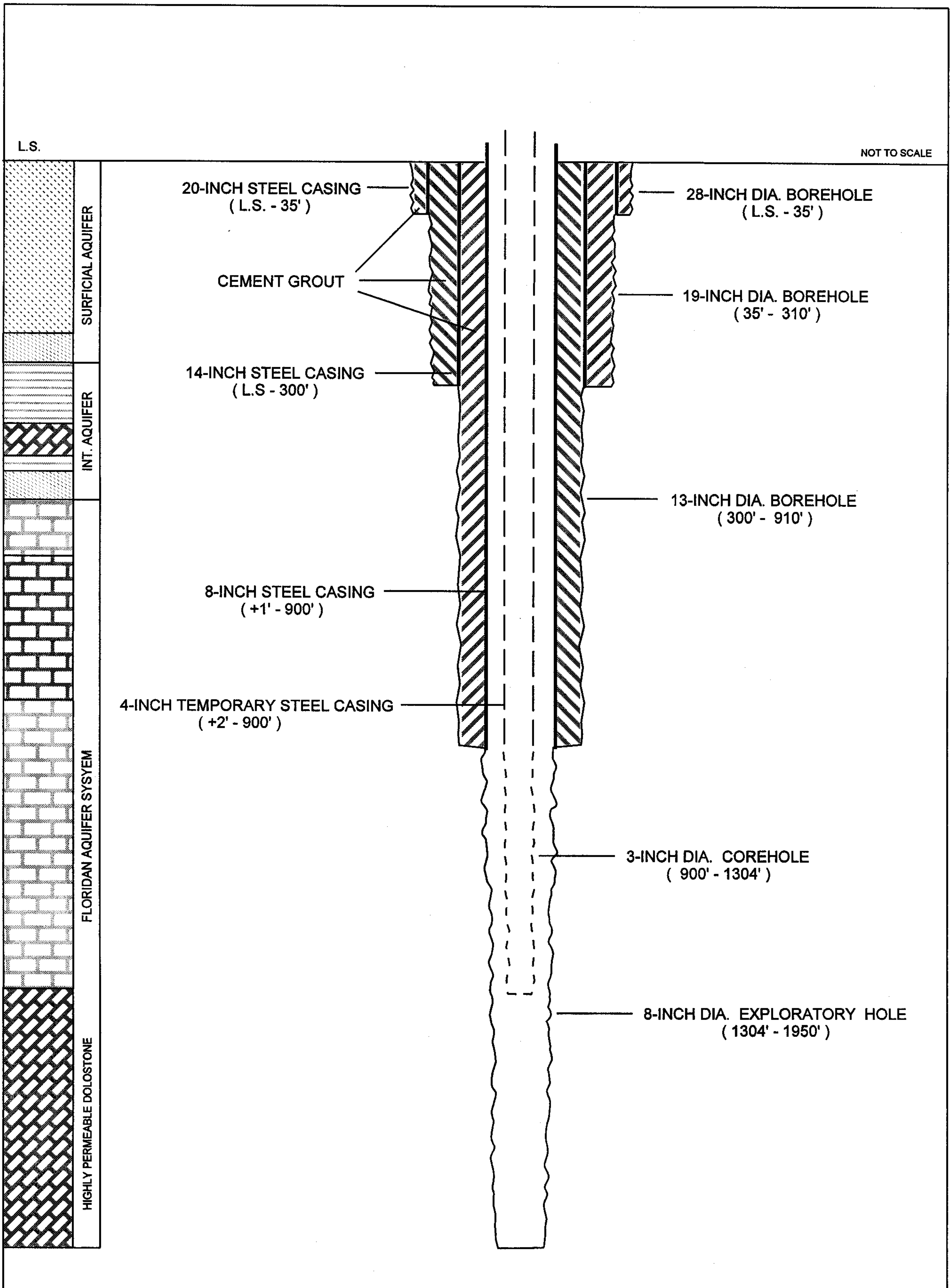
ROMP 28 Kuhlman	Figure 4. Generalized site geology and hydrostratigraphic correlation.



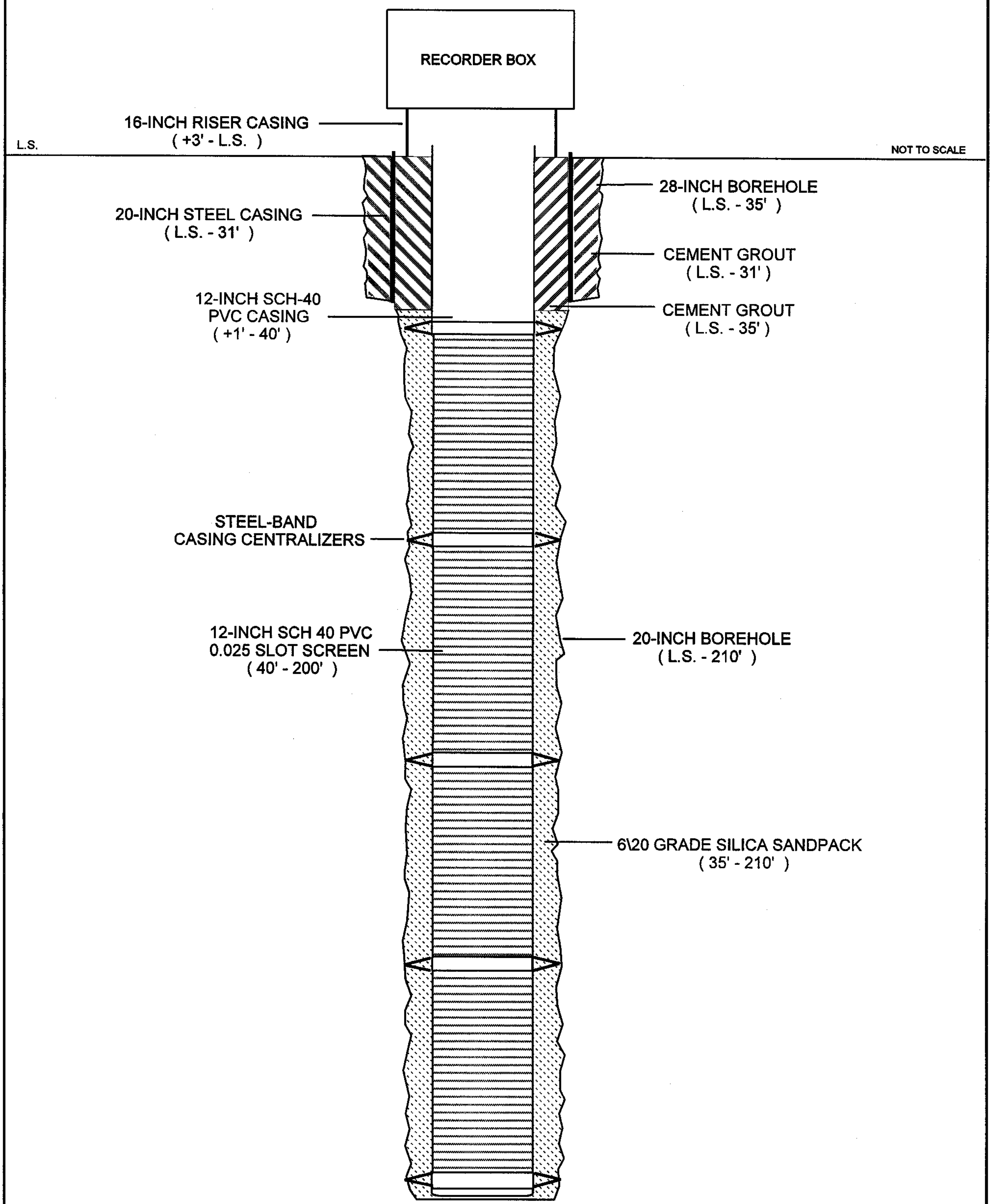
ROMP 28 Kuhlman | Figure 5. As-built well diagram, Surficial OB-3, temporary water supply well.



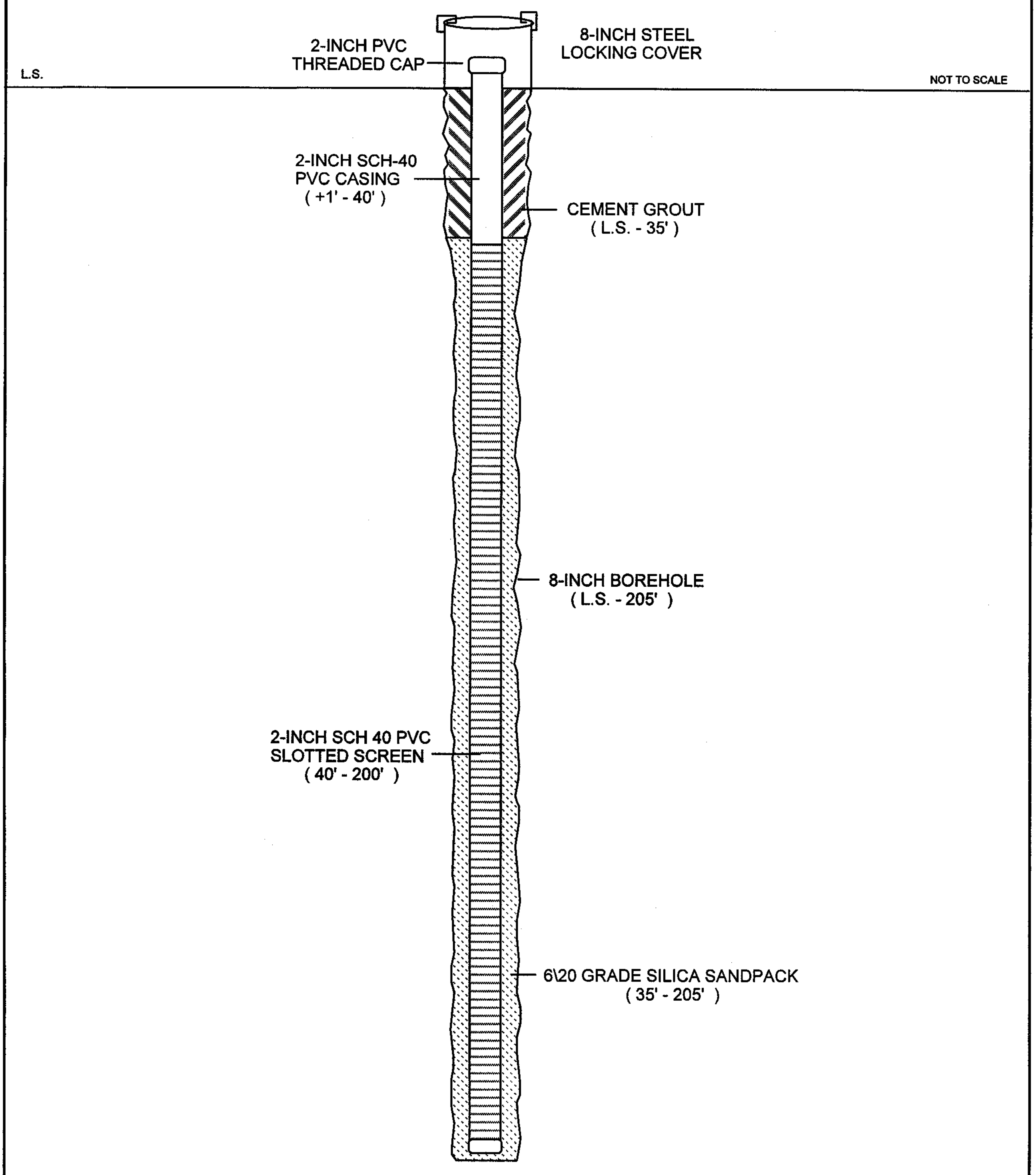
ROMP 28 Kuhlman	Figure 6. Well diagram, Corehole No. 1.



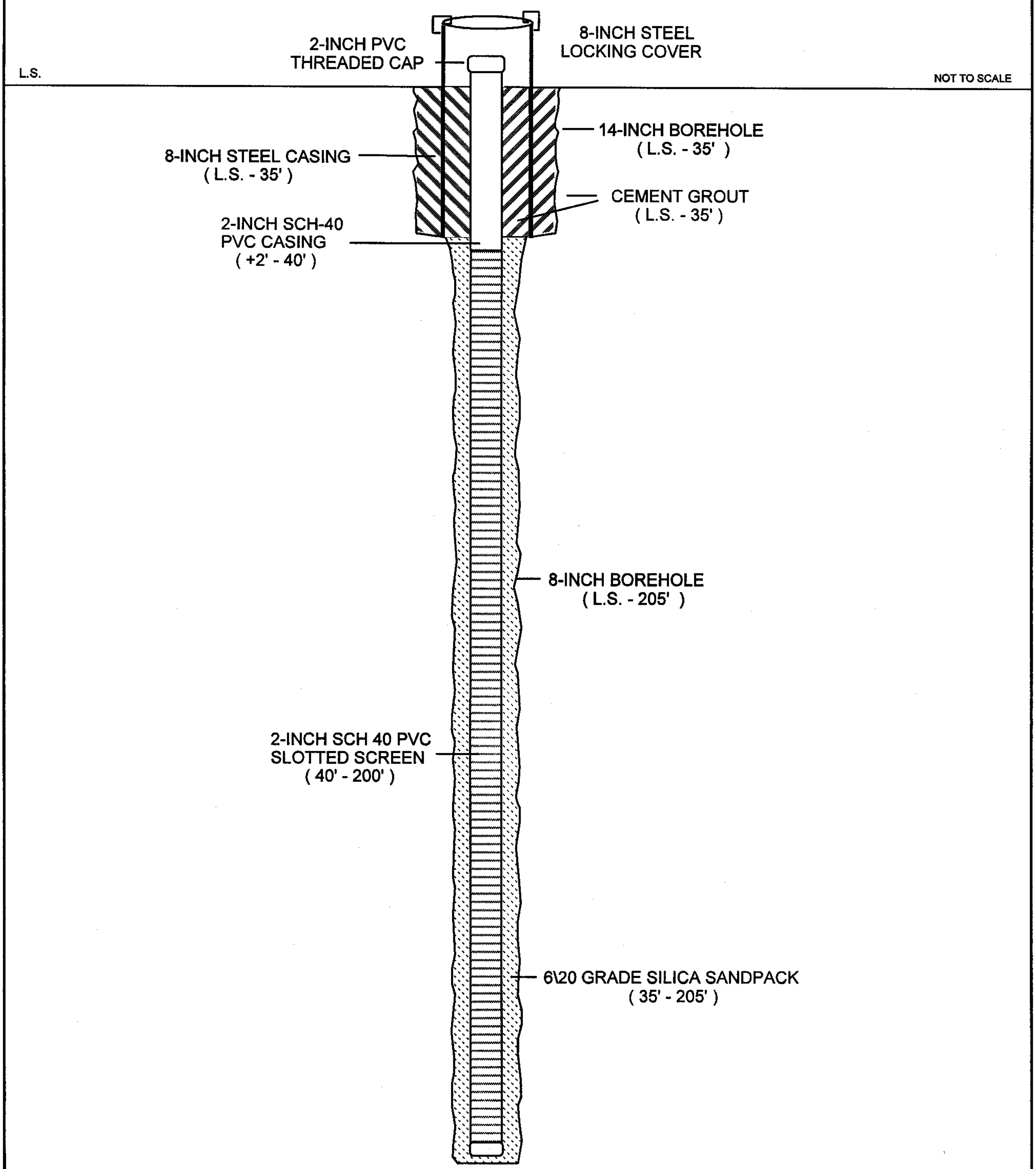
ROMP 28 Kuhlman	Figure 7. Well diagram, Corehole No. 2 and Exploratory Hole No. 1.



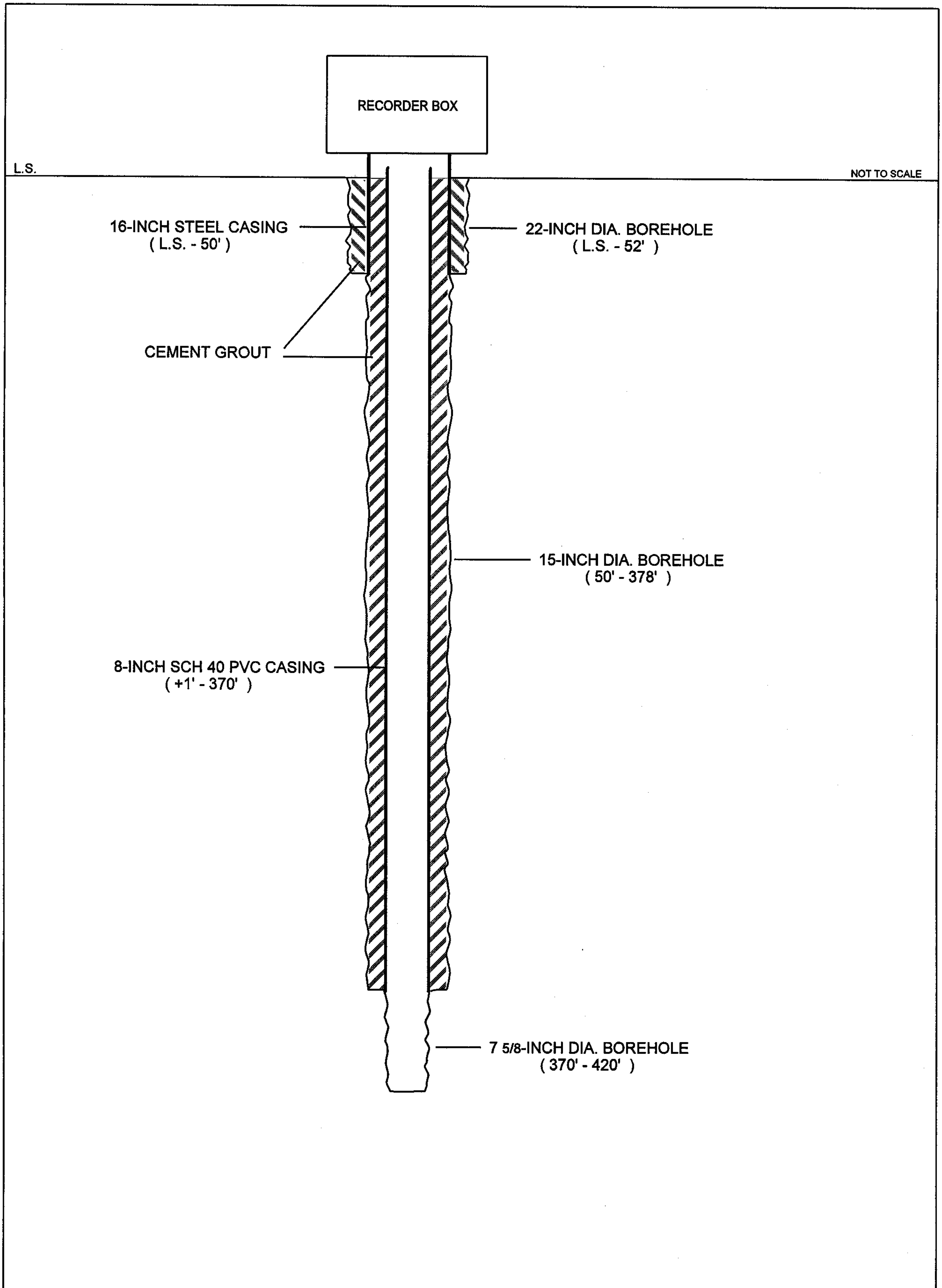
ROMP 28 Kuhlman	Figure 8. As-built well diagram, Surficial monitor-test well.



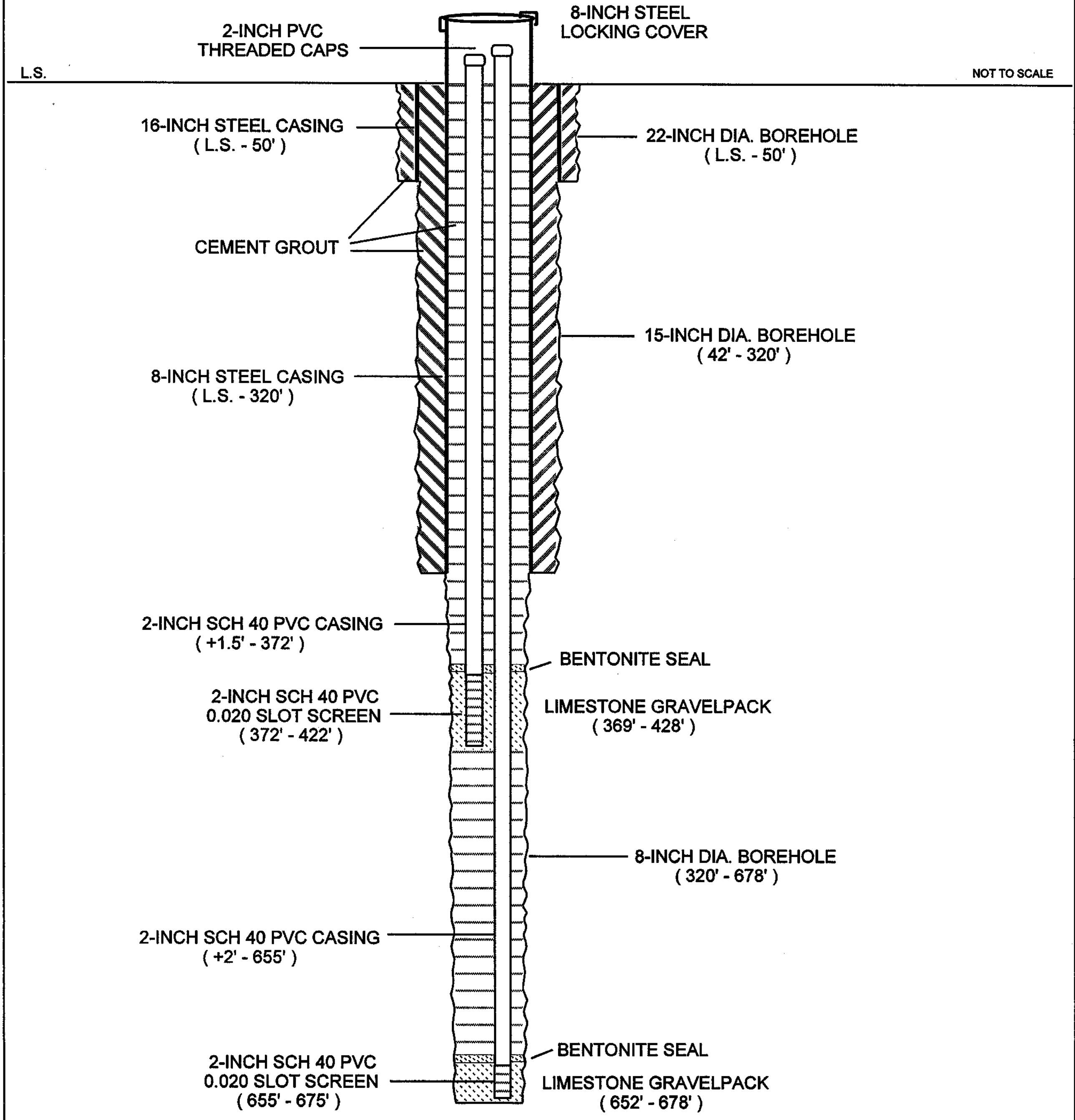
ROMP 28 Kuhlman	Figure 9. As-built well diagram,Surficial OB-2.



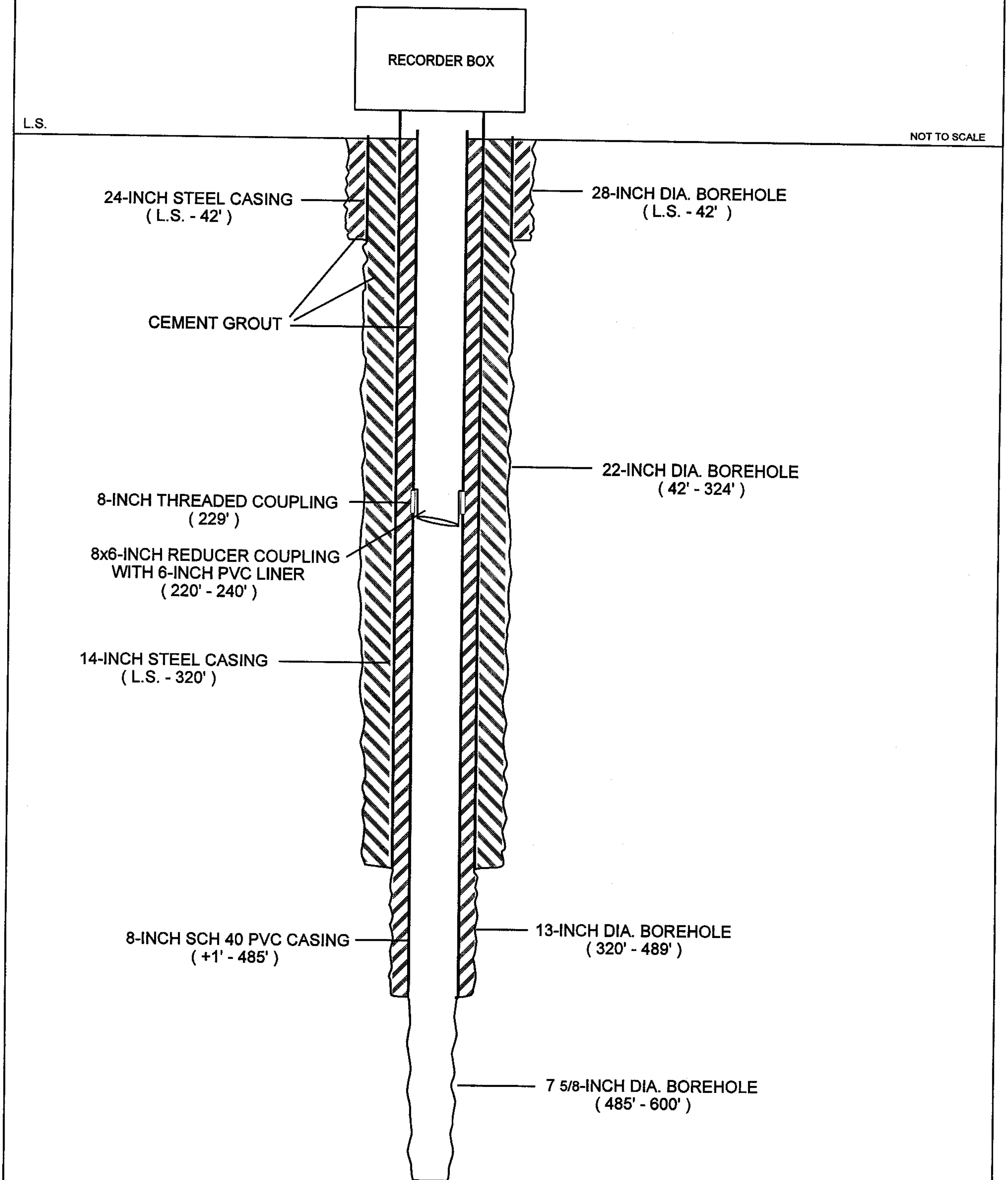
ROMP 28 Kuhlman	Figure 10. As-built well diagram,Surficial OB-1.



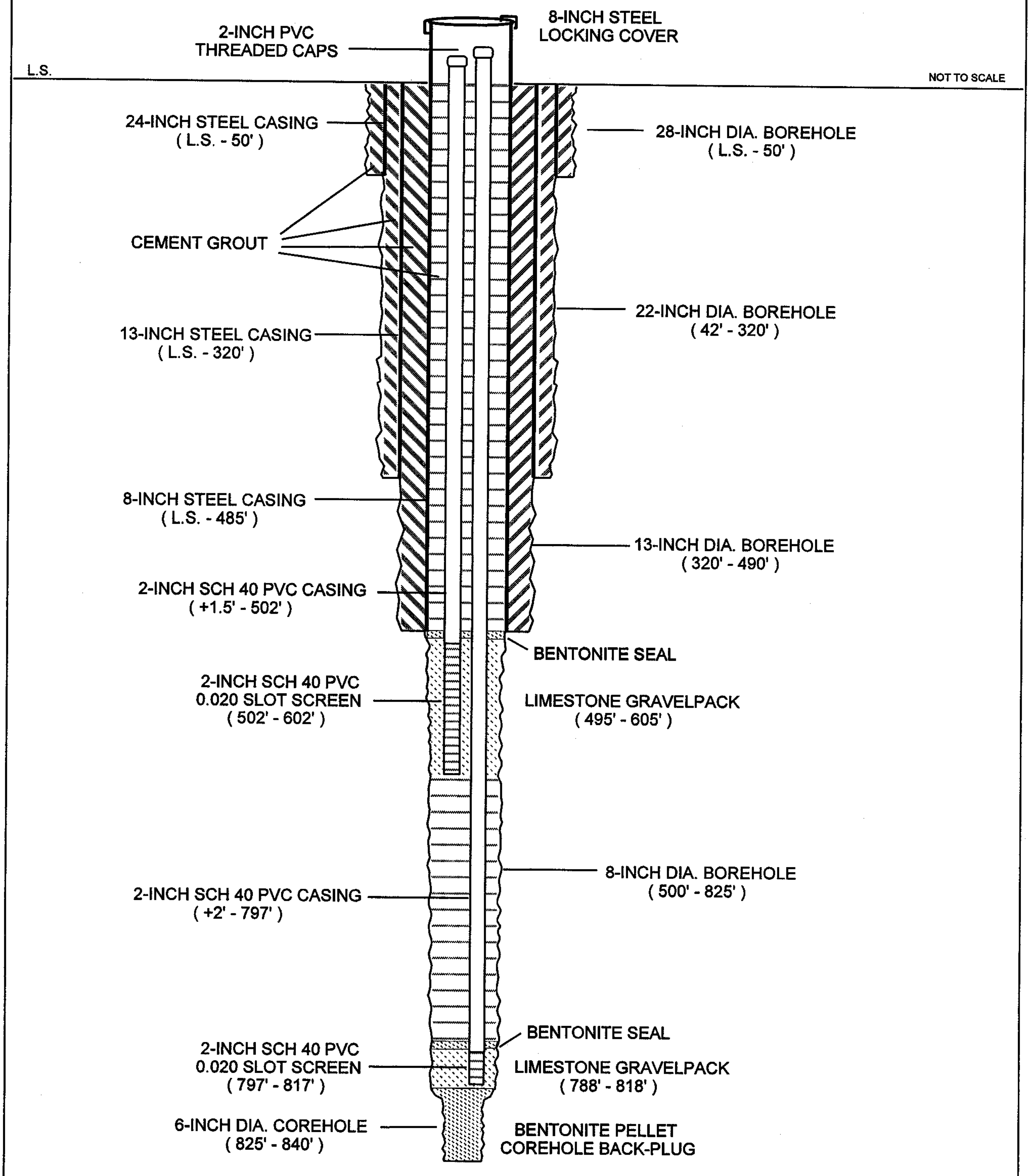
ROMP 28 Kuhlman	Figure 11. As-Built well diagram, HAWTH-MON in the Intermediate aquifer.



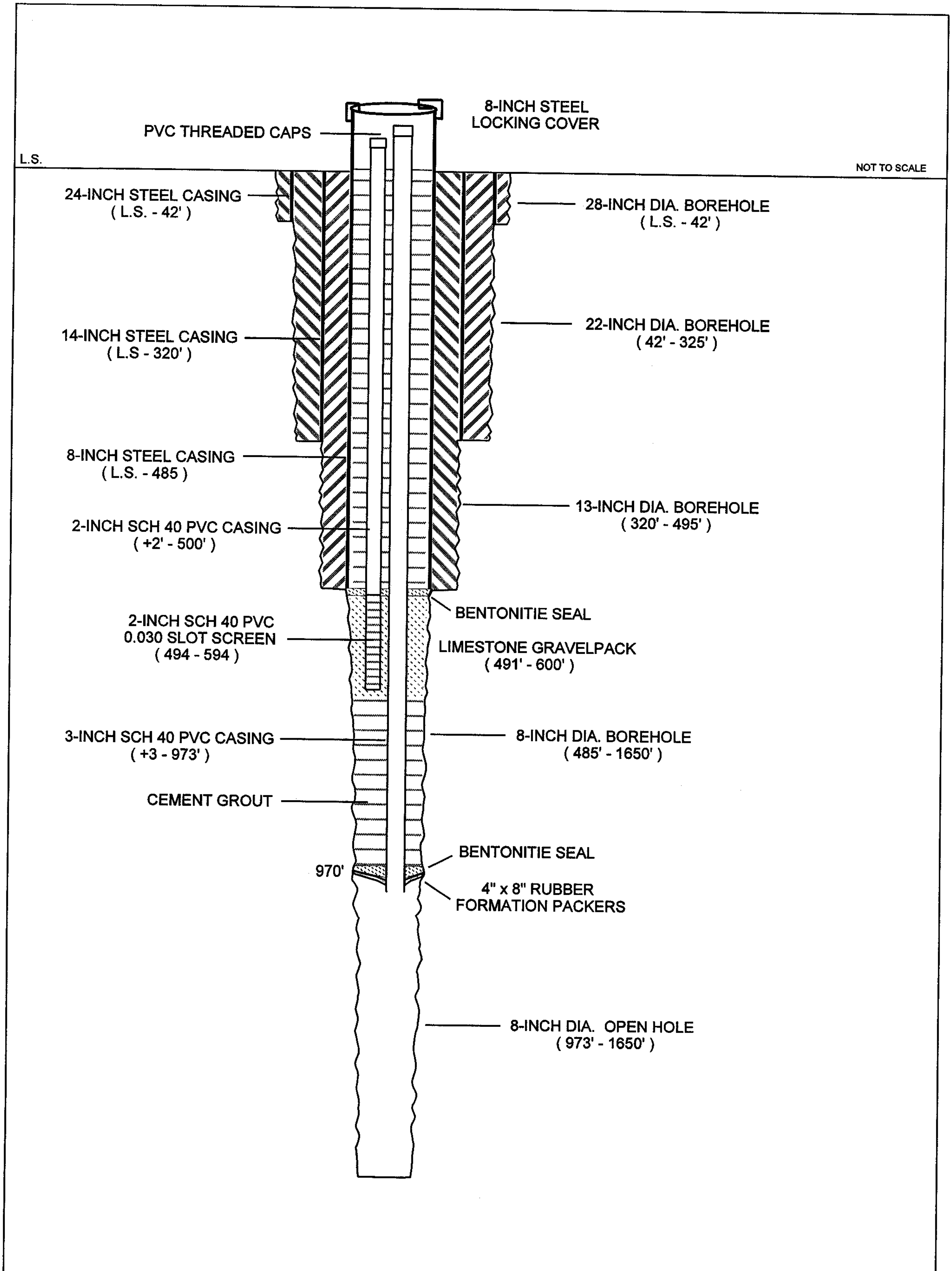
ROMP 28 Kuhlman	Figure 12. As-built diagram, HAWTH-100/OCAL-SH observation wells.



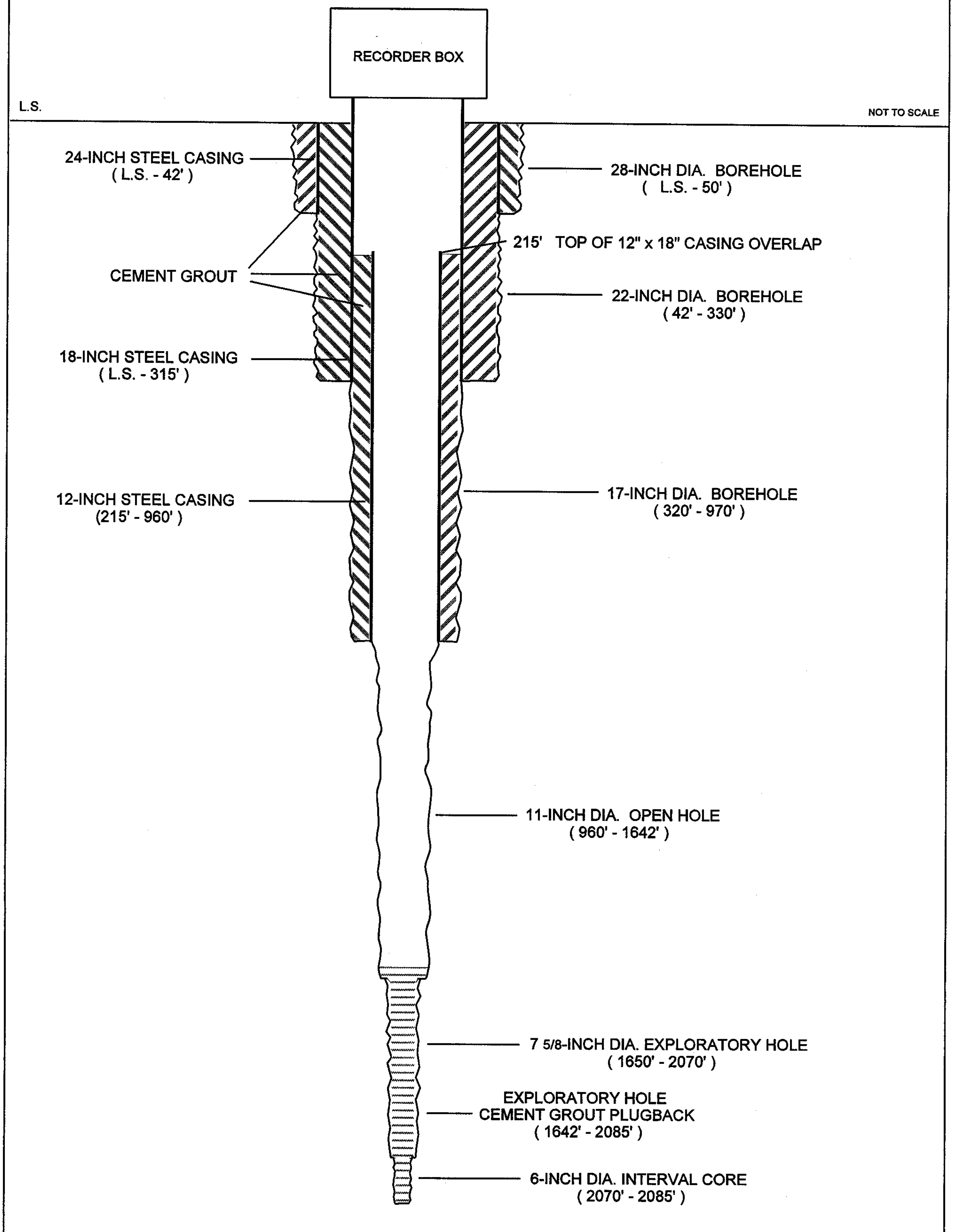
ROMP 28 Kuhlman	Figure 13. As-Built well diagram, SUW-MON in the Floridan aquifer.



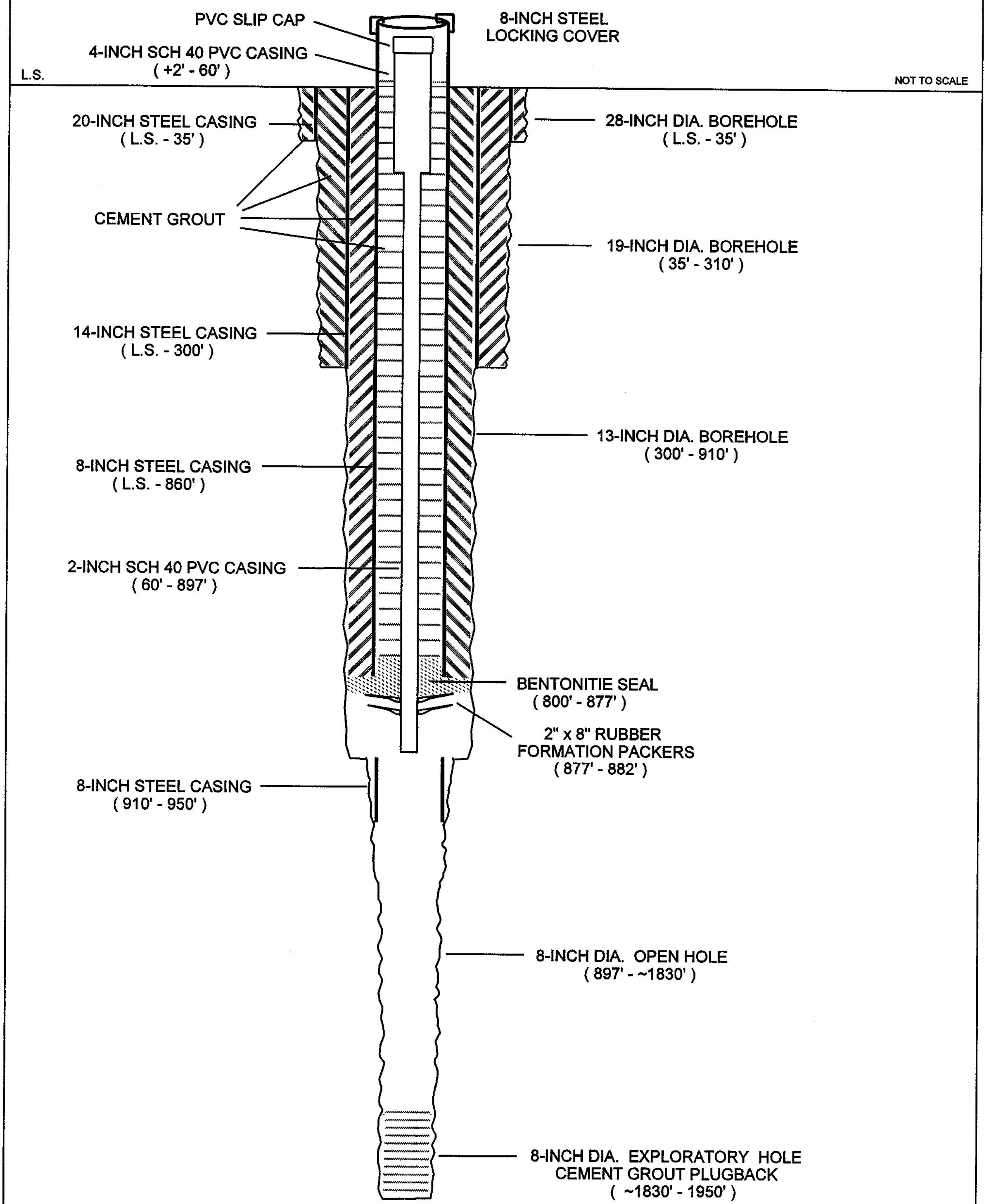
ROMP 28 Kuhlman	Figure 14. As-built diagram, SUW-100/OCAL-DP observation wells.



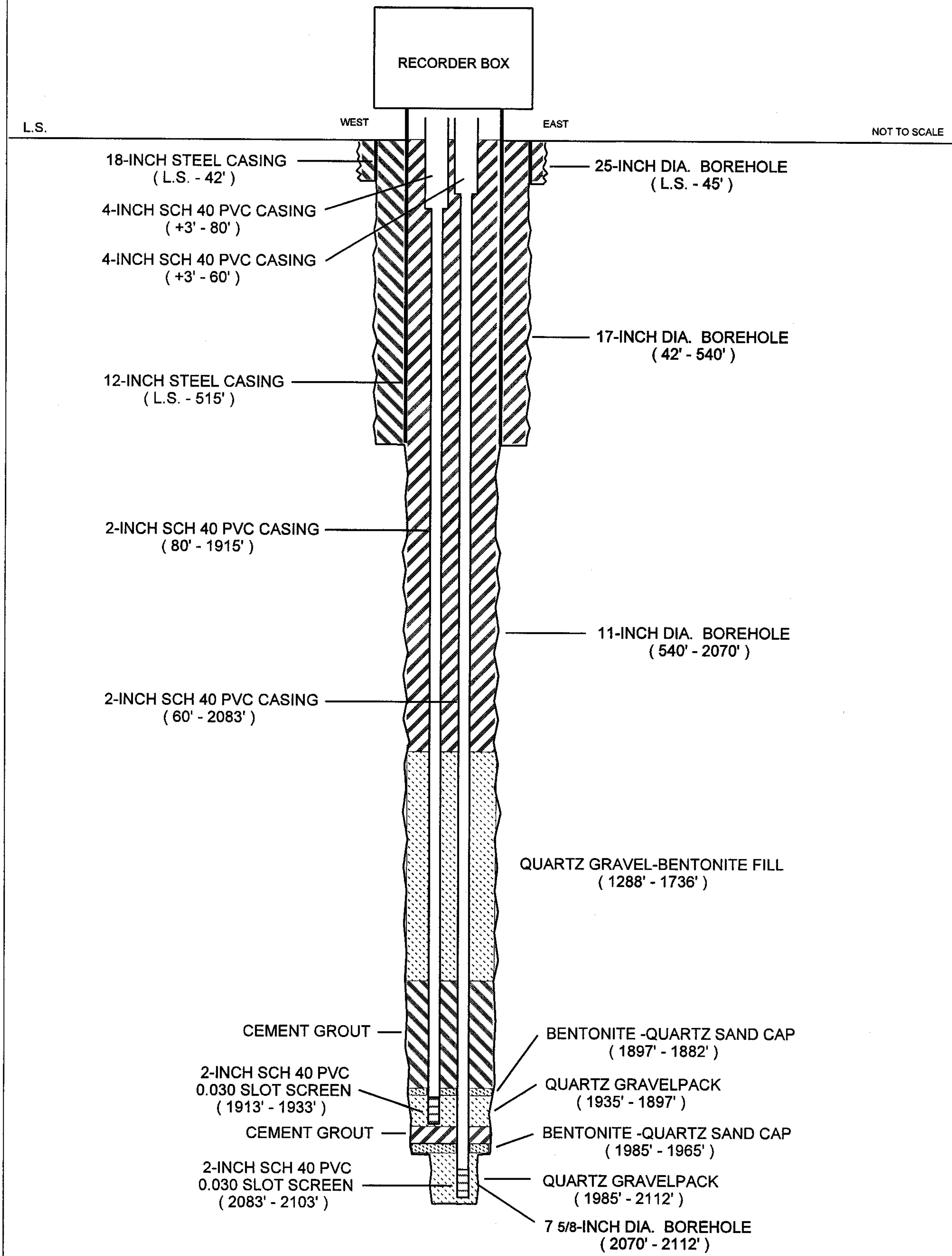
ROMP 28 Kuhlman	Figure 15. As-built diagram, SUW-600/AVPK-600 observation wells.



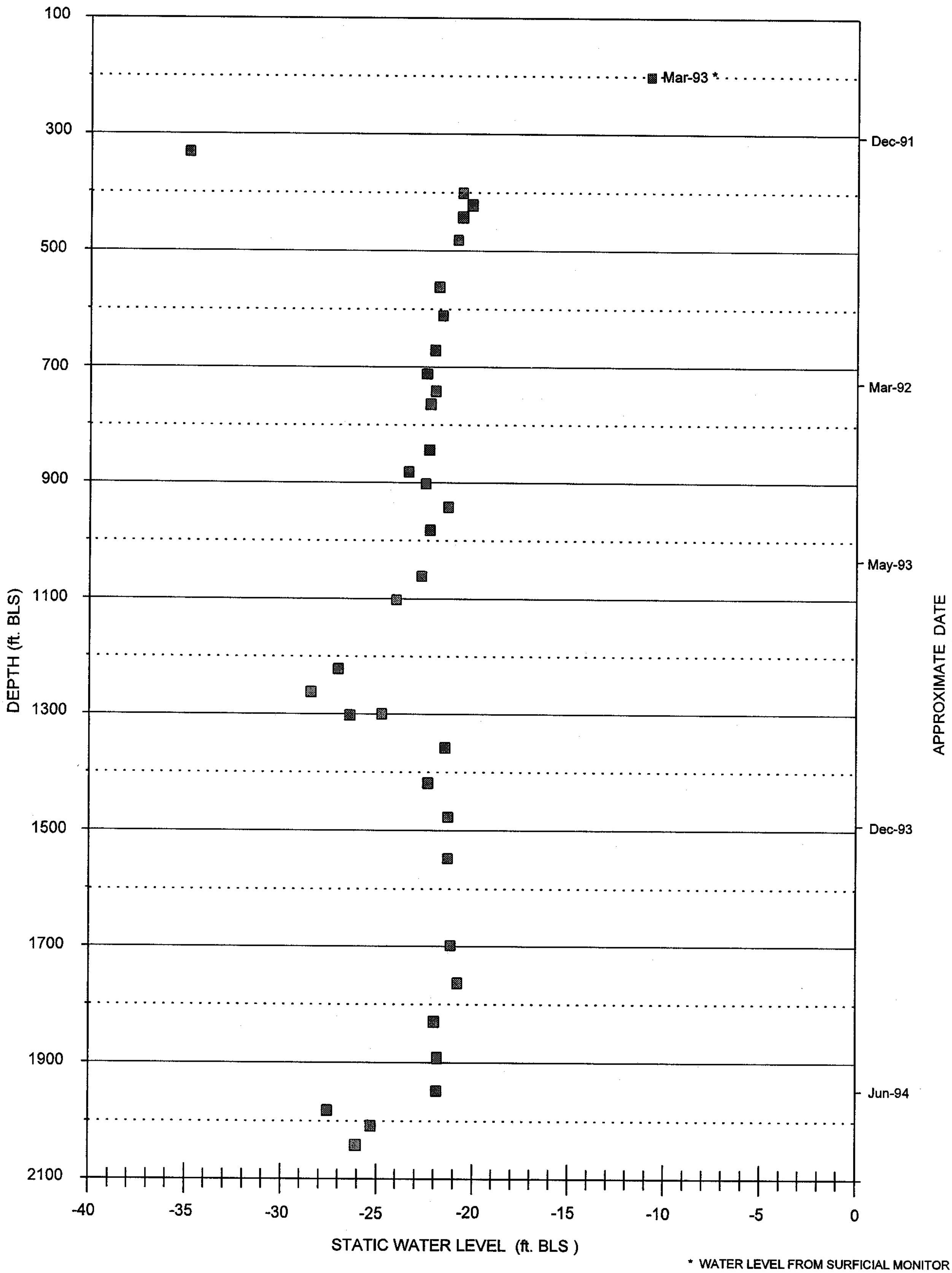
ROMP 28 Kuhlman	Figure 16. As-built diagram, AVPK-MON Floridan aquifer test well.



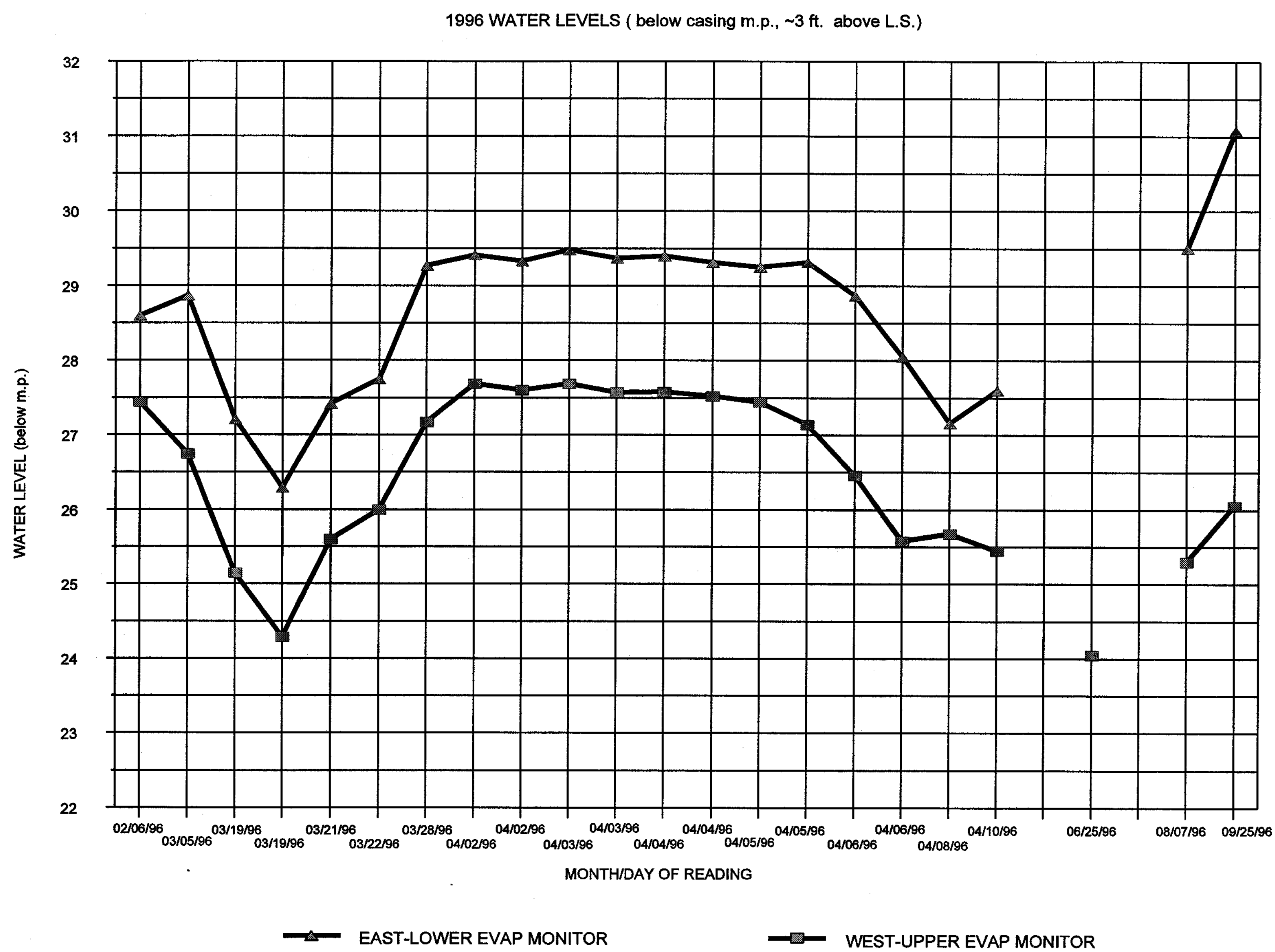
ROMP 28 Kuhlman	Figure 17. As-built diagram, AVPK-100 observation well.



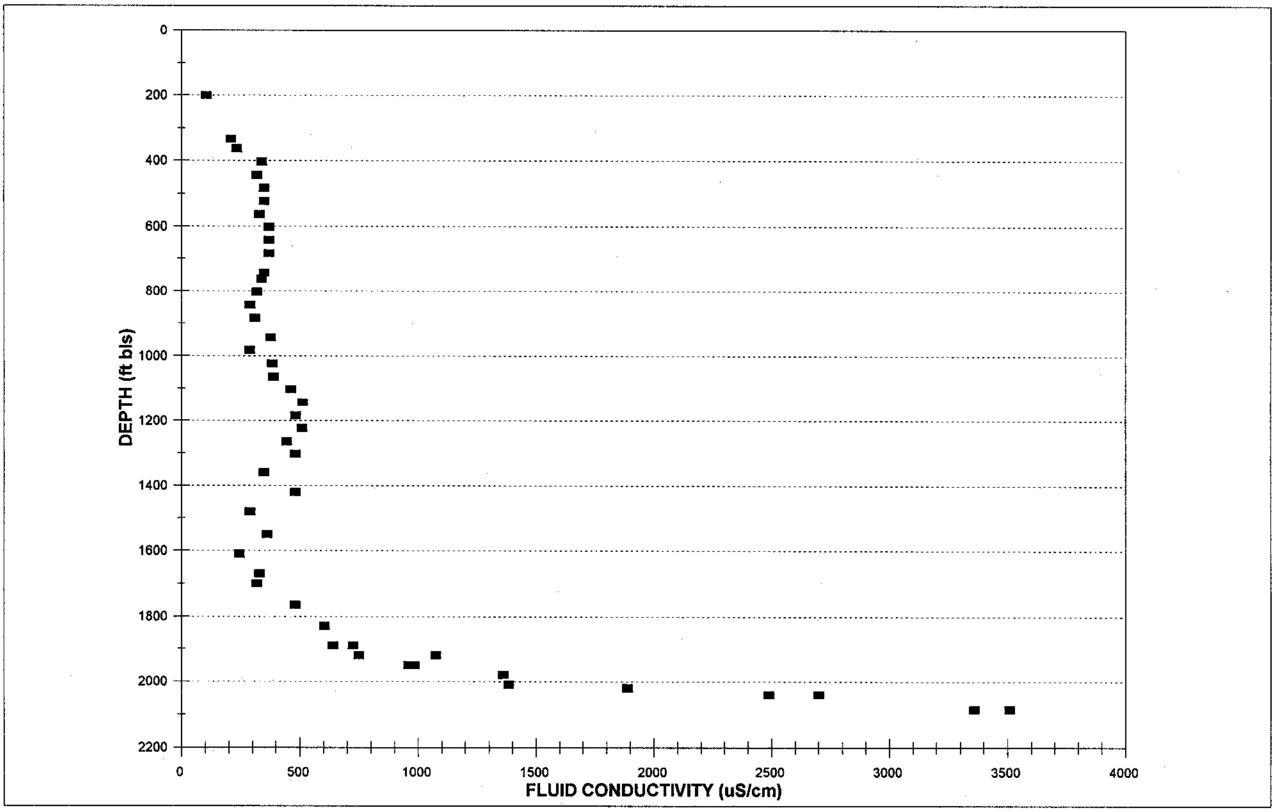
ROMP 28 Kuhlman	Figure 18. As-built diagram, evaporite monitors, lower Avon Park Formation.

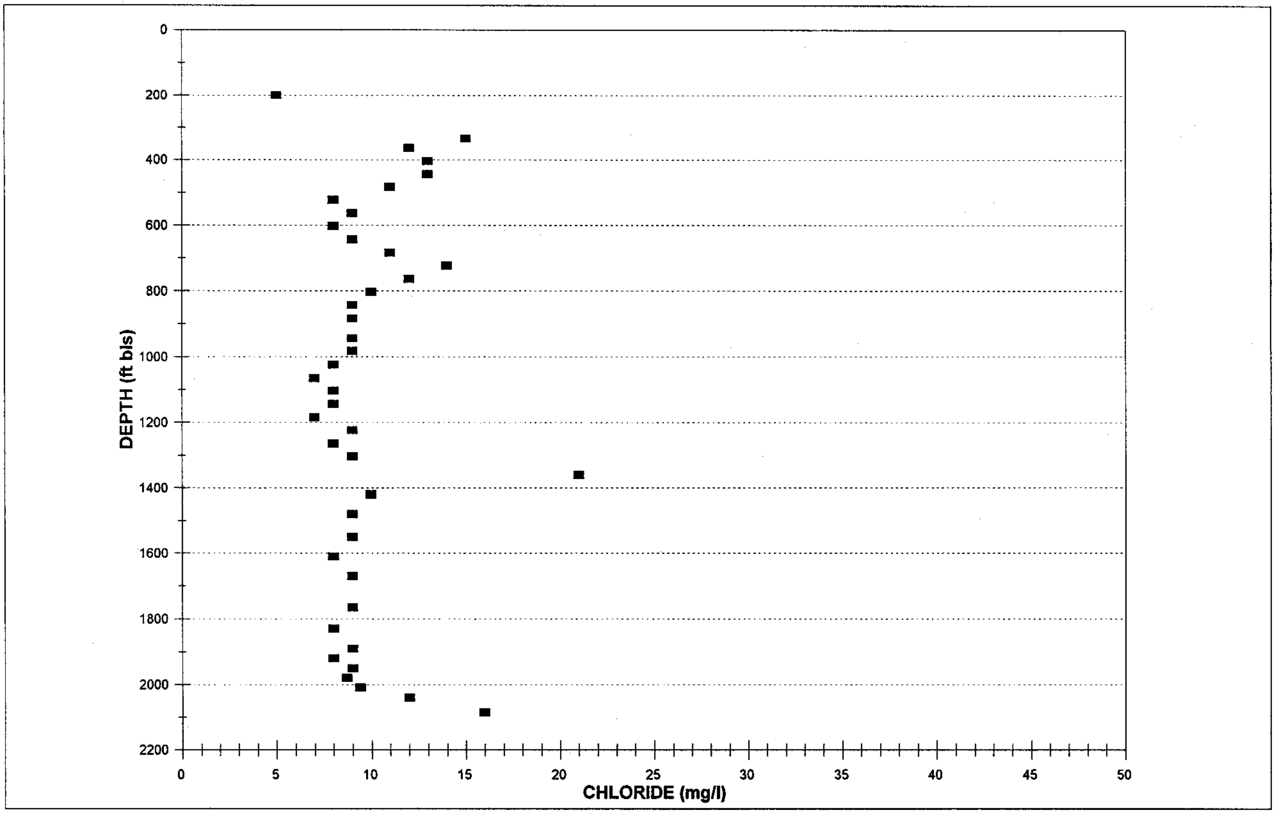


ROMP 28 Kuhlman	Figure 19A. Composite water level data from core and exploratory holes.

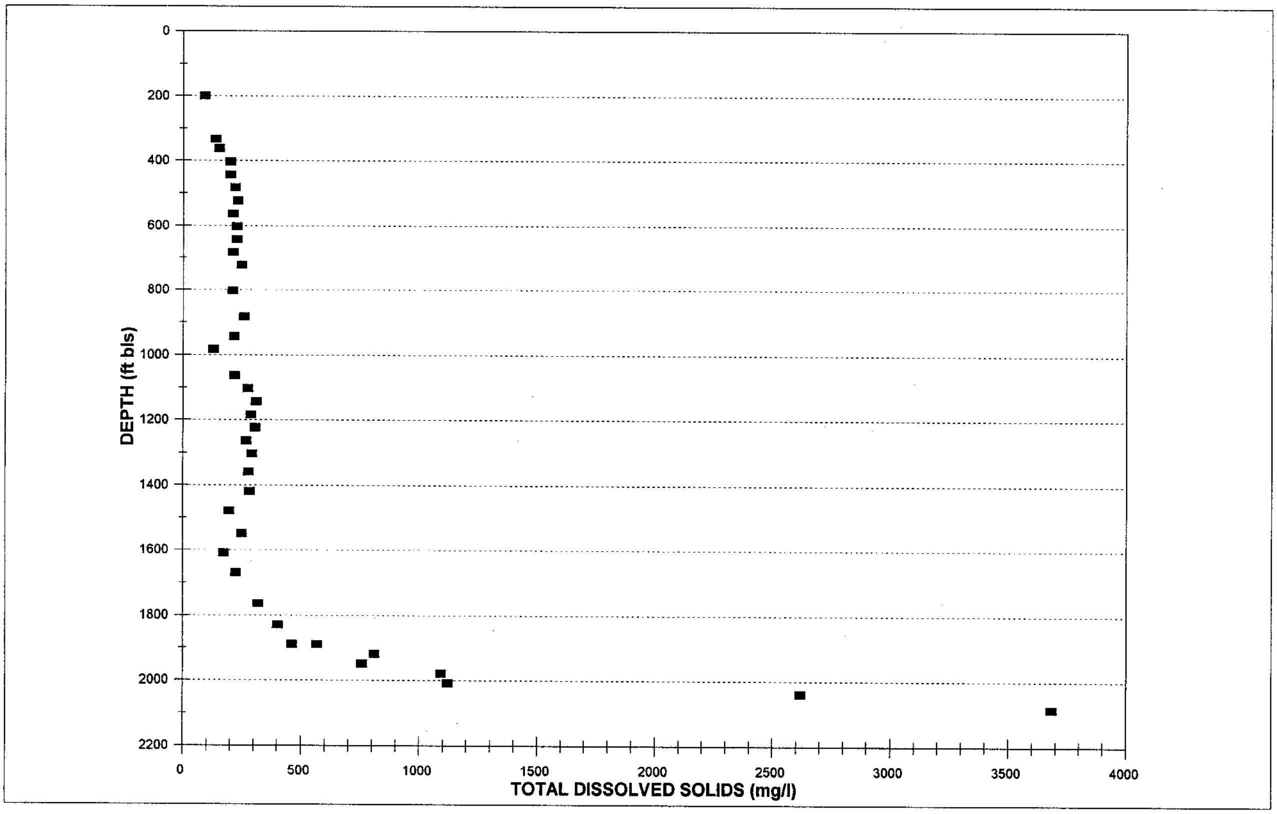


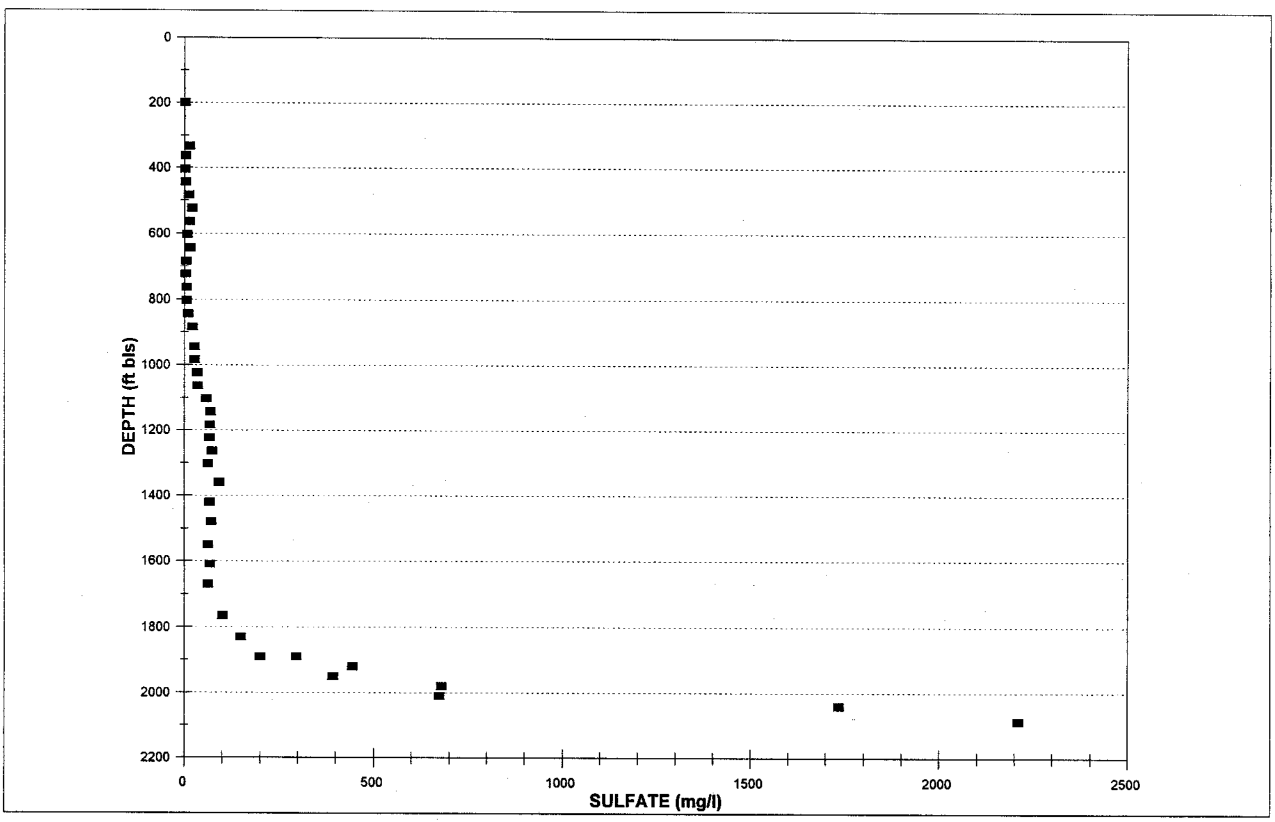
ROMP 28 Kuhlman	Figure 19B. Comparison of relative water levels, dual-zone evaporite monitor.





ROMP 28 Kuhlman	Figure 20A. Composite water quality graphs of test core and exploratory drilling data.





ROMP 28 Kuhlman	Figure 20B. Composite water quality graphs of test core and exploratory drilling data.

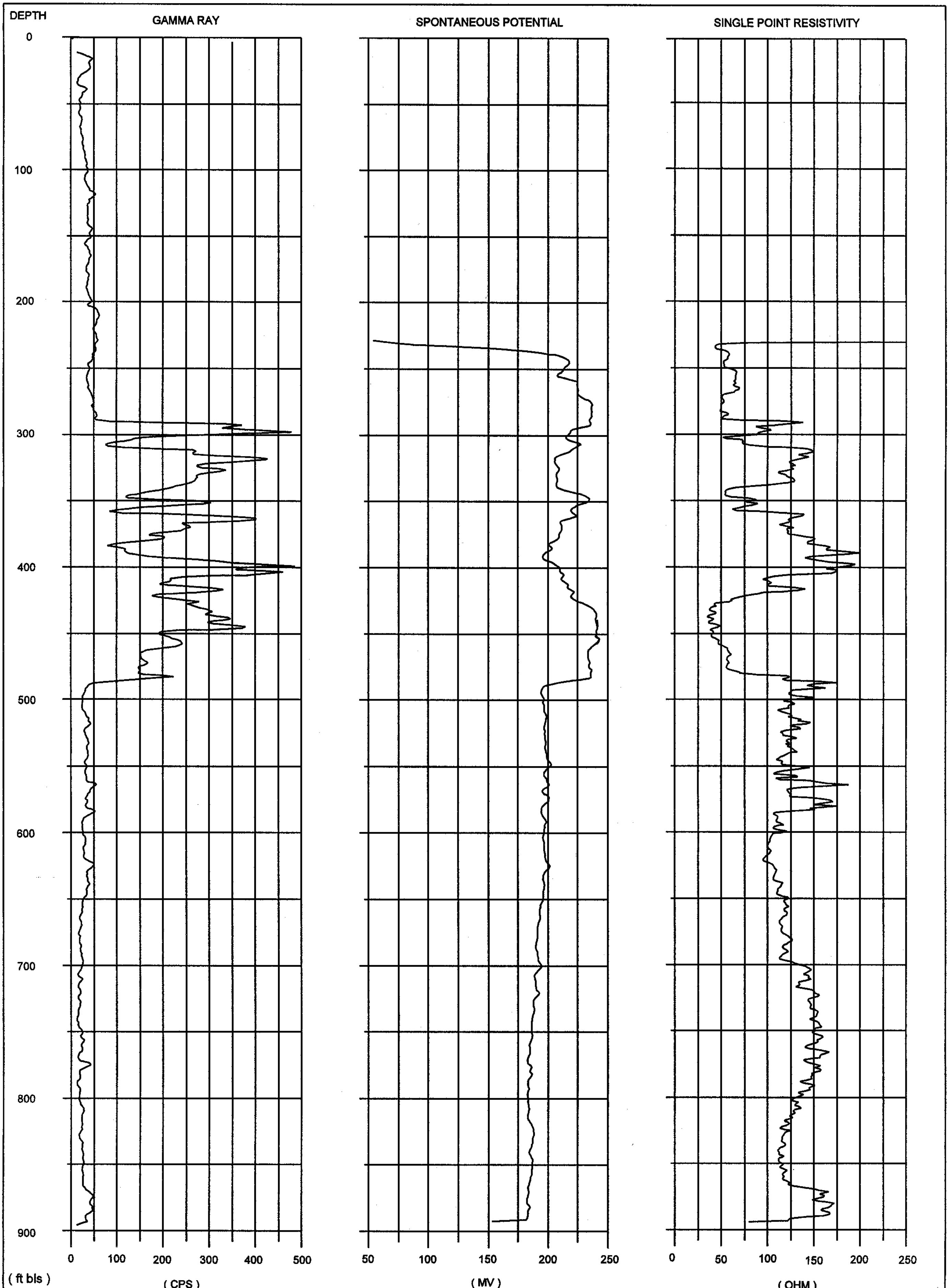


Figure 21B. Geophysical log suite collected during Phase-one core drilling.

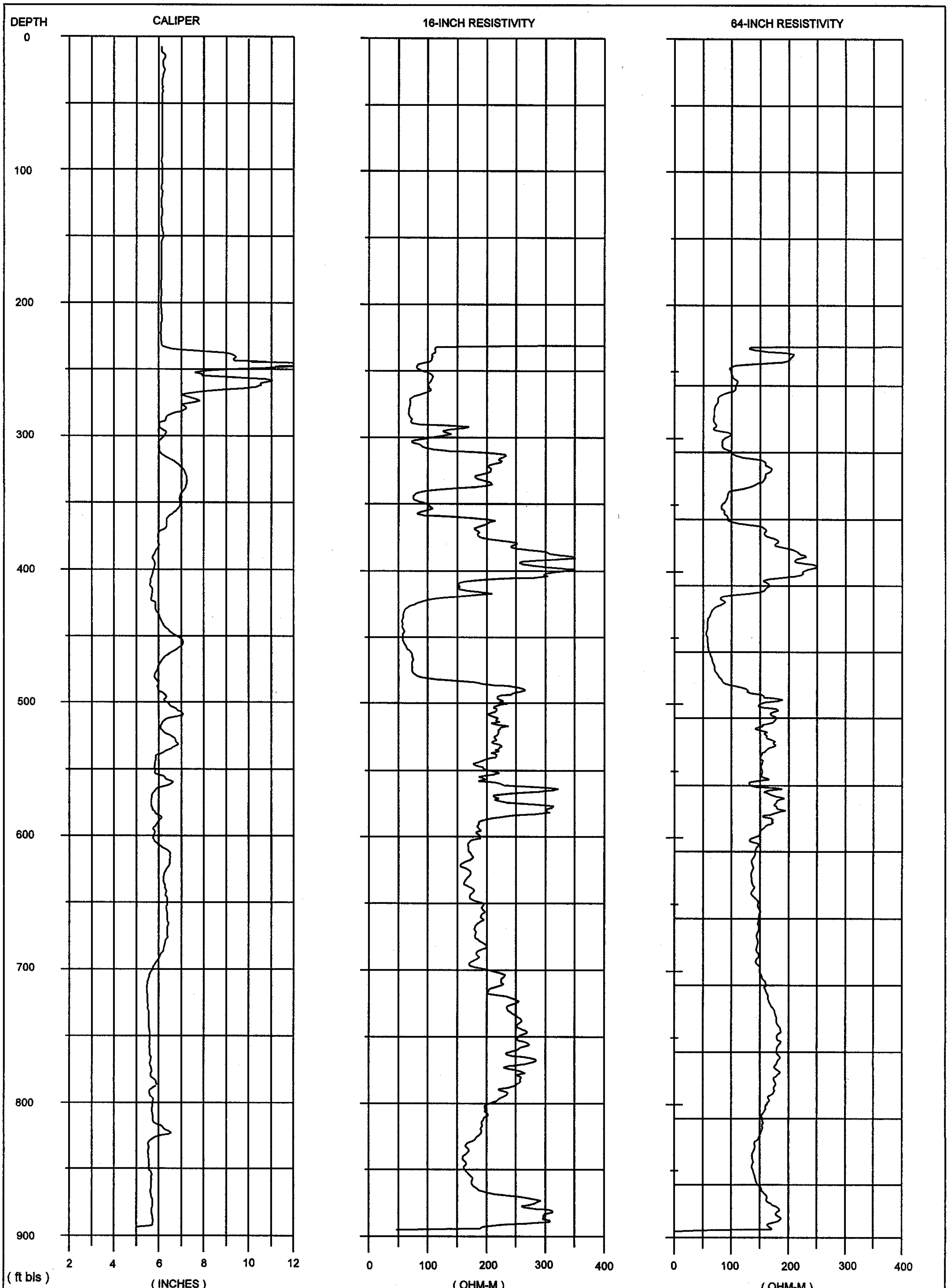


Figure 21A. Geophysical log suite collected during Phase-one core drilling.

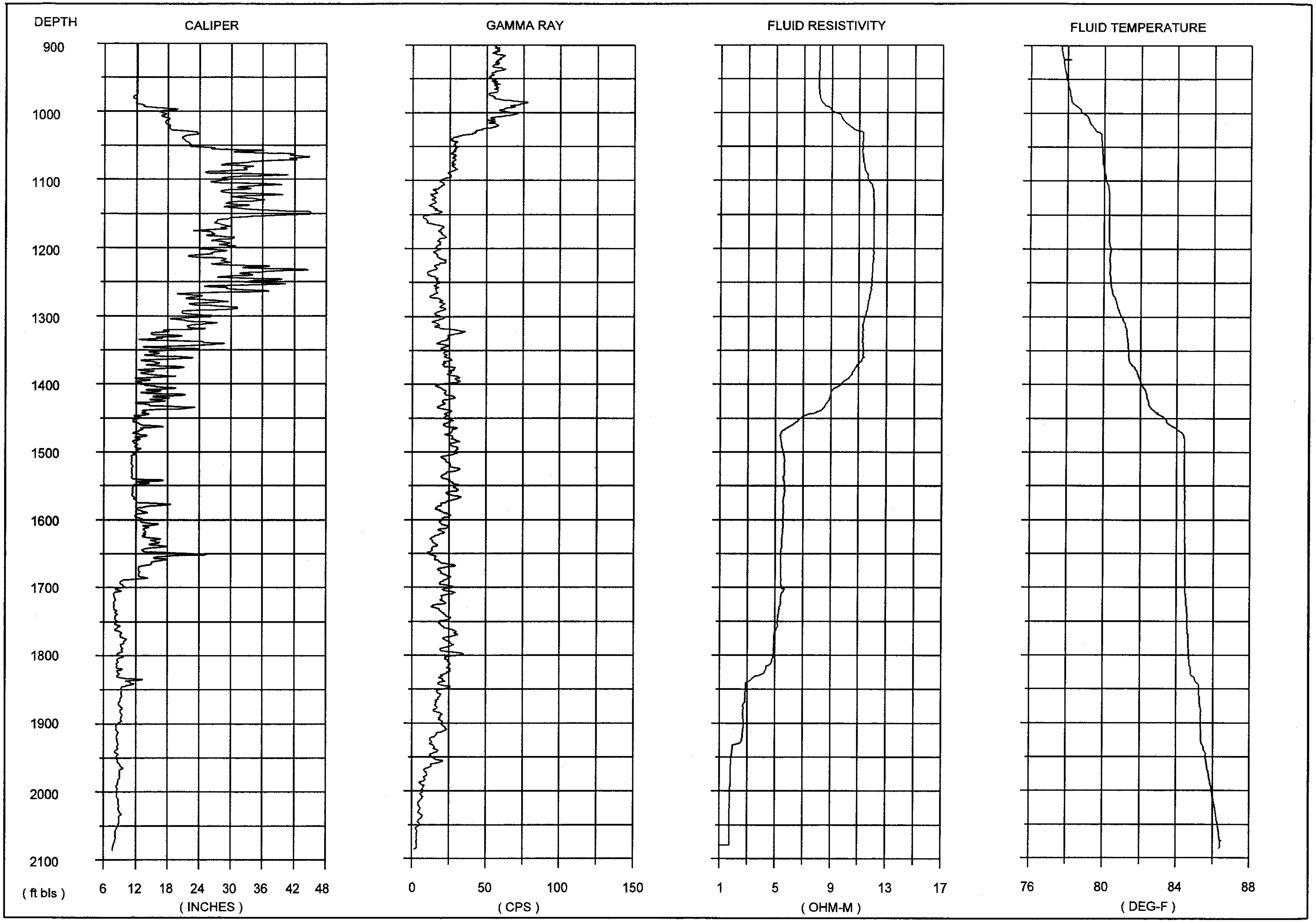


Figure 22A. Geophysical log suite collected during Stage-two exploratory drilling.

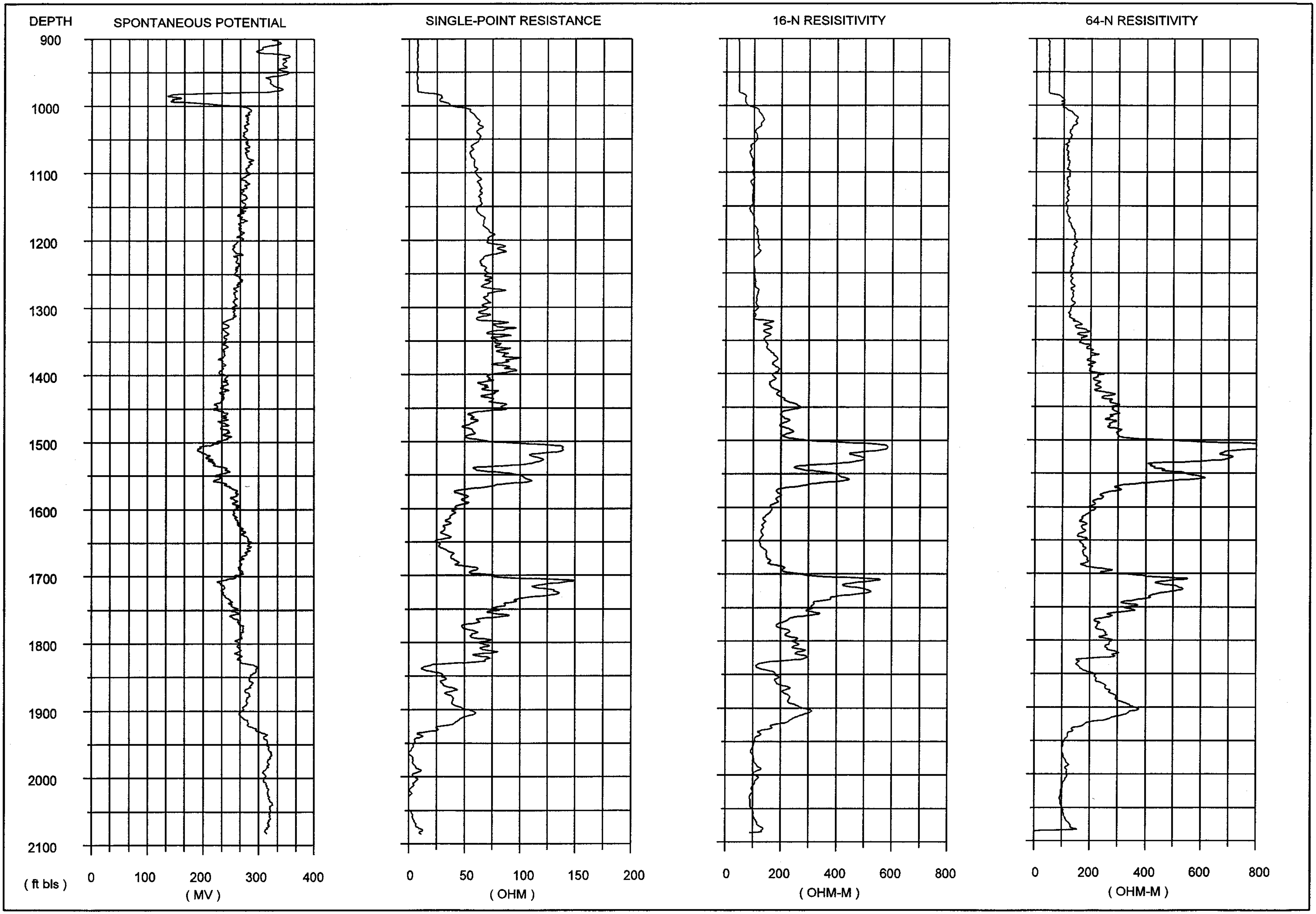


Figure 22B. Geophysical log suite collected during Stage-two exploratory drilling.

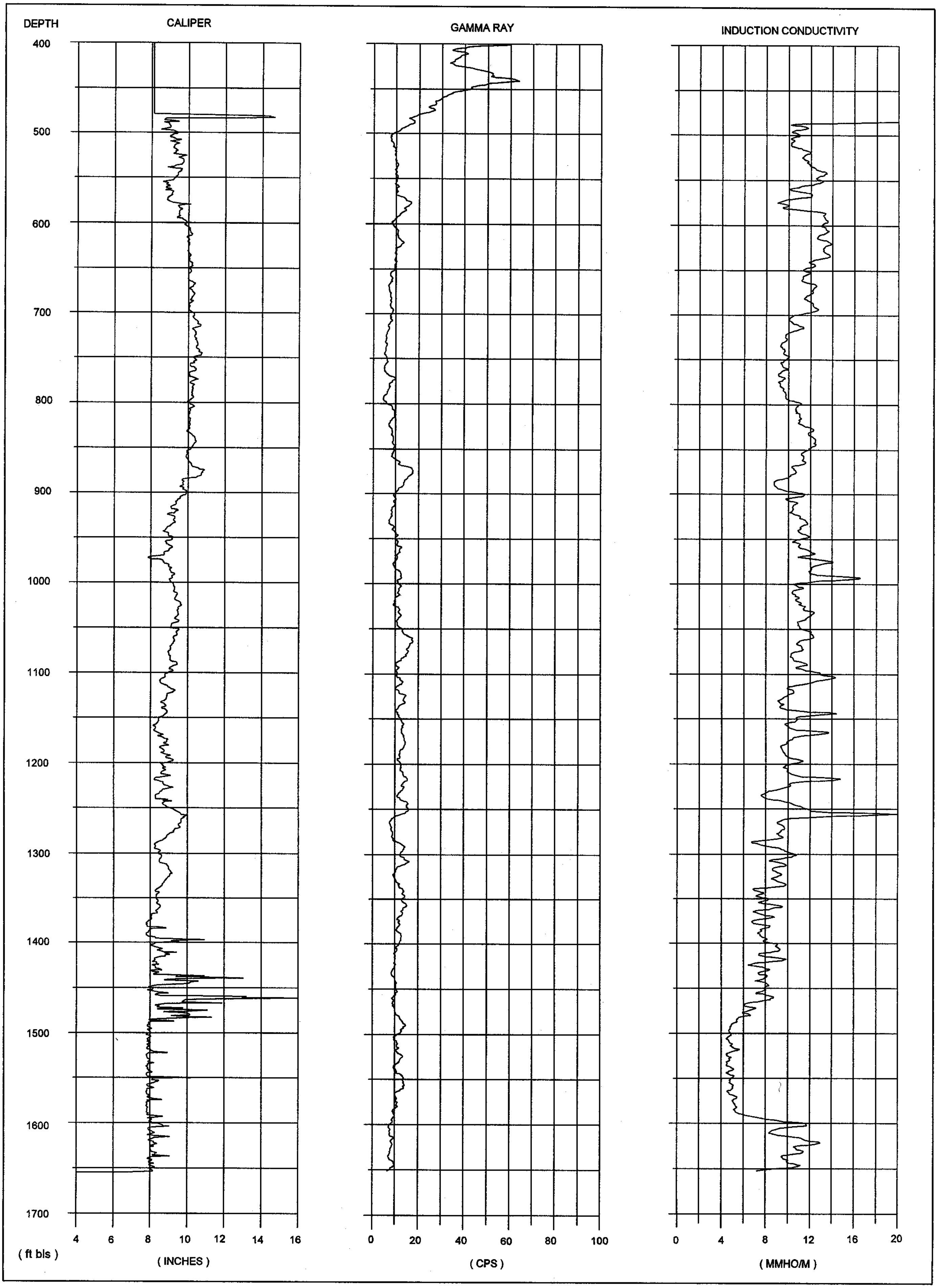


Figure 23A. Geophysical log suite collected from SUW-600 / AVPK-600 observation well.

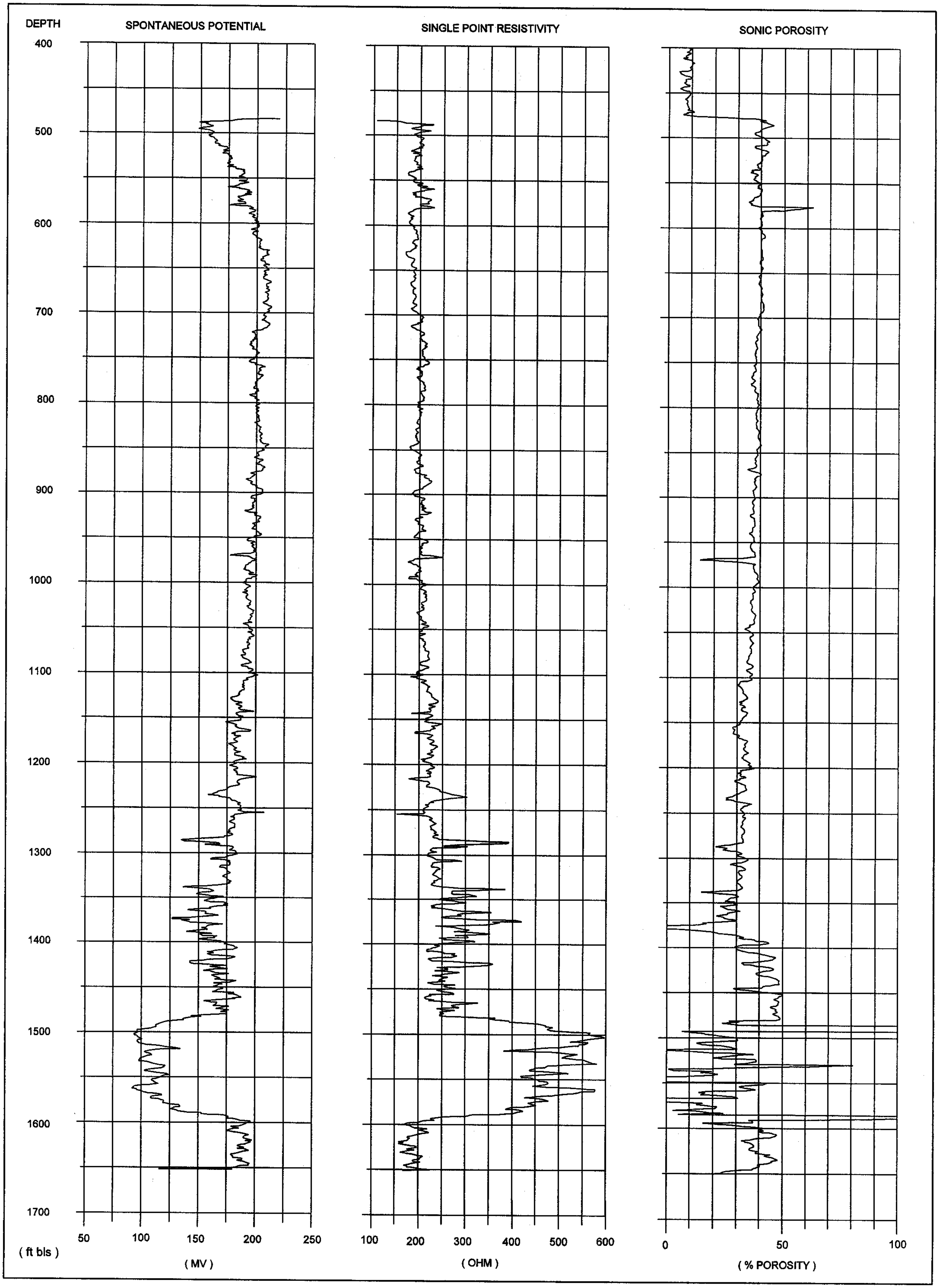


Figure 23B. Geophysical log suite collected from SUW-600 / AVPK-600 observation well.

TABLES

Table 1. Results of water quality sampling, Phase-one core drilling.

CHRONOLOGY			FIELD PARAMETERS				LABORATORY PARAMETERS												
DATE	TIME	DEPTH (ft)	W.L. (ft)	pH	COND (uS/cm)	TEMP (C)	Cl-	SO4=	HCO3-	TDS	Ca	Mg	Na	K	Si	Fe	ION %	HARDNESS	REMARKS
03-02-93	1230	200	-10.8	6.5	107		5	2	42	93	18	2	5	1	8.3	0.08	12.36	53	sample from surficial monitor
12-02-91	1100	334	-34.9		210	25	15	13	58	138	15	4							BEGIN COREHOLE No. 1, 260'
12-03-91	0730	364		8	235	24	12	3	109	153	18	11							
	1415	404	-20.6	7.6	340	22.5	13	2	158	200	24	19	15	2.2	—	0.09	—	—	
12-04-91	0715	424	-20.2																
	1100	444	-20.6	7.8	320	22.5	13	3	144	201	24	18							
12-05-91	0715	484	-20.9	7.4	350	21.5	11	12	165	221	32	18	13	1.8	—	0.20	—	—	
	1430	524		7.6	350	22	8	20	156	232	41	15							
12-09-91	1300	524																	
12-10-91	0715	564	-22	7.6	330	24	9	14	148	212	35	14							
	1630	604		7.6	370	25	8	8	158	228	41	13	7	1.6	—	0.03	—	—	
12-11-91	0715	614	-21.7																
	1400	644		7.5	370	25	9	16	164	228	42	13							
12-12-91	0730	674	-22.1																
	1030	684		7.8	370	24	11	5	172	211	35	16							
12-16-91	1230	714	-22.5																
03-05-92	1100	724					14	4		247									
	1500	744	-21.9		350	24													
03-10-92	0830	764	-22.2	7.4	340	24	12	7	165		27	16							
	1400	804		7.7	320	25	10	7		209									
03-11-92	0900	844	-22.4	7.3	290	23	9	10	139		26	12							
	1400	884	-23.4		310		9	22		258									
03-25-92	1315	904	-22.6																T.D. COREHOLE No. 1, 904'

Table 2. Results of water quality sampling, Phase-two core drilling.

CHRONOLOGY			FIELD PARAMETERS				LABORATORY PARAMETERS												
DATE	TIME	DEPTH (ft)	W.L. (ft)	pH	COND (uS/cm)	TEMP (C)	Cl-	SO4=	HCO3-	TDS	Ca	Mg	Na	K	Si	Fe	ION %	HARDNESS	REMARKS
05-11-93	0930	944	-21.2	8.3	377	24.8	9	27	144	217	40	17	11	5.5	7.7	0.01	3.64	169	BEGIN COREHOLE No. 2, 900'
05-12-93	0745	984	-22.3	10.9	287	23.9	9	28		129									
	1330	1024		8.5	384	26.6	8	35											
05-13-93	1215	1064	-22.7	8.2	388	25.6	7	36		218									
05-18-93	0900	1104	-24.1	7.7	464	25.9	8	58		275									
	1645	1144		8.2	513	27	8	70	169	310	62	20	7	1.4	7.9	0.20	0.22	235	
05-20-93	0845	1184		6.9	484	26.6	7	68		287									
05-25-93	1545	1224	-27.1	7.9	510	26.8	9	67		305									
05-26-93	1615	1264	-28.5	7.7	445	26	8	74		268									
06-01-93	1600	1304	-26.5	7.4	480	27.5	9	62	159	292	57	18	7	1.6	7.6	0.12	1.04	216	T.D. COREHOLE No. 2, 1304'

Table 3. Results of water quality sampling, Stage-one exploratory drilling.

CHRONOLOGY			FIELD PARAMETERS				LABORATORY PARAMETERS												REMARKS
DATE	TIME	DEPTH (ft)	W.L. (ft)	pH	COND (uS/cm)	TEMP (C)	Cl-	SO4=	HCO3-	TDS	Ca	Mg	Na	K	Si	Fe	ION %	HARDNESS	
12-02-93	1000	1300	-24.8																BEGIN AVPK EXPLOR. No. 1
12-06-93	1400	1360	-21.3	9.2	349	27.6	21	92	55	279	31	14	12	3.9	11.3	0.03	5.22	135	
12-07-93	1015	1420	-22.4	8.5	481	28.1	10	66	148	284	51	18	7	1.7	10.2	0.07	2.77	201	
12-08-93	0700	1480	-21.3	9.2	291	23.1	9	71	38	197	25	11	9	2.2	13.5	0.01	2.42	108	
12-13-93	1300	1550	-21.3	8.3	363	25.7	9	62	92	249	40	15	8.5	2	11.9	0.02	3.85	162	
12-14-93	1015	1610		9.7	246	25.6	8	68	10	174	21	8.7	8.9	3.3	9.4	0.02	4.61	86	
	1400	1670		8.6	330	26.6	9	63	78	225	32	14	8.3	2.7	9.9	0.03	1.38	138	
	1600	1700	-21.1		320														
12-15-93	1330	1765	-20.7	7.7	481	25.6	9	102	133	320	59	20	8.3	1.9	10.3	0.06	0.33	230	
12-16-93	0730	1830	-22.1	7.6	605	23.8	8	149	156	403	78	27	7.2	1.6	8.9	0.09	0.2	306	
	1315	1890		7.9	640	23.6	9	201	117	464	78	31	7.7	1.9	11	0.05	0.32	322	
12-20-93	1115	1890	-21.9	8.1	725	24.7	9	296	71	569	91	36	8.6	1.9	17.1	0.03	0.52	375	repeat sample at 1890 ft. after 3 days
	1330	1920			750														
	1700	1950			960														
12-21-93	0730	1950	-21.9	7.3	985	25	9	393	149	759	128	59	9.3	2.1	8	1.28	1.21	563	T.D. AVPK EXPLOR. No. 1, 1950'

Table 4. Results of water quality sampling, Stage-two exploratory drilling.

CHRONOLOGY			FIELD PARAMETERS				LABORATORY PARAMETERS												REMARKS
DATE	TIME	DEPTH (ft)	W.L. (ft)	pH	COND (uS/cm)	TEMP (C)	Cl-	SO4=	HCO3-	TDS	Ca	Mg	Na	K	Si	Fe	ION %	HARDNESS	
06-01-94		1920			1074		8	445	191	810	161	54	8.5	1.2	9.5	0.02	1.65	624	AVPK PACKER TEST # 1, 1855' - 1920'
06-09-94	0830	1980	-27.4	7.5	1362	26.9	8.7	680		1092									
	1300	2010		7.6	1385	27.8	9.4	675	169	1122	224	92	10	1.5	9.2	1.06	4.13	938	
06-13-94	1300	2010	-25.4																
	1420	2020			1890														
	1510	2040			2490														
06-14-94	1100	2040	-26	7.8	2700	27.5	12	1735	158	2621	445	185	11	1.4	9.2	0.08	2.17	1837	
06-21-94	1330	2085		7.7	3510	25.3													
06-21-94	1700	2085		7.4	3360	25.8	16	2210	145	3686	578	271	16	1.4	7.9	5.7	2.47	2559	AVPK PACKER TEST # 2, 2030' - 2085'
06-23-94	1300	2085	-28.6	7.1	3500		19	2356	119	3638	580	270	19	2.2	5.6	0.05	0.04	2560	AVPK PACKER TEST # 3, 2060' - 2085'
06-28-94	1600	2060			3560														thief sample in open hole

Table 5. Results of the FGS falling-head permeameter testing of selected core samples.

SAMPLE DEPTH (ft bls)	FORMATION / HYDROGEOLOGIC UNIT	AV. CONDUCTIVITY Kv (ft/day)	% POROSITY
319.5	UNDIFF ARCADIA / INTERMEDIATE AQ.	8.60×10^{-4}	——
341.5	UNDIFF ARCADIA / INTERMEDIATE AQ.	2.08×10^{-5} *	37.6
430	UNDIFF ARCADIA / INTERMEDIATE AQ.	9.47×10^{-5} *	------
440	NOCATEE-ARCADIA / INTERMEDIATE AQ.	5.98×10^{-5} *	28.7
470.5	NOCATEE-ARCADIA / INTERMEDIATE AQ.	1.84×10^{-2}	——
560	L. SUWANNEE LS. / FLORIDAN AQ.	2.77×10^{-5} *	13.1
630	U. OCALA LS. / FLORIDAN AQ.	3.63×10^{-2}	48.9
713	M. OCALA LS. / FLORIDAN AQ.	5.93×10^{-3}	36.2
772	M. OCALA LS. / FLORIDAN AQ.	1.18×10^{-2}	32.9
849	L. OCALA LS. / FLORIDAN AQ.	1.41×10^{-2}	39.5
901	U. AVON PARK FM. / FLORIDAN AQ.	1.02×10^{-1}	38.0

* impermeable sample - max K reported

Table 6. Results of Core Laboratories laboratory testing of selected core samples.

SAMPLE DEPTH (ft bls)	FORMATION / HYDROGEOLOGIC UNIT	AV. CONDUCTIVITY Kv (ft/day)	% POROSITY *
712.5	UPPER OCALA LIMESTONE	1.4×10^{-2}	41.2
717	UPPER OCALA LIMESTONE	2.0×10^{-2}	37.7
828.5	UPPER OCALA LIMESTONE	4.4×10^{-2}	40.1
1910 - 1911	AVON PARK / FLORIDAN AQ.	7.0×10^{-4}	11.5
2080 - 2081	AVON PARK / MIDDLE CONFINING UNIT	6.1×10^{-6}	18.3

* net porosity @ 400 psi overburden pressure

Table 7. Summary of specific capacity testing during Stage-one exploratory drilling.

DATE	DEPTH (ft bls)	FORMATION / HYDROGEOLOGIC UNIT	PUMPING RATE (gpm)	DRAWDOWN (ft)	SP. CAPACITY (gpm / ft)
12-22-92	425	ARCADIA FM. / INTERMEDIATE AQ.	63	93.9	0.67
01-04-93	600	SUWANNEE LS. / FLORIDAN AQ.	40	38.4	1.04
12-02-93	1300	AVON PARK FM. / FLORIDAN AQ.	156	20.1	7.8
12-06-93	1360	AVON PARK FM. / FLORIDAN AQ.	128	14.8	8.6
12-07-93	1420	AVON PARK FM. / FLORIDAN AQ.	156	5.4	28.9
12-08-93	1480	AVON PARK FM. / FLORIDAN AQ.	146	2.3	63.5
12-13-93	1550	AVON PARK FM. / FLORIDAN AQ.	156	0.4	390
12-14-93	1610	AVON PARK FM. / FLORIDAN AQ.	156	0.06 *	——

* drawdown negligible

Table 8. Summary of packer testing in the Ocala Limestone and Avon Park Formation.

TEST INTERVAL (ft bls)	FORMATION / HYDROGEOLOGIC UNIT	PUMPING RATE (gpm)	DRAWDOWN (ft)	AV. CONDUCTIVITY Kh (ft/day)
623 - 725	U.OCALA LS. / FLORIDAN AQ.	4.2	105	0.019
674 - 725	U.OCALA LS. / FLORIDAN AQ.	2.4	116	0.016
724 - 825	L.OCALA LS. / FLORIDAN AQ.	3.9	125	0.013
779 - 825	L.OCALA LS. / FLORIDAN AQ.	1.9	175	0.011
1855 - 1920	AVON PARK FM. / FLORIDAN AQ.	40	7	20.7
2030 - 2085	AVON PARK FM. / MIDDLE CONFINING UNIT	6.7	32	0.125
2060 - 2085	AVON PARK FM. / MIDDLE CONFINING UNIT	0.45	125	0.006

Table 9. Summary of Aquifer Pumping Tests in the Surficial, Intermediate, and Upper Floridan aquifers.

TEST INTERVAL (ft bls)	FORMATION / HYDROGEOLOGIC UNIT	PUMPING RATE (gpm)	TRANSMISSIVITY (ft)	CONDUCTIVITY Kh (ft/day)
40 - 200	SURFICIAL DEP. / SURFICIAL AQ.	400		
370 - 420	ARCADIA-HAWTH GP. / INTERMEDIATE AQ.	37		
485 - 600	SUWANNEE LS. / U. FLORIDAN AQ.	150		
960 - 1650	AVON PARK FM. / U. FLORIDAN AQ.	3000		

APPENDICIES

Appendix A

Composite Lithologic Log from Core and Exploratory Drilling at ROMP 28

LITHOLOGIC WELL LOG PRINTOUT SOURCE - FGS

WELL NUMBER: W-17000 COUNTY - W-17000
TOTAL DEPTH: 2112' LOCATION: T.36S R.29E S.08 88
SAMPLES - NONE LAT = 27D 22M 07S
LON = 81D 26M 04S
COMPLETION DATE: 05/27/93 ELEVATION: 82 FT
OTHER TYPES OF LOGS AVAILABLE - CALIPER, GEOLOGIST, ELECTRIC

OWNER/DRILLER:SWFWMD ROMP 28 KUHLMAN/ L.H. JOHNSON AND J.P. MEADORS

WORKED BY:D. DEWITT AND T. GATES: SWFWMD.
EXPLORATORY DRILLING CONDUCTED FROM 10/91 TO 4/92, T.D. 924'.
AND FROM 5/3/93 TO 5/27/93, T.D. 1304.5 FEET.
HOLLOW STEM AUGER SAMPLES 0-13 FT.
SPLIT-SPOON SAMPLES 13' TO 221'.
WIRELINE CORE SAMPLES 239' TO 1304'
WELL CUTTINGS AND INTERVAL-CORES 1304' TO 2112'

0.	-	203.	090UDSC	UNDIFFERENTIATED SAND AND CLAY
203.	-	478.5	122HTRN	HAWTHORN GROUP
203.	-	288.5	122PCRV	PEACE RIVER FM.
288.	-	478.5	122ARCA	ARCADIA FM.
441.	-	478.5	122NOCA	NOCATEE MEMBER OF ARCADIA FM.
478.5	-	580.	123SWNN	SUWANNEE LIMESTONE
580.	-	860.	124OCAL	OCALA GROUP
860.	-	.	124AVPK	AVON PARK FM.

0 - .3 SAND; LIGHT BROWNISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

.3- 6.3 SAND; WHITE TO VERY LIGHT GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS
PLANT ROOTS WITH MINOR IRON STAIN.

6.3- 8.6 SAND; VERY LIGHT GRAY TO GRAYISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

8.6- 13.4 SAND; GRAYISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS
ORGANICS COMMON, MINOR IRON STAIN, ROOTS.

13.4- 14.5 SAND; DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; POOR INDURATION
CEMENT TYPE(S): ORGANIC MATRIX
ACCESSORY MINERALS: PLANT REMAINS- %, SILT- %
FOSSILS: ORGANICS
ORGANIC STAINED SAND, ABUNDANT ORGANICS, SOME ROOTS.

14.5- 15.8 SAND; GRAYISH BROWN TO GRAYISH BROWN
01% POROSITY
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

15.8- 16.5 SAND; DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
POOR INDURATION
CEMENT TYPE(S): ORGANIC MATRIX
ACCESSORY MINERALS: PLANT REMAINS- %, SILT- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

16.5- 18.7 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

18.7- 20 SAND; DARK YELLOWISH BROWN TO MODERATE BROWN
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
POOR INDURATION
CEMENT TYPE(S): ORGANIC MATRIX
ACCESSORY MINERALS: PLANT REMAINS- %, SILT- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS
ABUNDANT DARK BROWN ORGANICS, ORGANIC STAINED QUARTZ SAND.

20 - 23 NO SAMPLES

23 - 24 SAND; GRAYISH BROWN TO MODERATE BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

24 - 25 SAND; DARK YELLOWISH BROWN TO MODERATE BROWN
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
POOR INDURATION
CEMENT TYPE(S): ORGANIC MATRIX
ACCESSORY MINERALS: PLANT REMAINS- %, SILT- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

25 - 28 NO SAMPLES

28 - 29 SAND; GRAYISH BROWN TO MODERATE BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: PLANT REMAINS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

29 - 37 SAND; DARK YELLOWISH BROWN TO MODERATE BROWN
POROSITY: INTERGRANULAR, LOW PERMEABILITY; POOR INDURATION
CEMENT TYPE(S): ORGANIC MATRIX
ACCESSORY MINERALS: PLANT REMAINS- %, SILT- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS
VERY DARK BROWN, ORGANIC STAINED SAND.

37 - 47 SAND; DARK YELLOWISH ORANGE TO MODERATE YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS-%

47 - 52 SAND; MODERATE BROWN TO MODERATE YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
FOSSILS: ORGANICS

52 - 55 SAND; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
FOSSILS: ORGANICS

55 - 65 SAND; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
FOSSILS: ORGANICS

65 - 67.2 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; POOR INDURATION
CEMENT TYPE(S): ORGANIC MATRIX
ACCESSORY MINERALS: HEAVY MINERALS- %
FOSSILS: ORGANICS

67.2- 76 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
FOSSILS: ORGANICS

76 - 78 SAND; GRAYISH ORANGE TO GRAYISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: HEAVY MINERALS- %
OTHER FEATURES: FROSTED

78 - 84 SAND; GRAYISH BROWN TO DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

84 - 88 SAND; DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

88 - 89 SAND; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-02%, IRON STAIN- %
HEAVY MINERALS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

89 - 92 SAND; MODERATE YELLOWISH BROWN TO GRAYISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY- %, IRON STAIN- %
HEAVY MINERALS- %
OTHER FEATURES: FROSTED
FOSSILS: ORGANICS

92 - 98 SAND; VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: HEAVY MINERALS-%
NO CORE RECOVERY. WASHED BAG SAMPLE.

98 - 104 SAND; GRAYISH ORANGE TO GRAYISH BROWN
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY- %, IRON STAIN- %
HEAVY MINERALS- %
OTHER FEATURES: FROSTED

104 - 107 SAND; VERY LIGHT GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: HEAVY MINERALS- %
OTHER FEATURES: FROSTED

107 - 113 SAND; VERY LIGHT ORANGE TO VERY LIGHT GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: IRON STAIN- %, HEAVY MINERALS- %
OTHER FEATURES: FROSTED

113 - 118 SAND; VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: HEAVY MINERALS- %
OTHER FEATURES: FROSTED

118 - 121 AS ABOVE
SLIGHTLY CLAYEY, POSSIBLE PHOSPHATE.

121 - 123 SAND; YELLOWISH GRAY TO VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: COARSE; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: CLAY-05%, HEAVY MINERALS- %
PHOSPHATIC SAND- %
OTHER FEATURES: FROSTED

123 - 133 SAND; YELLOWISH GRAY TO VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-02%, HEAVY MINERALS- %
PHOSPHATIC SAND- %
OTHER FEATURES: FROSTED

133 - 140 SAND; YELLOWISH GRAY TO VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY- %, HEAVY MINERALS- %
PHOSPHATIC SAND- %
OTHER FEATURES: FROSTED

140 - 150 SAND; YELLOWISH GRAY TO VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: CLAY-05%, HEAVY MINERALS- %
PHOSPHATIC SAND- %
OTHER FEATURES: FROSTED
VARIABLE CLAY CONTENT, 2-5%, VERY MINOR PHOSPHATE GRAINS.

150 - 160 SAND; VERY LIGHT ORANGE TO LIGHT GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: CLAY-05%, HEAVY MINERALS- %
OTHER FEATURES: FROSTED
GRADING INTO A LT. TO MEDIUM GRAY, MORE CLAY RICH ZONE AT
BOTTOM OF INTERVAL.

160 - 162 SAND; VERY LIGHT GRAY TO LIGHT GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX
ACCESSORY MINERALS: CLAY-07%, HEAVY MINERALS- %
OTHER FEATURES: FROSTED

162 - 165.5 NO SAMPLES

165.5- 170 SAND; YELLOWISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-01%, HEAVY MINERALS- %, SILT- %
OTHER FEATURES: FROSTED

170 - 171 SAND; VERY LIGHT GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-02%, HEAVY MINERALS- %, SILT- %
OTHER FEATURES: FROSTED

171 - 180 SAND; VERY LIGHT ORANGE
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-02%, HEAVY MINERALS- %, SILT- %
OTHER FEATURES: FROSTED
VERY MINOR AMOUNTS OF HEAVY MINERALS, GOOD SORTING, MED. GRAINED.

180 - 190 SAND; WHITE TO PINKISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-01%, QUARTZ SAND- %
OTHER FEATURES: FROSTED

190 - 203 SAND; WHITE TO YELLOWISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE; MEDIUM SPHERICITY
UNCONSOLIDATED
ACCESSORY MINERALS: QUARTZ SAND-05%, QUARTZ SAND- %
OTHER FEATURES: FROSTED
GRADES INTO A FINER, CLAYEY SAND, SLIGHTLY MORE CONSOLIDATED.

203 - 208 SAND; YELLOWISH GRAY TO LIGHT OLIVE GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE; MEDIUM SPHERICITY
POOR INDURATION
ACCESSORY MINERALS: CLAY-30%, HEAVY MINERALS-01%
PHOSPHATIC SAND- %, SILT-%

208 - 210 SAND; WHITE TO YELLOWISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-05%, HEAVY MINERALS-01%
PHOSPHATIC SAND- %
OTHER FEATURES: FROSTED

210 - 213 SAND; GRAYISH YELLOW TO YELLOWISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; UNCONSOLIDATED
ACCESSORY MINERALS: CLAY-02%, MICA-02%, HEAVY MINERALS- %
PHOSPHATIC SAND-%
POSSIBLE V. FINE PHOSPHATE SAND, FINE MICA FLAKES COMMON.

213 - 221 SAND; YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; POOR INDURATION
ACCESSORY MINERALS: CLAY-10%, MICA-02%, HEAVY MINERALS- %
PHOSPHATIC SAND-%

221 - 244 SAND; LIGHT OLIVE GRAY TO YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE; MEDIUM SPHERICITY
POOR INDURATION
ACCESSORY MINERALS: CLAY-40%, PHOSPHATIC SAND-02%
MICA- %, HEAVY MINERALS-%
NO CORE RECOVERY 221-244', BAG SAMPLES DESCRIBED.

244 - 249 SAND; YELLOWISH GRAY TO GRAYISH YELLOW
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; POOR INDURATION
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND- %
MICA- %, HEAVY MINERALS-%

249 - 258 SAND; LIGHT GRAY TO YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; POOR INDURATION
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND-02%
MICA- %, SILT-%

258 - 265 SAND; YELLOWISH GRAY
POROSITY: INTERGRANULAR
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; POOR INDURATION
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND- %
MICA- %, SILT-%
VERY FINE SAND WITH QUARTZ SILT PARTICLES.

265 - 274 SAND; GRAYISH YELLOW TO YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; POOR INDURATION
ACCESSORY MINERALS: CLAY-10%, PHOSPHATIC SAND-05%
MICA- %, SILT-%

274 - 284 SAND; LIGHT OLIVE GRAY TO YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE; MEDIUM SPHERICITY
POOR INDURATION
ACCESSORY MINERALS: CLAY-20%, PHOSPHATIC SAND-05%
MICA- %, SILT-%
POORLY SORTED.

284 - 288.5 SAND; LIGHT OLIVE GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MEDIUM SPHERICITY; POOR INDURATION
ACCESSORY MINERALS: CLAY-40%, PHOSPHATIC SAND-05%
MICA- %, SILT- %
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
LEACHED SHELL FRAGMENTS.

288.5- 292.5 DOLOSTONE; LIGHT GRAY TO YELLOWISH GRAY
15% POROSITY: MOLDIC; 0-10% ALTERED; ANHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%
PHOSPHATIC SAND-05%, CLAY- %, QUARTZ SAND- %
OTHER FEATURES: WEATHERED, VARIEGATED, CALCAREOUS
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
HEAVILY BIOTURBATED, INFILLED BURROWS. TOP OF ARCADIA FM. 288.5'.

292.5- 295 SILT-SIZE DOLOMITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
MODERATE INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED, MOTTLED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%
PHOSPHATIC GRAVEL- %, CLAY- %
OTHER FEATURES: WEATHERED, VARIEGATED
FOSSILS: FOSSIL FRAGMENTS

295 - 297 DOLOSTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY; 0-10% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED
ACCESSORY MINERALS: QUARTZ SAND- %, PHOSPHATIC SAND- %
CLAY- %
OTHER FEATURES: PARTINGS
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS

297 - 300 SILT-SIZE DOLOMITE; YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND-02%
PHOSPHATIC GRAVEL-01%

300 - 307 CLAY; LIGHT OLIVE GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: QUARTZ SAND- %, SILT- %
OTHER FEATURES: PLASTIC
FOSSILS: NO FOSSILS

307 - 309 CLAY; LIGHT OLIVE GRAY TO YELLOWISH GRAY
POROSITY: INTERGRANULAR, LOW PERMEABILITY
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-10%
PHOSPHATIC GRAVEL-02%, CALCITE- %
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

309 - 313 CALCILUTITE; WHITE TO YELLOWISH GRAY
15% POROSITY: MOLDIC, PIN POINT VUGS, INTERGRANULAR
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC SAND-20%, QUARTZ SAND-10%
PHOSPHATIC GRAVEL-01%, CLAY- %
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS

313 - 320 CALCILUTITE; YELLOWISH GRAY TO VERY LIGHT GRAY
GRAIN TYPE: CALCILUTITE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED, INTERBEDDED
ACCESSORY MINERALS: PHOSPHATIC SAND-25%, QUARTZ SAND-15%
PHOSPHATIC GRAVEL-01%, CLAY- %
OTHER FEATURES: DOLOMITIC, CHALKY, VARIEGATED
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, CORAL, ECHINOID
INTERBEDDED PHOSPHATE AND QUARTZ SAND STRINGERS, SCOUR INFILLS.

320 - 329 CALCILUTITE; YELLOWISH GRAY TO VERY LIGHT GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BRECCIATED, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC SAND-15%, QUARTZ SAND-10%
PHOSPHATIC GRAVEL-02%, LIMESTONE-02%
OTHER FEATURES: VARIEGATED
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS
PHOSPHATE SAND/GRAVEL INFILLING BURROWS. CARBONATE CLASTS.

329 - 338 CALCILUTITE; YELLOWISH GRAY TO VERY LIGHT GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC SAND-10%, QUARTZ SAND-05%
OTHER FEATURES: VARIEGATED
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

338 - 347 DOLOSTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY; 0-10% ALTERED; ANHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CLAY-05%, PHOSPHATIC SAND-05%
QUARTZ SAND-02%, PHOSPHATIC GRAVEL-01%
FOSSILS: FOSSIL FRAGMENTS

347 - 349 CALCILUTITE; WHITE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ SAND-01%
PHOSPHATIC GRAVEL-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA

349 - 352 DOLOSTONE; YELLOWISH GRAY TO VERY LIGHT GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%
OTHER FEATURES: VARIEGATED
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

352 - 355.5 CLAY; YELLOWISH GRAY TO LIGHT OLIVE GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, STREAKED
ACCESSORY MINERALS: QUARTZ SAND-02%, PHOSPHATIC SAND-01%
OTHER FEATURES: PLASTIC, DOLOMITIC
FOSSILS: NO FOSSILS

355.5- 357 DOLOSTONE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
10-50% ALTERED; SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC SAND-20%, QUARTZ SAND-05%
PHOSPHATIC GRAVEL-02%, CALCITE- %
OTHER FEATURES: SPECKLED
FOSSILS: FOSSIL FRAGMENTS

357 - 369.5 CALCILUTITE; YELLOWISH GRAY TO VERY LIGHT GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: PHOSPHATIC SAND-05%, QUARTZ SAND-02%
PHOSPHATIC GRAVEL-01%
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

369.5- 374 DOLOSTONE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
10-50% ALTERED; SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: PHOSPHATIC SAND-02%, QUARTZ SAND-01%
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS

374 - 383 CALCILUTITE; YELLOWISH GRAY TO VERY LIGHT GRAY
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: QUARTZ SAND-02%, CALCITE-01%
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, MOLLUSKS, BRYOZOA

383 - 386 CALCARENITE; WHITE TO VERY LIGHT ORANGE
30% POROSITY: MOLDIC, VUGULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CRYSTALS
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-05%
OTHER FEATURES: REEFAL, COQUINA
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS

386 - 390.5 CALCILUTITE; VERY LIGHT GRAY
20% POROSITY: MOLDIC, VUGULAR, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-02%
CALCITE-02%
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS
BENTHIC FORAMINIFERA

390.5- 404 CALCILUTITE; WHITE TO VERY LIGHT GRAY
15% POROSITY: MOLDIC, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED
ACCESSORY MINERALS: CALCITE-05%, QUARTZ SAND-05%
PHOSPHATIC SAND-02%
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS
BENTHIC FORAMINIFERA
CALCITE LINED PELECYPOD MOLDS, SORITES SP.

404 - 410.5 CALCILUTITE; VERY LIGHT GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%
OTHER FEATURES: GRANULAR
FOSSILS: MOLLUSKS, FOSSIL MOLDS, FOSSIL FRAGMENTS

410.5- 415.5 DOLOSTONE; LIGHT GRAY TO GRAYISH BROWN
20% POROSITY: MOLDIC, VUGULAR, PIN POINT VUGS
10-50% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: QUARTZ SAND-05%, PHOSPHATIC SAND-01%
OTHER FEATURES: GRANULAR, SUCROSIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS
DOLOMITE CRYSTALS LINING VUGS, FOSSIL MOLDS. SANDY DOLOMITE INTERBEDS.

415.5- 420 DOLOSTONE; YELLOWISH GRAY TO VERY LIGHT GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-02%
OTHER FEATURES: GRANULAR
FOSSILS: FOSSIL MOLDS, MOLLUSKS

420 - 423.5 DOLOSTONE; WHITE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-05%
CLAY-02%
OTHER FEATURES: VARIEGATED
FOSSILS: FOSSIL MOLDS, MOLLUSKS
SMALL DK. GRAY DOLOSTONE CLASTS FROM 419-423'. SEDIMENT FILLED BURROWS.

423.5- 429 DOLOSTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY; 0-10% ALTERED; ANHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED, INTERBEDDED
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-10%
CLAY-05%
OTHER FEATURES: GRANULAR, VARIEGATED
FOSSILS: NO FOSSILS

429 - 432 DOLOSTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
0-10% ALTERED; ANHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-15%
CLAY-05%
OTHER FEATURES: GRANULAR
FOSSILS: NO FOSSILS
VERY SANDY, PHOSPHATIC DOLOMITE/ DOLOMITIC SANDSTONE.

432 - 439.5 DOLOSTONE; LIGHT GRAY TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
0-10% ALTERED; ANHEDRAL
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, MOTTLED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-30%, PHOSPHATIC SAND-10%
CLAY-05%
OTHER FEATURES: GRANULAR, SUCROSIC
FOSSILS: FOSSIL FRAGMENTS

439.5- 441 DOLOSTONE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, VUGULAR, LOW PERMEABILITY
0-10% ALTERED; ANHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CLAY MATRIX
SEDIMENTARY STRUCTURES: BRECCIATED, MOTTLED, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-20%, PHOSPHATIC SAND-10%
CLAY-10%, PHOSPHATIC GRAVEL-02%
OTHER FEATURES: GRANULAR
FOSSILS: FOSSIL FRAGMENTS
TOP OF NOCATEE MEMBER OF ARCADIA FORMATION.

441 - 444 DOLOSTONE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
10-50% ALTERED; ANHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED
ACCESSORY MINERALS: QUARTZ SAND-10%, PHOSPHATIC SAND-05%
CLAY-05%
FOSSILS: NO FOSSILS
DOLOSILT WITH QUARTZ/PHOSPHATE INFILLED BURROW STRUCTURES.

444 - 448 SAND; LIGHT OLIVE GRAY TO GREENISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: DOLOMITE-20%, PHOSPHATIC SAND-10%
CLAY-05%
FOSSILS: NO FOSSILS

448 - 459 SAND; LIGHT OLIVE GRAY TO LIGHT GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: DOLOMITE-10%, PHOSPHATIC SAND-02%
CLAY-02%
FOSSILS: NO FOSSILS

459 - 466 SAND; LIGHT OLIVE GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: DOLOMITE-20%, PHOSPHATIC SAND-05%
CLAY-02%
FOSSILS: NO FOSSILS

466 - 472 SAND; LIGHT OLIVE GRAY TO LIGHT GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-10%, PHOSPHATIC SAND-02%
CLAY-02%
FOSSILS: NO FOSSILS
INTERBEDS OF MORE INDURATED SAND HAVING HIGHER % OF
DOLOSILT CEMENT.

472 - 474 SAND; LIGHT OLIVE GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
CEMENT TYPE(S): CLAY MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CLAY-20%, PHOSPHATIC SAND-05%
OTHER FEATURES: CALCAREOUS

474 - 477.5 SANDSTONE; LIGHT OLIVE GRAY TO YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, FRACTURE, LOW PERMEABILITY
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-20%, PHOSPHATIC SAND-10%
CLAY-05%
OTHER FEATURES: CALCAREOUS

477.5- 478.5 SAND; LIGHT OLIVE GRAY TO YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
LOW PERMEABILITY
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
ACCESSORY MINERALS: CLAY- %, PHOSPHATIC SAND-05%
OTHER FEATURES: CALCAREOUS
TOP OF SUWANNEE LIMESTONE AT 478.5'.

478.5- 485 CALCARENITE; VERY LIGHT ORANGE
30% POROSITY: MOLDIC, VUGULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, REEFAL
FOSSILS: FOSSIL MOLDS, MOLLUSKS, BENTHIC FORAMINIFERA
FOSSIL FRAGMENTS

485 - 495 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-02%
OTHER FEATURES: LOW RECRYSTALLIZATION
FOSSILS: FOSSIL FRAGMENTS, MOLLUSKS

495 - 497 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-10%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS

497 - 505 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, MOLDIC
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: SPAR-02%

505 - 515 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, MOLDIC
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: SPAR-05%
COARSE GRAINED, POORLY CEMENTED WITH INTERBEDS OF WELL
LITHIFIED FINE GRAINED CALCARENITE. HIGHLY VARIABLE
INDURATION AND CRYSTALLIZATION.

515 - 519 CALCARENITE; VERY LIGHT ORANGE
GRAIN TYPE: BIOGENIC
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
NO CORE RECOVERY; CUTTINGS DESCRIBED.

519 - 529 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, MOLDIC
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: SPAR-10%, SILT-01%, DOLOMITE- %
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
ORGANICS
FINE GRAINED, WELL INDURATED CALCARENITE INTERBEDS. MINOR
DARK GRAY ORGANICS.

529 - 535 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, MOTTLED, STREAKED
ACCESSORY MINERALS: SPAR-05%, SILT-05%, DOLOMITE- %
OTHER FEATURES: LOW RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL FRAGMENTS, FOSSIL MOLDS, MOLLUSKS
ORGANICS
THIN STREAKS OF DARK GRAY ORGANIC SILT. VARIABLE
INDURATION.

535 - 543 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: SPAR-05%, SILT-02%, DOLOMITE- %
OTHER FEATURES: LOW RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS
ORGANICS

543 - 554 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, MASSIVE
ACCESSORY MINERALS: SPAR-05%, SILT-01%, DOLOMITE- %
OTHER FEATURES: LOW RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS
ORGANICS, BRYOZOA
FINE SPECKS OF ORGANICS, INTERBEDS OF HARD, RECRYSTALLIZED
LS.

554 - 560 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, MOTTLED, STREAKED
ACCESSORY MINERALS: SPAR-10%, SILT-01%, DOLOMITE- %
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, FOSSIL FRAGMENTS, MOLLUSKS, BRYOZOA
ORGANICS

560 - 564 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-10%, SILT-01%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
ECHINOID, ORGANICS

564 - 573 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
DOLOMITE CEMENT
ACCESSORY MINERALS: SPAR-05%, SILT-05%
OTHER FEATURES: LOW RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
ORGANICS

573 - 575 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-05%, SILT-05%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, DOLOMITIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
ORGANICS

575 - 580 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
20% POROSITY: MOLDIC, INTERGRANULAR
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, MASSIVE
ACCESSORY MINERALS: SPAR-05%, DOLOMITE-01%
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
TOP OF OCALA LIMESTONE AT 580'. LIGHT BROWN-TAN, FINE
GRAINED LS.

580 - 590 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH YELLOW
10% POROSITY: INTERGRANULAR, MOLDIC, PIN POINT VUGS
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED
ACCESSORY MINERALS: SPAR-01%, DOLOMITE-01%
FOSSILS: FOSSIL MOLDS, MOLLUSKS, FOSSIL FRAGMENTS
HARDER, RECRYSTALLIZED AT BOTTOM OF SECTION.

590 - 596 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS

596 - 605 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

605 - 615 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

615 - 625 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
LEPIDOCYCLINA OCALANA PRESENT.

625 - 633 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, WORM TRACES
ANNELID WORM TESTS AT 627-630'.

633 - 643 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, MOLLUSKS
ABUNDANT FOSSIL FRAGMENTS, PECTEN SHELLS; NUMMULITES AND LEPIDOCYCLINA SPP.

643 - 660 AS ABOVE

660 - 670 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, MOLLUSKS

670 - 680 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-10%, SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, MOLLUSKS
ABUNDANT LEPIDOCYCLINA IN A CALCILUTITE MATRIX.

680 - 694 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

694 - 710 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-10%, SPAR-01%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
FORAMINIFERAL SHELL HASH IN A CALCILUTITE MATRIX.

710 - 720 AS ABOVE
ABUNDANT FORAMS. LEPIDOCYCLINA, NUMMULITES SPP.

720 - 730 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-20%, DOLOMITE-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
FORAM TESTS IN A CALCILUTITE MATRIX. SOME GRAY DOLOMITIZED FORAMS.

730 - 740 AS ABOVE

740 - 750 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: CALCILUTITE-10%, DOLOMITE-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
INTERBEDDED POORLY LITHIFIED FORAM BEDS AND CALCILUTITE-CEMENTED FORAMINIFERAL LIMESTONE. POOR RECOVERY. SOME DOLOMITIZED FOSSILS.

750 - 759 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-10%, DOLOMITE-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS

759 - 764 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
POOR INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY, POOR SAMPLE
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
NO CORE RECOVERY 759-764'. CUTTINGS DESCRIBED.

764 - 766 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-10%, DOLOMITE-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
VERY LARGE FORAMS. LEPIDOCYCLINA SP.

766 - 769 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: CALCILUTITE-20%, DOLOMITE-05%
OTHER FEATURES: CHALKY, MEDIUM RECRYSTALLIZATION
DOLOMITIC
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
BED OF DOLOMITIC LIME MUD AT TOP OF INTERVAL.

769 - 780 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, MOLDIC, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: CALCILUTITE-30%, DOLOMITE-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS

780 - 790 AS ABOVE
ABUNDANT LARGE LEPIDOCYCLINA SP. IN A CALCILUTITE MATRIX.

790 - 800 CALCILUTITE; VERY LIGHT ORANGE
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, BIOGENIC
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-01%, DOLOMITE-01%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA

800 - 804 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, BIOGENIC
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: DOLOMITE-02%, CALCITE-01%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA

804 - 810 CALCILUTITE; VERY LIGHT ORANGE TO VERY LIGHT ORANGE
05% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, BIOGENIC
GRAIN SIZE: FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-01%, DOLOMITE-01%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA

810 - 820 AS ABOVE

820 - 830 CALCILUTITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, BIOGENIC
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA

830 - 840 AS ABOVE

840 - 850 CALCILUTITE;
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE, BIOGENIC
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA

850 - 864 CALCILUTITE;
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE, BIOGENIC
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA
TOP OF AVON PARK FORMATION.

864 - 872 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
30% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: COARSE TO MEDIUM
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE- %
FOSSILS: ECHINOID

872 - 891 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO MEDIUM
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, BEDDED
ACCESSORY MINERALS: CALCITE- %
FOSSILS: ECHINOID

891 - 896 CALCARENITE; VERY LIGHT ORANGE
30% POROSITY: INTERGRANULAR, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA

896 - 900 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE; GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, BEDDED
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA
ECHINOID FRAGMENTS AND MOLDS COMMON, BECOMES FINER GRAINED AT BOTTOM.

900 - 909 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, BEDDED
FOSSILS: ECHINOID

909 - 911 CALCILUTITE; VERY LIGHT ORANGE TO WHITE
05% POROSITY: INTERGRANULAR
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, BEDDED
OTHER FEATURES: CHALKY

911 - 912 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, BEDDED

912 - 917 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY

917 - 919 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH YELLOW
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, BEDDED
FOSSILS: ECHINOID

919 - 920.5 CALCILUTITE; VERY LIGHT ORANGE
05% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC
GRAIN SIZE: VERY FINE; RANGE: FINE TO VERY FINE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY

920.5- 924 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
-----NOTE: DESCRIPTION FROM HERE DOWN TO T.D. BY T. GATES.

924 - 918.7 CALCILUTITE; YELLOWISH GRAY TO LIGHT GREENISH GRAY
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: PHOSPHATIC SAND-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA

918.7- 919.5 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, MASSIVE, BEDDED
BIOTURBATED
ACCESSORY MINERALS: CLAY-02%, CALCITE-02%
PHOSPHATIC SAND-02%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL FRAGMENTS
WORM TRACES

919.5- 921.1 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED, MASSIVE
ACCESSORY MINERALS: IRON STAIN-01%, PHOSPHATIC SAND-01%
OTHER FEATURES: GRANULAR
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL FRAGMENTS

921.1- 929 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, BIOTURBATED, LAMINATED
OTHER FEATURES: CHALKY
FOSSILS: WORM TRACES

929 - 929.5 CLAY; YELLOWISH GRAY
POROSITY: NOT OBSERVED; POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED, MASSIVE
ACCESSORY MINERALS: PHOSPHATIC GRAVEL-05%
OTHER FEATURES: CALCAREOUS

929.5- 934.5 CALCILUTITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED
ACCESSORY MINERALS: CLAY-05%
FOSSILS: FOSSIL FRAGMENTS, ORGANICS

934.5- 939.7 CALCARENITE; YELLOWISH GRAY TO YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BANDED, LAMINATED
ACCESSORY MINERALS: CALCILUTITE-10%, PHOSPHATIC GRAVEL-02%
FOSSILS: MOLLUSKS, WORM TRACES, ORGANICS

939.7- 943.6 CALCARENITE, GRANULAR, INTERBEDDED WITH DOLOMITE.

943.6- 948.2 CALCARENITE; YELLOWISH GRAY TO YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, MASSIVE
ACCESSORY MINERALS: CALCILUTITE-10%

948.2- 950 CALCARENITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, MASSIVE
ACCESSORY MINERALS: CLAY-02%, CALCILUTITE-15%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, ORGANICS

950 - 956 CALCARENITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
10% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, MASSIVE
ACCESSORY MINERALS: CALCILUTITE-05%, PHOSPHATIC SAND-01%
OTHER FEATURES: CHALKY
FOSSILS: BENTHIC FORAMINIFERA, ORGANICS, ECHINOID

956 - 959.5 DOLOSTONE; LIGHT GRAY TO MODERATE LIGHT GRAY
POROSITY: NOT OBSERVED; 10-50% ALTERED; EUHEDRAL
GRAIN SIZE: VERY FINE
RANGE: MICROCRYSTALLINE TO VERY FINE; GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: LAMINATED

959.5- 961 CALCARENITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, BEDDED
ACCESSORY MINERALS: CLAY-10%, PEAT-01%
FOSSILS: BENTHIC FORAMINIFERA, ORGANICS, ECHINOID

961 - 964.5 CLAY; YELLOWISH GRAY TO LIGHT GREENISH GRAY
02% POROSITY: INTERGRANULAR, LOW PERMEABILITY
POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED
ACCESSORY MINERALS: CALCILUTITE-05%
OTHER FEATURES: CALCAREOUS

964.5- 968 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
03% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO COARSE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, MASSIVE
ACCESSORY MINERALS: CALCILUTITE-05%, HEMATITE- %
PEAT-01%
OTHER FEATURES: GRANULAR
FOSSILS: BENTHIC FORAMINIFERA, ECHINOID, MOLLUSKS
ORGANICS
FOSSILIFEROUS, SOME PEAT SEAMS.

968 - 969.7 CALCILUTITE; YELLOWISH GRAY
02% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: DOLOMITE-02%, CLAY-02%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS
ORGANICS

969.7- 974 CLAY; YELLOWISH GRAY
POROSITY: NOT OBSERVED; POOR INDURATION
CEMENT TYPE(S): CLAY MATRIX, CALCILUTITE MATRIX
ACCESSORY MINERALS: CLAY-15%
OTHER FEATURES: CALCAREOUS

974 - 979.5 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC, SKELETAL
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS
ORGANICS

979.5- 981 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
05% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: CALCILUTITE-05%, CLAY-05%
FOSSILS: ORGANICS

981 - 984.2 CALCARENITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
05% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BANDED, LAMINATED, BEDDED
ACCESSORY MINERALS: DOLOMITE-02%, CALCITE-02%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS
ORGANICS
CALCILUTITE, BANDED, ECHINOIDS COMMON.

984.2- 989.5 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CLAY-05%
OTHER FEATURES: POOR SAMPLE
FOSSILS: BENTHIC FORAMINIFERA

989.5- 994.5 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BANDED, LAMINATED, MASSIVE
ACCESSORY MINERALS: CLAY-05%
OTHER FEATURES: POOR SAMPLE
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS
FOSSIL FRAGMENTS

994.5- 999.5 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: BEDDED
ACCESSORY MINERALS: CLAY-05%
FOSSILS: FOSSIL FRAGMENTS

999.5- 1003 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-02%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS
CALCITE REPLACED FORAMS, ECHINOIDS AND MOLLUSKS ABUNDANT.

1003 - 1005.5 CALCARENITE; VERY LIGHT ORANGE TO DARK YELLOWISH ORANGE
20% POROSITY: INTERGRANULAR, VUGULAR
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, SKELTAL CAST
GRAIN SIZE: COARSE; RANGE: FINE TO VERY COARSE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-02%, CALCILUTITE-05%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS

1005.5- 1010.5 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
POOR INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-02%

1010.5- 1015.5 CALCARENITE; YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-02%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS

1015.5- 1026.5 CALCILUTITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, ORGANICS

1026.5- 1028.8 CALCILUTITE; YELLOWISH GRAY TO LIGHT GREENISH GRAY
03% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED, BANDED
ACCESSORY MINERALS: CLAY-02%

1028.8- 1034.2 CALCILUTITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
03% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED, BANDED
ACCESSORY MINERALS: PEAT-05%, DOLOMITE-02%
FOSSILS: ORGANICS
CALCILUTITE BANDED WITH THIN PEAT LAMINAE. SOME DOLOSTONE.

1034.2- 1039.5 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED, BANDED
ACCESSORY MINERALS: CLAY-10%, CALCITE-02%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS

1039.5- 1041 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-02%
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS
ABUNDANT ECHINOIDS, FORAMS, SOME CLAY LENSES.

1041 - 1050.5 CALCARENITE; YELLOWISH GRAY TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE, BANDED, LAMINATED
ACCESSORY MINERALS: CALCITE-02%
OTHER FEATURES: GRANULAR
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA, MOLLUSKS

1050.5- 1059.5 CALCILUTITE; YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, CLAY MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: CLAY-30%
OTHER FEATURES: PLASTIC
FOSSILS: FOSSIL FRAGMENTS
INTERBEDDED WITH CLAY. FEW FOSSILS.

1059.5- 1070.9 CALCARENITE; YELLOWISH GRAY TO YELLOWISH GRAY
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-03%, CLAY-03%, PEAT-03%
OTHER FEATURES: GRANULAR
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA

1070.9- 1081 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, INTERBEDDED
ACCESSORY MINERALS: CALCILUTITE-20%, PEAT-03%
OTHER FEATURES: GRANULAR
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS
CALCARENITE INTERBEDDED WITH CALCILUTITE. SOME CALCITIZED
FORAMS AND SOME THIN PEAT LAMINAE.

1081 - 1092 CALCARENITE; YELLOWISH GRAY TO WHITE
05% POROSITY: PIN POINT VUGS, INTERGRANULAR
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-10%, CALCITE-05%, CLAY-03%
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS

1092 - 1099.7 CALCILUTITE; YELLOWISH GRAY
03% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-05%, DOLOMITE-03%
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

1099.7- 1105.8 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
05% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: LAMINATED, BEDDED
ACCESSORY MINERALS: CALCITE-05%, DOLOMITE-03%, PEAT-02%
OTHER FEATURES: GRANULAR
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS
NUMEROUS CALCITE REPLACED FORAMS, MILIOLIDS, SOME ORGANIC LAMINAE, SOME DOLOMITE FILLED PORES.

1105.8- 1125.5 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, PELLET
GRAIN SIZE: COARSE; RANGE: MEDIUM TO VERY COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-05%, DOLOMITE-05%
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS, MOLLUSKS
ECHINOID

1125.5- 1127.5 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE
25% POROSITY: INTERGRANULAR, FRACTURE
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, PELLET, CALCILUTITE
GRAIN SIZE: COARSE; RANGE: VERY FINE TO VERY COARSE
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-05%, DOLOMITE-02%
OTHER FEATURES: POOR SAMPLE
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS, MOLLUSKS

1127.5- 1139.5 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, PELLET
GRAIN SIZE: COARSE; RANGE: MEDIUM TO GRANULE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-03%, DOLOMITE-10%
OTHER FEATURES: GRANULAR, DOLOMITIC
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS, MOLLUSKS
INCREASING POROSITY AND DOLOMITE CONTENT, FEWER FORAMS.

1139.5- 1140.9 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
05% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BRECCIATED, INTERBEDDED, MASSIVE
ACCESSORY MINERALS: CALCILUTITE-05%, CALCILUTITE-10%
OTHER FEATURES: CALCAREOUS

1140.9- 1143.6 CALCILUTITE; WHITE TO YELLOWISH GRAY
03% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO GRANULE
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CLAY-10%
OTHER FEATURES: CHALKY

1143.6- 1146.5 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, PELLET
GRAIN SIZE: MEDIUM; RANGE: MICROCRYSTALLINE TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, MASSIVE
ACCESSORY MINERALS: DOLOMITE-10%, CALCITE-05%
OTHER FEATURES: DOLOMITIC, GRANULAR, PARTINGS
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS
HARD, DOLOMITIC, FRACTURED, PERMEABLE.

1146.5- 1147 DOLOSTONE; GRAYISH ORANGE TO LIGHT OLIVE GRAY
01% POROSITY: INTERGRANULAR, LOW PERMEABILITY
10-50% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BRECCIATED, INTERBEDDED, MASSIVE
ACCESSORY MINERALS: CALCITE-02%, CALCILUTITE-10%
OTHER FEATURES: CALCAREOUS
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS

1147 - 1158 CALCARENITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BRECCIATED, INTERBEDDED, MOTTLED
BEDDED
ACCESSORY MINERALS: DOLOMITE-05%, CALCITE-03%
CALCILUTITE-10%
OTHER FEATURES: DOLOMITIC, GRANULAR, SPECKLED
FOSSILS: BENTHIC FORAMINIFERA

1158 - 1161 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BANDED, INTERBEDDED, MOTTLED
ACCESSORY MINERALS: DOLOMITE-10%, CALCILUTITE-05%
PLANT REMAINS-02%
OTHER FEATURES: DOLOMITIC
FOSSILS: BENTHIC FORAMINIFERA, PLANT REMAINS

1161 - 1163.2 DOLOSTONE; YELLOWISH GRAY TO YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY; 10-50% ALTERED; ANHEDRAL
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO MEDIUM
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BANDED, MASSIVE
ACCESSORY MINERALS: CALCILUTITE-05%, FELDSPAR-03%
OTHER FEATURES: CALCAREOUS
FOSSILS: BENTHIC FORAMINIFERA

1163.2- 1164.5 DOLOSTONE; VERY LIGHT ORANGE TO OLIVE GRAY
02% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN SIZE: VERY FINE; RANGE: MICROCRYSTALLINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BANDED, FISSILE, LAMINATED
INTERBEDDED
ACCESSORY MINERALS: CALCILUTITE-15%, PLANT REMAINS-10%
OTHER FEATURES: CALCAREOUS
FOSSILS: BENTHIC FORAMINIFERA, MILIOLIDS, PLANT REMAINS
INTERBEDDED CALCILUTITE, SOME ORGANICS, WAXY.

1164.5- 1169.5 CALCARENITE; VERY LIGHT ORANGE
05% POROSITY: INTERGRANULAR, LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, PELLET
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
CLAY MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-03%, CLAY-05%
OTHER FEATURES: POOR SAMPLE
FOSSILS: BENTHIC FORAMINIFERA

1169.5- 1179 CALCARENITE; VERY LIGHT ORANGE TO GRAYISH ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED
ACCESSORY MINERALS: CALCITE-02%, PLANT REMAINS-02%
OTHER FEATURES: GRANULAR
FOSSILS: MOLLUSKS, FOSSIL FRAGMENTS, ORGANICS
PLANT REMAINS

1179 - 1199.5 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
10% POROSITY: FRACTURE, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE, SKELETAL
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE
UNCONSOLIDATED
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED
ACCESSORY MINERALS: CALCITE-02%, CALCILUTITE-10%
PLANT REMAINS-03%, DOLOMITE-02%
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, PLANT REMAINS
SOME CALCILUTITE INTERBEDDED, GRANULAR, DICTYOCONUS
AMERICANUS COMMON. HARD FRACTURED TO UNCONSOLIDATED.

1199.5- 1214.5 CALCARENITE; YELLOWISH GRAY TO YELLOWISH GRAY
20% POROSITY: FRACTURE
GRAIN SIZE: FINE; RANGE: MICROCRYSTALLINE TO COARSE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, BRECCIATED
ACCESSORY MINERALS: CALCILUTITE-15%, DOLOMITE-03%
CALCITE-02%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, PARTINGS
FOSSILS: BENTHIC FORAMINIFERA
INTERBEDDED WITH CALCILUTITE AND DOLOMITE FRAGMENTS IN
BRECCIATED MATRIX. HARD. FEW FABULARIA--POOR SAMPLES.

1214.5- 1217 CALCARENITE; YELLOWISH GRAY TO LIGHT OLIVE GRAY
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, FRACTURE
GRAIN TYPE: BIOGENIC, PELLET, SKELETAL
GRAIN SIZE: MEDIUM; RANGE: MEDIUM TO COARSE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-03%
OTHER FEATURES: GRANULAR
FOSSILS: ECHINOID, BENTHIC FORAMINIFERA

1217 - 1219.5 CALCILUTITE; WHITE TO YELLOWISH GRAY
10% POROSITY: FRACTURE, POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CALCILUTITE
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED, LAMINATED
ACCESSORY MINERALS: CALCITE-05%, PLANT REMAINS-02%
OTHER FEATURES: PARTINGS
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS
PLANT REMAINS

1219.5- 1225.5 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, FRACTURE, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: FINE; RANGE: VERY FINE TO MEDIUM
POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCITE-05%
OTHER FEATURES: PARTINGS
FOSSILS: BENTHIC FORAMINIFERA
FEW DICTYOCONUS AND FABULARIA.

1225.5- 1299.1 CALCARENITE; YELLOWISH GRAY TO YELLOWISH GRAY
25% POROSITY: FRACTURE, MOLDIC, VUGULAR
GRAIN TYPE: BIOGENIC, CRYSTALS, PELLET
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BANDED, BEDDED, LAMINATED
ACCESSORY MINERALS: CALCITE-05%, CALCILUTITE-10%
PLANT REMAINS-10%
OTHER FEATURES: PARTINGS
FOSSILS: BENTHIC FORAMINIFERA, MOLLUSKS, FOSSIL MOLDS

1299.1- 1238.5 CALCARENITE; YELLOWISH GRAY
10% POROSITY: INTERGRANULAR, FRACTURE
GRAIN TYPE: BIOGENIC, PELLET
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: CALCILUTITE-30%
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS

1238.5- 1241.7 CALCARENITE; GRAYISH BROWN TO PINKISH GRAY
20% POROSITY: INTERGRANULAR, VUGULAR, FRACTURE
GRAIN TYPE: BIOGENIC, CALCILUTITE
GRAIN SIZE: MEDIUM; RANGE: FINE TO COARSE; POOR INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED, MOTTLED
ACCESSORY MINERALS: CALCILUTITE-20%, DOLOMITE-02%
PLANT REMAINS-10%
OTHER FEATURES: DOLOMITIC
FOSSILS: BENTHIC FORAMINIFERA
HARD TO SOFT, DARK BROWN, VUGULAR, INTERBEDDED WITH
CALCILUTITE AND DOLOMITE AND ORGANICS.

1241.7- 1245 DOLOSTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
20% POROSITY: INTERGRANULAR, VUGULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED, BRECCIATED
BIOTURBATED
ACCESSORY MINERALS: CALCILUTITE-20%
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

1245 - 1254.5 CALCARENITE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED, MASSIVE
ACCESSORY MINERALS: CALCILUTITE-30%
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

1254.5- 1264.5 CALCARENITE; VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC
MODERATE INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED, MASSIVE
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, CONES
INTERBEDDED SOFT CALCILUTITE AND HARDER CALCARENTIE.

1264.5- 1269.5 CALCARENITE; VERY LIGHT ORANGE TO YELLOWISH GRAY
25% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: PARTINGS, GRANULAR
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, CONES
ORGANICS

1269.5- 1275.5 CALCARENITE; VERY LIGHT ORANGE TO WHITE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, CALCILUTITE
MODERATE INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: CHALKY
FOSSILS: NO FOSSILS

1275.5- 1289 CALCARENITE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
GRAIN TYPE: BIOGENIC, SKELETAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
OTHER FEATURES: GRANULAR, DOLOMITIC
FOSSILS: BENTHIC FORAMINIFERA, FOSSIL MOLDS
FOSSIL FRAGMENTS
HIGH ANGLE FRACTURES.

1289 - 1295 DOLOSTONE; GRAYISH BROWN
30% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS

1295 - 1299.5 DOLOSTONE; GRAYISH BROWN TO GRAYISH ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS, FRACTURE
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED, LAMINATED
FOSSILS: FOSSIL MOLDS, ORGANICS

1299.5- 1304.5 DOLOSTONE; GRAYISH BROWN TO GRAYISH ORANGE
30% POROSITY: FRACTURE, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE
FOSSILS: FOSSIL MOLDS

1304.5- 1310 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTRAGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CRYSTALS
GRAIN SIZE: FINE; RANGE: MEDIUM TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED
ACCESSORY MINERALS: CALCITE-03%
OTHER FEATURES: WEATHERED

1310 - 1320 LIMESTONE; VERY LIGHT ORANGE TO DARK YELLOWISH BROWN
10% POROSITY: INTRAGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CRYSTALS
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED
ACCESSORY MINERALS: CALCITE-02%
OTHER FEATURES: WEATHERED

1320 - 1330 LIMESTONE; DARK YELLOWISH BROWN
05% POROSITY: INTRAGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CRYSTALS
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED
ACCESSORY MINERALS: CALCITE-02%
FOSSILS: ORGANICS

1330 - 1350 LIMESTONE; DARK YELLOWISH BROWN
05% POROSITY: INTRAGRANULAR, VUGULAR
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CRYSTALS
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED
FOSSILS: ORGANICS
OLIVE GREEN LIMESTONE, TRACE ORGANICS.

1350 - 1360 LIMESTONE; GRAYISH BROWN
03% POROSITY: INTRAGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN TYPE: CRYSTALS
GRAIN SIZE: FINE; RANGE: FINE TO MEDIUM
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-10%
INTERBEDS OF DOLOSTONE.

1360 - 1373 DOLOSTONE; DARK YELLOWISH BROWN
10% POROSITY: INTRAGRANULAR, VUGULAR
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED
DOLOMITE, POROUS SOFT CALCITE CEMENT.

1373 - 1379 SANDSTONE; GRAYISH BROWN
05% POROSITY: INTRAGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MEDIUM SPHERICITY; MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED
ACCESSORY MINERALS: CALCILUTITE- %, DOLOMITE-30%
OTHER FEATURES: SPECKLED
FOSSILS: ORGANICS
SANDSTONE. PINPOINT VUGS.

1379 - 1400 DOLOSTONE; GRAYISH BROWN
10% POROSITY: INTRAGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GRAIN SIZE: FINE; RANGE: VERY FINE TO FINE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: BEDDED
VUGULAR, GRANULAR FRIABLE DOLOSTONE.

1400 - 1420 DOLOSTONE; MODERATE YELLOWISH BROWN
15% POROSITY: INTRAGRANULAR, VUGULAR
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
ACCESSORY MINERALS: DOLOMITE-%
PERMEABILITY VARIABLE.

1420 - 1440 DOLOSTONE; VERY LIGHT ORANGE
05% POROSITY: INTRAGRANULAR, NOT OBSERVED; 50-90% ALTERED
SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED
PERMEABILITY VARIABLE, INTERBEDDED PERMEABLE UNITS.

1440 - 1465 DOLOSTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
15% POROSITY: INTRAGRANULAR, VUGULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED
ACCESSORY MINERALS: DOLOMITE- %
OTHER FEATURES: MEDIUM RECRYSTALLIZATION, SUCROSIC
FOSSILS: ORGANICS
VUGULAR, PERMEABLE, FRACTURED.

1465 - 1485 DOLOSTONE; GRAYISH ORANGE
15% POROSITY: INTRAGRANULAR, VUGULAR
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
MODERATE INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED
ACCESSORY MINERALS: DOLOMITE- %
OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC

1485 - 1520 DOLOSTONE; GRAYISH BROWN
10% POROSITY: INTRAGRANULAR, VUGULAR
POSSIBLY HIGH PERMEABILITY; 90-100% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: BEDDED, INTERBEDDED
OTHER FEATURES: HIGH RECRYSTALLIZATION, SUCROSIC
VUGULAR, HARD DOLOSTONE.

1520 - 1530 DOLOSTONE; GRAYISH BROWN TO GRAYISH ORANGE
20% POROSITY: INTERCRYSTALLINE, PIN POINT VUGS, FRACTURE
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: LIMESTONE-05%, CALCITE-02%
OTHER FEATURES: MEDIUM RECRYSTALLIZATION
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

1530 - 1540 DOLOSTONE; MODERATE YELLOWISH BROWN TO GRAYISH BROWN
20% POROSITY: INTERCRYSTALLINE, PIN POINT VUGS, FRACTURE
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: LIMESTONE-%

1540 - 1550 DOLOSTONE; MODERATE YELLOWISH BROWN
10% POROSITY: INTERCRYSTALLINE, PIN POINT VUGS
LOW PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
ACCESSORY MINERALS: LIMESTONE-05%
MASSIVE FRACTURED DOLOMITE WITH INTERBEDDED LIMESTONE
1520'-1550'.

1550 - 1560 DOLOSTONE; MODERATE YELLOWISH BROWN TO VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-20%

1560 - 1570 DOLOSTONE; MODERATE YELLOWISH BROWN TO MODERATE BROWN
10% POROSITY: INTERCRYSTALLINE, FRACTURE; 50-90% ALTERED
SUBHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MOTTLED
ACCESSORY MINERALS: CALCITE- %
OTHER FEATURES: SUCROSIC
FOSSILS: NO FOSSILS

1570 - 1580 DOLOSTONE; GRAYISH BROWN TO GRAYISH ORANGE
10% POROSITY: INTERGRANULAR, INTERCRYSTALLINE
PIN POINT VUGS; 10-50% ALTERED; SUBHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MOTTLED

1580 - 1590 DOLOSTONE; GRAYISH ORANGE TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-20%, CALCITE-02%

1590 - 1600 DOLOSTONE;
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: CLAY-02%
MINOR LT. GRAY CALCAREOUS CLAY.

1600 - 1620 DOLOSTONE; GRAYISH BROWN TO VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED
ACCESSORY MINERALS: LIMESTONE-20%, PLANT REMAINS- %
FOSSILS: ORGANICS
INTERBEDS OF FINE GRN. CALCARENITE. ALGAL LAMINATIONS IN POROUS DOLOMITE.

1620 - 1630 AS ABOVE

1630 - 1640 DOLOSTONE; GRAYISH ORANGE TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-10%
FOSSILS: FOSSIL MOLDS

1640 - 1660 DOLOSTONE; GRAYISH ORANGE TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: MOTTLED, INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-05%, PLANT REMAINS- %
FOSSILS: FOSSIL MOLDS, ORGANICS

1660 - 1670 AS ABOVE
PERMEABLE DOLOSTONE WITH INTERBEDDED LOW POROSITY LIMESTONE.

1670 - 1680 DOLOSTONE; GRAYISH ORANGE TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; ANHEDRAL
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE- %
FOSSILS: FOSSIL MOLDS

1680 - 1690 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-10%

1690 - 1700 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-10%
MINOR INTERBEDS OF CRYSTALLINE DOLOSTONE.

1700 - 1715 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
GOOD INDURATION
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-05%

1715 - 1725 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, CALCILUTITE
GOOD INDURATION
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: DOLOMITE-10%

1725 - 1735 DOLOSTONE; GRAYISH BROWN TO DARK YELLOWISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED, LAMINATED
ACCESSORY MINERALS: LIMESTONE-%

1735 - 1745 DOLOSTONE; GRAYISH BROWN
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
INTERCRYSTALLINE; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: LIMESTONE-01%, ORGANICS-01%
OTHER FEATURES: SUCROSIC

1745 - 1755 DOLOSTONE; GRAYISH BROWN TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-10%

1755 - 1765 DOLOSTONE; DARK YELLOWISH BROWN TO GRAYISH BROWN
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
INTERCRYSTALLINE; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-05%
OTHER FEATURES: SUCROSIC

1765 - 1775 DOLOSTONE; GRAYISH BROWN TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
INTERCRYSTALLINE; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-05%

1775 - 1785 DOLOSTONE; GRAYISH BROWN TO MODERATE YELLOWISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
INTERCRYSTALLINE; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-05%
OTHER FEATURES: SUCROSIC

1785 - 1795 DOLOSTONE; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN
30% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: LIMESTONE-01%
OTHER FEATURES: SUCROSIC

1795 - 1805 DOLOSTONE; MODERATE YELLOWISH BROWN
30% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
VUGULAR DOLOSTONE - CRYSTAL-LINED VUGS.

1805 - 1815 DOLOSTONE; MODERATE YELLOWISH BROWN TO DARK YELLOWISH BROWN
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
POSSIBLY HIGH PERMEABILITY; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC

1815 - 1825 DOLOSTONE;
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED
ACCESSORY MINERALS: ORGANICS-01%
OTHER FEATURES: SUCROSIC

1825 - 1840 DOLOSTONE; GRAYISH BROWN TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-05%
VFINE GRN. LIMESTONE INTERBEDS.

1840 - 1850 DOLOSTONE; GRAYISH BROWN TO MODERATE YELLOWISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC

1850 - 1860 DOLOSTONE; GRAYISH BROWN TO MODERATE YELLOWISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
INTERCRYSTALLINE; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC

1860 - 1870 DOLOSTONE; GRAYISH BROWN TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-01%

1870 - 1880 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: DOLOMITE-05%

1880 - 1890 LIMESTONE; VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: DOLOMITE-02%

1890 - 1905 DOLOSTONE; GRAYISH BROWN TO VERY LIGHT ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-05%
15' CORE INTERVAL DESCRIBED FROM 1905' TO 1920', COLLECTED
EXP HOLE NO. 2.

1905 - 1905.5 DOLOSTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS

1905.5- 1906 DOLOSTONE; MODERATE YELLOWISH BROWN
30% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS

1906 - 1908 DOLOSTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS

1908 - 1910 DOLOSTONE; MODERATE YELLOWISH BROWN
40% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS

1910 - 1911 DOLOSTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS

1911 - 1914 DOLOSTONE; MODERATE YELLOWISH BROWN
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
INTERCRYSTALLINE; 50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED
ACCESSORY MINERALS: ORGANICS-01%
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS, MOLLUSKS

1914 - 1919 DOLOSTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS

1919 - 1920 DOLOSTONE; MODERATE YELLOWISH BROWN
30% POROSITY: INTERGRANULAR, MOLDIC, VUGULAR
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
OTHER FEATURES: SUCROSIC
FOSSILS: FOSSIL MOLDS

1920 - 1930 DOLOSTONE; MODERATE YELLOWISH BROWN TO VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
50-90% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: LIMESTONE-01%
OTHER FEATURES: SUCROSIC

1930 - 1940 DOLOSTONE; MODERATE YELLOWISH BROWN TO VERY LIGHT ORANGE
15% POROSITY: INTERGRANULAR, PIN POINT VUGS
10-50% ALTERED; SUBHEDRAL
GOOD INDURATION
CEMENT TYPE(S): DOLOMITE CEMENT
SEDIMENTARY STRUCTURES: INTERBEDDED
ACCESSORY MINERALS: LIMESTONE-20%
FOSSILS: FOSSIL MOLDS

1940 - 1950	LIMESTONE; VERY LIGHT ORANGE 10% POROSITY: INTERGRANULAR, PIN POINT VUGS GRAIN TYPE: BIOGENIC, CALCILUTITE GOOD INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: DOLOMITE-05% FOSSILS: FOSSIL MOLDS T.D. EXPLORATORY HOLE NO. 1.
1950 - 1960	LIMESTONE; VERY LIGHT ORANGE 20% POROSITY: INTERGRANULAR, PIN POINT VUGS MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: SPAR-05% FOSSILS: FOSSIL MOLDS
1960 - 1970	LIMESTONE; VERY LIGHT ORANGE 20% POROSITY: INTERGRANULAR, PIN POINT VUGS GRAIN TYPE: BIOGENIC, CALCILUTITE MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: SPAR-05%, GYPSUM-01% FOSSILS: FOSSIL MOLDS FIRST OCCURRENCE OF EVAPORITE MINERALS. 1960'-1970'.
1970 - 1980	LIMESTONE; VERY LIGHT ORANGE 30% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: SPAR-10%, GYPSUM-01% FOSSILS: FOSSIL MOLDS, BRYOZOA, BENTHIC FORAMINIFERA
1980 - 1990	LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE 20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE GOOD INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED ACCESSORY MINERALS: DOLOMITE-02%, SPAR-02%, GYPSUM-01% FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

1990 - 2000	LIMESTONE; VERY LIGHT ORANGE 30% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC GRAIN TYPE: BIOGENIC, SKELETAL MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: SPAR-05%, GYPSUM-05% FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
2000 - 2010	LIMESTONE; VERY LIGHT ORANGE 20% POROSITY: INTERGRANULAR, PIN POINT VUGS, MOLDIC GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: SPAR-05% FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
2010 - 2015	LIMESTONE; VERY LIGHT ORANGE 30% POROSITY: INTERGRANULAR, PIN POINT VUGS POSSIBLY HIGH PERMEABILITY GRAIN TYPE: BIOGENIC, SKELETAL MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED ACCESSORY MINERALS: SPAR-01% FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA 15' (2000'-2015') CORE INTERVAL DRILLED IN EXPLORATORY HOLE NO.3.
2015 - 2020	LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE 20% POROSITY: INTERGRANULAR, PIN POINT VUGS GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE MODERATE INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX SEDIMENTARY STRUCTURES: MASSIVE, INTERBEDDED ACCESSORY MINERALS: SPAR-05%, DOLOMITE-01%, GYPSUM-01% FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
2020 - 2030	LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE 30% POROSITY: INTERGRANULAR, PIN POINT VUGS GRAIN TYPE: BIOGENIC, SKELETAL GOOD INDURATION CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT SEDIMENTARY STRUCTURES: MASSIVE ACCESSORY MINERALS: SPAR-10%, GYPSUM-01% FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
2030 - 2040	AS ABOVE

2040 - 2050 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, SKELETAL
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-05%
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

2050 - 2060 LIMESTONE; VERY LIGHT ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-02%
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

2060 - 2070 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE
20% POROSITY: INTERGRANULAR, PIN POINT VUGS
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
SEDIMENTARY STRUCTURES: MASSIVE
ACCESSORY MINERALS: SPAR-02%, GYPSUM-02%
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
15' (2070'-2085') CORE INTERVAL DRILLED IN EXPLORATORY HOLE NO.2.

2070 - 2075 LIMESTONE; GRAYISH ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED
ACCESSORY MINERALS: SPAR-05%, GYPSUM-05%, ORGANICS-01%
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, ORGANICS
MED-FINE GRN. WELL INDURATED, INTERSTITIAL AND NODULAR ANHYDRITE.

2075 - 2080 LIMESTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
05% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
SEDIMENTARY STRUCTURES: MASSIVE, LAMINATED
ACCESSORY MINERALS: GYPSUM-10%, SPAR-05%, ORGANICS- %
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA, ORGANICS
GYPSUM-FILLED FOSSIL MOLDS AND INFILLED VERTICAL FRACTURES.

2080 - 2085 AS ABOVE
GYPSUM/ANHYDRITE NODULES, ORGANIC LAMINAE. TD EXPLORATORY HOLE NO.2. 15' (2085'-2100') CORE INTERVAL DRILLED IN EXPLORATORY HOLE NO.3.

2085 - 2095 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-05%, GYPSUM-02%
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

2095 - 2096 LIMESTONE; GRAYISH ORANGE
05% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: GYPSUM-30%, SPAR-05%
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
GYPSUM/ANHYDRITE NODULES, INTERSTITIAL ANHYDRITE.

2096 - 2100 LIMESTONE; GRAYISH ORANGE TO MODERATE YELLOWISH BROWN
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
GOOD INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX, SPARRY CALCITE CEMENT
ACCESSORY MINERALS: SPAR-05%, GYPSUM-05%
OTHER FEATURES: DOLOMITIC
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

2100 - 2109 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-02%, GYPSUM-02%
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA

2109 - 2112 LIMESTONE; VERY LIGHT ORANGE TO GRAYISH ORANGE
10% POROSITY: INTERGRANULAR, PIN POINT VUGS
LOW PERMEABILITY
GRAIN TYPE: BIOGENIC, SKELETAL, CALCILUTITE
MODERATE INDURATION
CEMENT TYPE(S): CALCILUTITE MATRIX
ACCESSORY MINERALS: SPAR-02%, GYPSUM-05%
FOSSILS: FOSSIL MOLDS, BENTHIC FORAMINIFERA
T.D. EXPLORATORY HOLE NO.3.

2112 TOTAL DEPTH

Appendix B

Sediment Sieve Analysis of Undifferentiated Surficial Deposits

Appendix C

FGS Falling Head Permeameter and Porosity Determination Procedures

Appendix D

Core Laboratories Reports, Avon Park Fm. and Ocala Ls. Core Sample Analyses

Appendix E

ROMP Packer Testing Methods and Analyses Results

Appendix F

Surficial APT Specifications and Analyses Results

Appendix G

Arcadia Fm. \ Hawthorn Gp. Intermediate APT Specifications and Analyses Results

Appendix H

Suwannee Ls. \ U. Floridan APT Specifications and Analyses Results

Appendix I

Avon Park Fm. \ U. Floridan APT Specifications and Analyses Results

Appendix B

Sediment Sieve Analysis of Undifferentiated Surficial Deposits

Sieve Analysis Procedures

Two methods were used to estimate hydraulic conductivity of the Surficial aquifer using sieve data. The first method, developed by Krumbein and Monk, (reference) is an empirical formula which relates the hydraulic conductivity to the geometric mean diameter of the porous medium and the log of the standard size distribution. The second method, developed by Hazen, (Fetter, 19__) is a simpler empirical formula which predicts a power law relation between effective grain size, d_{10}, and hydraulic conductivity, K. Both methods rely on accurate sieve data obtained through proper sample collection and preparation.

Sample collection and Preparation

Continuous split spoon samples were collected from land surface to 220 ft BLS through the Surficial aquifer. Sediment samples used for the sieve analysis were separated in ten foot intervals from 10 - 220 ft BLS. Samples were indivdually weighed on a double-beam balance, then sorted utilizing a RO-TAP® sieve machine. The sieve machine contained nine pans, with screen openings ranging from 0.84mm (#20 screen) to 0.062mm (#230 screen). Each sample was agitated for five-minutes until the sediments were thoroughly sorted. A weight percentage, W%, was then calculated for each pan based on the following formula:

$$W\% = (1 - \frac{W_i - W_p}{W_i}) * 100\%$$

where;

W_i = initial weight of sediment sample
W_p= weight of sample in pan

Next, the median grain size collected by each pan, σ_m, was determined. The range of possible grain sizes collected by each pan was first established by taking the screen pore size of the next largest pan and the pore size of the pan of interest and averaging the two. Both the millimeter mean (X_m) and the millimeter standard deviation (σ_m) are determined next, using the following formulae:

$$X_m = \Sigma[f_m * M_m]_n / 100\%$$

$$\sigma_m = \Sigma[f_m(M_m - X_m)]_n^{½}$$

where,

X_m = millimeter mean — f_m = (weight percent)$_n$
σ_m = millimeter standard deviation — M_m = (millimeter midpoint)$_n$

Krumbein and Monk Method

Intrinsic permeability, k, of the surficial aquifer, was determinied using the Krumbein and Monk formula. Hydraulic conductivity was then determined by multiplying the intrinsic permeability by the appropriate conversion factor. The two formulas to derive hydraulic conductivity are as follows:

$$k=760X_m^2e^{(-1.31\sigma_m)}$$

$$K=2.74*k$$

where;

k = intrinsic permeability (Darcy's)
K = hydraulic conductivity (ft/day)
X_m = millimeter mean (mm)
σ_m = millimeter standard deviation (mm)

Hazen Method

The Hazen method correlates hydraulic conductivity to the effective grain size, d_{10}, obtained from the plot of grain size distribution of the surficial sediments. The Hazen's formula is as follows

$$K=A*d_{10}^2$$

where:

A = 1, if d_{10} is in millimeters and K is in cm/sec.
d_{10} = effective grain size
d_{50} = median grain size

From the sieve analysis, d_{10} was found to be 0.177mm. Therefore;

$$K=(1.0)*(0.177mm)^2=0.0314\frac{cm}{\text{sec}}$$

which converts to a hydraulic conductivity of 88.9 ft/day.

Application of the Hazen formula to the sieve data obtained a hydraulic conductivity of 88.9 ft/day. The alternate method using the Krumbein and Monk formula yielded a hydraulic conductivity of 201.8 ft/day, which is presented in the following tables and graph of hydraulic conductivity versus depth.

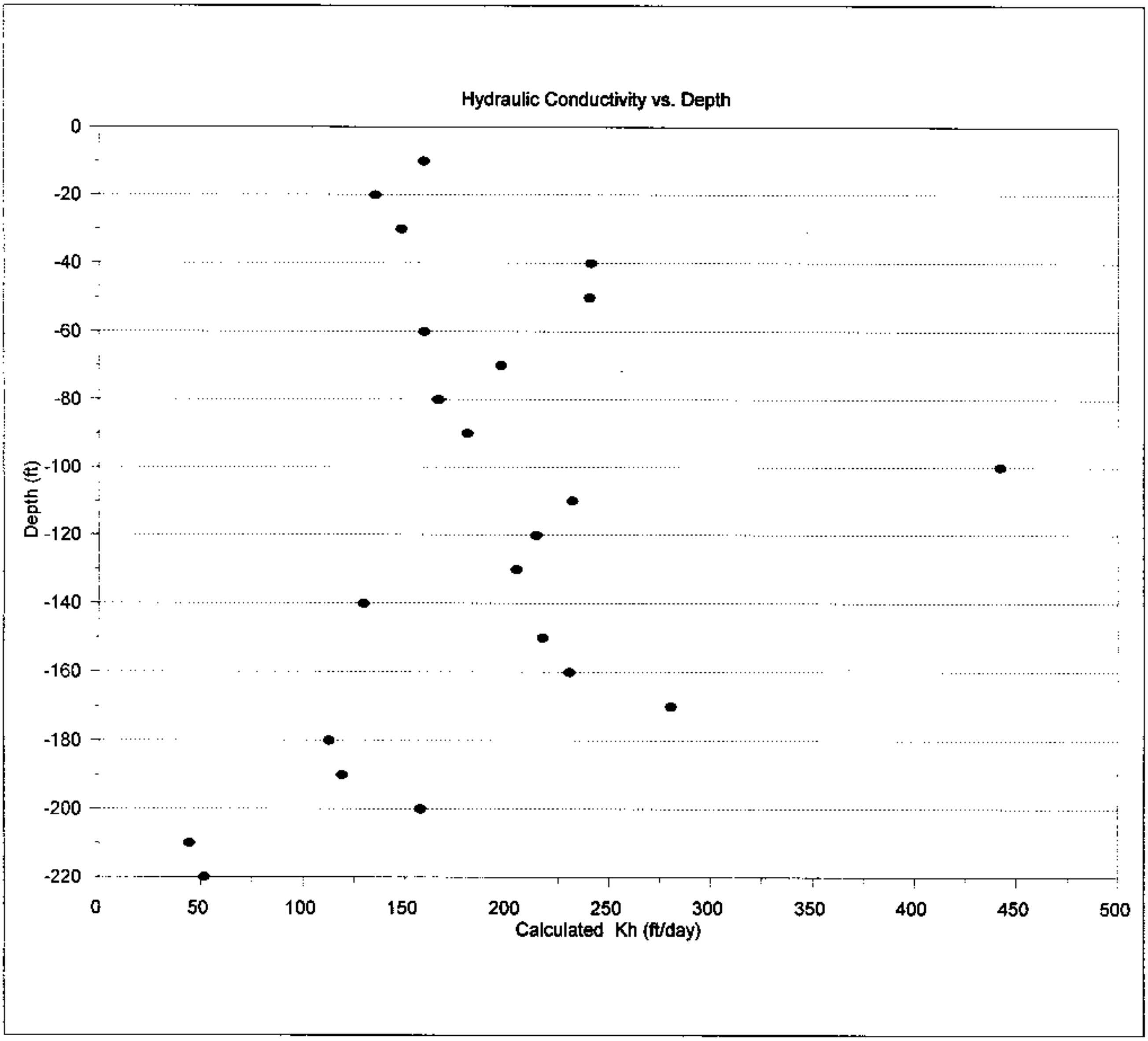
Appendix B, ROMP 28 Kuhlman: Table of Sieve Analyses Calculations using the Krumbein and Monk Formula.

SAMPLE DEPTH (ft)	MILLIMETER MEAN (mm)	MILLIMETER STD. DEV. (mm)	PERMEABILITY k (Darcy's)	HYD. CONDUCTIVITY Kh (ft/day)
-10	0.3028	0.1383	58.14	159.3
-20	0.2724	0.106	49.41	135.4
-30	0.2852	0.1014	54.11	148.3
-40	0.3711	0.1317	88.14	241.5
-50	0.3703	0.1306	87.81	240.6
-60	0.3086	0.1665	58.19	159.4
-70	0.3388	0.1459	72.06	197.4
-80	0.3115	0.1482	60.73	166.4
-90	0.3224	0.1371	66.02	180.9
-100	0.518	0.1788	161.38	442.2
-110	0.3604	0.1159	84.79	232.3
-120	0.3523	0.1417	78.34	214.6
-130	0.3429	0.1359	74.77	204.9
-140	0.2662	0.0982	47.36	129.8
-150	0.3653	0.1868	79.4	217.6
-160	0.3761	0.1858	84.26	230.9
-170	0.4197	0.2046	102.41	280.6
-180	0.245	0.0782	41.2	112.9
-190	0.2517	0.076	43.58	119.4
-200	0.2902	0.081	57.55	157.7
-210	0.1531	0.0687	16.29	44.6
-220	0.1657	0.0753	18.92	51.8
AVERAGE:			75.76	207.6
AV. WT.%:	0.3448	0.156	73.66	201.8

Appendix B, ROMP 28 Kuhlman: Sieve Analysis, Size Class Weight Percent

SAMPLE DEPTH	WT% for Sieve Size Class								
(ft bls)	20	25	35	45	60	80	120	170	230
10	--	1.94	6.47	17.65	32.56	26.35	10.99	2.39	1.36
20	--	--	1.62	15.34	39.15	29.74	7.69	1.29	4.95
30	--	--	2.2	18.8	38.66	28.63	8.42	0.85	2.3
40	--	1.02	7.85	56.46	16.95	6.2	0.52	2.24	4.06
50	--	2.32	7.56	45.94	26.23	11.99	3.76	0.87	1.21
60	--	4.34	10.56	31.49	25.87	18.44	6.35	1.39	1.77
70	--	2.19	8.33	31.52	26.94	19.39	7.99	1.82	2.32
80	--	2.78	6	23.82	27.44	23.7	9.96	2.2	3.5
90	--	1.53	6.83	26.82	33.79	18.91	6.03	1.99	3.73
100	--	17.92	35.58	29.95	8.36	3.44	1.47	0.72	2.29
110	--	--	7.92	45.67	28.46	12.69	2.62	1.5	1.11
120	--	1.18	9.19	41.6	24.38	11.42	3.9	5.28	2.95
130	--	1.51	8.78	32.43	28.94	19.7	6.67	1.17	0.7
140	--	--	2.18	12.42	35.8	32.82	13.64	1.63	1.25
150	--	5.94	18.08	21.28	16.01	25.05	10.14	1.6	1.9
160	--	7.38	16.58	21.71	21.11	22.57	8.6	1.32	1.19
170	--	8.2	27.66	29.86	9.96	6.4	5.6	3.83	8.46
180	--	--	0.96	5.3	30.98	50.14	9.57	0.9	2.44
190	--	--	0.69	5.61	37.16	46.8	6.42	1.07	2.57
200	--	--	0.38	13.96	62.1	15.07	4.21	2.22	2.47
210	--	--	0.54	1.88	3.36	10.6	52.79	20.34	11.07
220	--	--	0.72	2.56	4.77	16.21	52.07	16.57	7.76
AVG.WT.%	0	3.31	10.3	27.99	27.09	20.28	6.56	1.87	2.58

Appendix B, ROMP 28 Kuhlman: Calculated Hydraulic Conductivity of Surficial Aquifer Sediments



SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 10'

SAMPLE MASS: 154.65

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—		
25	0.0280 / 0.71	3.00	3.00	1.94
35	0.0197 / 0.50	10.00	13.00	6.47
45	0.0138 / 0.35	27.30	40.30	17.65
60	0.0098 / 0.250	50.35	90.65	32.56
80	0.0070 / 0.177	40.75	131.40	26.35
120	0.0049 / 0.125	17.00	148.40	10.99
170	0.0035 / 0.088	3.70	152.10	2.39
PAN	>.0024 / 0.062	2.10	154.20	1.36

COMMENTS

Plant remains, root fragments sieves 25-60

Cumulative % 99.7 %

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 20'

SAMPLE MASS: 154.65g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	–	–	–
25	0.0280 / 0.71	–	–	–
35	0.0197 / 0.50	2.50	2.50	1.62
45	0.0138 / 0.35	23.80	26.30	15.39
60	0.0098 / 0.250	60.55	86.85	39.15
80	0.0070 / 0.177	46.00	132.85	29.74
120	0.0049 / 0.125	11.90	144.75	7.69
170	0.0035 / 0.088	2.00	146.75	1.29
PAN	>.0024 / 0.062	7.65	154.40	4.95

COMMENTS

99.8 % cumulative

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 30'

SAMPLE MASS: 152.10 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—		
25	0.0280 / 0.71	—		
35	0.0197 / 0.50	3.35	3.35	2.20
45	0.0138 / 0.35	28.60	31.95	18.80
60	0.0098 / 0.250	58.80	90.75	38.66
80	0.0070 / 0.177	43.55	134.30	28.63
120	0.0049 / 0.125	12.80	147.10	8.42
170	0.0035 / 0.088	1.30	148.40	0.85
PAN	>.0024 / 0.062	3.50	151.90	2.30

COMMENTS

Pan fraction organic silt. organic stained qtz.

99.87 % cumulative

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 40'

SAMPLE MASS: 142.75 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
14	0.0555 / 1.41	—		
18	0.0394 / 1.00	—		
25	0.0280 / 0.71	1.45	1.45	1.02
35	0.0197 / 0.50	11.20	12.65	7.85
45	0.0138 / 0.35	80.60	93.25	56.46
60	0.0098 / 0.250	24.20	117.45	16.95
80	0.0070 / 0.177	8.85	126.30	6.20
120	0.0049 / 0.125	6.45	132.75	4.52
170	0.0035 / 0.088	3.20	135.95	2.24
PAN	>.0024 / 0.062	5.80	141.75	4.06

COMMENTS

99.3 % cumulative

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 50'

SAMPLE MASS: 148.90g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
14	0.0555 / 1.41	–		
18	0.0394 / 1.00	–		
25	0.0280 / 0.71	3.45	3.45	2.32
35	0.0197 / 0.50	11.25	14.70	7.56
45	0.0138 / 0.35	68.40	83.10	45.94
60	0.0098 / 0.250	39.05	122.15	26.23
80	0.0070 / 0.177	17.85	140.00	11.99
120	0.0049 / 0.125	5.60	145.60	3.76
170	0.0035 / 0.088	1.30	146.90	0.87
PAN	>.0024 / 0.062	1.80	148.70	1.21

COMMENTS

99.87 % cumulative

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 60'

SAMPLE MASS: 144.0 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
14	0.0555 / 1.41	–		
18	0.0394 / 1.00	–		
25	0.0280 / 0.71	6.25	6.25	4.34
35	0.0197 / 0.50	15.20	21.45	10.56
45	0.0138 / 0.35	45.35	66.80	31.49
60	0.0098 / 0.250	37.25	104.05	25.87
80	0.0070 / 0.177	26.55	130.60	18.44
120	0.0049 / 0.125	9.15	139.75	6.35
170	0.0035 / 0.088	2.00	141.75	1.39
PAN	>.0024 / 0.062	2.55	144.30	1.77

COMMENTS

100.02 % cumulative

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 70'

SAMPLE MASS: 159.60 g,

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
14	0.0555 / 1.41	—		
18	0.0394 / 1.00	—		
25	0.0280 / 0.71	3.50	3.50	2.19
35	0.0197 / 0.50	13.30	16.80	8.33
45	0.0138 / 0.35	50.30	67.10	31.52
60	0.0098 / 0.250	43.00	110.10	26.94
80	0.0070 / 0.177	30.95	141.05	19.39
120	0.0049 / 0.125	12.75	153.80	7.99
170	0.0035 / 0.088	2.90	156.70	1.82
PAN	>.0024 / 0.062	3.70	160.40	2.32

COMMENTS

100.5 % cumulative wt.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 80'

SAMPLE MASS: 161.60

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
14	0.0555 / 1.41	—		
18	0.0394 / 1.00	—		
25	0.0280 / 0.71	4.50	4.50	2.78
35	0.0197 / 0.50	9.70	14.20	6.00
45	0.0138 / 0.35	38.50	52.70	23.82
60	0.0098 / 0.250	44.35	97.05	27.44
80	0.0070 / 0.177	38.30	135.35	23.70
120	0.0049 / 0.125	16.10	151.45	9.96
170	0.0035 / 0.088	3.55	155.0	2.20
PAN	>.0024 / 0.062	5.65	160.65	3.50

COMMENTS

Pan fraction mostly organic silt, with minor v. fine qtz. sand.

99.4 % cumulative wt.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 90'

SAMPLE MASS: 143.55 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
14	0.0555 / 1.41	—		
18	0.0394 / 1.00	—		
25	0.0280 / 0.71	2.20	2.20	1.53
35	0.0197 / 0.50	9.80	12.00	6.83
45	0.0138 / 0.35	38.50	50.50	26.82
60	0.0098 / 0.250	48.50	99.00	33.79
80	0.0070 / 0.177	27.15	126.15	18.91
120	0.0049 / 0.125	8.65	134.80	6.03
170	0.0035 / 0.088	2.85	137.65	1.99
PAN	>.0024 / 0.062	5.35	143.00	3.73

COMMENTS

99.6 % cumulative wt.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 100'

SAMPLE MASS: 152.60 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	9.40	9.40	6.16
25	0.0280 / 0.71	17.95	27.35	11.76
35	0.0197 / 0.50	54.30	81.65	35.58
45	0.0138 / 0.35	45.70	127.35	29.95
60	0.0098 / 0.250	12.75	140.10	8.36
80	0.0070 / 0.177	5.25	145.35	3.44
120	0.0049 / 0.125	2.25	147.60	1.47
170	0.0035 / 0.088	1.10	148.70	0.72
PAN	>.0024 / 0.062	3.50	152.20	2.29

COMMENTS

Change in sediment grain size at ~ 99 ft. in split spoon samples. Minor to no organics below 100'. Pan fraction appears to be qtz. silt. Coarser bed from 99' ~ 103 ft.

99.7 % cumulative wt.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 110'

SAMPLE MASS: 152.85

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	
25	0.0280 / 0.71	—	—	
35	0.0197 / 0.50	12.10	12.10	7.92
45	0.0138 / 0.35	69.80	81.90	45.67
60	0.0098 / 0.250	43.50	125.40	28.46
80	0.0070 / 0.177	19.40	144.80	12.69
120	0.0049 / 0.125	4.00	148.80	2.62
170	0.0035 / 0.088	2.30	151.10	1.50
PAN	>.0024 / 0.062	1.70	152.80	1.11

COMMENTS

99.9 % cum. wt. return.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 120'

SAMPLE MASS: 152.40g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	1.80	1.80	1.18
35	0.0197 / 0.50	14.00	15.80	9.19
45	0.0138 / 0.35	63.40	79.20	41.60
60	0.0098 / 0.250	37.15	116.35	24.38
80	0.0070 / 0.177	17.40	133.75	11.42
120	0.0049 / 0.125	5.95	139.70	3.90
170	0.0035 / 0.088	8.05	147.75	5.28
PAN	>.0024 / 0.062	4.50	152.25	2.95

COMMENTS

99.9% wt. return

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 130'

SAMPLE MASS: 149.25 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	2.25	2.25	1.51
35	0.0197 / 0.50	13.10	15.35	8.78
45	0.0138 / 0.35	48.40	63.75	32.43
60	0.0098 / 0.250	43.20	106.95	28.94
80	0.0070 / 0.177	29.40	136.35	19.70
120	0.0049 / 0.125	9.95	143.30	6.67
170	0.0035 / 0.088	1.75	148.05	1.17
PAN	>.0024 / 0.062	1.05	149.10	0.70

COMMENTS

99.9 % cumulative wt.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 140'

SAMPLE MASS: 156.15 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	—	—	—
35	0.0197 / 0.50	3.40	3.40	2.18
45	0.0138 / 0.35	19.40	22.80	12.42
60	0.0098 / 0.250	55.90	78.70	35.80
80	0.0070 / 0.177	51.25	129.95	32.82
120	0.0049 / 0.125	21.30	151.25	13.64
170	0.0035 / 0.088	2.55	153.80	1.63
PAN	>.0024 / 0.062	1.95	155.75	1.25

COMMENTS

99.7%

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 150'

SAMPLE MASS: 149.90 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	8.90	8.90	5.94
35	0.0197 / 0.50	27.10	36.00	18.08
45	0.0138 / 0.35	31.90	67.90	21.28
60	0.0098 / 0.250	24.00	91.90	16.01
80	0.0070 / 0.177	37.55	129.45	25.05
120	0.0049 / 0.125	15.20	144.65	10.14
170	0.0035 / 0.088	2.40	147.05	1.60
PAN	>.0024 / 0.062	2.85	149.90	1.90

COMMENTS

100% return

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 160'

SAMPLE MASS: 151.10g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	11.15	11.15	7.38
35	0.0197 / 0.50	25.05	36.20	16.58
45	0.0138 / 0.35	32.80	69.00	21.71
60	0.0098 / 0.250	31.90	100.90	21.11
80	0.0070 / 0.177	34.10	135.00	22.57
120	0.0049 / 0.125	13.00	148.00	8.60
170	0.0035 / 0.088	2.00	150.00	1.32
PAN	>.0024 / 0.062	1.80	151.80	1.19

COMMENTS

100.46 %

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 166'

SAMPLE MASS: 154.45g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	26.50	26.50	17.16
25	0.0280 / 0.71	44.40	70.90	28.75
35	0.0197 / 0.50	70.90	141.80	45.90
45	0.0138 / 0.35	10.00	151.80	6.47
60	0.0098 / 0.250	1.30	153.10	0.84
80	0.0070 / 0.177	0.65	153.75	0.42
120	0.0049 / 0.125	0.30	154.05	0.19
170	0.0035 / 0.088	0.20	154.25	0.13
PAN	>.0024 / 0.062	0.50	154.75	0.32

COMMENTS

Coarser graded bed ~ 165' to 170',
interbedded mod crs. to coarse grn. 153'–174'.

100.19% retained

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 170'

SAMPLE MASS: 150.05g.

SIEVE NO.	SIZE inch / ~~mm~~.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	12.30	12.30	8.20
35	0.0197 / 0.50	41.50	53.80	27.66
45	0.0138 / 0.35	44.80	98.60	29.86
60	0.0098 / 0.250	14.95	113.55	9.96
80	0.0070 / 0.177	9.60	123.15	6.40
120	0.0049 / 0.125	8.40	131.55	5.60
170	0.0035 / 0.088	5.75	137.30	3.83
PAN	>.0024 / 0.062	12.70	150.0	8.46

COMMENTS

100% retained cum.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 180'

SAMPLE MASS: 155.75 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	—	—	—
35	0.0197 / 0.50	1.50	1.50	0.96
45	0.0138 / 0.35	8.25	9.75	5.30
60	0.0098 / 0.250	48.25	58.00	30.98
80	0.0070 / 0.177	78.10	136.10	50.14
120	0.0049 / 0.125	14.90	151.0	9.57
170	0.0035 / 0.088	1.40	152.4	0.90
PAN	>.0024 / 0.062	3.80	156.2	2.44

COMMENTS

Mica flakes common, finer grained with depth.
100.29 % cum. ret.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 190'

SAMPLE MASS: 159.60g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	—	—	—
35	0.0197 / 0.50	1.10	1.10	0.69
45	0.0138 / 0.35	8.95	10.05	5.61
60	0.0098 / 0.250	59.30	69.35	37.16
80	0.0070 / 0.177	74.70	144.05	46.80
120	0.0049 / 0.125	10.25	154.30	6.42
170	0.0035 / 0.088	1.70	156.00	1.07
PAN	>.0024 / 0.062	4.10	160.10	2.57

COMMENTS

100.31 % cumulative

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 200'

SAMPLE MASS: 157.90 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	
25	0.0280 / 0.71	—	—	
35	0.0197 / 0.50	0.60	0.60	0.38
45	0.0138 / 0.35	22.05	22.65	13.96
60	0.0098 / 0.250	98.05	120.70	62.10
80	0.0070 / 0.177	23.80	144.50	15.07
120	0.0049 / 0.125	6.65	151.15	4.21
170	0.0035 / 0.088	3.50	154.65	2.22
PAN	>.0024 / 0.062	3.90	158.55	2.47

COMMENTS

Finer grained, mica,

100.4 % cum. ret.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 210'

SAMPLE MASS: 149.0 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	—
25	0.0280 / 0.71	—	—	—
35	0.0197 / 0.50	0.80	0.80	0.54
45	0.0138 / 0.35	2.80	3.60	1.88
60	0.0098 / 0.250	5.00	8.60	3.36
80	0.0070 / 0.177	15.80	24.40	10.60
120	0.0049 / 0.125	78.65	103.05	52.79
170	0.0035 / 0.088	30.30	133.35	20.34
PAN	>.0024 / 0.062	16.50	149.85	11.07

COMMENTS

Mica flakes in sieves 35 - 60, color change to a light grnish tan - gray - clay content minor phosphate grains, heavy minerals?

100.57% ret.

SEDIMENT SIEVE ANALYSIS DATA SHEET
Geohydrologic Data Section, Resource Data Dept.

WELLSITE : ROMP 28 Kuhlman, WRAP No. 9, Jack Creek Property

LAT \ LONG: 27 22' 08" \ 81 26' 05"

DRILLER : L.H. Johnson, J.P. Meadors, SWFWMD

SAMPLE DATE: 10-21-91 to 11-7-91

SAMPLE TYPE: Split Spoon

DEPTH: 220'

SAMPLE MASS: 152.10 g.

SIEVE NO.	SIZE inch / mm.	SAMPLE MASS RETAINED (g)	CUMULATIVE WEIGHT (g)	WT. ~~CUMULATIVE~~ PERCENT
20	0.0331 / 0.84	—	—	
25	0.0280 / 0.71	—	—	
35	0.0197 / 0.50	1.10	1.10	0.72
45	0.0138 / 0.35	3.90	5.00	2.56
60	0.0098 / 0.250	7.25	12.25	4.77
80	0.0070 / 0.177	24.65	36.90	16.21
120	0.0049 / 0.125	79.20	116.10	52.07
170	0.0035 / 0.088	25.20	141.30	16.57
PAN	>.0024 / 0.062	11.80	153.10	7.76

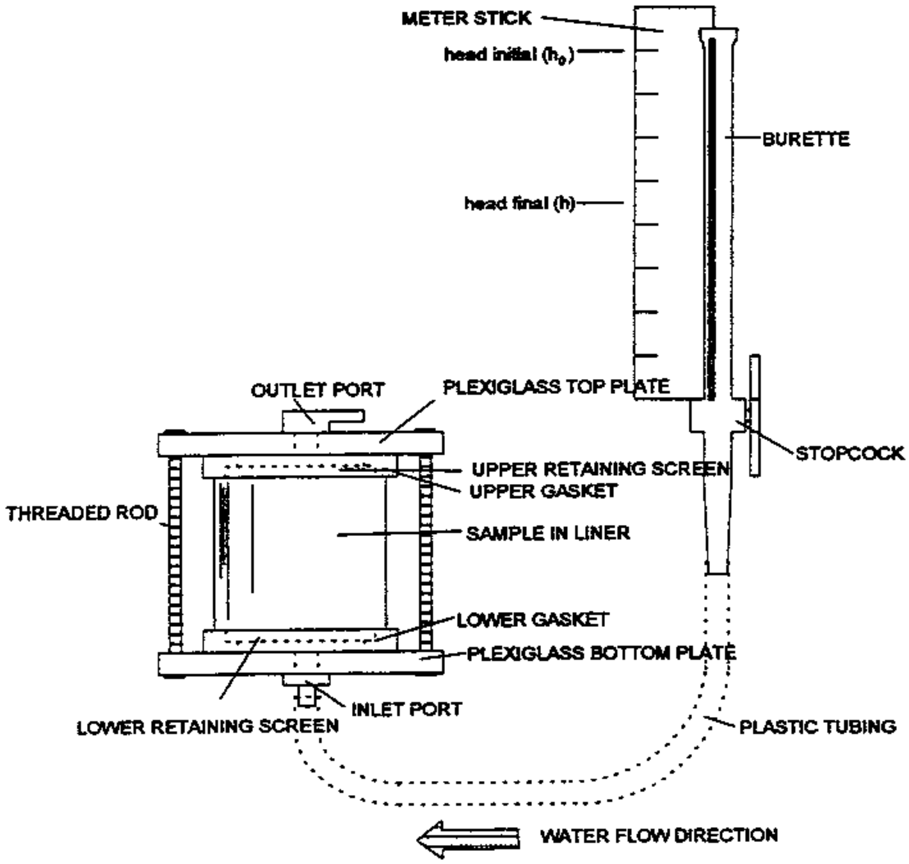
COMMENTS

mica flakes, clay, minor phosphate grains -

100-66% cumulative ret.

Appendix C

FGS Falling Head Permeameter and Porosity Determination Procedures



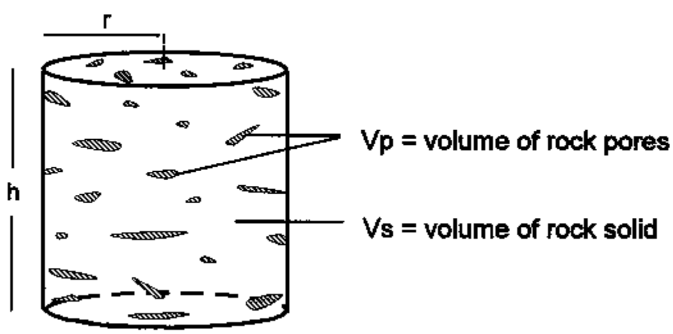
Falling-head permeameter analyses were conducted on eleven core samples at the Florida Geological Survey in Tallhassee Florida. Core samples were selected to represent hydrologic characteristics of a specific geologic unit , as delineated during Phase-one and Phase-two test core drilling at ROMP 28. The samples were labeled for depth and vertical orientation before packaging for shipment to the FGS office. Sample selection was biased not to include large scale permeability features such as vugs or fractures that would interfere with sample preparation and subsequent permeameter testing.

Core samples were prepared for permeameter testing by visual inspection for sample integrity, then the sample was trimmed to an appropriate length and encased in a plexiglas sleeve with epoxy resin. The prepared sample was inserted into the permameter device and hydrated with tap water prior to starting the testing procedure. Testing was initiated by filling the permeameter burette with tap water to an initial elevation head, h_o above the outlet port, and recording the elapsed time for water to flow through the core sample to a lower head position, h_1. The hydraulic conductivity can be calculated by the following equation , taken from Fetter (1988):

Hydraulic Conductivity, $K = D^2L / d^2t \ln(h_0/h_1)$

where;
D = diameter of burette
d = diameter of core sample
L = length of core sample
t = elapsed time
h_0 = initial elevation head
h_1 = final elevation head at time, t

The hydraulic conductivity values reported in Table 5 are an average of three permeameter runs, or are reported as a maximum estimated conductivity for samples that resisted flow through the permeameter apparatus.



CORE SAMPLE

total volume, $Vt = Vs + Vp$

$\pi r^2 (h) = Vt = Wt / \rho_{rock}$

where, Wt = weight of total rock volume

and, ρ_{rock} = rock density

% Bulk Porosity, $\eta_B = 100 \times Vp / Vt$

with; $Vt (\rho_{rock}) = Wt$ and $Wt - Ws = Wp$ where, Ws = weight of rock solid

and, Wp = weight of rock absent from porosity voids

$$Vp = Wp / \rho_{rock} = Wt - Ws / \rho_{rock}$$

$$Vp = Vt (\rho_{rock}) - Ws / \rho_{rock}$$

then; $\eta_B = 100 \times Vt (\rho_{rock}) - Ws / \rho_{rock} / Vt = 100 \times Vt\, \rho_{rock} - Ws / Vt\, \rho_{rock}$

measurements: core sample height, h, and diameter, d, where $d/2 = r$
core sample weight, Ws, after completely dried at 105 ° C

Appendix D

Core Laboratories Reports, Avon Park Fm. and Ocala Ls. Core Sample Analyses

WESTERN ATLAS

Core Laboratories

CORE ANALYSIS TEST PROGRAM

Highlands Ridge Water Resources Assessment Project

FINAL REPORT

Performed for :
Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34609-6899

September 22, 1994

Performed by:
Core Laboratories
Dallas Advanced Technology Center
Reservoir Flow Studies Laboratory
1875 Monetary Lane
Carrollton, Texas 75006

File: DAL-94138

WESTERN ATLAS

Core Laboratories
Advanced Technology Center

September 22, 1994

Western Atlas International
1875 Monetary Drive
Carrollton, Texas
75006-7012
Tel 214-466-2673
Telex 163166, CORDAL UT
Fax 214-323-3930

Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34609-6899

Attention : Mr. Bart Weiss

Subject: Final Report
Core Analysis Test Program
Highlands Ridge Water Resources Assessment Project
File: DAL-94138

Dear Mr. Weiss:

A testing program to determine hydraulic conductivity and coefficient of compressibility on samples from the subject site has been completed for the Southwest Florida Water Management District. This study was authorized by Mr. David Otto by in a facsimile dated May 25, 1994. Final results of all testing are presented herein.

Two three inch diameter cores labeled as follows were received on June 24, 1994.

ROMP 28 2080.0-2081.0
ROMP 28 1909.7-1910.7

Each sample was cut into two sections and prepared for testing as described on Page i.

Coefficient of compressibility was determined on the section labeled sample 2 as described on Pages iii and iv. Compressibility data in summary form and graphs of net overburden pressure versus time and net overburden pressure versus pore volume compressibility are displayed on pages 3 through 8.

Hydraulic conductivity was determined on sample 1 as outlined on Page ii . Hydraulic conductivity calculations and test results are presented in summary form on Page 1. A summary of the permeability to liquid data expressed in millidarcys is provided on page 2.

Thank you for this opportunity to be of service to the Southwest Florida Water Management District. If you have any questions concerning the enclosed information, or if we can be of any additional service, please contact me at 214-323-3911.

Very truly yours,

Wade Williams

Wade Williams
Reservoir Flow Studies
Dallas Advanced Technology Center

EXPERIMENTAL PROCEDURES

Sample Preparation

1. Upon receipt, the suite of samples was assigned job number DAL-94138 for laboratory tracking.

2. Each sample was cut in half and trimmed to a right cylinder using tapwater as the saw lubricant.

3. The samples were labeled with the job number and designated for testing as follows:

   for the hydraulic conductivity measurements: Sample 1
   for the coefficient of compressibility measurements: Sample 2

6. A chain of custody (COC) form was prepared for each sample. All pertinent data relating to the sample was recorded on this form which accompanies the sample throughout testing.

7. The length and diameter of the samples was measured to the nearest 0.001 cm using digital calipers and recorded on the COC form. Cross-sectional areas were calculated as follows:

$$A = (D / 2)^2 * pi$$

where:

A = cross-sectional area, cm^2
D = diameter, cm
pi = 3.14159

EXPERIMENTAL PROCEDURES

Permeability to Liquid Measurement

1. The samples were briefly evacuated of air, saturated with tap water, and weighed. The weight was recorded on the COC sheet. The plug was installed in a hydrostatic coreholder and the appropriate net confining stress was applied.

2. Tap water, which has been previously evacuated of air, was injected at a constant upstream pressure. Differential pressure was monitored using a Validyne transducer calibrated, prior to use, using a dead weight tester. Pressure readings are accurate to plus or minus 0.5 percent of the full scale value. Tap water viscosity was measured with a calibrated Canon-Fenske glass capillary viscometer. Tap water density was determined using a pycnometer.

3. The produced rate was monitored as a function of time using a class A pipette until the relative percent difference in incremental produced rate (measured over a two hour period) is less than 10 percent over a 24 hour period.

4. Permeability to liquid in millidarcys was calculated from the observed data using the following equation (Darcy's Law).

$$K = (C_1 * C_2 * \mu * V * L) / (P * A * T)$$

where:
K = permeability to liquid, millidarcys
C_1 = constant, psi/atm
C_2 = constant, millidarcys/darcy
μ = viscosity of liquid, centipoise
V = incremental produced volume, ml
L = length, cm
P = differential pressure, psi
A = cross-sectional area, cm^2
T = incremental time, sec

5. Hydraulic conductivity in meters per second was calculated from the observed data using the following equation.

$$k = (V * L)/(A * T * P)$$

where:
k = hydraulic conductivity, m/sec
V = incremental produced volume, m^3
L = length, m
P = differential pressure, m H_2O
A = cross-sectional area, m^2
T = incremental time, sec

EXPERIMENTAL PROCEDURES

Sample Preparation

Two 3.0 inch diameter vuggy limestone samples were trimmed and surface ground for PVC testing. Length and diameter measurements were made using digital calipers and direct helium porosities were measured at a net overburden pressure of 400 psi. The samples were evacuated of air and pressure saturated with tap water.

Sample: WC1 Depth: 2080.0 - 2081.4
Sample: WC2 Depth: 1909.77 - 1910.2

Pore Volume Compressibility

Each sample was loaded into a Viton sleeve then placed into a hydrostatic vessel where 400 psi of overburden pressure was applied. Overburden pressure and pore pressure were gradually increased to 1400 psi and 1000 psi, respectively. The samples remained in this state overnight to insure equilibrium. Net overburden pressure was increased by 200 psi every hour to a maximum net overburden pressure of 2000 psi. Pore volume expressed during the test was measured with a precision high pressure pump which was held at a constant 1000 psi pore pressure and having a standard error of ±0.003 cc.

Net Overburden Pressure = Overburden Pressure - Pore Pressure

Data Generation and Reduction

Hydrostatic pore volume compressibility was determined by modeling the normalized pore volume data on the increasing half cycle using TABLECURVE™ Software. The following model was used to express the half cycle of data points at increasing net stress:

$$NPV = (a + bx + c\ln(x) + d\,sqrt(x))$$

Where: NPV = normalized pore volume
x = net stress

The differential of this model was then used to calculate the hydrostatic pore volume compressibility.

$$Ch = d/dx = (b + c/x + d/(2 * sqrt(x))$$

Sample Coefficients of Fit

WC1 b = -0.00001167C = -0.02180072 = 0.001493281
WC2 b = 0.000004642C = -0.00502439 = -0.00074073

To see the relative changes in compressibility without smoothing, the compressibility was also determined by applying a log nature (2-pt) equation to the normalized pore volume and net overburden data. Compressibility was calculated at each net overburden point using:

Ch = ln((NPV1 / NPV2) / (NOB2 - NOB1)) * 1E6

Where: NPV = normalized pore volume

NOB = net overburden

By using a translation factor, an approximate uniaxial pore volume compressibility (generally considered to represent reservoir stress conditions) can be determined. This translation factor is determined by Teeuw's equation which uses either a measured or assumed Poisson's Ration relating the amount of axial to lateral strain. For these samples, Poisson's Ratio was assumed to be 0.30. The translation factor (Tf) is calculated as follows:

Tf = (1 + 0.30) / (3 * (1-0.30)) = 0.619

and thus:

Cu (uniaxial) = Ch (hydrostatic PVC) * Tf

SUMMARY OF HYDRAULIC CONDUCTIVITY CALCULATIONS

Southwest Florida Water Management District
Highlands Ridge Water Resources Assessment Project
File: DAL-94138

Sample I.D.	Length, m	Area, m^2	Incremental Time, sec	Delta Pressure, m H_2O	Quantity of Flow, m^3	Hydraulic Conductivity,* m/sec
1910.2-1910.7	1.1E-01	4.4E-03	121	35.15	4.30E-07	2.50E-09
2080.5-2081.0	1.1E-01	4.4E-03	1380	34.45	4.20E-08	2.14E-11

SUMMARY OF PERMEABILITY TO LIQUID TEST RESULTS

Southwest Florida Water Management District
Highlands Ridge Water Resources Assessment Project
File: DAL-94138

Sample I.D.	Length, cm	Area, cm^2	Viscosity, cp	Delta Pressure, psi	Incremental Flow Rate, cc/sec	Permeability to Liquid, millidarcies
1910.2-1910.7	10.93	44.15	0.99	50.0	0.00354	2.55E-01
2080.5-2081.0	10.71	44.15	0.99	49.0	0.0000304	2.19E-03

COMPRESSIBILITY DATA SUMMARY

Southwest Florida Water Management District
Highland Ridge Water Resources Assessment Project

Sample WC1

/o
1909.7 - 1901.1 feet

NET STRESS PSI	PVO CC's	PV CC	NPV Vp/Vpo	POROSITY %	Ch 2pt-Avg 1/PSI*E6	Ch d/dx 1/PSI*E6	Cu Ch*Tf 1/PSI*E6
400	0	64.502	1.0000	18.29	21.67	28.84	17.85
600	0.279	64.223	0.9957	18.22	15.36	17.53	8.76
800	0.476	64.026	0.9926	18.18	11.81	12.53	6.26
1000	0.627	63.875	0.9903	18.14	8.54	9.86	4.93
1200	0.736	63.766	0.9886	18.12	7.61	8.29	4.14
1400	0.833	63.669	0.9871	18.10	7.23	7.29	3.65
1600	0.925	63.577	0.9857	18.07	5.82	6.63	3.32
1800	0.999	63.503	0.9845	18.06	7.09	6.19	3.09
2000	1.089	63.413	0.9831	18.04		5.88	2.94
19 Hour Creep Test	1.152	63.350	0.9821	18.02			

Core Laboratories

COMPRESSIBILITY DATA SUMMARY

Southwest Florida Water Management District
Highland Ridge Water Resources Assessment Project

Sample WC2

2080.0 - 2080.4 Feet

NET STRESS PSI	PVO CC's	PV CC	NPV Vp/Vpo	POROSITY %	Ch 2pt-Avg 1/PSI*E6	Ch d/dx 1/PSI*E6	Cu Ch*Tf 1/PSI*E6
400	0	39.752	1.0000	11.49	21.43	26.44	16.36
600	0.17	39.582	0.9957	11.44	17.59	18.85	9.43
800	0.309	39.443	0.9922	11.41	13.07	14.73	7.37
1000	0.412	39.340	0.9896	11.38	11.83	12.09	6.05
1200	0.505	39.247	0.9873	11.36	9.18	10.24	5.12
1400	0.577	39.175	0.9855	11.34	7.92	8.85	4.42
1600	0.639	39.113	0.9839	11.32	7.93	7.76	3.88
1800	0.701	39.051	0.9824	11.31	6.92	6.88	3.44
2000	0.755	38.997	0.9810	11.29		6.15	3.08

Core Laboratories

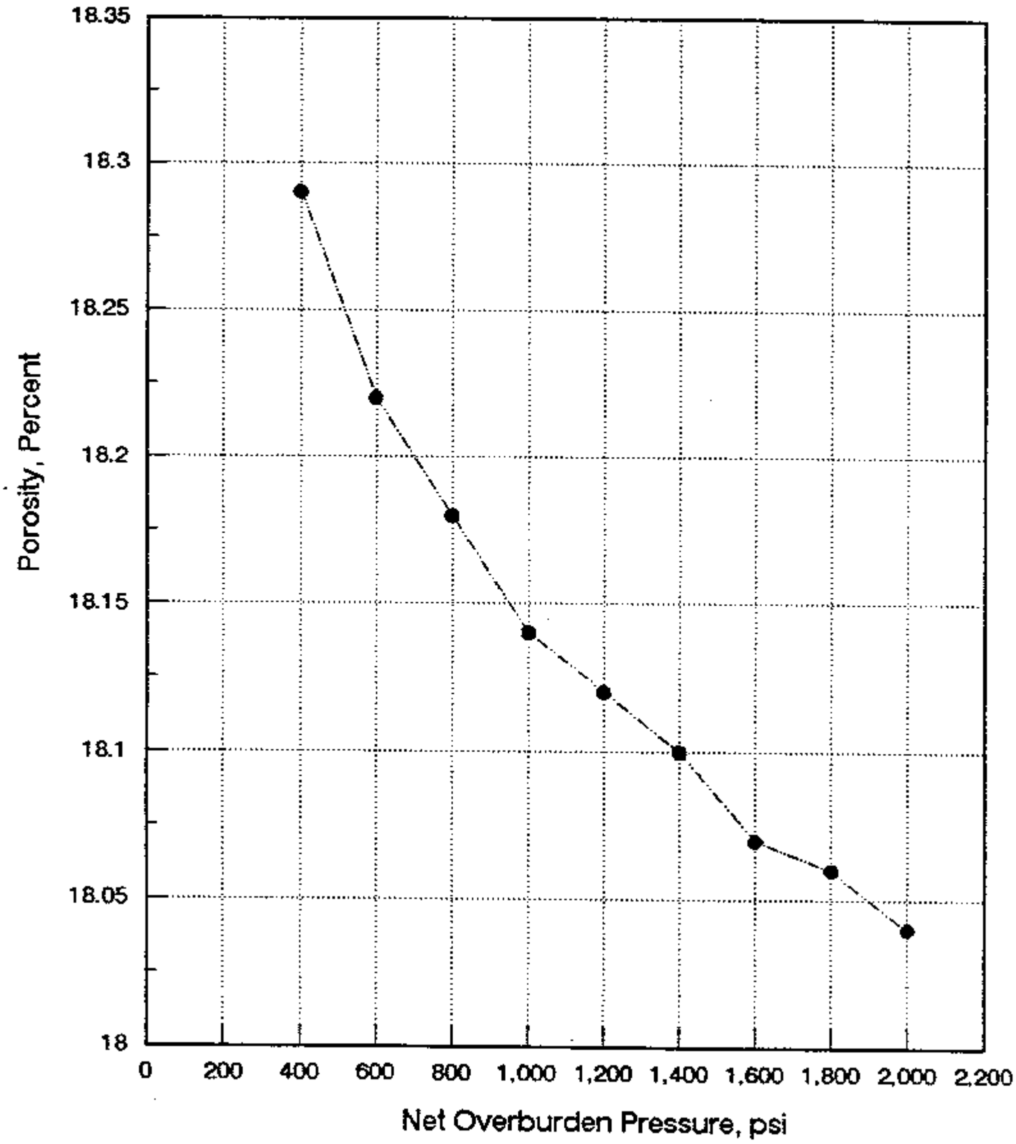
Porosity vs Net Overburden Pressure

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District
Highlands Ridge Water Resources Assessment Project

Sample WC1

Depth (feet): 1909.7 - 1910.1 Porosity @ 400 psi: 18.29%



Core Laboratories

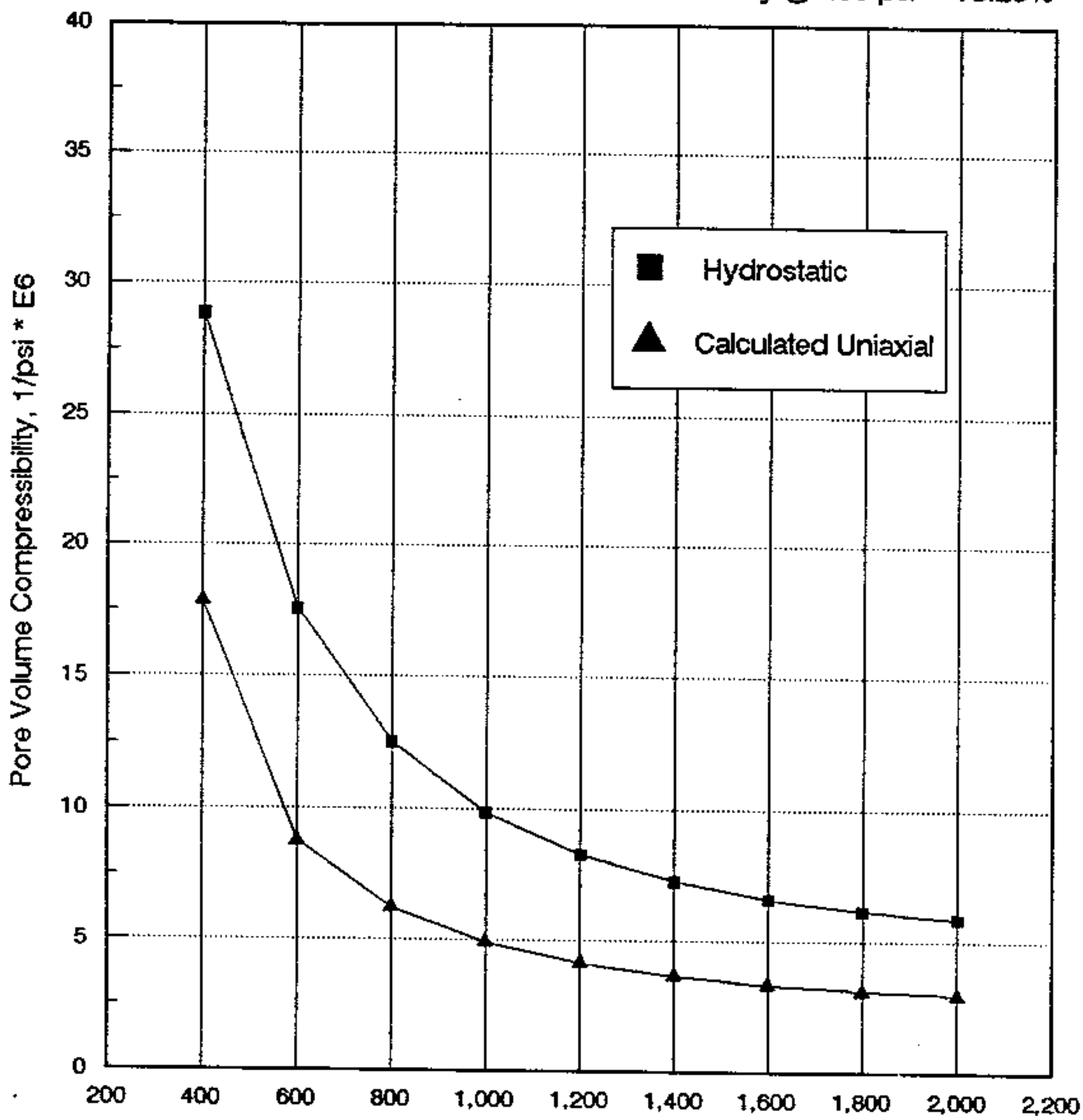
Pore Volume Compressibility vs Net OB

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District
Highlands Ridge Water Resources Assessment Project

Sample WC1

Depth (feet): 1909.7 - 1910.1 Porosity @ 400 psi 18.29%



Core Laboratories

Porosity vs Net Overburden Pressure

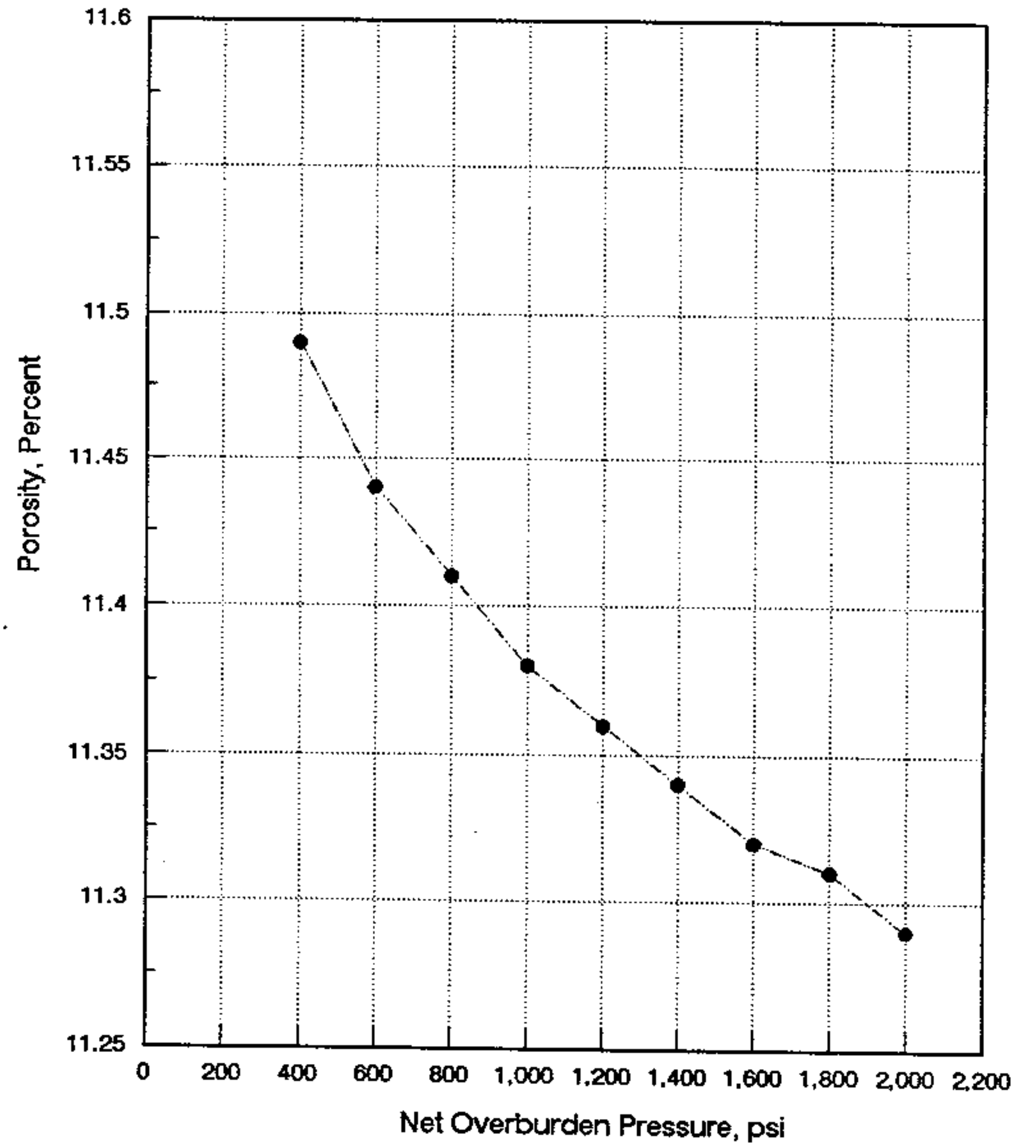
Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District
Highlands Ridge Water Resources Assessment Project

Sample WC2

Depth (feet): 2080.0 - 2080.4

Porosity @ 400 psi: 11.49%



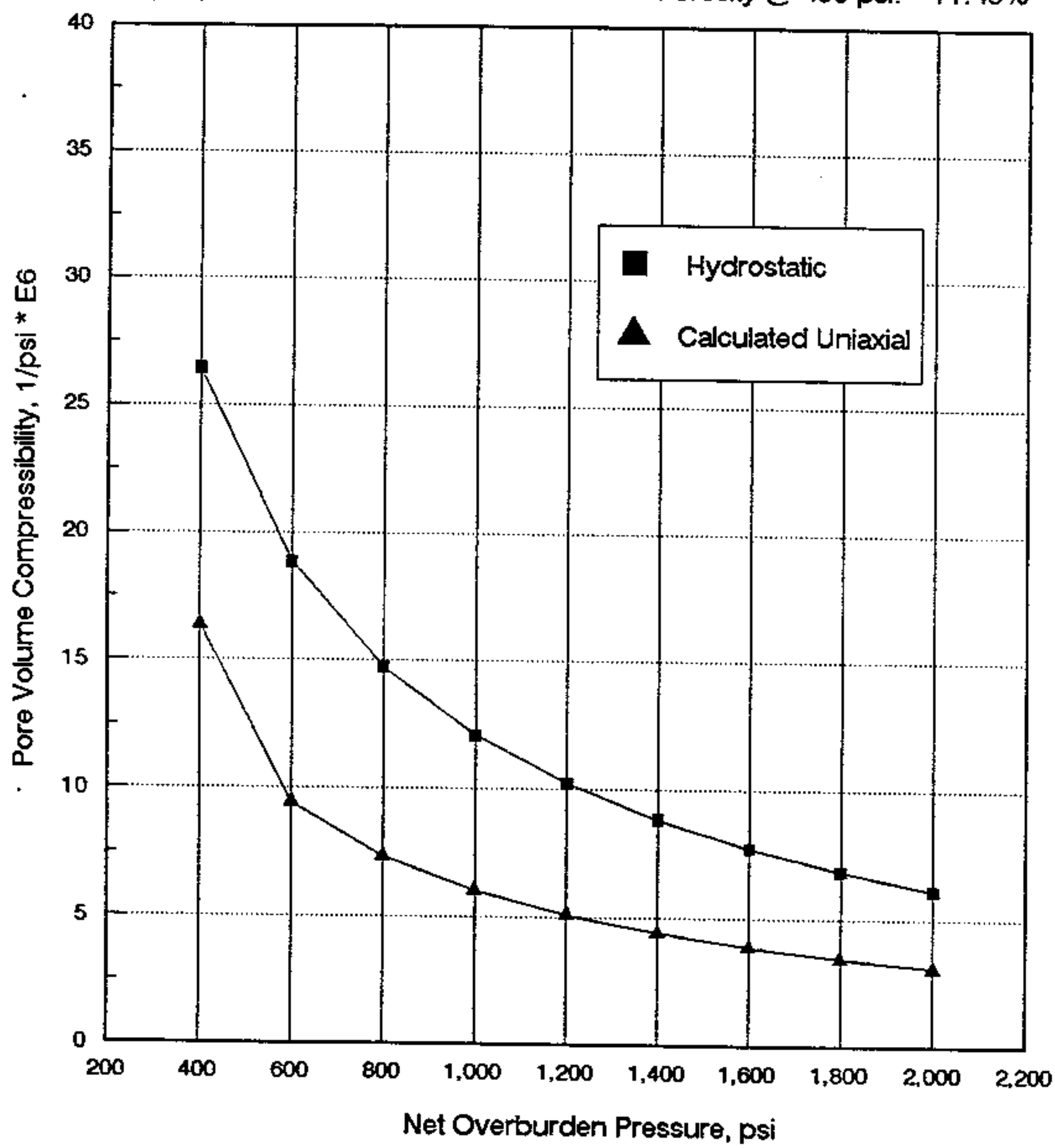
Pore Volume Compressibility vs Net OB

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District
Highlands Ridge Water Resources Assessment Project

Sample WC2

Depth (feet): 2080.0 - 2080.4 Porosity @ 400 psi: 11.49%



Core Laboratories

CORE LAB

CORE LABORATORIES

CORE ANALYSIS TEST PROGRAM

Highlands Ridge Water Resources Assessment Project

FINAL REPORT

Performed for :

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET
BROOKSVILLE, FLORIDA 34609-6899

January 10, 1996

Performed by:

Core Laboratories, Inc.
Dallas Advanced Technology Center
Dallas Rock Properties Laboratory
1875 Monetary Lane
Carrollton, Texas 75006

File: DAL-95286

CORELAB

PETROLEUM SERVICES

January 10, 1996

Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34609-6899

Attention : Mr. Bart Weiss

Subject: Final Report
Core Analysis Test Program
Highlands Ridge Water Resources Assessment Project
ROMP 28 Test Site
File: DAL-95286

Dear Mr. Weiss:

A testing program to determine hydraulic conductivity and coefficient of compressibility on samples from the subject site has been completed for the Southwest Florida Water Management District. This study was authorized by Mr. David J. DeWitt by in a letter dated November 8, 1995. Final results of all testing are presented herein.

Three 3 inch diameter cores were received on November 13, 1995. Due to the structural integrity of the samples, it was necessary to drill the samples down to 1.5" diameter. Subsequent sample preparation is described on Page i.

Hydraulic conductivity was determined on each sample as outlined on Page ii . Hydraulic conductivity calculations and test results are presented in summary form on Page 1. A summary of the permeability to liquid data expressed in millidarcys is provided on page 2.

Coefficient of compressibility was determined on each sample as described on Pages iii and iv. Compressibility data in summary form and graphs of net overburden pressure versus porosity and net overburden pressure versus pore volume compressibility are displayed on pages 3 through 11.

Thank you for this opportunity to be of service to the Southwest Florida Water Management District. If you have any questions concerning the enclosed information, or if we can be of any additional service, please contact me at 214-323-3911.

Very truly yours,

Wade Williams

Wade Williams
Rock Properties Laboratory
Dallas Advanced Technology Center

3 copies: Addressee

Southwest Florida Water Management District
File: DAL-95286

PROJECT PARTICIPANTS

Hydraulic Conductivity Measurements Final Report Preparation	Wade Williams
Pore Volume Compressibility	Richard Harting
Final Review	Melanie Dunn

EXPERIMENTAL PROCEDURES

Sample Preparation

1. Upon receipt, the suite of samples was assigned job number DAL-95286 for laboratory tracking.

2. Each sample was drilled down to 1.5' diameter and trimmed to a right cylinder using tapwater as the saw lubricant.

3. The samples were labeled with the job number.

6. A chain of custody (COC) form was prepared for each sample. All pertinent data relating to the sample was recorded on this form which accompanies the sample throughout testing.

7. The length and diameter of the samples was measured to the nearest 0.001 cm using digital calipers and recorded on the COC form. Cross-sectional areas were calculated as follows:

$$A = (D / 2)^2 * pi$$

where:

A = cross-sectional area, cm^2
D = diameter, cm
pi = 3.14159

EXPERIMENTAL PROCEDURES

Permeability to Liquid Measurement

1. The samples were briefly evacuated of air, saturated with tap water, and weighed. The weight was recorded on the COC sheet. The plug was installed in a hydrostatic coreholder and the appropriate net confining stress was applied.

2. Tap water, which has been previously evacuated of air, was injected at a constant upstream pressure. Differential pressure was monitored using a Validyne transducer calibrated, prior to use, using a dead weight tester. Pressure readings are accurate to plus or minus 0.5 percent of the full scale value. Tap water viscosity was measured with a calibrated Canon-Fenske glass capillary viscometer. Tap water density was determined using a pycnometer.

3. The produced rate was monitored as a function of time using a class A pipette until the relative percent difference in incremental produced rate (measured over a two hour period) is less than 10 percent over a 24 hour period.

4. Permeability to liquid in millidarcys was calculated from the observed data using the following equation (Darcy's Law).

$$K = (C_1 * C_2 * \mu * V * L) / (P * A * T)$$

where:

K = permeability to liquid, millidarcys
C_1 = constant, psi/atm
C_2 = constant, millidarcys/darcy
μ = viscosity of liquid, centipoise
V = incremental produced volume, ml
L = length, cm
P = differential pressure, psi
A = cross-sectional area, cm^2
T = incremental time, sec

5. Hydraulic conductivity in meters per second was calculated from the observed data using the following equation.

$$k = (V * L)/(A * T * P)$$

where:

k = hydraulic conductivity, m/sec
V = incremental produced volume, m^3
L = length, m
P = differential pressure, m H_2O
A = cross-sectional area, m^2
T = incremental time, sec

EXPERIMENTAL PROCEDURES

Pore Volume Compressibility

Sample Preparation

Three 1.5" diameter plug samples were received for PVC testing. The samples were briefly evacuated of air and pressure saturated with tap water. Length and diameter measurements were made using digital calipers and the saturated weights were recorded.

Pore Volume Compressibility

Each sample was loaded into a Viton sleeve then placed into a hydrostatic vessel where 200 psi of overburden pressure was applied. Overburden pressure and pore pressure were gradually increased to 1400 psi and 1000 psi respectively. The samples remained in this state for a minimum of 4 hours to insure equilibrium. Overburden pressure was increased every 2 hours to a maximum net confining stress of 2000 psi. Pore volume reduction is measured by monitoring the volume of fluid expelled from the fully saturated sample as overburden pressure is increased.

Data Generation and Reduction

Pore volume was normalized to the pore volume measured at 400 psi. Hydrostatic pore volume compressibility was determined by modeling the normalized pore volume data on the increasing half cycle using TABLECURVE™ Software. The following model was used to express the half cycle of data points at increasing net stress:

$$NPV = a + bx + c\ln(x) + d\sqrt{x}$$

where: NPV = normalized pore volume
x = net stress

The differential of this model was then used to calculate the hydrostatic pore volume compressibility.:

$$Ch = d/dx = (b+c/x+d/(2^*\sqrt{x})$$

Coefficients of fit are:

Sample	b	c	d
712	-0.0004906846	-0.40770787	0.50833867
717	-0.00007296223	-0.022747552	0.0011217437
828	0.00025649861	-0.0064055186	-0.003023233

To see the relative changes in compressibility without smoothing, the compressibility was also determined by applying a log natural (2-pt) equation to the normalized pore volume and net overburden data. Compressibility was calculated at each net overburden point using:

$$\frac{V_p}{V_{pL}}$$

$$Ch = \ln((NPV1/NPV2)/(NOB2 - NOB1)) * 1e6$$

per Dick Harting 3/4/96 MOB

where: NPV = normalized pore volume
NOB = net overburden. (Net Stress)

By using a translation factor, an approximate uniaxial pore volume compressibility (generally considered to represent reservoir stress conditions) can be determined. This translation factor is determined by Teeuw's equation which uses either a measured or assumed Poisson's Ratio relating the amount of axial to lateral strain. For these samples, Poisson's Ratio was assumed to be 0.30. The translation factor (Tf) is calculated as follows:

$$Tf = (1 + 0.30) / (3 * (1 - 0.30)) = 0.619$$

and thus:

$$Cu \text{ (uniaxial)} = Ch \text{ (hydrostatic PVC)} * Tf$$

SUMMARY OF HYDRAULIC CONDUCTIVITY CALCULATIONS

Fluid: Tap Water

Southwest Florida Water Management District

File: DAL-95286

Sample I.D.	Length, m	Area, m^2	Viscosity, cp	Differential Pressure, m H_2O	Quantity of Flow, m^3	Incremental Time, sec	Hydraulic Conductivity,	
							m/sec	m/year
712.5	3.84E-02	1.14E-03	9.70E-01	2.81E+01	2.47E-06	6.00E+01	4.93E-08	1.56E+00
717.0	4.57E-02	1.12E-03	9.70E-01	2.81E+01	2.91E-06	6.00E+01	7.03E-08	2.22E+00
828.5	7.14E-02	1.14E-03	9.70E-01	2.81E+01	4.19E-06	6.00E+01	1.56E-07	4.91E+00

SUMMARY OF PERMEABILITY TO LIQUID TEST RESULTS

Fluid: Tap Water

Southwest Florida Water Management District

File: DAL-95286

Sample Depth, feet	Length, cm	Area, cm²	Viscosity, cp	Differential Pressure, psi	Incremental Volume, ml	Incremental Time, sec	Permeability to Liquid,	
							millidarcys	cm²
712.5	3.84	11.40	0.97	40.0	2.47	60.0	4.95E+00	4.88E-11
717.0	4.57	11.22	0.97	40.0	2.91	60.0	7.04E+00	6.95E-11
828.5	7.14	11.40	0.97	40.0	4.19	60.0	1.56E+01	1.54E-10

PORE VOLUME COMPRESSIBILITY SUMMARY

Southwest Florida Water Management District
Highland Ridge Water Resources Assessment Project

Sample Number: 712

$\frac{1}{(1 \times 10^6 \text{ psi})}$

Net Stress, psi	Pore Volume Change, cc	Sample Pore Volume, cc	Normalized Pore Volume, Vp/Vpi	Stressed Porosity, %	Ch 2pt Average 1/psi*E6	Ch d/dx, 1/psi*E6	Cu Ch*Tf, 1/psi*E6
400	0.0000	18.137	1.000	41.20	178.09	239.11	148.01
600	0.6346	17.502	0.965	40.34	117.29	132.56	82.05
800	1.0404	17.097	0.943	39.78	107.42	101.70	62.95
1000	1.4038	16.733	0.923	39.27	104.53	94.64	58.58
1200	1.7500	16.387	0.904	38.77	109.76	*	*
1400	2.1058	16.031	0.884	38.25	118.35		
1600	2.4808	15.656	0.863	37.69	138.16		
1800	2.9075	15.230	0.840	37.05	147.13		
2000	3.3491	14.788	0.815	36.36			

*Apparent ductile failure of sample

$$C_h = \frac{\ln\left(\frac{1.00}{.965}\right)}{[600 - 400]} \times 1 \times 10^6 = 178$$

per Dick Harting
3/4/96

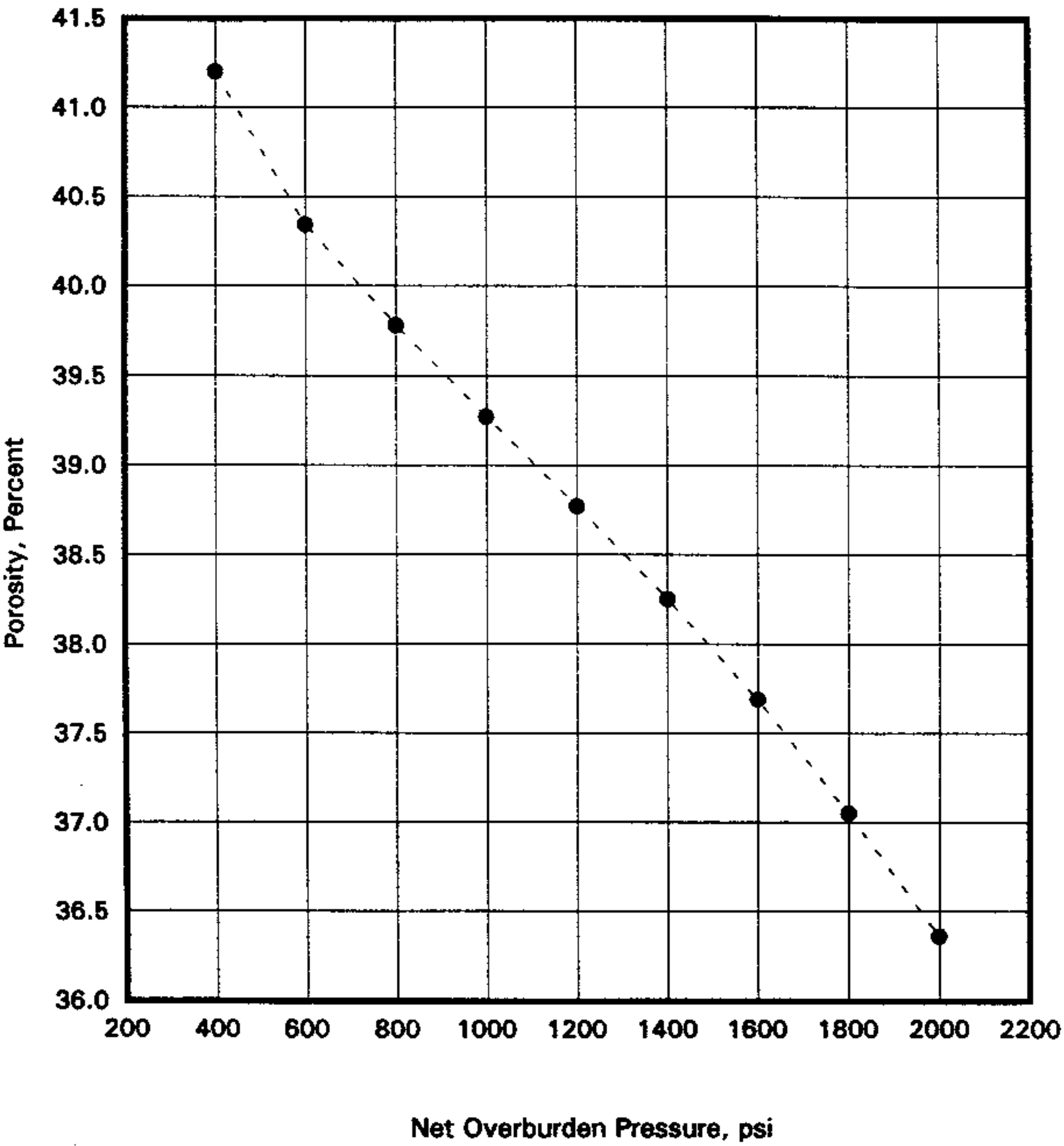
POROSITY

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District

Highlands Ridge Water Resources Assessment Project

Sample 712



Core Laboratories

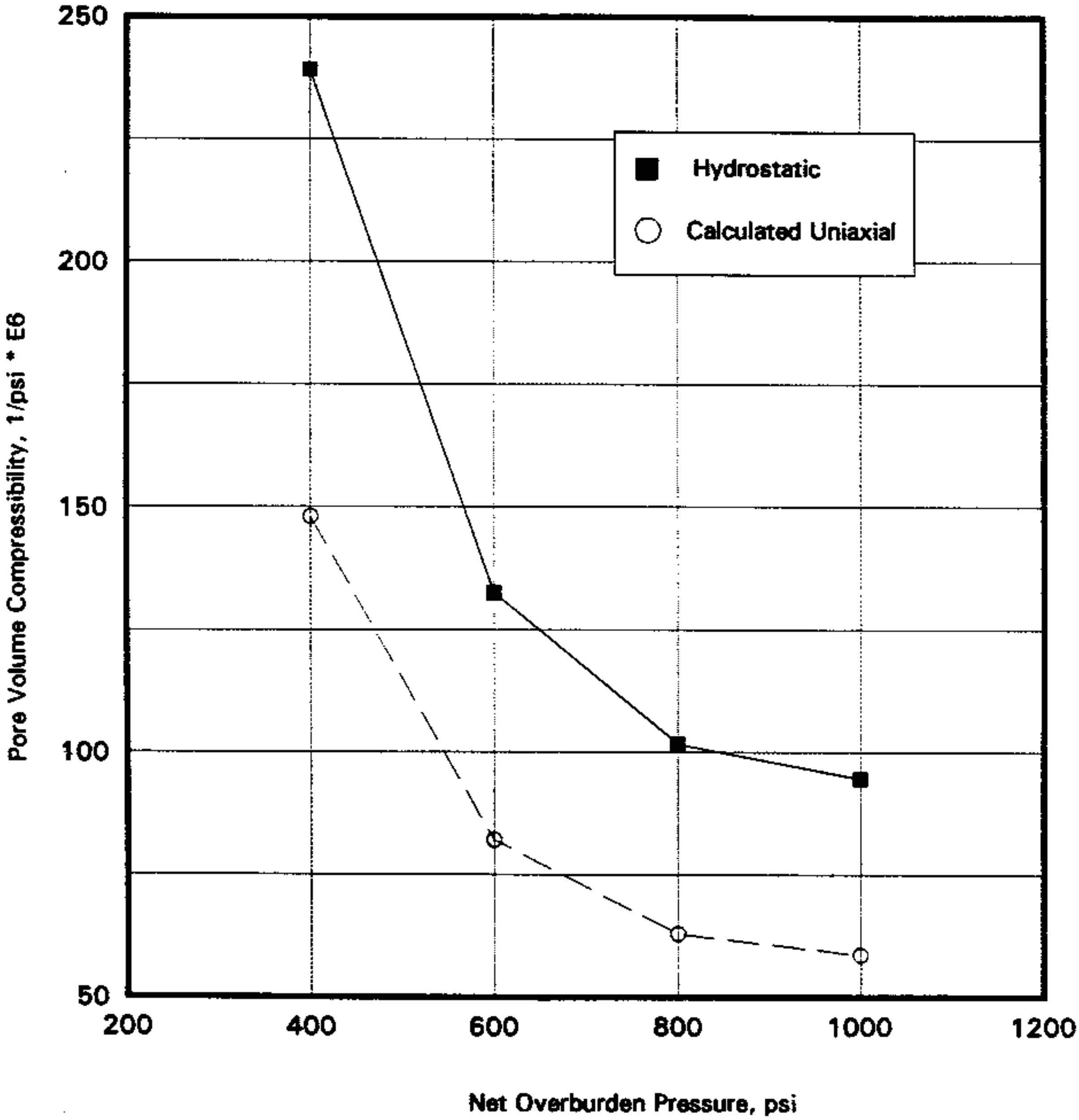
PORE VOLUME COMPRESSIBILITY

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District

Highlands Ridge Water Resources Assessment Project

Sample 712



Core Laboratories

PORE VOLUME COMPRESSIBILITY SUMMARY

Southwest Florida Water Management District
Highland Ridge Water Resources Assessment Project

Sample Number: 717

Net Stress, psi	Pore Volume Change, cc	Sample Pore Volume, cc	Normalized Pore Volume, Vp/Vpi	Stressed Porosity, %	Ch 2pt Average 1/psi*E6	Ch d/dx, 1/psi*E6	Cu Ch*Tf, 1/psi*E6
400	0.0000	19.136	1.000	37.68	83.51	101.79	63.01
600	0.3169	18.819	0.983	37.29	106.77	87.98	54.46
800	0.7146	18.421	0.963	36.79	71.40	81.57	50.49
1000	0.9757	18.160	0.949	36.46	79.74	77.97	48.27
1200	1.2631	17.873	0.934	36.09	84.74	75.73	46.88
1400	1.5634	17.573	0.918	35.70	76.54	74.22	45.94
1600	1.8304	17.306	0.904	35.35	85.76	73.16	45.28
1800	2.1247	17.011	0.889	34.96	81.13	72.38	44.80
2000	2.3985	16.737	0.875	34.59		71.79	44.44

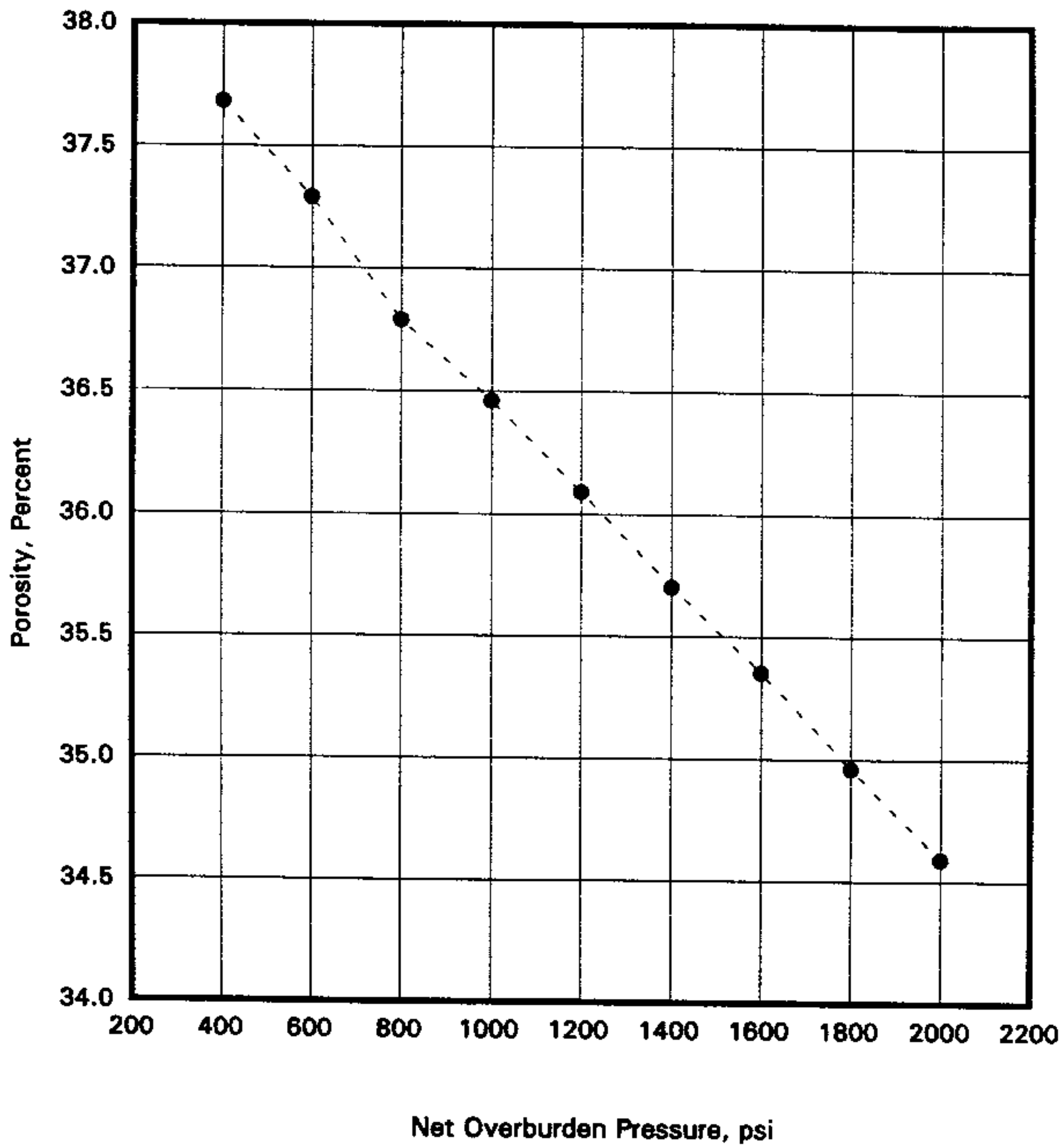
POROSITY

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District

Highlands Ridge Water Resources Assessment Project

Sample 717



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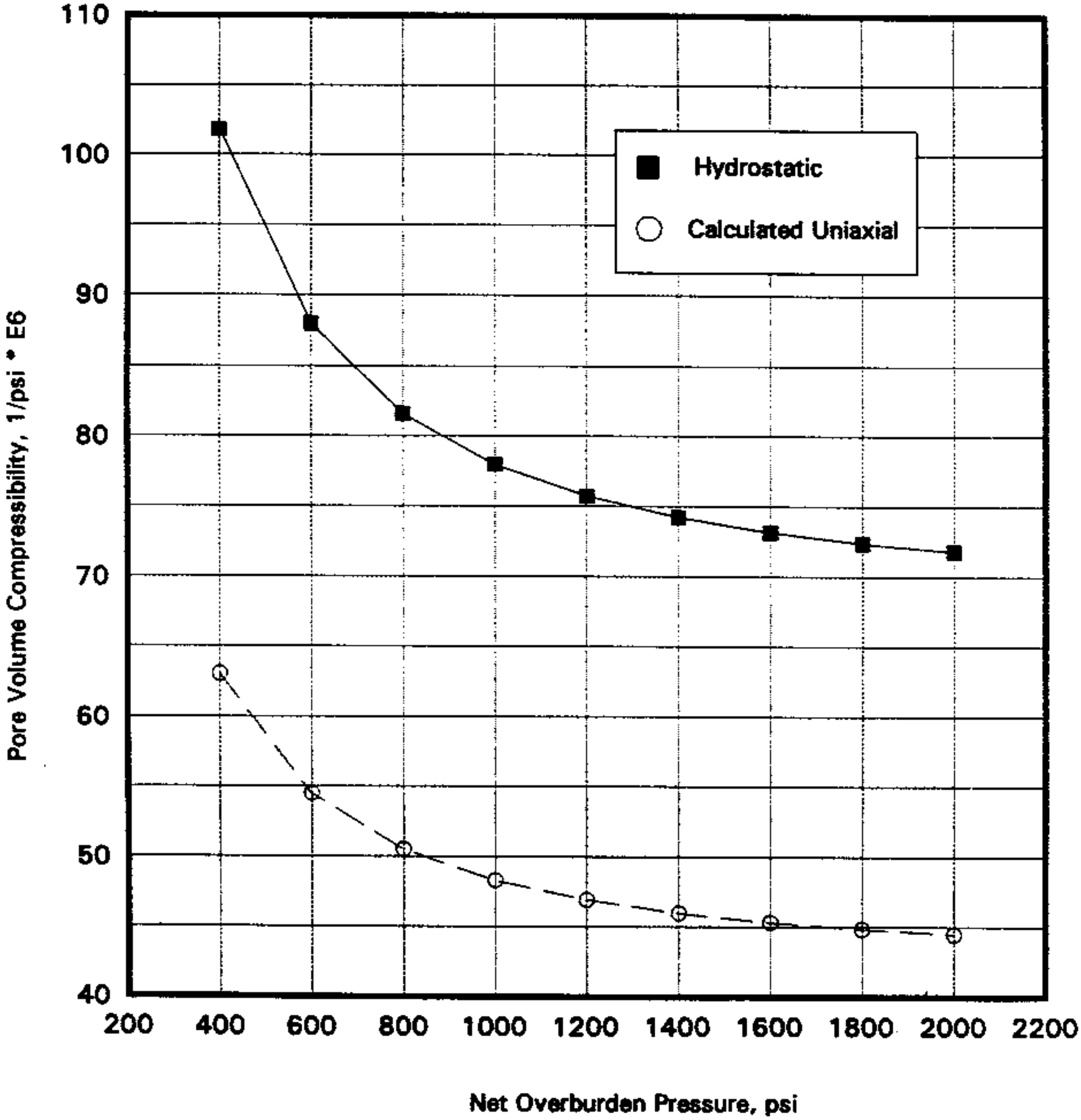
PORE VOLUME COMPRESSIBILITY

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District

Highlands Ridge Water Resources Assessment Project

Sample 717



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PORE VOLUME COMPRESSIBILITY SUMMARY

Southwest Florida Water Management District
Highland Ridge Water Resources Assessment Project

Sample Number: 828

Net Stress, psi	Pore Volume Change, cc	Sample Pore Volume, cc	Normalized Pore Volume, Vp/Vpi	Stressed Porosity, %	Ch 2pt Average 1/psi*E6	Ch d/dx, 1/psi*E6	Cu Ch*Tf, 1/psi*E6
400	0.0000	32.338	1.000	40.13	29.03	65.94	40.82
600	0.1872	32.151	0.994	39.99	33.22	46.74	28.93
800	0.4001	31.938	0.988	39.83	34.64	35.80	22.16
1000	0.6206	31.717	0.981	39.67	59.18	28.56	17.68
1200	0.9938	31.344	0.969	39.38	244.59	*	*
1400	2.4902	29.848	0.923	38.22	202.97		
1600	3.6776	28.660	0.886	37.27	171.81		
1800	4.6457	27.692	0.856	36.47	38.19		
2000	4.8564	27.482	0.850	36.29			

*Apparent ductile failure of sample

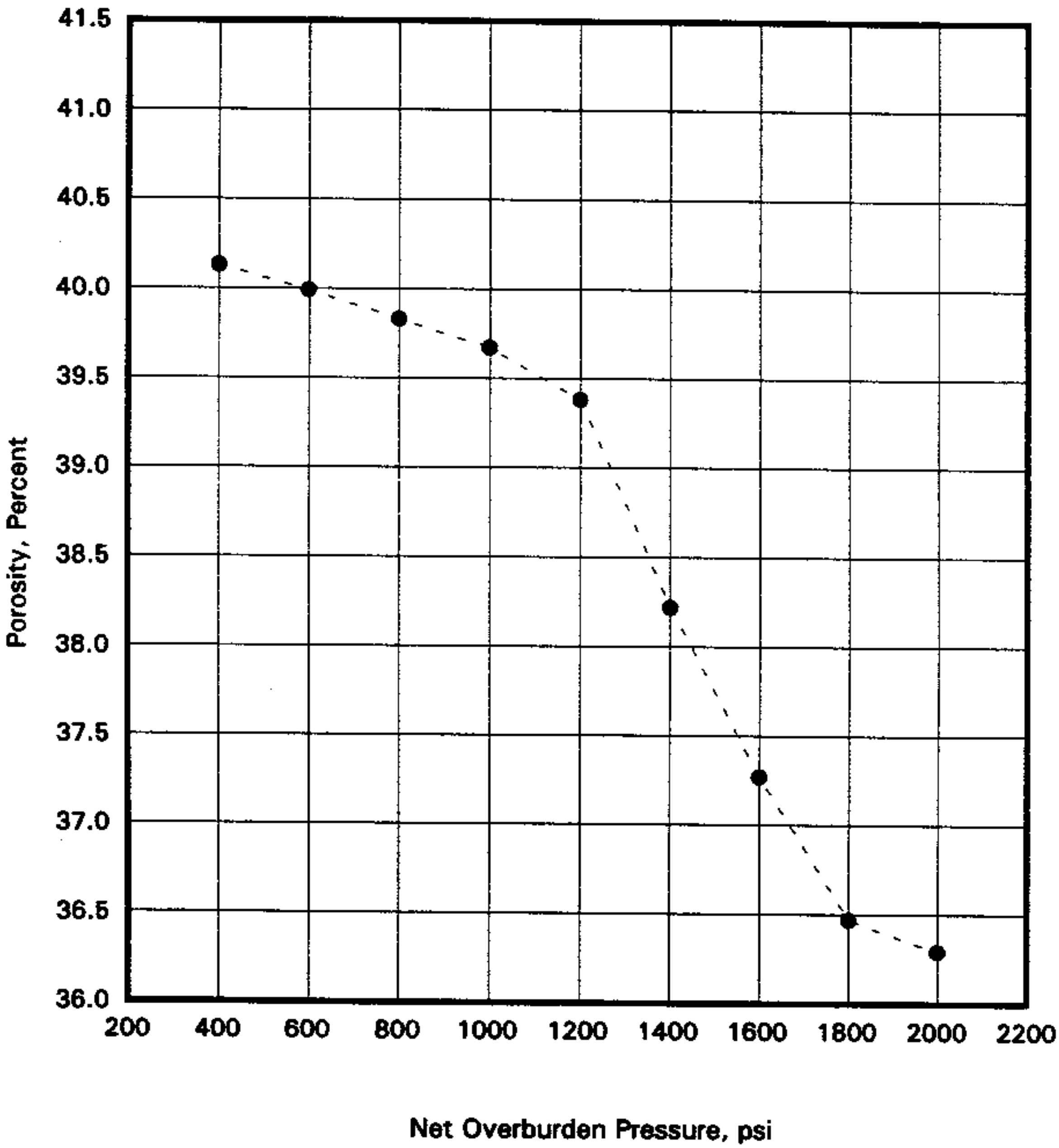
POROSITY

Constant Pore Pressure - Changing Confining Pressure

Southwest Florida Water Management District

Highlands Ridge Water Resources Assessment Project

Sample 828



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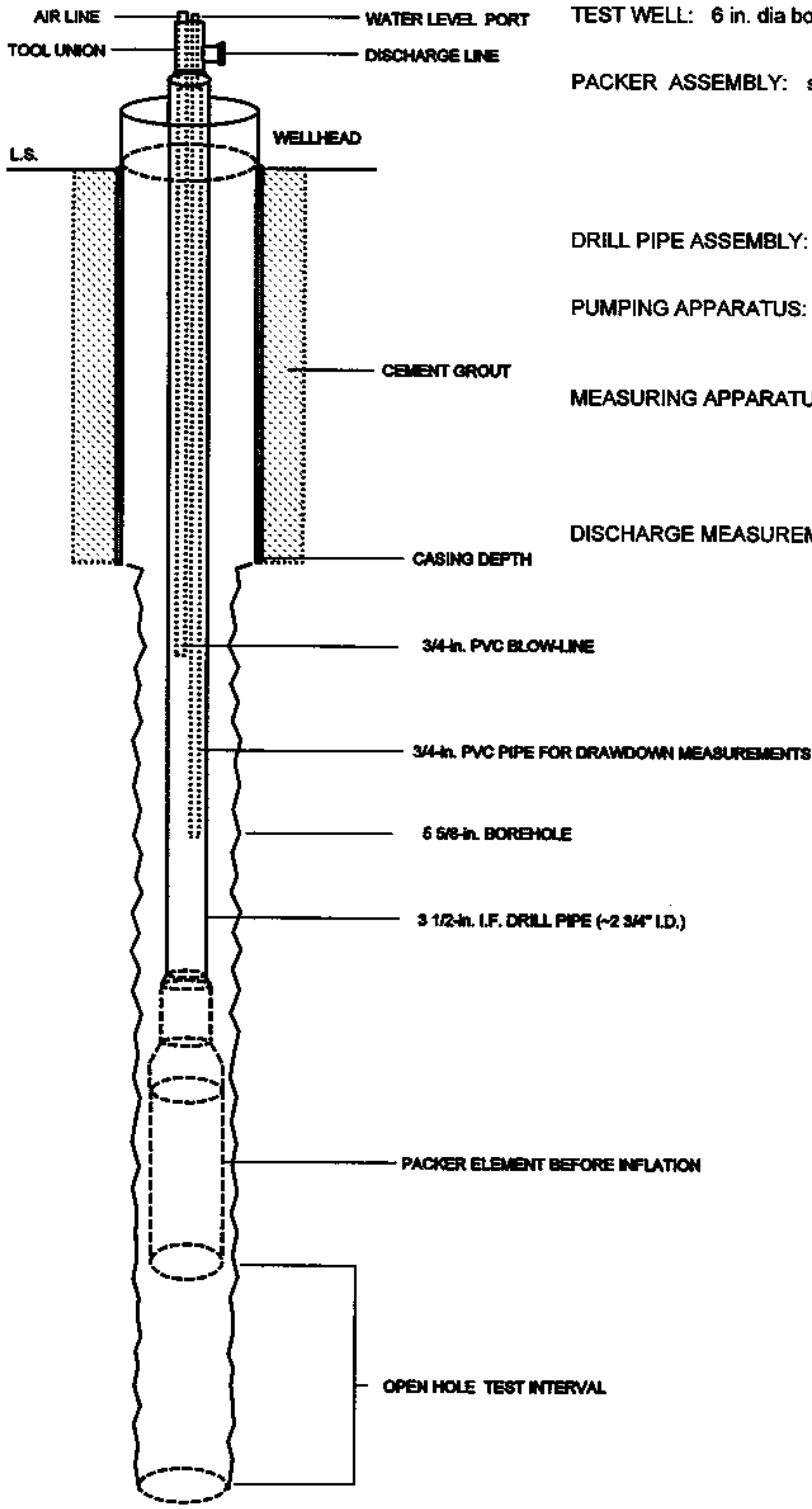
Appendix E

ROMP Packer Testing Methods and Analyses Results



GENERAL PROCEDURES FOR OFF-BOTTOM PACKER TESTING

TEST WELL: 6 in. dia borehole, test interval ranging from 25 ft. to 100 ft.

PACKER ASSEMBLY: single element, water inflate packer

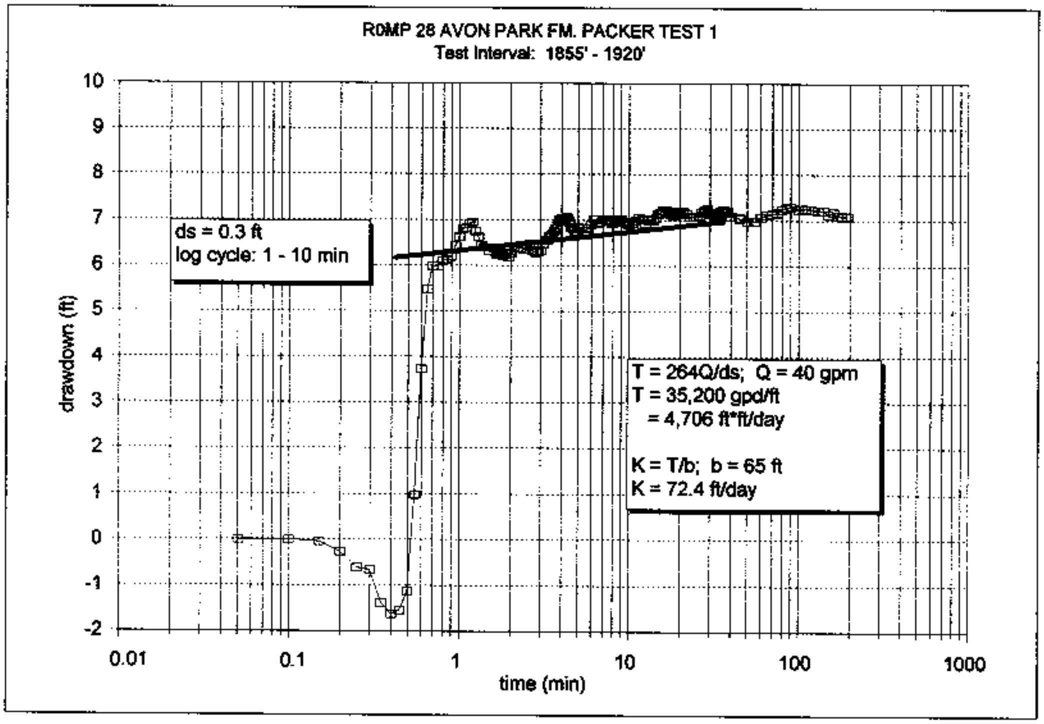
Rest diameter: 4.75 in.
Max. Inflation: 8.0 in.
Inflation pressure: 600 psi

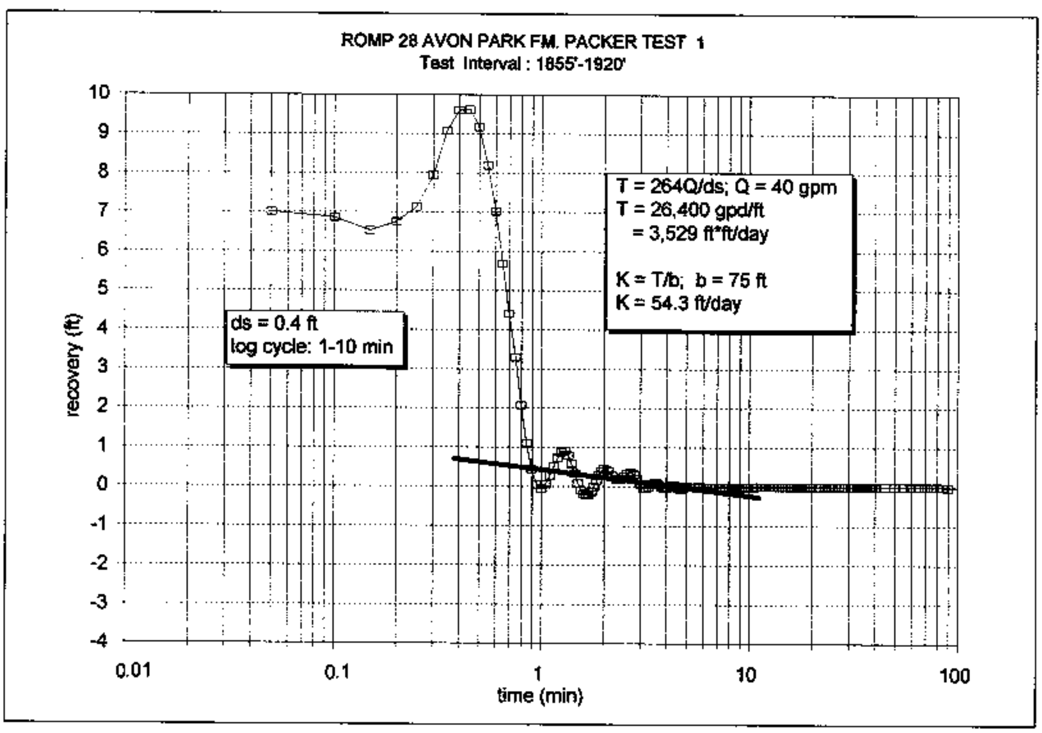
DRILL PIPE ASSEMBLY: 3 ½ I.F. tubing, 2.75 in. nominal I.D.

PUMPING APPARATUS: Airlift pumping using rig air compressor at constant rpm with air pressure delivered through 0.75 in. pvc blowline.

MEASURING APPARATUS: Drawdown and recovery test-zone water levels are measured in the test zone and annulus with electric pressure transducers inside the well casing and a 0.75 in. pvc tubing .

DISCHARGE MEASUREMENT: 5 gal. and 55 gal. timed-discharge volumes





ROMP 28 Kuhlman	Appendix E. Straight line calculations, Avon Park Fm. packer test no. 1.

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1**
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
12:11:00	0.507639	0.00	72.7	0	15.28
12:11:03	0.507674	0.05	72.7	0	15.29
12:11:06	0.507708	0.10	72.7	0	15.28
12:11:09	0.507743	0.15	72.8	-0.1	15.28
12:11:12	0.507778	0.20	73.3	-0.6	15.29
12:11:15	0.507813	0.25	74	-1.3	15.28
12:11:18	0.507847	0.30	73.5	-0.8	15.29
12:11:21	0.507882	0.35	76.2	-3.5	15.28
12:11:24	0.507917	0.40	75.2	-2.5	15.29
12:11:27	0.507951	0.45	73.9	-1.2	15.29
12:11:30	0.507986	0.50	72	0.7	15.28
12:11:33	0.508021	0.55	61.1	11.6	15.29
12:11:36	0.508056	0.60	53.9	18.8	15.28
12:11:39	0.50809	0.65	56.7	16	15.28
12:11:42	0.508125	0.70	63.4	9.3	15.28
12:11:45	0.50816	0.75	66.8	5.9	15.28
12:11:48	0.508194	0.80	68.2	4.5	15.29
12:11:51	0.508229	0.85	68.7	4	15.28
12:11:54	0.508264	0.90	68.1	4.6	15.28
12:11:57	0.508299	0.95	66.5	6.2	15.29
12:12:00	0.508333	1.00	66.3	6.4	15.29
12:12:03	0.508368	1.05	65.9	6.8	15.29
12:12:06	0.508403	1.10	66.7	6	15.29
12:12:09	0.508438	1.15	65.5	7.2	15.28
12:12:12	0.508472	1.20	65.2	7.5	15.28
12:12:15	0.508507	1.25	66.7	6	15.29
12:12:18	0.508542	1.30	65.6	7.1	15.28
12:12:21	0.508576	1.35	66.5	6.2	15.29
12:12:24	0.508611	1.40	66.1	6.6	15.28
12:12:27	0.508646	1.45	66.4	6.3	15.29
12:12:30	0.508681	1.50	67.3	5.4	15.29
12:12:33	0.508715	1.55	66	6.7	15.28
12:12:36	0.50875	1.60	66.7	6	15.28
12:12:39	0.508785	1.65	67.3	5.4	15.28
12:12:42	0.508819	1.70	66	6.7	15.28
12:12:45	0.508854	1.75	66.5	6.2	15.29
12:12:48	0.508889	1.80	66.8	5.9	15.28
12:12:51	0.508924	1.85	65.8	6.9	15.28
12:12:54	0.508958	1.90	66.5	6.2	15.29
12:12:57	0.508993	1.95	66.9	5.8	15.29
12:13:00	0.509028	2.00	65.8	6.9	15.28
12:13:06	0.509097	2.10	65.2	7.5	15.29
12:13:12	0.509167	2.20	66.6	6.1	15.28

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1**
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
12:13:18	0.509236	2.30	66.4	6.3	15.28
12:13:24	0.509306	2.40	66.7	6	15.28
12:13:30	0.509375	2.50	65.7	7	15.28
12:13:36	0.509444	2.60	66.1	6.6	15.28
12:13:42	0.509514	2.70	67.4	5.3	15.29
12:13:48	0.509583	2.80	66.8	5.9	15.29
12:13:54	0.509653	2.90	66.1	6.6	15.28
12:14:00	0.509722	3.00	66.2	6.5	15.28
12:14:06	0.509792	3.10	65.3	7.4	15.29
12:14:12	0.509861	3.20	65.7	7	15.29
12:14:18	0.509931	3.30	66	6.7	15.28
12:14:24	0.51	3.40	65.7	7	15.28
12:14:30	0.510069	3.50	65.9	6.8	15.28
12:14:36	0.510139	3.60	65.7	7	15.28
12:14:42	0.510208	3.70	65.7	7	15.28
12:14:48	0.510278	3.80	65.4	7.3	15.29
12:14:54	0.510347	3.90	65.2	7.5	15.28
12:15:00	0.510417	4.00	65.7	7	15.28
12:15:06	0.510486	4.10	66	6.7	15.29
12:15:12	0.510556	4.20	65.9	6.8	15.29
12:15:18	0.510625	4.30	65.2	7.5	15.29
12:15:24	0.510694	4.40	66	6.7	15.28
12:15:30	0.510764	4.50	66.3	6.4	15.28
12:15:36	0.510833	4.60	66.5	6.2	15.29
12:15:42	0.510903	4.70	65.9	6.8	15.29
12:15:48	0.510972	4.80	66.4	6.3	15.29
12:15:54	0.511042	4.90	66.1	6.6	15.28
12:16:00	0.511111	5.00	65.5	7.2	15.28
12:16:15	0.511285	5.25	65.3	7.4	15.29
12:16:30	0.511458	5.50	66.3	6.4	15.29
12:16:45	0.511632	5.75	65.4	7.3	15.29
12:17:00	0.511806	6.00	65.2	7.5	15.29
12:17:15	0.511979	6.25	64.9	7.8	15.29
12:17:30	0.512153	6.50	66.6	6.1	15.29
12:17:45	0.512326	6.75	65.6	7.1	15.29
12:18:00	0.5125	7.00	65.4	7.3	15.29
12:18:15	0.512674	7.25	65.7	7	15.29
12:18:30	0.512847	7.50	65.9	6.8	15.29
12:18:45	0.513021	7.75	65.7	7	15.29
12:19:00	0.513194	8.00	66.4	6.3	15.29
12:19:15	0.513368	8.25	65.6	7.1	15.29
12:19:30	0.513542	8.50	65.6	7.1	15.3
12:19:45	0.513715	8.75	65.5	7.2	15.29

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1**
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
12:20:00	0.513889	9.00	65.3	7.4	15.3
12:20:15	0.514063	9.25	66.3	6.4	15.3
12:20:30	0.514236	9.50	65.5	7.2	15.3
12:20:45	0.51441	9.75	65.9	6.8	15.3
12:21:00	0.514583	10.00	66.1	6.6	15.3
12:21:30	0.514931	10.50	65.6	7.1	15.3
12:22:00	0.515278	11.00	65.3	7.4	15.31
12:22:30	0.515625	11.50	65.2	7.5	15.31
12:23:00	0.515972	12.00	66	6.7	15.31
12:23:30	0.516319	12.50	66.4	6.3	15.32
12:24:00	0.516667	13.00	65.2	7.5	15.32
12:24:30	0.517014	13.50	65.6	7.1	15.32
12:25:00	0.517361	14.00	65.8	6.9	15.32
12:25:30	0.517708	14.50	65.3	7.4	15.32
12:26:00	0.518056	15.00	64.9	7.8	15.33
12:26:30	0.518403	15.50	65.4	7.3	15.33
12:27:00	0.51875	16.00	65.3	7.4	15.33
12:27:30	0.519097	16.50	65.6	7.1	15.33
12:28:00	0.519444	17.00	65.6	7.1	15.34
12:28:30	0.519792	17.50	66	6.7	15.34
12:29:00	0.520139	18.00	65.6	7.1	15.35
12:29:30	0.520486	18.50	65.8	6.9	15.35
12:30:00	0.520833	19.00	65	7.7	15.35
12:30:30	0.521181	19.50	65.6	7.1	15.35
12:31:00	0.521528	20.00	65.7	7	15.35
12:32:00	0.522222	21.00	65.3	7.4	15.35
12:33:00	0.522917	22.00	65.8	6.9	15.36
12:34:00	0.523611	23.00	66	6.7	15.36
12:35:00	0.524306	24.00	65.6	7.1	15.36
12:36:00	0.525	25.00	65.5	7.2	15.37
12:37:00	0.525694	26.00	65.4	7.3	15.38
12:38:00	0.526389	27.00	65	7.7	15.38
12:39:00	0.527083	28.00	65.3	7.4	15.39
12:40:00	0.527778	29.00	65.2	7.5	15.39
12:41:00	0.528472	30.00	66.4	6.3	15.4
12:42:00	0.529167	31.00	65.3	7.4	15.4
12:43:00	0.529861	32.00	66	6.7	15.41
12:44:00	0.530556	33.00	65.7	7	15.4
12:45:00	0.53125	34.00	65.3	7.4	15.41
12:46:00	0.531944	35.00	65.1	7.6	15.41
12:47:00	0.532639	36.00	65.2	7.5	15.42
12:48:00	0.533333	37.00	66	6.7	15.42
12:49:00	0.534028	38.00	65.3	7.4	15.42

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1**
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
12:50:00	0.534722	39.00	66.4	6.3	15.43
12:51:00	0.535417	40.00	65.5	7.2	15.43
12:56:00	0.538889	45.00	65.9	6.8	15.45
13:01:00	0.542361	50.00	66.1	6.6	15.47
13:06:00	0.545833	55.00	65.7	7	15.48
13:11:00	0.549306	60.00	64.9	7.8	15.5
13:16:00	0.552778	65.00	65.2	7.5	15.52
13:21:00	0.55625	70.00	65.5	7.2	15.53
13:26:00	0.559722	75.00	65.3	7.4	15.54
13:31:00	0.563194	80.00	65	7.7	15.55
13:36:00	0.566667	85.00	65.2	7.5	15.56
13:41:00	0.570139	90.00	65.3	7.4	15.58
13:51:00	0.577083	100.00	65.9	6.8	15.6
14:01:00	0.584028	110.00	65.5	7.2	15.62
14:11:00	0.590972	120.00	65.7	7	15.64
14:21:00	0.597917	130.00	65.7	7	15.65
14:31:00	0.604861	140.00	65.5	7.2	15.67
14:41:00	0.611806	150.00	66.2	6.5	15.69
14:51:00	0.61875	160.00	65.1	7.6	15.71
15:01:00	0.6257	170.01	66	6.7	15.72
15:11:00	0.63264	180.00	65.6	7.1	15.75
15:25:00	0.642361	194.00	65.5	7.2	15.78
				RECOVERY	
15:41:00	0.653472	0.00	65.5	-6.9	15.78
15:41:03	0.653507	0.05	65.4	-7	15.77
15:41:06	0.653542	0.10	65.6	-6.8	15.78
15:41:09	0.653576	0.15	66.2	-6.2	15.78
15:41:12	0.653611	0.20	65.3	-7.1	15.78
15:41:15	0.653646	0.25	64.5	-7.9	15.78
15:41:18	0.653681	0.30	62.4	-10	15.77
15:41:21	0.653715	0.35	59.9	-12.5	15.77
15:41:24	0.65375	0.40	61	-11.4	15.77
15:41:27	0.653785	0.45	62.7	-9.7	15.77
15:41:30	0.653819	0.50	65.2	-7.2	15.78
15:41:33	0.653854	0.55	69.1	-3.3	15.77
15:41:36	0.653889	0.60	71.9	-0.5	15.78
15:41:39	0.653924	0.65	74.6	2.2	15.78
15:41:42	0.653958	0.70	76.4	4	15.78
15:41:45	0.653993	0.75	76.9	4.5	15.78
15:41:48	0.654028	0.80	76.9	4.5	15.78
15:41:51	0.654063	0.85	75.7	3.3	15.78
15:41:54	0.654097	0.90	73.9	1.5	15.78
15:41:57	0.654132	0.95	72.2	-0.2	15.78

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1**
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

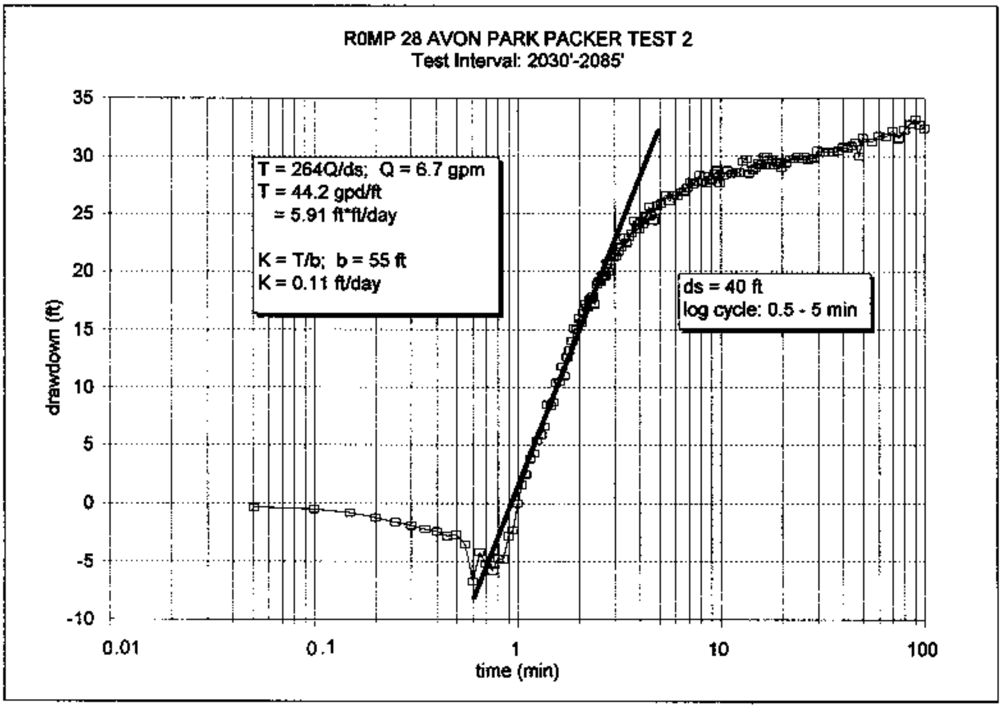
	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
15:42:00	0.654167	1.00	70.4	-2	15.78
15:42:03	0.654201	1.05	69	-3.4	15.78
15:42:06	0.654236	1.10	68.6	-3.8	15.78
15:42:09	0.654271	1.15	69.1	-3.3	15.78
15:42:12	0.654306	1.20	69.8	-2.6	15.78
15:42:15	0.65434	1.25	70.8	-1.6	15.78
15:42:18	0.654375	1.30	72.1	-0.3	15.78
15:42:21	0.65441	1.35	73.5	1.1	15.78
15:42:24	0.654444	1.40	74.4	2	15.78
15:42:27	0.654479	1.45	74.6	2.2	15.78
15:42:30	0.654514	1.50	74.4	2	15.78
15:42:33	0.654549	1.55	73.8	1.4	15.78
15:42:36	0.654583	1.60	72.9	0.5	15.78
15:42:39	0.654618	1.65	72.2	-0.2	15.78
15:42:42	0.654653	1.70	71.7	-0.7	15.78
15:42:45	0.654688	1.75	71.3	-1.1	15.78
15:42:48	0.654722	1.80	70.9	-1.5	15.78
15:42:51	0.654757	1.85	70.8	-1.6	15.78
15:42:54	0.654792	1.90	71	-1.4	15.78
15:42:57	0.654826	1.95	71.5	-0.9	15.78
15:43:00	0.654861	2.00	71.9	-0.5	15.78
15:43:06	0.654931	2.10	72.9	0.5	15.78
15:43:12	0.655	2.20	73.4	1	15.78
15:43:18	0.655069	2.30	73.2	0.8	15.78
15:43:24	0.655139	2.40	72.5	0.1	15.78
15:43:30	0.655208	2.50	71.8	-0.6	15.78
15:43:36	0.655278	2.60	71.5	-0.9	15.78
15:43:42	0.655347	2.70	71.7	-0.7	15.78
15:43:48	0.655417	2.80	72.3	-0.1	15.78
15:43:54	0.655486	2.90	72.8	0.4	15.78
15:44:00	0.655556	3.00	73.1	0.7	15.78
15:44:06	0.655625	3.10	72.8	0.4	15.78
15:44:12	0.655694	3.20	72.3	-0.1	15.78
15:44:18	0.655764	3.30	72	-0.4	15.78
15:44:24	0.655833	3.40	71.9	-0.5	15.78
15:44:30	0.655903	3.50	72.1	-0.3	15.78
15:44:36	0.655972	3.60	72.4	0	15.78
15:44:42	0.656042	3.70	72.8	0.4	15.78
15:44:48	0.656111	3.80	72.8	0.4	15.78
15:44:54	0.656181	3.90	72.6	0.2	15.78
15:45:00	0.65625	4.00	72.3	-0.1	15.78
15:45:06	0.656319	4.10	72.1	-0.3	15.78
15:45:12	0.656389	4.20	72.1	-0.3	15.78

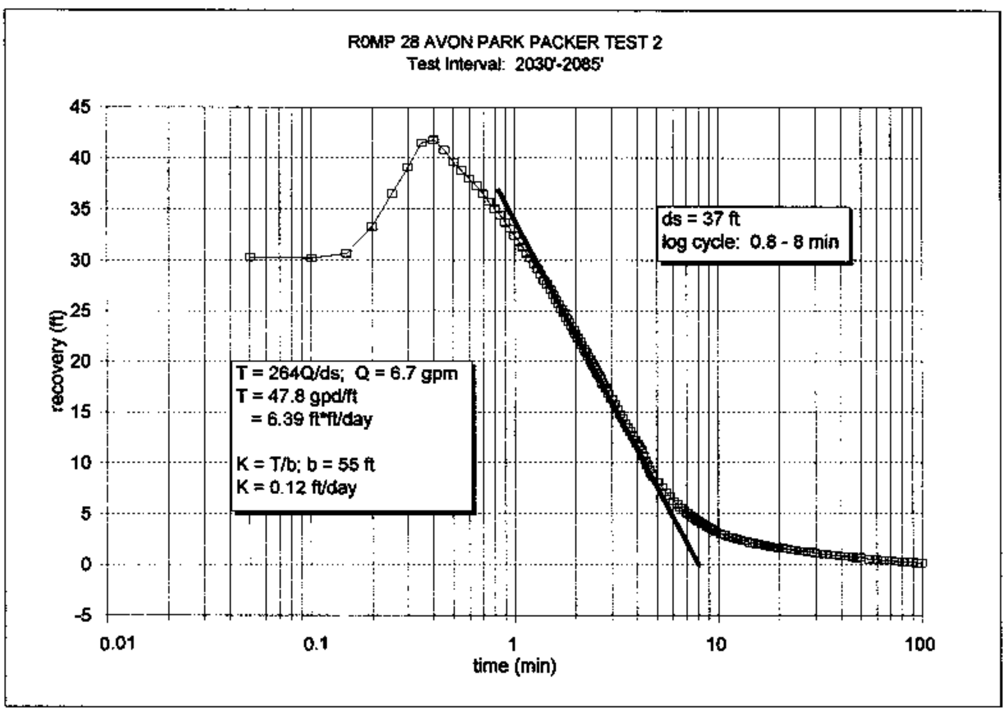
06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1**
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
15:45:18	0.656458	4.30	72.3	-0.1	15.78
15:45:24	0.656528	4.40	72.5	0.1	15.78
15:45:30	0.656597	4.50	72.7	0.3	15.78
15:45:36	0.656667	4.60	72.7	0.3	15.78
15:45:42	0.656736	4.70	72.5	0.1	15.78
15:45:48	0.656806	4.80	72.3	-0.1	15.78
15:45:54	0.656875	4.90	72.2	-0.2	15.78
15:46:00	0.656944	5.00	72.2	-0.2	15.78
15:46:15	0.657118	5.25	72.6	0.2	15.78
15:46:30	0.657292	5.50	72.4	0	15.78
15:46:45	0.657465	5.75	72.3	-0.1	15.78
15:47:00	0.657639	6.00	72.5	0.1	15.78
15:47:15	0.657812	6.25	72.5	0.1	15.78
15:47:30	0.657986	6.50	72.3	-0.1	15.78
15:47:45	0.65816	6.75	72.5	0.1	15.78
15:48:00	0.658333	7.00	72.5	0.1	15.78
15:48:15	0.658507	7.25	72.4	0	15.78
15:48:30	0.658681	7.50	72.4	0	15.78
15:48:45	0.658854	7.75	72.4	0	15.78
15:49:00	0.659028	8.00	72.4	0	15.78
15:49:15	0.659201	8.25	72.4	0	15.77
15:49:30	0.659375	8.50	72.4	0	15.78
15:49:45	0.659549	8.75	72.4	0	15.78
15:50:00	0.659722	9.00	72.4	0	15.78
15:50:15	0.659896	9.25	72.4	0	15.78
15:50:30	0.660069	9.50	72.4	0	15.78
15:50:45	0.660243	9.75	72.4	0	15.78
15:51:00	0.660417	10.00	72.4	0	15.78
15:51:30	0.660764	10.50	72.4	0	15.78
15:52:00	0.661111	11.00	72.4	0	15.78
15:52:30	0.661458	11.50	72.4	0	15.78
15:53:00	0.661806	12.00	72.4	0	15.78
15:53:30	0.662153	12.50	72.4	0	15.78
15:54:00	0.6625	13.00	72.4	0	15.78
15:54:30	0.662847	13.50	72.4	0	15.77
15:55:00	0.663194	14.00	72.4	0	15.78
15:55:30	0.663542	14.50	72.4	0	15.77
15:56:00	0.663889	15.00	72.4	0	15.77
15:56:30	0.664236	15.50	72.4	0	15.77
15:57:00	0.664583	16.00	72.4	0	15.77
15:57:30	0.664931	16.50	72.4	0	15.77
15:58:00	0.665278	17.00	72.4	0	15.77
15:58:30	0.665625	17.50	72.4	0	15.77

06/01/94: ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 1
TEST INTERVAL 1855'- 1920', Drawdown and Recovery Phases
DISCHARGE RATE Q = 40 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
15:59:00	0.665972	18.00	72.4	0	15.77
15:59:30	0.666319	18.50	72.4	0	15.77
16:00:00	0.666667	19.00	72.4	0	15.77
16:00:30	0.667014	19.50	72.4	0	15.77
16:01:00	0.667361	20.00	72.4	0	15.77
16:02:00	0.668056	21.00	72.4	0	15.77
16:03:00	0.66875	22.00	72.4	0	15.77
16:04:00	0.669444	23.00	72.4	0	15.77
16:05:00	0.670139	24.00	72.4	0	15.77
16:06:00	0.670833	25.00	72.4	0	15.77
16:07:00	0.671528	26.00	72.4	0	15.76
16:08:00	0.672222	27.00	72.4	0	15.76
16:09:00	0.672917	28.00	72.4	0	15.76
16:10:00	0.673611	29.00	72.4	0	15.76
16:11:00	0.674306	30.00	72.4	0	15.76
16:12:00	0.675	31.00	72.4	0	15.76
16:13:00	0.675694	32.00	72.4	0	15.76
16:14:00	0.676389	33.00	72.4	0	15.76
16:15:00	0.677083	34.00	72.4	0	15.76
16:16:00	0.677778	35.00	72.4	0	15.75
16:17:00	0.678472	36.00	72.4	0	15.75
16:18:00	0.679167	37.00	72.4	0	15.75
16:19:00	0.679861	38.00	72.4	0	15.75
16:20:00	0.680556	39.00	72.4	0	15.75
16:21:00	0.68125	40.00	72.4	0	15.75
16:26:00	0.684722	45.00	72.4	0	15.74
16:31:00	0.688194	50.00	72.4	0	15.74
16:36:00	0.691667	55.00	72.4	0	15.74
16:41:00	0.695139	60.00	72.4	0	15.74
16:46:00	0.698611	65.00	72.4	0	15.73
16:51:00	0.702083	70.00	72.4	0	15.73
16:56:00	0.705556	75.00	72.4	0	15.73
17:01:00	0.709028	80.00	72.4	0	15.73
17:06:00	0.7125	85.00	72.4	0	15.73
17:11:00	0.715972	90.00	72.5	0.1	15.73
17:21:00	0.722917	100.00	72.4	0	15.73





ROMP 28 Kuhlman	Appendix E. Straight line calculations, Avon Park Fm. packer test no. 2.

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:05:09	0.420243	0.00	170.5	0	24.19
10:05:12	0.420278	0.05	170.8	-0.3	24.19
10:05:15	0.420312	0.10	171	-0.5	24.19
10:05:18	0.420347	0.15	171.3	-0.8	24.19
10:05:21	0.420382	0.20	171.7	-1.2	24.19
10:05:24	0.420417	0.25	172.1	-1.6	24.19
10:05:27	0.420451	0.30	172.4	-1.9	24.19
10:05:30	0.420486	0.35	172.7	-2.2	24.19
10:05:33	0.420521	0.40	172.9	-2.4	24.19
10:05:36	0.420556	0.45	173.3	-2.8	24.19
10:05:39	0.42059	0.50	173.2	-2.7	24.19
10:05:42	0.420625	0.55	174	-3.5	24.2
10:05:45	0.42066	0.60	177.2	-6.7	24.19
10:05:48	0.420694	0.65	174.7	-4.2	24.19
10:05:51	0.420729	0.70	175.7	-5.2	24.19
10:05:54	0.420764	0.75	176.3	-5.8	24.19
10:05:57	0.420799	0.80	175.2	-4.7	24.19
10:06:00	0.420833	0.85	175.3	-4.8	24.19
10:06:03	0.420868	0.90	173.3	-2.8	24.19
10:06:06	0.420903	0.95	172.8	-2.3	24.19
10:06:09	0.420938	1.00	170.5	0	24.19
10:06:12	0.420972	1.05	168.9	1.6	24.19
10:06:15	0.421007	1.10	168	2.5	24.19
10:06:18	0.421042	1.15	166.7	3.8	24.19
10:06:21	0.421076	1.20	166.2	4.3	24.19
10:06:24	0.421111	1.25	165.1	5.4	24.19
10:06:27	0.421146	1.30	164.6	5.9	24.19
10:06:30	0.421181	1.35	163.9	6.6	24.19
10:06:33	0.421215	1.40	162	8.5	24.19
10:06:36	0.42125	1.45	162.1	8.4	24.19
10:06:39	0.421285	1.50	161.8	8.7	24.19
10:06:42	0.421319	1.55	160.1	10.4	24.19
10:06:45	0.421354	1.60	160	10.5	24.19
10:06:48	0.421389	1.65	158.7	11.8	24.19
10:06:51	0.421424	1.70	159.5	11	24.19
10:06:54	0.421458	1.75	157.9	12.6	24.19

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:06:57	0.421493	1.80	157.3	13.2	24.19
10:07:00	0.421528	1.85	156.5	14	24.19
10:07:03	0.421562	1.90	155.4	15.1	24.19
10:07:06	0.421597	1.95	155.5	15	24.19
10:07:09	0.421632	2.00	154.5	16	24.19
10:07:12	0.421667	2.05	154.9	15.6	24.19
10:07:15	0.421701	2.10	154.1	16.4	24.19
10:07:18	0.421736	2.15	153.3	17.2	24.19
10:07:21	0.421771	2.20	153.6	16.9	24.19
10:07:24	0.421806	2.25	152.9	17.6	24.19
10:07:27	0.42184	2.30	152.8	17.7	24.19
10:07:30	0.421875	2.35	152.6	17.9	24.19
10:07:33	0.42191	2.40	153.3	17.2	24.19
10:07:36	0.421944	2.45	151.6	18.9	24.19
10:07:39	0.421979	2.50	151.4	19.1	24.19
10:07:42	0.422014	2.55	151.4	19.1	24.19
10:07:45	0.422049	2.60	150.9	19.6	24.19
10:07:48	0.422083	2.65	150.9	19.6	24.19
10:07:51	0.422118	2.70	150.9	19.6	24.19
10:07:54	0.422153	2.75	149.8	20.7	24.19
10:07:57	0.422188	2.80	150.5	20	24.19
10:08:00	0.422222	2.85	150.2	20.3	24.19
10:08:06	0.422292	2.95	149.3	21.2	24.19
10:08:12	0.422361	3.05	149.2	21.3	24.19
10:08:18	0.422431	3.15	148.8	21.7	24.19
10:08:24	0.4225	3.25	148.4	22.1	24.19
10:08:30	0.422569	3.35	147.6	22.9	24.19
10:08:36	0.422639	3.45	148	22.5	24.19
10:08:42	0.422708	3.55	147.5	23	24.19
10:08:48	0.422778	3.65	147.2	23.3	24.19
10:08:54	0.422847	3.75	146.1	24.4	24.19
10:09:00	0.422917	3.85	146.8	23.7	24.19
10:09:06	0.422986	3.95	146.8	23.7	24.19
10:09:12	0.423056	4.05	146.1	24.4	24.19
10:09:18	0.423125	4.15	146.4	24.1	24.19
10:09:24	0.423194	4.25	145.7	24.8	24.19

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:09:30	0.423264	4.35	145.7	24.8	24.19
10:09:36	0.423333	4.45	144.9	25.6	24.19
10:09:42	0.423403	4.55	145.6	24.9	24.19
10:09:48	0.423472	4.65	146.1	24.4	24.19
10:09:54	0.423542	4.75	145.3	25.2	24.19
10:10:00	0.423611	4.85	144.8	25.7	24.19
10:10:15	0.423785	5.10	144.6	25.9	24.19
10:10:30	0.423958	5.35	143.8	26.7	24.19
10:10:45	0.424132	5.60	144.4	26.1	24.19
10:11:00	0.424306	5.85	143.8	26.7	24.18
10:11:15	0.424479	6.10	143.9	26.6	24.18
10:11:30	0.424653	6.35	143.6	26.9	24.18
10:11:45	0.424826	6.60	143.5	27	24.18
10:12:00	0.425	6.85	143.2	27.3	24.19
10:12:15	0.425174	7.10	142.7	27.8	24.19
10:12:30	0.425347	7.35	142.9	27.6	24.19
10:12:45	0.425521	7.60	142.7	27.8	24.19
10:13:00	0.425694	7.85	142.1	28.4	24.18
10:13:15	0.425868	8.10	142.7	27.8	24.18
10:13:30	0.426042	8.35	142.2	28.3	24.19
10:13:45	0.426215	8.60	142.8	27.7	24.19
10:14:00	0.426389	8.85	142.6	27.9	24.19
10:14:15	0.426562	9.10	142.5	28	24.19
10:14:30	0.426736	9.35	142	28.5	24.18
10:14:45	0.42691	9.60	141.7	28.8	24.19
10:15:00	0.427083	9.85	142.8	27.7	24.18
10:15:30	0.427431	10.35	142.2	28.3	24.18
10:16:00	0.427778	10.85	141.7	28.8	24.18
10:16:30	0.428125	11.35	142	28.5	24.18
10:17:00	0.428472	11.85	141.9	28.6	24.18
10:17:30	0.428819	12.35	141.9	28.6	24.18
10:18:00	0.429167	12.85	140.9	29.6	24.18
10:18:30	0.429514	13.35	140.7	29.8	24.18
10:19:00	0.429861	13.85	142	28.5	24.18
10:19:30	0.430208	14.35	141.7	28.8	24.18
10:20:00	0.430556	14.85	141.5	29	24.18

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:20:30	0.430903	15.35	141.1	29.4	24.18
10:21:00	0.43125	15.85	141.2	29.3	24.18
10:21:30	0.431597	16.35	140.5	30	24.18
10:22:00	0.431944	16.85	140.5	30	24.18
10:22:30	0.432292	17.35	141.3	29.2	24.18
10:23:00	0.432639	17.85	140.8	29.7	24.18
10:23:30	0.432986	18.35	141.3	29.2	24.18
10:24:00	0.433333	18.85	141	29.5	24.18
10:24:30	0.433681	19.35	141	29.5	24.18
10:25:00	0.434028	19.85	141.5	29	24.18
10:26:00	0.434722	20.85	141.1	29.4	24.18
10:27:00	0.435417	21.85	140.7	29.8	24.19
10:28:00	0.436111	22.85	140.7	29.8	24.18
10:29:00	0.436806	23.85	140.5	30	24.19
10:30:00	0.4375	24.85	140.7	29.8	24.19
10:31:00	0.438194	25.85	140.5	30	24.19
10:32:00	0.438889	26.85	140.8	29.7	24.19
10:33:00	0.439583	27.85	140.7	29.8	24.19
10:34:00	0.440278	28.85	140.6	29.9	24.19
10:35:00	0.440972	29.85	140	30.5	24.19
10:37:00	0.442361	31.85	140.1	30.4	24.19
10:39:00	0.44375	33.85	140.1	30.4	24.18
10:41:00	0.445139	35.85	140.1	30.4	24.19
10:43:00	0.446528	37.85	140	30.5	24.19
10:45:00	0.447917	39.85	139.7	30.8	24.19
10:47:00	0.449306	41.85	139.8	30.7	24.19
10:49:00	0.450694	43.85	139.6	30.9	24.19
10:51:00	0.452083	45.85	139.3	31.2	24.19
10:53:00	0.453472	47.85	140.5	30	24.19
10:55:00	0.454861	49.85	138.9	31.6	24.19
11:00:00	0.458333	54.85	139.3	31.2	24.19
11:05:00	0.461806	59.85	138.7	31.8	24.2
11:10:00	0.465278	64.85	138.8	31.7	24.2
11:15:00	0.46875	69.85	138.3	32.2	24.2
11:20:00	0.472222	74.85	139	31.5	24.21
11:25:00	0.475694	79.85	138.2	32.3	24.21

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
11:30:00	0.479167	84.85	137.7	32.8	24.21
11:35:00	0.482639	89.85	137.3	33.2	24.22
11:40:00	0.486111	94.85	137.8	32.7	24.23
11:45:00	0.489583	99.85	138.1	32.4	24.23
11:55:00	0.496528	109.85	137.3	33.2	24.24
12:05:00	0.503472	119.85	138.2	32.3	24.25
12:15:00	0.510417	129.85	137.3	33.2	24.25
12:25:00	0.517361	139.85	137.5	33	24.26
12:35:00	0.524306	149.85	137.3	33.2	24.27
12:45:00	0.53125	159.85	138.1	32.4	24.28
12:55:00	0.538194	169.85	137.2	33.3	24.29
13:05:00	0.545139	179.85	137.5	33	24.29
13:15:00	0.552083	189.85	137.8	32.7	24.31
13:40:00	0.569444	214.85	137.8	32.7	24.32
13:40:03	0.569479	214.90	138.5	32	24.32
13:40:06	0.569514	214.95	137.5	33	24.32
13:40:09	0.569549	215.00	138.1	32.4	24.32
				RECOVERY	
13:40:12	0.569583	0.00	137.5	-29.8	24.32
13:40:15	0.569618	0.05	137	-30.3	24.32
13:40:18	0.569653	0.10	137.1	-30.2	24.32
13:40:21	0.569687	0.15	136.6	-30.7	24.32
13:40:24	0.569722	0.20	134	-33.3	24.32
13:40:27	0.569757	0.25	130.8	-36.5	24.32
13:40:30	0.569792	0.30	128.2	-39.1	24.32
13:40:33	0.569826	0.35	125.8	-41.5	24.32
13:40:36	0.569861	0.40	125.5	-41.8	24.32
13:40:39	0.569896	0.45	126.5	-40.8	24.32
13:40:42	0.569931	0.50	127.7	-39.6	24.32
13:40:45	0.569965	0.55	128.5	-38.8	24.32
13:40:48	0.57	0.60	129.3	-38	24.32
13:40:51	0.570035	0.65	130	-37.3	24.32
13:40:54	0.570069	0.70	130.8	-36.5	24.32
13:40:57	0.570104	0.75	131.6	-35.7	24.32
13:41:00	0.570139	0.80	132.3	-35	24.32
13:41:03	0.570174	0.85	132.9	-34.4	24.32

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
13:41:06	0.570208	0.90	133.6	-33.7	24.32
13:41:09	0.570243	0.95	134.2	-33.1	24.32
13:41:12	0.570278	1.00	134.9	-32.4	24.32
13:41:15	0.570313	1.05	135.5	-31.8	24.32
13:41:18	0.570347	1.10	136	-31.3	24.32
13:41:21	0.570382	1.15	136.6	-30.7	24.32
13:41:24	0.570417	1.20	137.1	-30.2	24.32
13:41:27	0.570451	1.25	137.7	-29.6	24.32
13:41:30	0.570486	1.30	138.2	-29.1	24.32
13:41:33	0.570521	1.35	138.7	-28.6	24.32
13:41:36	0.570556	1.40	139.3	-28	24.32
13:41:39	0.57059	1.45	139.7	-27.6	24.32
13:41:42	0.570625	1.50	140.2	-27.1	24.32
13:41:45	0.57066	1.55	140.7	-26.6	24.32
13:41:48	0.570694	1.60	141.2	-26.1	24.32
13:41:51	0.570729	1.65	141.6	-25.7	24.32
13:41:54	0.570764	1.70	142.1	-25.2	24.32
13:41:57	0.570799	1.75	142.5	-24.8	24.32
13:42:00	0.570833	1.80	143	-24.3	24.32
13:42:03	0.570868	1.85	143.4	-23.9	24.32
13:42:06	0.570903	1.90	143.8	-23.5	24.32
13:42:09	0.570938	1.95	144.2	-23.1	24.32
13:42:12	0.570972	2.00	144.6	-22.7	24.32
13:42:15	0.571007	2.05	145	-22.3	24.32
13:42:18	0.571042	2.10	145.3	-22	24.32
13:42:21	0.571076	2.15	145.7	-21.6	24.32
13:42:24	0.571111	2.20	146.1	-21.2	24.32
13:42:27	0.571146	2.25	146.4	-20.9	24.32
13:42:30	0.571181	2.30	146.8	-20.5	24.32
13:42:33	0.571215	2.35	147.1	-20.2	24.32
13:42:36	0.57125	2.40	147.5	-19.8	24.32
13:42:39	0.571285	2.45	147.8	-19.5	24.32
13:42:42	0.571319	2.50	148.1	-19.2	24.32
13:42:45	0.571354	2.55	148.4	-18.9	24.32
13:42:48	0.571389	2.60	148.7	-18.6	24.32
13:42:51	0.571424	2.65	149	-18.3	24.32

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
13:42:54	0.571458	2.70	149.4	-17.9	24.32
13:42:57	0.571493	2.75	149.6	-17.7	24.32
13:43:00	0.571528	2.80	149.9	-17.4	24.32
13:43:06	0.571597	2.90	150.5	-16.8	24.32
13:43:12	0.571667	3.00	151	-16.3	24.32
13:43:18	0.571736	3.10	151.5	-15.8	24.32
13:43:24	0.571806	3.20	152	-15.3	24.32
13:43:30	0.571875	3.30	152.5	-14.8	24.32
13:43:36	0.571944	3.40	152.9	-14.4	24.32
13:43:42	0.572014	3.50	153.4	-13.9	24.33
13:43:48	0.572083	3.60	153.8	-13.5	24.33
13:43:54	0.572153	3.70	154.2	-13.1	24.33
13:44:00	0.572222	3.80	154.6	-12.7	24.33
13:44:06	0.572292	3.90	155	-12.3	24.33
13:44:12	0.572361	4.00	155.4	-11.9	24.33
13:44:18	0.572431	4.10	155.7	-11.6	24.33
13:44:24	0.5725	4.20	156	-11.3	24.32
13:44:30	0.572569	4.30	156.6	-10.7	24.33
13:44:36	0.572639	4.40	157.1	-10.2	24.33
13:44:42	0.572708	4.50	157.5	-9.8	24.33
13:44:48	0.572778	4.60	158	-9.3	24.33
13:44:54	0.572847	4.70	158.4	-8.9	24.33
13:45:00	0.572917	4.80	158.6	-8.7	24.33
13:45:15	0.57309	5.05	159.2	-8.1	24.33
13:45:30	0.573264	5.30	159.7	-7.6	24.33
13:45:45	0.573438	5.55	160.2	-7.1	24.33
13:46:00	0.573611	5.80	160.6	-6.7	24.32
13:46:15	0.573785	6.05	161.1	-6.2	24.33
13:46:30	0.573958	6.30	161.4	-5.9	24.33
13:46:45	0.574132	6.55	161.7	-5.6	24.33
13:47:00	0.574306	6.80	162	-5.3	24.33
13:47:15	0.574479	7.05	162.3	-5	24.33
13:47:30	0.574653	7.30	162.5	-4.8	24.33
13:47:45	0.574826	7.55	162.7	-4.6	24.33
13:48:00	0.575	7.80	162.9	-4.4	24.33
13:48:15	0.575174	8.05	163.1	-4.2	24.33

06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

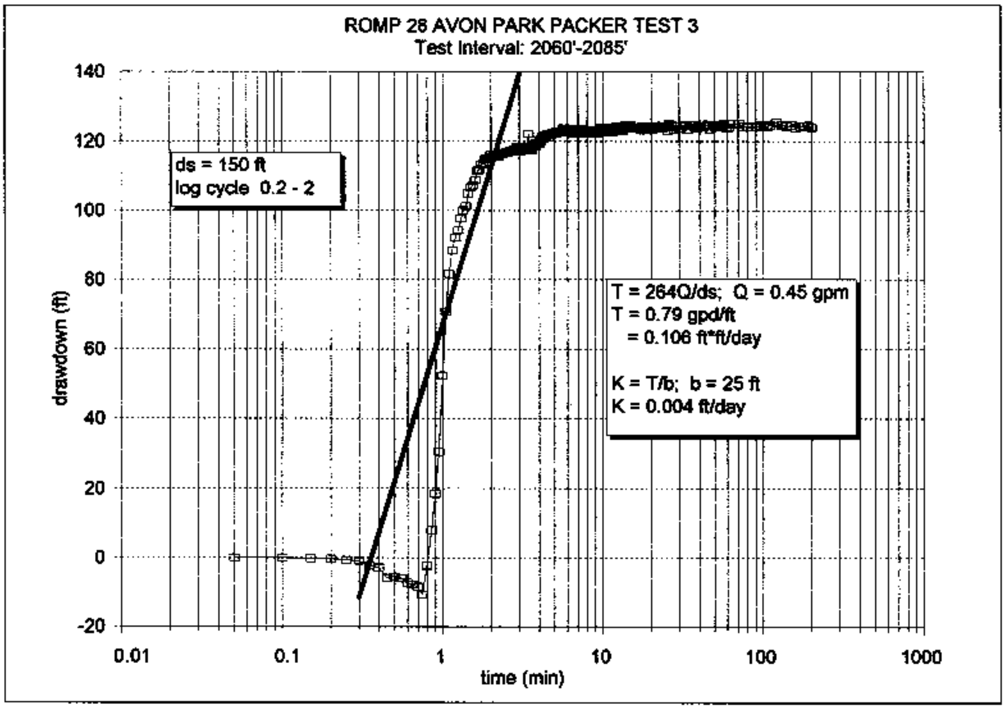
	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
13:48:30	0.575347	8.30	163.3	-4	24.33
13:48:45	0.575521	8.55	163.4	-3.9	24.33
13:49:00	0.575694	8.80	163.6	-3.7	24.33
13:49:15	0.575868	9.05	163.7	-3.6	24.33
13:49:30	0.576042	9.30	163.8	-3.5	24.33
13:49:45	0.576215	9.55	163.9	-3.4	24.33
13:50:00	0.576389	9.80	164.1	-3.2	24.33
13:50:30	0.576736	10.30	164.3	-3	24.34
13:51:00	0.577083	10.80	164.4	-2.9	24.34
13:51:30	0.577431	11.30	164.6	-2.7	24.34
13:52:00	0.577778	11.80	164.7	-2.6	24.34
13:52:30	0.578125	12.30	164.8	-2.5	24.34
13:53:00	0.578472	12.80	164.9	-2.4	24.34
13:53:30	0.578819	13.30	165	-2.3	24.34
13:54:00	0.579167	13.80	165	-2.3	24.34
13:54:30	0.579514	14.30	165.2	-2.1	24.34
13:55:00	0.579861	14.80	165.2	-2.1	24.34
13:55:30	0.580208	15.30	165.3	-2	24.34
13:56:00	0.580556	15.80	165.3	-2	24.34
13:56:30	0.580903	16.30	165.4	-1.9	24.34
13:57:00	0.58125	16.80	165.4	-1.9	24.34
13:57:30	0.581597	17.30	165.5	-1.8	24.34
13:58:00	0.581944	17.80	165.5	-1.8	24.34
13:58:30	0.582292	18.30	165.6	-1.7	24.34
13:59:00	0.582639	18.80	165.6	-1.7	24.34
13:59:30	0.582986	19.30	165.6	-1.7	24.34
14:00:00	0.583333	19.80	165.7	-1.6	24.34
14:01:00	0.584028	20.80	165.7	-1.6	24.34
14:02:00	0.584722	21.80	165.8	-1.5	24.34
14:03:00	0.585417	22.80	165.9	-1.4	24.34
14:04:00	0.586111	23.80	165.9	-1.4	24.34
14:05:00	0.586806	24.80	166	-1.3	24.34
14:06:00	0.5875	25.80	166	-1.3	24.34
14:07:00	0.588194	26.80	166	-1.3	24.34
14:08:00	0.588889	27.80	166.1	-1.2	24.35
14:09:00	0.589583	28.80	166.1	-1.2	24.34

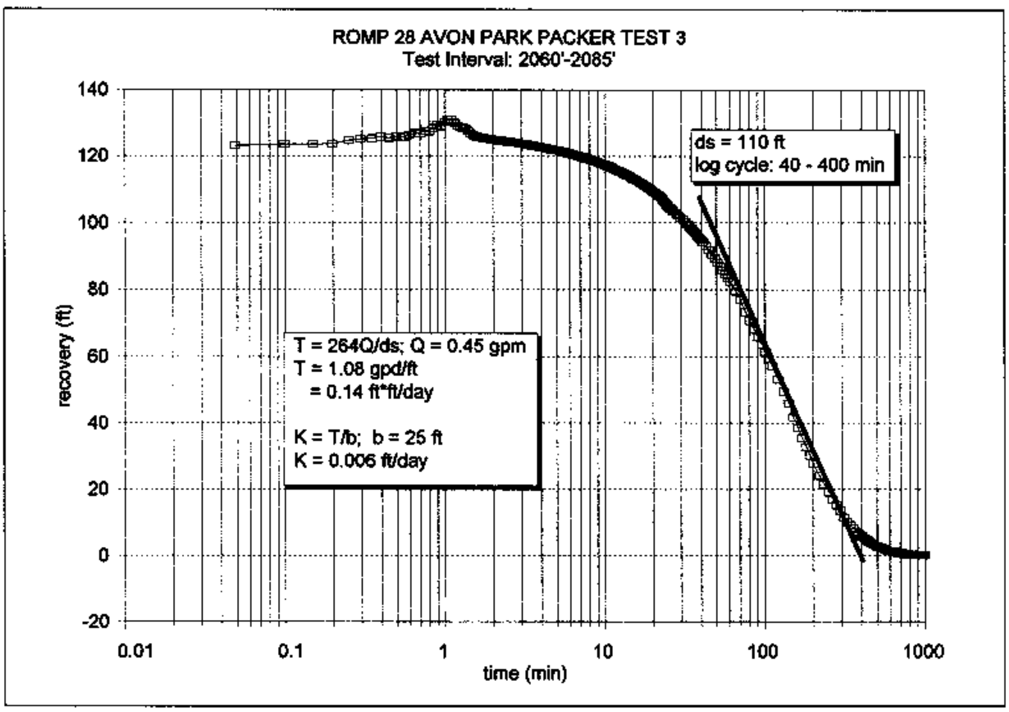
06/21/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 2**

TEST INTERVAL 2030'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 6.7 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:10:00	0.590278	29.80	166.2	-1.1	24.34
14:12:00	0.591667	31.80	166.3	-1	24.34
14:14:00	0.593056	33.80	166.3	-1	24.34
14:16:00	0.594444	35.80	166.4	-0.9	24.34
14:18:00	0.595833	37.80	166.4	-0.9	24.34
14:20:00	0.597222	39.80	166.5	-0.8	24.34
14:22:00	0.598611	41.80	166.5	-0.8	24.35
14:24:00	0.6	43.80	166.5	-0.8	24.35
14:26:00	0.601389	45.80	166.6	-0.7	24.35
14:28:00	0.602778	47.80	166.7	-0.6	24.35
14:30:00	0.604167	49.80	166.6	-0.7	24.35
14:35:00	0.607639	54.80	166.8	-0.5	24.35
14:40:00	0.611111	59.80	166.8	-0.5	24.36
14:45:00	0.614583	64.80	166.9	-0.4	24.36
14:50:00	0.618056	69.80	166.9	-0.4	24.36
14:55:00	0.621528	74.80	167	-0.3	24.37
15:00:00	0.625	79.80	167.1	-0.2	24.36
15:05:00	0.628472	84.80	167.1	-0.2	24.36
15:10:00	0.631944	89.80	167.1	-0.2	24.36
15:15:00	0.635417	94.80	167.2	-0.1	24.37
15:20:00	0.638889	99.80	167.2	-0.1	24.37
15:30:00	0.645833	109.80	167.2	-0.1	24.37
15:40:00	0.65278	119.80	167.3	0	24.38


ROMP 28 AVON PARK PACKER TEST 3
Test Interval: 2060'-2085'
drawdown (ft)
time (min)
ds = 150 ft
log cycle 0.2 - 2
T = 264Q/ds; Q = 0.45 gpm
T = 0.79 gpd/ft
= 0.106 ft*ft/day
K = T/b; b = 25 ft
K = 0.004 ft/day


ROMP 28 AVON PARK PACKER TEST 3
Test Interval: 2060'-2085'
recovery (ft)
time (min)
ds = 110 ft
log cycle: 40 - 400 min
T = 264Q/ds; Q = 0.45 gpm
T = 1.08 gpd/ft
= 0.14 ft*ft/day
K = T/b; b = 25 ft
K = 0.006 ft/day

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:35:00	0.440972	0.00	169.5	0	24.44
10:35:03	0.441007	0.05	169.5	0	24.44
10:35:06	0.441042	0.10	169.5	0	24.44
10:35:09	0.441076	0.15	169.7	-0.2	24.44
10:35:12	0.441111	0.20	169.8	-0.3	24.44
10:35:15	0.441146	0.25	170.2	-0.7	24.44
10:35:18	0.441181	0.30	170.4	-0.9	24.45
10:35:21	0.441215	0.35	171.7	-2.2	24.43
10:35:24	0.44125	0.40	172.4	-2.9	24.43
10:35:27	0.441285	0.45	175.3	-5.8	24.44
10:35:30	0.441319	0.50	174.9	-5.4	24.44
10:35:33	0.441354	0.55	175.4	-5.9	24.45
10:35:36	0.441389	0.60	176.7	-7.2	24.44
10:35:39	0.441424	0.65	177.3	-7.8	24.44
10:35:42	0.441458	0.70	177.9	-8.4	24.44
10:35:45	0.441493	0.75	180.1	-10.6	24.44
10:35:48	0.441528	0.80	171.7	-2.2	24.44
10:35:51	0.441563	0.85	161.5	8	24.44
10:35:54	0.441597	0.90	151	18.5	24.44
10:35:57	0.441632	0.95	139	30.5	24.43
10:36:00	0.441667	1.00	117.1	52.4	24.44
10:36:03	0.441701	1.05	98.7	70.8	24.43
10:36:06	0.441736	1.10	87.8	81.7	24.42
10:36:09	0.441771	1.15	81.1	88.4	24.42
10:36:12	0.441806	1.20	77.4	92.1	24.42
10:36:15	0.44184	1.25	75.1	94.4	24.42
10:36:18	0.441875	1.30	71.7	97.8	24.41
10:36:21	0.44191	1.35	69.3	100.2	24.41
10:36:24	0.441944	1.40	68	101.5	24.41
10:36:27	0.441979	1.45	64.4	105.1	24.41
10:36:30	0.442014	1.50	62.7	106.8	24.41
10:36:33	0.442049	1.55	62.1	107.4	24.41
10:36:36	0.442083	1.60	60.6	108.9	24.41
10:36:39	0.442118	1.65	58	111.5	24.41
10:36:42	0.442153	1.70	57.6	111.9	24.41
10:36:45	0.442187	1.75	56.1	113.4	24.41

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:36:48	0.442222	1.80	56	113.5	24.41
10:36:51	0.442257	1.85	54.6	114.9	24.41
10:36:54	0.442292	1.90	54.6	114.9	24.41
10:36:57	0.442326	1.95	54.4	115.1	24.41
10:37:00	0.442361	2.00	53.4	116.1	24.42
10:37:03	0.442396	2.05	54	115.5	24.41
10:37:06	0.442431	2.10	53.6	115.9	24.41
10:37:09	0.442465	2.15	53.7	115.8	24.41
10:37:12	0.4425	2.20	53.5	116	24.42
10:37:15	0.442535	2.25	53.9	115.6	24.41
10:37:18	0.442569	2.30	53.2	116.3	24.41
10:37:21	0.442604	2.35	52.8	116.7	24.42
10:37:24	0.442639	2.40	53.1	116.4	24.41
10:37:27	0.442674	2.45	52.8	116.7	24.41
10:37:30	0.442708	2.50	52.7	116.8	24.41
10:37:33	0.442743	2.55	52.8	116.7	24.41
10:37:36	0.442778	2.60	52.4	117.1	24.41
10:37:39	0.442813	2.65	52.4	117.1	24.41
10:37:42	0.442847	2.70	52.4	117.1	24.41
10:37:45	0.442882	2.75	52.2	117.3	24.41
10:37:48	0.442917	2.80	51.7	117.8	24.4
10:37:51	0.442951	2.85	52.1	117.4	24.41
10:37:54	0.442986	2.90	51.1	118.4	24.41
10:37:57	0.443021	2.95	51.4	118.1	24.4
10:38:00	0.443056	3.00	52.2	117.3	24.41
10:38:03	0.44309	3.05	52.1	117.4	24.41
10:38:06	0.443125	3.10	52.2	117.3	24.41
10:38:09	0.44316	3.15	52	117.5	24.41
10:38:12	0.443194	3.20	51.7	117.8	24.41
10:38:15	0.443229	3.25	51.6	117.9	24.41
10:38:18	0.443264	3.30	51.2	118.3	24.41
10:38:21	0.443299	3.35	50.9	118.6	24.41
10:38:24	0.443333	3.40	51.2	118.3	24.41
10:38:27	0.443368	3.45	47.3	122.2	24.41
10:38:30	0.443403	3.50	51.5	118	24.41
10:38:33	0.443437	3.55	51.4	118.1	24.41

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:38:36	0.443472	3.60	51.8	117.7	24.41
10:38:39	0.443507	3.65	50.6	118.9	24.41
10:38:42	0.443542	3.70	50.5	119	24.4
10:38:45	0.443576	3.75	50.4	119.1	24.41
10:38:48	0.443611	3.80	50.9	118.6	24.41
10:38:51	0.443646	3.85	49.9	119.6	24.42
10:38:54	0.443681	3.90	50.2	119.3	24.41
10:38:57	0.443715	3.95	49.9	119.6	24.41
10:39:00	0.44375	4.00	50.1	119.4	24.41
10:39:03	0.443785	4.05	49	120.5	24.41
10:39:06	0.443819	4.10	49.4	120.1	24.41
10:39:09	0.443854	4.15	48.7	120.8	24.41
10:39:12	0.443889	4.20	48.3	121.2	24.41
10:39:15	0.443924	4.25	47.7	121.8	24.41
10:39:18	0.443958	4.30	48.5	121	24.41
10:39:21	0.443993	4.35	48.2	121.3	24.41
10:39:24	0.444028	4.40	47.9	121.6	24.41
10:39:27	0.444063	4.45	47.7	121.8	24.41
10:39:30	0.444097	4.50	47.8	121.7	24.41
10:39:33	0.444132	4.55	47.3	122.2	24.41
10:39:36	0.444167	4.60	47.5	122	24.41
10:39:39	0.444201	4.65	48.3	121.2	24.41
10:39:42	0.444236	4.70	47.2	122.3	24.41
10:39:45	0.444271	4.75	47.4	122.1	24.41
10:39:48	0.444306	4.80	47.4	122.1	24.41
10:39:51	0.44434	4.85	47.1	122.4	24.41
10:39:54	0.444375	4.90	47	122.5	24.41
10:39:57	0.44441	4.95	47.2	122.3	24.41
10:40:00	0.444444	5.00	46.8	122.7	24.41
10:40:06	0.444514	5.10	46.9	122.6	24.41
10:40:12	0.444583	5.20	47.1	122.4	24.41
10:40:18	0.444653	5.30	46.9	122.6	24.41
10:40:24	0.444722	5.40	46.7	122.8	24.41
10:40:30	0.444792	5.50	46.7	122.8	24.41
10:40:36	0.444861	5.60	46.7	122.8	24.41
10:40:42	0.444931	5.70	45.7	123.8	24.41

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:40:48	0.445	5.80	46	123.5	24.42
10:40:54	0.445069	5.90	45.7	123.8	24.43
10:41:00	0.445139	6.00	46	123.5	24.66
10:41:06	0.445208	6.10	46.1	123.4	24.66
10:41:12	0.445278	6.20	46	123.5	24.65
10:41:18	0.445347	6.30	46.9	122.6	24.41
10:41:24	0.445417	6.40	46.6	122.9	24.42
10:41:30	0.445486	6.50	47.3	122.2	24.42
10:41:36	0.445556	6.60	46.4	123.1	24.43
10:41:42	0.445625	6.70	46.7	122.8	24.41
10:41:48	0.445694	6.80	46	123.5	24.42
10:41:54	0.445764	6.90	46.2	123.3	24.42
10:42:00	0.445833	7.00	46.1	123.4	24.65
10:42:06	0.445903	7.10	46	123.5	24.68
10:42:12	0.445972	7.20	45.8	123.7	24.41
10:42:18	0.446042	7.30	46	123.5	24.42
10:42:24	0.446111	7.40	46.3	123.2	24.45
10:42:30	0.446181	7.50	46.9	122.6	24.46
10:42:36	0.44625	7.60	47	122.5	24.46
10:42:42	0.446319	7.70	46.7	122.8	24.48
10:42:48	0.446389	7.80	46.7	122.8	24.49
10:42:54	0.446458	7.90	47.2	122.3	24.47
10:43:00	0.446528	8.00	46.8	122.7	24.48
10:43:06	0.446597	8.10	46.8	122.7	24.49
10:43:12	0.446667	8.20	46.9	122.6	24.48
10:43:18	0.446736	8.30	46.6	122.9	24.5
10:43:24	0.446806	8.40	46.2	123.3	24.49
10:43:30	0.446875	8.50	46.9	122.6	24.41
10:43:36	0.446944	8.60	46.6	122.9	24.4
10:43:42	0.447014	8.70	46.7	122.8	24.4
10:43:48	0.447083	8.80	46.7	122.8	24.41
10:43:54	0.447153	8.90	47.1	122.4	24.4
10:44:00	0.447222	9.00	46.8	122.7	24.4
10:44:06	0.447292	9.10	47.1	122.4	24.41
10:44:12	0.447361	9.20	47.2	122.3	24.42
10:44:18	0.447431	9.30	46.8	122.7	24.41

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:44:24	0.4475	9.40	46.2	123.3	24.4
10:44:30	0.447569	9.50	46.2	123.3	24.41
10:44:36	0.447639	9.60	45.6	123.9	24.41
10:44:42	0.447708	9.70	46	123.5	24.41
10:44:48	0.447778	9.80	45.9	123.6	24.41
10:44:54	0.447847	9.90	45.7	123.8	24.41
10:45:00	0.447917	10.00	46	123.5	24.41
10:45:06	0.447986	10.10	46.2	123.3	24.41
10:45:12	0.448056	10.20	46.5	123	24.4
10:45:18	0.448125	10.30	46.8	122.7	24.41
10:45:24	0.448194	10.40	46.6	122.9	24.42
10:45:30	0.448264	10.50	46.1	123.4	24.42
10:45:36	0.448333	10.60	46.2	123.3	24.46
10:45:42	0.448403	10.70	45.7	123.8	24.47
10:45:48	0.448472	10.80	45.7	123.8	24.68
10:45:54	0.448542	10.90	45.6	123.9	24.4
10:46:00	0.448611	11.00	46	123.5	24.41
10:46:15	0.448785	11.25	46.6	122.9	24.48
10:46:30	0.448958	11.50	46.7	122.8	24.49
10:46:45	0.449132	11.75	46.7	122.8	24.49
10:47:00	0.449306	12.00	45.5	124	24.41
10:47:15	0.449479	12.25	45.3	124.2	24.57
10:47:30	0.449653	12.50	46.1	123.4	24.4
10:47:45	0.449826	12.75	45.9	123.6	24.56
10:48:00	0.45	13.00	46.1	123.4	24.42
10:48:15	0.450174	13.25	46.5	123	24.4
10:48:30	0.450347	13.50	45.2	124.3	24.4
10:48:45	0.450521	13.75	44.9	124.6	24.4
10:49:00	0.450694	14.00	45.6	123.9	24.4
10:49:15	0.450868	14.25	45.2	124.3	24.4
10:49:30	0.451042	14.50	45.6	123.9	24.4
10:49:45	0.451215	14.75	44.8	124.7	24.41
10:50:00	0.451389	15.00	44.8	124.7	24.39
10:50:15	0.451562	15.25	45.7	123.8	24.4
10:50:30	0.451736	15.50	45.7	123.8	24.4
10:50:45	0.45191	15.75	45.4	124.1	24.39

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
10:51:00	0.452083	16.00	45.5	124	24.4
10:51:30	0.452431	16.50	45.8	123.7	24.4
10:52:00	0.452778	17.00	45.6	123.9	24.4
10:52:30	0.453125	17.50	46.2	123.3	24.4
10:53:00	0.453472	18.00	45.2	124.3	24.4
10:53:30	0.453819	18.50	45.3	124.2	24.4
10:54:00	0.454167	19.00	45.8	123.7	24.4
10:54:30	0.454514	19.50	45.6	123.9	24.4
10:55:00	0.454861	20.00	46	123.5	24.4
10:55:30	0.455208	20.50	46.1	123.4	24.4
10:56:00	0.455556	21.00	45.4	124.1	24.4
10:56:30	0.455903	21.50	45.6	123.9	24.4
10:57:00	0.45625	22.00	45.1	124.4	24.4
10:57:30	0.456597	22.50	45.3	124.2	24.4
10:58:00	0.456944	23.00	45.6	123.9	24.4
10:58:30	0.457292	23.50	45	124.5	24.4
10:59:00	0.457639	24.00	45.7	123.8	24.4
10:59:30	0.457986	24.50	45.3	124.2	24.4
11:00:00	0.458333	25.00	45.3	124.2	24.4
11:00:30	0.458681	25.50	46.3	123.2	24.4
11:01:00	0.459028	26.00	44.5	125	24.4
11:02:00	0.459722	27.00	44.7	124.8	24.4
11:03:00	0.460417	28.00	46.1	123.4	24.41
11:04:00	0.461111	29.00	45.1	124.4	24.4
11:05:00	0.461806	30.00	45.8	123.7	24.41
11:06:00	0.4625	31.00	45.8	123.7	24.4
11:07:00	0.463194	32.00	44.9	124.6	24.4
11:08:00	0.463889	33.00	45.1	124.4	24.4
11:09:00	0.464583	34.00	46.1	123.4	24.4
11:10:00	0.465278	35.00	44.9	124.6	24.4
11:11:00	0.465972	36.00	44.7	124.8	24.4
11:12:00	0.466667	37.00	44.8	124.7	24.4
11:13:00	0.467361	38.00	45.6	123.9	24.4
11:14:00	0.468056	39.00	45.7	123.8	24.4
11:15:00	0.46875	40.00	45.2	124.3	24.4
11:16:00	0.469444	41.00	45.3	124.2	24.4

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
11:18:00	0.470833	43.00	45.1	124.4	24.4
11:20:00	0.472222	45.00	44.6	124.9	24.4
11:22:00	0.473611	47.00	45.9	123.6	24.4
11:24:00	0.475	49.00	44.9	124.6	24.4
11:26:00	0.476389	51.00	45.4	124.1	24.4
11:28:00	0.477778	53.00	45.3	124.2	24.4
11:30:00	0.479167	55.00	45.2	124.3	24.4
11:32:00	0.480556	57.00	44.5	125	24.67
11:34:00	0.481944	59.00	45.6	123.9	24.7
11:36:00	0.483333	61.00	45.5	124	24.41
11:41:00	0.486806	66.00	44.4	125.1	24.41
11:46:00	0.490278	71.00	44.4	125.1	24.41
11:51:00	0.49375	76.00	45.2	124.3	24.92
11:56:00	0.497222	81.00	45.4	124.1	24.43
12:01:00	0.500694	86.00	45.4	124.1	24.45
12:06:00	0.504167	91.00	45.3	124.2	24.43
12:11:00	0.507639	96.00	44.9	124.6	24.56
12:16:00	0.511111	101.00	44.6	124.9	24.63
12:21:00	0.514583	106.00	45.3	124.2	24.48
12:26:00	0.518056	111.00	44.8	124.7	24.48
12:36:00	0.525	121.00	44	125.5	24.45
12:46:00	0.531944	131.00	44.7	124.8	24.45
12:56:00	0.538889	141.00	45.2	124.3	24.63
13:06:00	0.545833	151.00	44.8	124.7	24.57
13:16:00	0.552778	161.00	45.6	123.9	24.45
13:26:00	0.559722	171.00	45.1	124.4	24.45
13:36:00	0.566667	181.00	45.1	124.4	24.45
13:46:00	0.573611	191.00	44.9	124.6	24.46
13:56:00	0.580556	201.00	45.5	124	24.46
				RECOVERY	
14:05:00	0.586806	0.00	45.7	-124.1	24.47
14:05:03	0.58684	0.05	46.6	-123.2	24.47
14:05:06	0.586875	0.10	46.1	-123.7	24.47
14:05:09	0.58691	0.15	46.1	-123.7	24.46
14:05:12	0.586944	0.20	46	-123.8	24.47
14:05:15	0.586979	0.25	44.9	-124.9	24.47

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:05:18	0.587014	0.30	44.5	-125.3	24.47
14:05:21	0.587049	0.35	44.3	-125.5	24.47
14:05:24	0.587083	0.40	43.9	-125.9	24.47
14:05:27	0.587118	0.45	44.2	-125.6	24.47
14:05:30	0.587153	0.50	43.8	-126	24.47
14:05:33	0.587188	0.55	43.9	-125.9	24.47
14:05:36	0.587222	0.60	43.4	-126.4	24.47
14:05:39	0.587257	0.65	42.8	-127	24.47
14:05:42	0.587292	0.70	42.8	-127	24.47
14:05:45	0.587326	0.75	42.1	-127.7	24.47
14:05:48	0.587361	0.80	42.2	-127.6	24.47
14:05:51	0.587396	0.85	41.3	-128.5	24.47
14:05:54	0.587431	0.90	40.3	-129.5	24.47
14:05:57	0.587465	0.95	40.7	-129.1	24.46
14:06:00	0.5875	1.00	39.4	-130.4	24.47
14:06:03	0.587535	1.05	38.8	-131	24.47
14:06:06	0.587569	1.10	38.6	-131.2	24.47
14:06:09	0.587604	1.15	39.6	-130.2	24.48
14:06:12	0.587639	1.20	40.6	-129.2	24.47
14:06:15	0.587674	1.25	40.9	-128.9	24.47
14:06:18	0.587708	1.30	41.1	-128.7	24.47
14:06:21	0.587743	1.35	41.4	-128.4	24.47
14:06:24	0.587778	1.40	42	-127.8	24.47
14:06:27	0.587812	1.45	42.8	-127	24.47
14:06:30	0.587847	1.50	43.2	-126.6	24.47
14:06:33	0.587882	1.55	43.6	-126.2	24.47
14:06:36	0.587917	1.60	43.9	-125.9	24.47
14:06:39	0.587951	1.65	44	-125.8	24.47
14:06:42	0.587986	1.70	44.1	-125.7	24.47
14:06:45	0.588021	1.75	44.2	-125.6	24.47
14:06:48	0.588056	1.80	44.3	-125.5	24.47
14:06:51	0.58809	1.85	44.4	-125.4	24.47
14:06:54	0.588125	1.90	44.5	-125.3	24.47
14:06:57	0.58816	1.95	44.6	-125.2	24.48
14:07:00	0.588194	2.00	44.7	-125.1	24.47
14:07:03	0.588229	2.05	44.7	-125.1	24.47

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:07:06	0.588264	2.10	44.8	-125	24.47
14:07:09	0.588299	2.15	44.9	-124.9	24.47
14:07:12	0.588333	2.20	45	-124.8	24.47
14:07:15	0.588368	2.25	45	-124.8	24.47
14:07:18	0.588403	2.30	45.1	-124.7	24.48
14:07:21	0.588437	2.35	45.2	-124.6	24.47
14:07:24	0.588472	2.40	45.2	-124.6	24.48
14:07:27	0.588507	2.45	45.3	-124.5	24.47
14:07:30	0.588542	2.50	45.3	-124.5	24.47
14:07:33	0.588576	2.55	45.4	-124.4	24.47
14:07:36	0.588611	2.60	45.4	-124.4	24.47
14:07:39	0.588646	2.65	45.6	-124.2	24.47
14:07:42	0.588681	2.70	45.6	-124.2	24.47
14:07:45	0.588715	2.75	45.7	-124.1	24.48
14:07:48	0.58875	2.80	45.7	-124.1	24.47
14:07:51	0.588785	2.85	45.8	-124	24.47
14:07:54	0.588819	2.90	45.8	-124	24.47
14:07:57	0.588854	2.95	45.9	-123.9	24.47
14:08:00	0.588889	3.00	46	-123.8	24.47
14:08:03	0.588924	3.05	46	-123.8	24.47
14:08:06	0.588958	3.10	46	-123.8	24.47
14:08:09	0.588993	3.15	46.1	-123.7	24.47
14:08:12	0.589028	3.20	46.1	-123.7	24.47
14:08:15	0.589063	3.25	46.2	-123.6	24.47
14:08:18	0.589097	3.30	46.2	-123.6	24.47
14:08:21	0.589132	3.35	46.3	-123.5	24.47
14:08:24	0.589167	3.40	46.4	-123.4	24.47
14:08:27	0.589201	3.45	46.4	-123.4	24.47
14:08:30	0.589236	3.50	46.5	-123.3	24.48
14:08:33	0.589271	3.55	46.5	-123.3	24.48
14:08:36	0.589306	3.60	46.6	-123.2	24.48
14:08:39	0.58934	3.65	46.7	-123.1	24.48
14:08:42	0.589375	3.70	46.7	-123.1	24.48
14:08:45	0.58941	3.75	46.8	-123	24.48
14:08:48	0.589444	3.80	46.8	-123	24.48
14:08:51	0.589479	3.85	46.9	-122.9	24.48

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:08:54	0.589514	3.90	46.9	-122.9	24.48
14:08:57	0.589549	3.95	46.9	-122.9	24.48
14:09:00	0.589583	4.00	47	-122.8	24.48
14:09:03	0.589618	4.05	47.1	-122.7	24.47
14:09:06	0.589653	4.10	47.1	-122.7	24.48
14:09:09	0.589688	4.15	47.1	-122.7	24.47
14:09:12	0.589722	4.20	47.2	-122.6	24.47
14:09:15	0.589757	4.25	47.2	-122.6	24.47
14:09:18	0.589792	4.30	47.3	-122.5	24.47
14:09:21	0.589826	4.35	47.3	-122.5	24.47
14:09:24	0.589861	4.40	47.4	-122.4	24.48
14:09:27	0.589896	4.45	47.5	-122.3	24.48
14:09:30	0.589931	4.50	47.5	-122.3	24.48
14:09:33	0.589965	4.55	47.5	-122.3	24.48
14:09:36	0.59	4.60	47.6	-122.2	24.48
14:09:39	0.590035	4.65	47.6	-122.2	24.48
14:09:42	0.590069	4.70	47.7	-122.1	24.48
14:09:45	0.590104	4.75	47.7	-122.1	24.48
14:09:48	0.590139	4.80	47.8	-122	24.48
14:09:51	0.590174	4.85	47.8	-122	24.48
14:09:54	0.590208	4.90	47.9	-121.9	24.48
14:09:57	0.590243	4.95	47.9	-121.9	24.48
14:10:00	0.590278	5.00	48	-121.8	24.48
14:10:06	0.590347	5.10	48	-121.8	24.48
14:10:12	0.590417	5.20	48.2	-121.6	24.48
14:10:18	0.590486	5.30	48.3	-121.5	24.48
14:10:24	0.590556	5.40	48.4	-121.4	24.49
14:10:30	0.590625	5.50	48.4	-121.4	24.49
14:10:36	0.590694	5.60	48.6	-121.2	24.48
14:10:42	0.590764	5.70	48.6	-121.2	24.48
14:10:48	0.590833	5.80	48.7	-121.1	24.49
14:10:54	0.590903	5.90	48.8	-121	24.48
14:11:00	0.590972	6.00	48.9	-120.9	24.49
14:11:06	0.591042	6.10	49	-120.8	24.49
14:11:12	0.591111	6.20	49.1	-120.7	24.49
14:11:18	0.591181	6.30	49.2	-120.6	24.49

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:11:24	0.59125	6.40	49.2	-120.6	24.49
14:11:30	0.591319	6.50	49.4	-120.4	24.48
14:11:36	0.591389	6.60	49.4	-120.4	24.49
14:11:42	0.591458	6.70	49.5	-120.3	24.48
14:11:48	0.591528	6.80	49.6	-120.2	24.49
14:11:54	0.591597	6.90	49.7	-120.1	24.49
14:12:00	0.591667	7.00	49.8	-120	24.49
14:12:06	0.591736	7.10	49.9	-119.9	24.49
14:12:12	0.591806	7.20	49.9	-119.9	24.49
14:12:18	0.591875	7.30	50.1	-119.7	24.49
14:12:24	0.591944	7.40	50.2	-119.6	24.49
14:12:30	0.592014	7.50	50.2	-119.6	24.49
14:12:36	0.592083	7.60	50.3	-119.5	24.49
14:12:42	0.592153	7.70	50.4	-119.4	24.49
14:12:48	0.592222	7.80	50.5	-119.3	24.49
14:12:54	0.592292	7.90	50.6	-119.2	24.49
14:13:00	0.592361	8.00	50.6	-119.2	24.49
14:13:06	0.592431	8.10	50.7	-119.1	24.5
14:13:12	0.5925	8.20	50.9	-118.9	24.5
14:13:18	0.592569	8.30	50.9	-118.9	24.49
14:13:24	0.592639	8.40	51	-118.8	24.5
14:13:30	0.592708	8.50	51.1	-118.7	24.5
14:13:36	0.592778	8.60	51.2	-118.6	24.5
14:13:42	0.592847	8.70	51.3	-118.5	24.51
14:13:48	0.592917	8.80	51.3	-118.5	24.51
14:13:54	0.592986	8.90	51.4	-118.4	24.51
14:14:00	0.593056	9.00	51.5	-118.3	24.51
14:14:06	0.593125	9.10	51.6	-118.2	24.51
14:14:12	0.593194	9.20	51.7	-118.1	24.51
14:14:18	0.593264	9.30	51.8	-118	24.51
14:14:24	0.593333	9.40	51.8	-118	24.5
14:14:30	0.593403	9.50	52	-117.8	24.51
14:14:36	0.593472	9.60	52	-117.8	24.51
14:14:42	0.593542	9.70	52.1	-117.7	24.5
14:14:48	0.593611	9.80	52.2	-117.6	24.51
14:14:54	0.593681	9.90	52.2	-117.6	24.51

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:15:00	0.59375	10.00	52.4	-117.4	24.51
14:15:06	0.593819	10.10	52.4	-117.4	24.51
14:15:12	0.593889	10.20	52.5	-117.3	24.51
14:15:18	0.593958	10.30	52.6	-117.2	24.51
14:15:24	0.594028	10.40	52.7	-117.1	24.51
14:15:30	0.594097	10.50	52.8	-117	24.51
14:15:36	0.594167	10.60	52.8	-117	24.51
14:15:42	0.594236	10.70	52.9	-116.9	24.51
14:15:48	0.594306	10.80	53	-116.8	24.51
14:15:54	0.594375	10.90	53.1	-116.7	24.5
14:16:00	0.594444	11.00	53.2	-116.6	24.5
14:16:15	0.594618	11.25	53.4	-116.4	24.5
14:16:30	0.594792	11.50	53.6	-116.2	24.5
14:16:45	0.594965	11.75	53.8	-116	24.5
14:17:00	0.595139	12.00	54	-115.8	24.51
14:17:15	0.595312	12.25	54.2	-115.6	24.52
14:17:30	0.595486	12.50	54.4	-115.4	24.52
14:17:45	0.59566	12.75	54.6	-115.2	24.52
14:18:00	0.595833	13.00	54.8	-115	24.51
14:18:15	0.596007	13.25	55	-114.8	24.52
14:18:30	0.596181	13.50	55.2	-114.6	24.51
14:18:45	0.596354	13.75	55.4	-114.4	24.52
14:19:00	0.596528	14.00	55.6	-114.2	24.51
14:19:15	0.596701	14.25	55.8	-114	24.51
14:19:30	0.596875	14.50	56	-113.8	24.51
14:19:45	0.597049	14.75	56.2	-113.6	24.51
14:20:00	0.597222	15.00	56.4	-113.4	24.52
14:20:15	0.597396	15.25	56.6	-113.2	24.52
14:20:30	0.597569	15.50	56.7	-113.1	24.52
14:20:45	0.597743	15.75	57	-112.8	24.53
14:21:00	0.597917	16.00	57.1	-112.7	24.66
14:21:30	0.598264	16.50	57.6	-112.2	24.52
14:22:00	0.598611	17.00	57.9	-111.9	24.51
14:22:30	0.598958	17.50	58.3	-111.5	24.52
14:23:00	0.599306	18.00	58.7	-111.1	24.53
14:23:30	0.599653	18.50	59.1	-110.7	24.54

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
14:24:00	0.6	19.00	59.5	-110.3	24.53
14:24:30	0.600347	19.50	59.8	-110	24.54
14:25:00	0.600694	20.00	60.2	-109.6	24.54
14:25:30	0.601042	20.50	60.6	-109.2	24.53
14:26:00	0.601389	21.00	61	-108.8	24.56
14:26:30	0.601736	21.50	61.4	-108.4	24.57
14:27:00	0.602083	22.00	61.7	-108.1	24.57
14:27:30	0.602431	22.50	62.1	-107.7	24.57
14:28:00	0.602778	23.00	62.7	-107.1	24.57
14:28:30	0.603125	23.50	63.3	-106.5	24.57
14:29:00	0.603472	24.00	63.8	-106	24.57
14:29:30	0.603819	24.50	64.4	-105.4	24.57
14:30:00	0.604167	25.00	64.9	-104.9	24.57
14:30:30	0.604514	25.50	65.2	-104.6	24.57
14:31:00	0.604861	26.00	65.6	-104.2	24.57
14:32:00	0.605556	27.00	66.2	-103.6	24.57
14:33:00	0.60625	28.00	66.9	-102.9	24.57
14:34:00	0.606944	29.00	67.5	-102.3	24.57
14:35:00	0.607639	30.00	68.2	-101.6	24.57
14:36:00	0.608333	31.00	68.7	-101.1	24.57
14:37:00	0.609028	32.00	69.4	-100.4	24.57
14:38:00	0.609722	33.00	70.1	-99.7	24.58
14:39:00	0.610417	34.00	70.8	-99	24.57
14:40:00	0.611111	35.00	71.5	-98.3	24.58
14:41:00	0.611806	36.00	72.1	-97.7	24.58
14:42:00	0.6125	37.00	72.8	-97	24.58
14:43:00	0.613194	38.00	73.4	-96.4	24.58
14:44:00	0.613889	39.00	74.1	-95.7	24.59
14:45:00	0.614583	40.00	74.7	-95.1	24.6
14:46:00	0.615278	41.00	75.4	-94.4	24.58
14:48:00	0.616667	43.00	76.6	-93.2	24.6
14:50:00	0.618056	45.00	77.9	-91.9	24.62
14:52:00	0.619444	47.00	79.2	-90.6	24.6
14:54:00	0.620833	49.00	80.4	-89.4	24.59
14:56:00	0.622222	51.00	81.6	-88.2	24.6
14:58:00	0.623611	53.00	82.8	-87	24.6

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
15:00:00	0.625	55.00	84	-85.8	24.61
15:02:00	0.626389	57.00	85.1	-84.7	24.6
15:04:00	0.627778	59.00	86.3	-83.5	24.62
15:06:00	0.629167	61.00	87.4	-82.4	24.62
15:11:00	0.632639	66.00	90.2	-79.6	24.62
15:16:00	0.636111	71.00	92.9	-76.9	24.62
15:21:00	0.639583	76.00	96.5	-73.3	24.63
15:26:00	0.643056	81.00	99.1	-70.7	24.91
15:31:00	0.646528	86.00	101.6	-68.2	25.01
15:36:00	0.65	91.00	103.9	-65.9	24.66
15:41:00	0.653472	96.00	106.2	-63.6	24.66
15:46:00	0.656944	101.00	108.4	-61.4	24.7
15:51:00	0.660417	106.00	110.5	-59.3	24.63
15:56:00	0.663889	111.00	112.6	-57.2	24.64
16:06:00	0.670833	121.00	116.6	-53.2	24.64
16:16:00	0.677778	131.00	120.3	-49.5	24.68
16:26:00	0.684722	141.00	123.8	-46	24.75
16:36:00	0.691667	151.00	128	-41.8	24.57
16:46:00	0.698611	161.00	131.2	-38.6	24.58
16:56:00	0.705556	171.00	134.2	-35.6	24.59
17:06:00	0.7125	181.00	137	-32.8	24.6
17:16:00	0.719444	191.00	139.5	-30.3	24.6
17:26:00	0.726389	201.00	141.9	-27.9	24.61
17:45:00	0.739583	220.00	145.7	-24.1	24.61
18:00:00	0.75	235.00	148.3	-21.5	24.62
18:15:00	0.760417	250.00	150.7	-19.1	24.63
18:30:00	0.770833	265.00	152.8	-17	24.64
18:45:00	0.78125	280.00	154.6	-15.2	24.64
19:00:00	0.791667	295.00	156.3	-13.5	24.64
19:15:00	0.802083	310.00	158.4	-11.4	24.64
19:30:00	0.8125	325.00	159.6	-10.2	24.64
19:45:00	0.822917	340.00	160.7	-9.1	24.64
20:00:00	0.833333	355.00	161.6	-8.2	24.63
20:15:00	0.84375	370.00	162.6	-7.2	24.63
20:30:00	0.854167	385.00	163.3	-6.5	24.62
20:45:00	0.864583	400.00	164	-5.8	24.61

06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

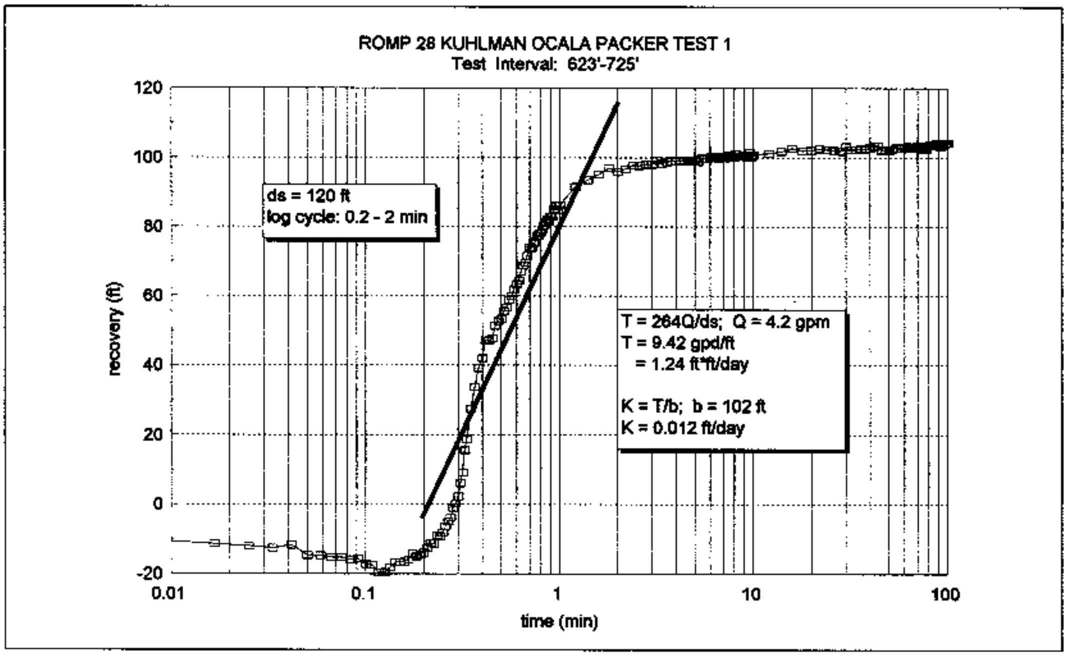
	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
21:00:00	0.875	415.00	164.6	-5.2	24.61
21:15:00	0.885417	430.00	165.2	-4.6	24.6
21:30:00	0.895833	445.00	165.6	-4.2	24.59
21:45:00	0.90625	460.00	166.1	-3.7	24.58
22:00:00	0.916667	475.00	166.4	-3.4	24.59
22:15:00	0.927083	490.00	166.8	-3	24.59
22:30:00	0.9375	505.00	167.1	-2.7	24.59
22:45:00	0.947917	520.00	167.3	-2.5	24.6
23:00:00	0.958333	535.00	167.5	-2.3	24.59
23:15:00	0.96875	550.00	167.8	-2	24.59
23:30:00	0.979167	565.00	168.1	-1.7	24.59
23:45:00	0.98958	579.99	168.3	-1.5	24.6
00:00:00	1	595.00	168.4	-1.4	24.6
00:15:00	1.010417	610.00	168.5	-1.3	24.6
00:30:00	1.020833	625.00	168.6	-1.2	24.61
00:45:00	1.03125	640.00	168.7	-1.1	24.61
01:00:00	1.041667	655.00	168.8	-1	24.62
01:15:00	1.052083	670.00	168.9	-0.9	24.62
01:30:00	1.0625	685.00	169	-0.8	24.63
01:45:00	1.072917	700.00	169	-0.8	24.63
02:00:00	1.083333	715.00	169.1	-0.7	24.64
02:15:00	1.09375	730.00	169.1	-0.7	24.64
02:30:00	1.104167	745.00	169.2	-0.6	24.65
02:45:00	1.114583	760.00	169.3	-0.5	24.66
03:00:00	1.125	775.00	169.3	-0.5	24.67
03:15:00	1.135417	790.00	169.4	-0.4	24.68
03:30:00	1.145833	805.00	169.4	-0.4	24.69
03:45:00	1.15625	820.00	169.4	-0.4	24.7
04:00:00	1.166667	835.00	169.4	-0.4	24.7
04:15:00	1.177083	850.00	169.5	-0.3	24.7
04:30:00	1.1875	865.00	169.5	-0.3	24.71
04:45:00	1.197917	880.00	169.5	-0.3	24.71
05:00:00	1.208333	895.00	169.6	-0.2	24.72
05:15:00	1.21875	910.00	169.6	-0.2	24.72
05:30:00	1.229167	925.00	169.7	-0.1	24.73
05:45:00	1.239583	940.00	169.7	-0.1	24.73

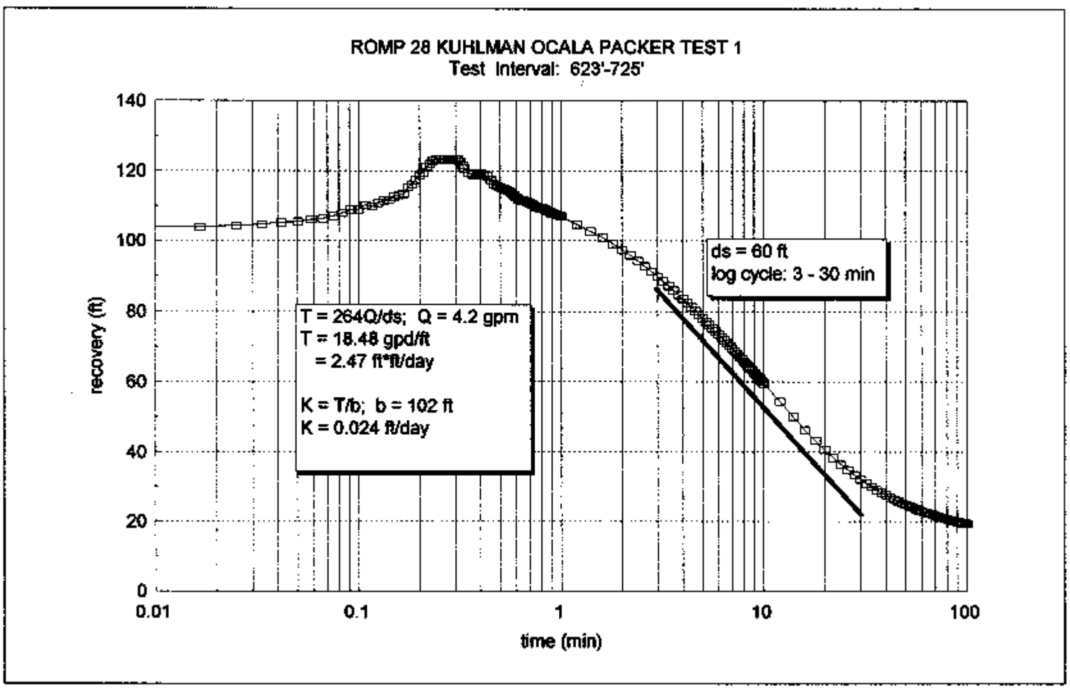
06/01/94: **ROMP 28 Kuhlman Avon Park Fm. Packer Test No. 3**

TEST INTERVAL 2060'- 2085', Drawdown and Recovery Phases

DISCHARGE RATE Q = 0.45 gpm

	TIME		TEST ZONE		ANNULUS
CLOCK	GENERAL	ELAPSED	CH-1	ZERO REF.	CH-2
06:00:00	1.25	955.00	169.7	-0.1	24.73
06:15:00	1.260417	970.00	169.7	-0.1	24.74
06:30:00	1.270833	985.00	169.7	-0.1	24.74
06:45:00	1.28125	1000.00	169.7	-0.1	24.74
07:00:00	1.291667	1015.00	169.7	-0.1	24.74
07:15:00	1.302083	1030.00	169.8	0	24.73
07:30:00	1.3125	1045.00	169.8	0	24.71
07:45:00	1.322917	1060.00	169.8	0	24.71
08:00:00	1.333333	1075.00	169.8	0	24.7
08:15:00	1.34375	1090.00	169.8	0	24.7
08:30:00	1.35417	1105.00	169.8	0	24.7


ROMP 28 KUHLMAN OCALA PACKER TEST 1
Test Interval: 623'-725'
ds = 120 ft
log cycle: 0.2 - 2 min
T = 264Q/ds; Q = 4.2 gpm
T = 9.42 gpd/ft
= 1.24 ft*ft/day
K = T/b; b = 102 ft
K = 0.012 ft/day
recovery (ft)
time (min)


ROMP 28 KUHLMAN OCALA PACKER TEST 1
Test Interval: 623'-725'
ds = 60 ft
log cycle: 3 - 30 min
T = 264Q/ds; Q = 4.2 gpm
T = 18.48 gpd/ft
= 2.47 ft*ft/day
K = T/b; b = 102 ft
K = 0.024 ft/day
recovery (ft)
time (min)

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
09:20:19 Test No. 1; 623 ft. - 725 ft. Drawdown Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED TIME (min)	DRAWDOWN DATA (ft) TEST ZONE INPUT 1	TEST ZONE CORRECTED	ANNULUS INPUT 2	ANNULUS ZERO REF.
0	-10.583	-7.663	-22.578	0
0.0083	-13.346	-10.426	-22.609	-0.031
0.0166	-14.288	-11.368	-22.609	-0.031
0.025	-14.916	-11.996	-22.578	0
0.0333	-15.482	-12.562	-22.609	-0.031
0.0416	-14.571	-11.651	-22.578	0
0.05	-17.46	-14.54	-22.609	-0.031
0.0583	-17.586	-14.666	-22.578	0
0.0666	-18.088	-15.168	-22.578	0
0.075	-18.025	-15.105	-22.609	-0.031
0.0833	-18.716	-15.796	-22.64	-0.062
0.0916	-18.528	-15.608	-22.609	-0.031
0.1	-20.067	-17.147	-22.609	-0.031
0.1083	-20.412	-17.492	-22.578	0
0.1166	-22.516	-19.596	-22.578	0
0.125	-22.391	-19.471	-22.609	-0.031
0.1333	-21.072	-18.152	-22.609	-0.031
0.1416	-19.596	-16.676	-22.609	-0.031
0.15	-19.407	-16.487	-22.578	0
0.1583	-19.376	-16.456	-22.609	-0.031
0.1666	-18.779	-15.859	-22.578	0
0.175	-17.02	-14.1	-22.578	0
0.1833	-17.743	-14.823	-22.609	-0.031
0.1916	-17.334	-14.414	-22.578	0
0.2	-16.769	-13.849	-22.578	0
0.2083	-15.356	-12.436	-22.578	0
0.2166	-13.943	-11.023	-22.609	-0.031
0.225	-14.257	-11.337	-22.578	0
0.2333	-11.807	-8.887	-22.609	-0.031
0.2416	-12.184	-9.264	-22.609	-0.031
0.25	-10.991	-8.071	-22.609	-0.031
0.2583	-9.295	-6.375	-22.609	-0.031
0.2666	-7.85	-4.93	-22.609	-0.031
0.275	-6.626	-3.706	-22.578	0
0.2833	-3.862	-0.942	-22.578	0
0.2916	-2.637	0.283	-22.609	-0.031
0.3	-0.502	2.418	-22.609	-0.031
0.3083	3.265	6.185	-22.578	0

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
09:20:19 Test No. 1; 623 ft. - 725 ft. Drawdown Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED	DRAWDOWN DATA (ft)			
TIME	TEST ZONE		ANNULUS	
(min)	INPUT 1	CORRECTED	INPUT 2	ZERO REF.
0.3166	6.374	9.294	-22.609	-0.031
0.325	12.749	15.669	-22.609	-0.031
0.3333	16.046	18.966	-22.609	-0.031
0.35	24.587	27.507	-22.609	-0.031
0.3666	30.962	33.882	-22.609	-0.031
0.3833	36.3	39.22	-22.578	0
0.4	39.157	42.077	-22.609	-0.031
0.4166	44.307	47.227	-22.609	-0.031
0.4333	44.432	47.352	-22.64	-0.062
0.45	44.872	47.792	-22.609	-0.031
0.4666	48.546	51.466	-22.609	-0.031
0.4833	49.864	52.784	-22.64	-0.062
0.5	50.587	53.507	-22.64	-0.062
0.5166	52.847	55.767	-22.64	-0.062
0.5333	53.758	56.678	-22.64	-0.062
0.55	55.987	58.907	-22.64	-0.062
0.5666	57.055	59.975	-22.64	-0.062
0.5833	59.033	61.953	-22.64	-0.062
0.6	60.54	63.46	-22.64	-0.062
0.6166	61.545	64.465	-22.64	-0.062
0.6333	64.088	67.008	-22.64	-0.062
0.65	65.878	68.798	-22.672	-0.094
0.6666	66.757	69.677	-22.672	-0.094
0.6833	68.672	71.592	-22.64	-0.062
0.7	71.247	74.167	-22.672	-0.094
0.7166	70.964	73.884	-22.672	-0.094
0.7333	72.188	75.108	-22.64	-0.062
0.75	72.659	75.579	-22.672	-0.094
0.7666	74.512	77.432	-22.672	-0.094
0.7833	74.543	77.463	-22.672	-0.094
0.8	75.265	78.185	-22.672	-0.094
0.8166	76.364	79.284	-22.672	-0.094
0.8333	77.463	80.383	-22.672	-0.094
0.85	78.436	81.356	-22.672	-0.094
0.8666	79.253	82.173	-22.64	-0.062
0.8833	78.813	81.733	-22.672	-0.094
0.9	80.006	82.926	-22.672	-0.094
0.9166	80.038	82.958	-22.672	-0.094

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
09:20:19 Test No. 1; 623 ft. - 725 ft. Drawdown Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED TIME (min)	DRAWDOWN DATA (ft) TEST ZONE INPUT 1	TEST ZONE CORRECTED	ANNULUS INPUT 2	ANNULUS ZERO REF.
0.9333	82.016	84.936	-22.703	-0.125
0.95	82.361	85.281	-22.672	-0.094
0.9666	83.271	86.191	-22.703	-0.125
0.9833	82.078	84.998	-22.672	-0.094
1	83.366	86.286	-22.64	-0.062
1.2	88.672	91.592	-22.703	-0.125
1.4	90.555	93.475	-22.735	-0.157
1.6	92.188	95.108	-22.735	-0.157
1.8	94.072	96.992	-22.735	-0.157
2	93.036	95.956	-22.766	-0.188
2.2	93.852	96.772	-22.766	-0.188
2.4	94.825	97.745	-22.798	-0.22
2.6	94.731	97.651	-22.798	-0.22
2.8	95.108	98.028	-22.798	-0.22
3	95.108	98.028	-22.829	-0.251
3.2	96.458	99.378	-24.307	-1.729
3.4	95.422	98.342	-24.307	-1.729
3.6	95.892	98.812	-24.307	-1.729
3.8	96.206	99.126	-24.275	-1.697
4	96.081	99.001	-24.275	-1.697
4.2	96.301	99.221	-24.307	-1.729
4.4	96.332	99.252	-24.307	-1.729
4.6	96.144	99.064	-24.307	-1.729
4.8	96.112	99.032	-24.275	-1.697
5	96.301	99.221	-24.338	-1.76
5.2	96.018	98.938	-24.307	-1.729
5.4	96.991	99.911	-24.307	-1.729
5.6	96.772	99.692	-24.338	-1.76
5.8	96.834	99.754	-24.307	-1.729
6	97.337	100.257	-24.307	-1.729
6.2	97.368	100.288	-24.338	-1.76
6.4	97.682	100.602	-24.307	-1.729
6.6	97.023	99.943	-24.307	-1.729
6.8	97.368	100.288	-24.307	-1.729
7	97.305	100.225	-24.307	-1.729
7.2	97.054	99.974	-24.307	-1.729
7.4	97.776	100.696	-24.307	-1.729
7.6	98.059	100.979	-24.307	-1.729

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
09:20:19 Test No. 1; 623 ft. - 725 ft. Drawdown Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED	DRAWDOWN DATA (ft)			
TIME	TEST ZONE		ANNULUS	
(min)	INPUT 1	CORRECTED	INPUT 2	ZERO REF.
7.8	97.525	100.445	-24.307	-1.729
8	97.368	100.288	-24.307	-1.729
8.2	98.216	101.136	-24.307	-1.729
8.4	97.651	100.571	-24.275	-1.697
8.6	97.556	100.476	-24.307	-1.729
8.8	97.588	100.508	-24.307	-1.729
9	97.902	100.822	-24.307	-1.729
9.2	97.494	100.414	-24.307	-1.729
9.4	97.713	100.633	-24.275	-1.697
9.6	98.53	101.45	-24.307	-1.729
9.8	97.431	100.351	-24.275	-1.697
10	97.965	100.885	-24.275	-1.697
12	98.341	101.261	-24.244	-1.666
14	98.969	101.889	-24.213	-1.635
16	99.911	102.831	-24.275	-1.697
18	99.126	102.046	-24.213	-1.635
20	99.283	102.203	-24.213	-1.635
22	99.754	102.674	-24.213	-1.635
24	99.472	102.392	-24.181	-1.603
26	99.315	102.235	-24.213	-1.635
28	99.063	101.983	-24.15	-1.572
30	100.413	103.333	-24.181	-1.603
32	99.503	102.423	-24.181	-1.603
34	99.503	102.423	-24.181	-1.603
36	99.911	102.831	-24.15	-1.572
38	99.597	102.517	-24.118	-1.54
40	100.068	102.988	-24.118	-1.54
42	100.508	103.428	-24.181	-1.603
44	100.665	103.585	-24.087	-1.509
46	99.315	102.235	-24.118	-1.54
48	99.534	102.454	-24.118	-1.54
50	99.095	102.015	-24.118	-1.54
52	99.534	102.454	-24.118	-1.54
54	100.068	102.988	-24.087	-1.509
56	100.005	102.925	-24.087	-1.509
58	99.911	102.831	-24.055	-1.477
60	100.319	103.239	-24.055	-1.477
62	100.445	103.365	-24.055	-1.477

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
09:20:19 Test No. 1; 623 ft. - 725 ft. Drawdown Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED TIME (min)	DRAWDOWN DATA (ft) TEST ZONE INPUT 1	TEST ZONE CORRECTED	ANNULUS INPUT 2	ANNULUS ZERO REF.
64	99.942	102.862	-24.087	-1.509
66	99.942	102.862	-24.118	-1.54
68	99.942	102.862	-24.055	-1.477
70	100.539	103.459	-24.055	-1.477
72	100.476	103.396	-24.055	-1.477
74	99.534	102.454	-24.055	-1.477
76	100.225	103.145	-24.024	-1.446
78	99.691	102.611	-24.055	-1.477
80	100.79	103.71	-23.992	-1.414
82	101.073	103.993	-24.087	-1.509
84	100.727	103.647	-23.992	-1.414
86	100.884	103.804	-24.024	-1.446
88	101.23	104.15	-24.024	-1.446
90	100.727	103.647	-23.992	-1.414
92	100.319	103.239	-24.024	-1.446
94	100.696	103.616	-24.024	-1.446
96	101.198	104.118	-23.992	-1.414
98	101.355	104.275	-23.961	-1.383
100	101.387	104.307	-24.024	-1.446
105	101.449	104.369	-23.961	-1.383
110	102.266	105.186	-23.992	-1.414
115	101.983	104.903	-23.992	-1.414
120	102.768	105.688	-23.992	-1.414
125	102.894	105.814	-23.93	-1.352
130	101.669	104.589	-23.93	-1.352

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
11:33:05 Test No. 1; 623 ft. - 725 ft. Recovery Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED TIME (min)	RECOVERY DATA (ft) TEST ZONE INPUT 1	TEST ZONE CORRECTED	ANNULUS INPUT 2	ANNULUS ZERO REF.
0	101.387	104.307	-24.024	-1.446
0.0083	101.292	104.212	-24.024	-1.446
0.0166	101.041	103.961	-24.024	-1.446
0.025	101.418	104.338	-24.024	-1.446
0.0333	101.763	104.683	-24.024	-1.446
0.0416	102.36	105.28	-24.024	-1.446
0.05	102.548	105.468	-24.024	-1.446
0.0583	103.239	106.159	-23.992	-1.414
0.0666	103.459	106.379	-24.024	-1.446
0.075	104.243	107.163	-24.024	-1.446
0.0833	105.091	108.011	-24.024	-1.446
0.0916	106.033	108.953	-24.024	-1.446
0.1	106.064	108.984	-24.024	-1.446
0.1083	107.383	110.303	-23.992	-1.414
0.1166	106.881	109.801	-23.992	-1.414
0.125	107.917	110.837	-23.992	-1.414
0.1333	108.639	111.559	-24.024	-1.446
0.1416	108.858	111.778	-23.992	-1.414
0.15	109.643	112.563	-23.992	-1.414
0.1583	110.146	113.066	-24.024	-1.446
0.1666	110.554	113.474	-23.992	-1.414
0.175	112.343	115.263	-24.024	-1.446
0.1833	113.285	116.205	-24.024	-1.446
0.1916	114.478	117.398	-24.024	-1.446
0.2	115.734	118.654	-23.992	-1.414
0.2083	116.644	119.564	-23.992	-1.414
0.2166	118.214	121.134	-23.992	-1.414
0.225	119.093	122.013	-23.992	-1.414
0.2333	120.035	122.955	-24.024	-1.446
0.2416	120.443	123.363	-24.024	-1.446
0.25	120.443	123.363	-24.024	-1.446
0.2583	120.474	123.394	-23.992	-1.414
0.2666	120.474	123.394	-23.992	-1.414
0.275	120.411	123.331	-23.992	-1.414
0.2833	120.474	123.394	-24.024	-1.446
0.2916	120.443	123.363	-23.992	-1.414
0.3	120.443	123.363	-23.992	-1.414
0.3083	120.411	123.331	-24.024	-1.446

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
11:33:05 Test No. 1; 623 ft. - 725 ft. Recovery Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED TIME (min)	RECOVERY DATA (ft) TEST ZONE INPUT 1	TEST ZONE CORRECTED	ANNULUS INPUT 2	ANNULUS ZERO REF.
0.3166	119.752	122.672	-24.024	-1.446
0.325	118.779	121.699	-24.024	-1.446
0.3333	117.806	120.726	-24.024	-1.446
0.35	116.55	119.47	-23.992	-1.414
0.3666	116.048	118.968	-24.024	-1.446
0.3833	116.048	118.968	-24.024	-1.446
0.4	116.456	119.376	-23.992	-1.414
0.4166	116.173	119.093	-24.024	-1.446
0.4333	115.639	118.559	-23.992	-1.414
0.45	114.541	117.461	-24.024	-1.446
0.4666	113.379	116.299	-23.992	-1.414
0.4833	112.72	115.64	-23.992	-1.414
0.5	112.375	115.295	-23.992	-1.414
0.5166	111.966	114.886	-23.992	-1.414
0.5333	111.841	114.761	-23.992	-1.414
0.55	111.464	114.384	-23.992	-1.414
0.5666	110.868	113.788	-24.024	-1.446
0.5833	110.208	113.128	-24.024	-1.446
0.6	109.549	112.469	-23.992	-1.414
0.6166	109.015	111.935	-24.024	-1.446
0.6333	108.764	111.684	-24.024	-1.446
0.65	108.607	111.527	-24.024	-1.446
0.6666	108.482	111.402	-23.992	-1.414
0.6833	108.262	111.182	-24.024	-1.446
0.7	107.979	110.899	-24.024	-1.446
0.7166	107.634	110.554	-24.024	-1.446
0.7333	107.257	110.177	-24.024	-1.446
0.75	106.912	109.832	-24.024	-1.446
0.7666	106.661	109.581	-23.992	-1.414
0.7833	106.504	109.424	-24.024	-1.446
0.8	106.41	109.33	-23.992	-1.414
0.8166	106.284	109.204	-24.024	-1.446
0.8333	106.096	109.016	-24.024	-1.446
0.85	105.876	108.796	-23.992	-1.414
0.8666	105.625	108.545	-23.992	-1.414
0.8833	105.342	108.262	-24.024	-1.446
0.9	105.091	108.011	-23.992	-1.414
0.9166	104.903	107.823	-23.992	-1.414

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
11:33:05 Test No. 1; 623 ft. - 725 ft. Recovery Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

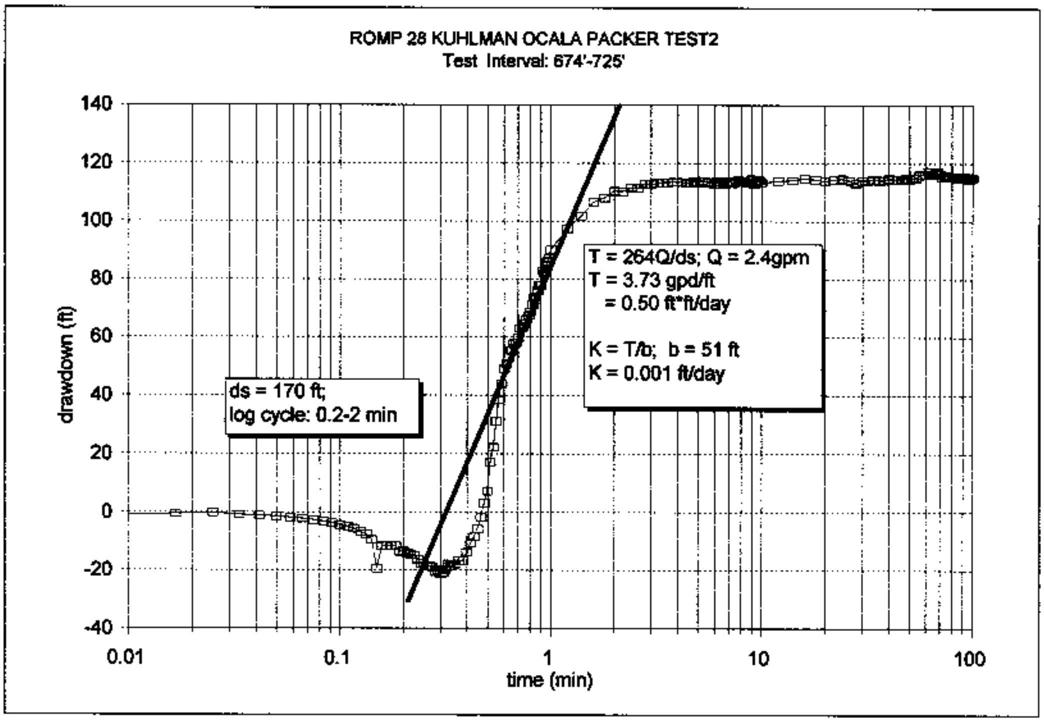
ELAPSED	RECOVERY DATA (ft)			
TIME	TEST ZONE		ANNULUS	
(min)	INPUT 1	CORRECTED	INPUT 2	ZERO REF.
0.9333	104.777	107.697	-24.024	-1.446
0.95	104.652	107.572	-23.992	-1.414
0.9666	104.495	107.415	-23.992	-1.414
0.9833	104.338	107.258	-23.992	-1.414
1	104.118	107.038	-23.992	-1.414
1.2	101.795	104.715	-23.992	-1.414
1.4	99.848	102.768	-23.992	-1.414
1.6	98.027	100.947	-24.024	-1.446
1.8	96.269	99.189	-23.992	-1.414
2	94.605	97.525	-23.992	-1.414
2.2	93.13	96.05	-23.992	-1.414
2.4	91.434	94.354	-23.992	-1.414
2.6	89.927	92.847	-24.024	-1.446
2.8	88.483	91.403	-24.024	-1.446
3	87.102	90.022	-23.992	-1.414
3.2	85.752	88.672	-24.024	-1.446
3.4	84.465	87.385	-23.992	-1.414
3.6	83.209	86.129	-23.992	-1.414
3.8	81.984	84.904	-23.992	-1.414
4	80.791	83.711	-23.992	-1.414
4.2	79.629	82.549	-23.992	-1.414
4.4	78.531	81.451	-23.992	-1.414
4.6	77.432	80.352	-23.961	-1.383
4.8	76.301	79.221	-23.961	-1.383
5	75.203	78.123	-23.961	-1.383
5.2	74.292	77.212	-23.961	-1.383
5.4	73.382	76.302	-23.961	-1.383
5.6	72.471	75.391	-23.961	-1.383
5.8	71.529	74.449	-23.961	-1.383
6	70.65	73.57	-23.961	-1.383
6.2	69.802	72.722	-23.961	-1.383
6.4	68.986	71.906	-23.961	-1.383
6.6	68.17	71.09	-23.992	-1.414
6.8	67.385	70.305	-23.992	-1.414
7	66.6	69.52	-23.992	-1.414
7.2	65.846	68.766	-23.992	-1.414
7.4	65.093	68.013	-23.992	-1.414
7.6	64.37	67.29	-23.961	-1.383

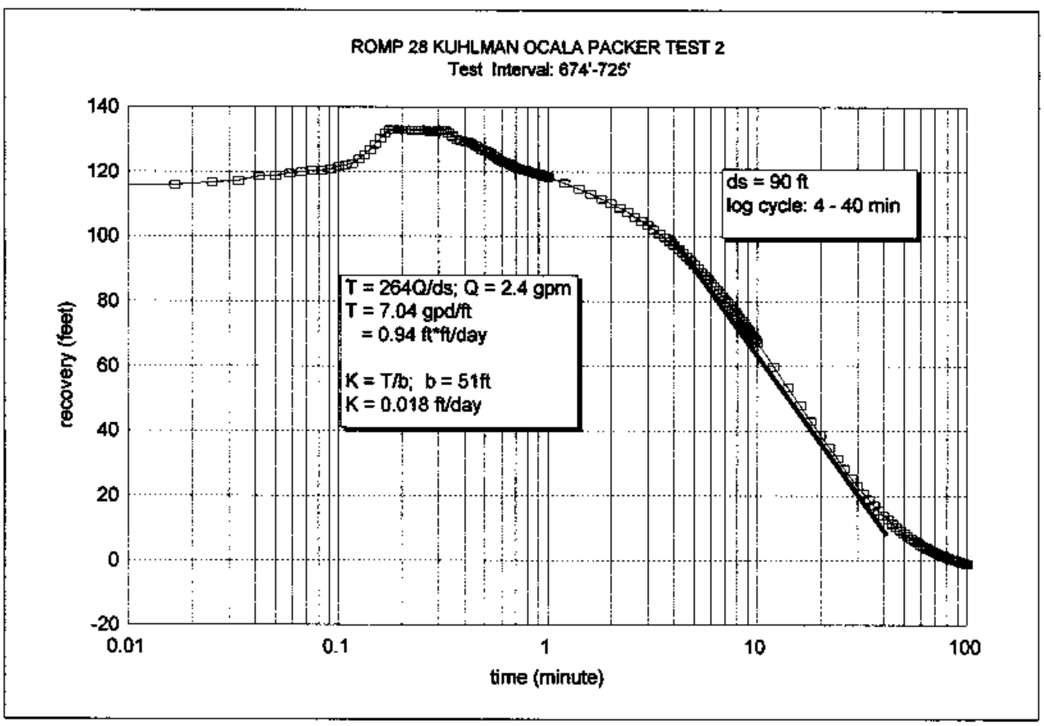
08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
11:33:05 Test No. 1; 623 ft. - 725 ft. Recovery Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED TIME (min)	RECOVERY DATA (ft) TEST ZONE INPUT 1	TEST ZONE CORRECTED	ANNULUS INPUT 2	ANNULUS ZERO REF.
7.8	63.648	66.568	-23.961	-1.383
8	62.926	65.846	-23.992	-1.414
8.2	62.267	65.187	-23.992	-1.414
8.4	61.576	64.496	-23.992	-1.414
8.6	60.948	63.868	-23.992	-1.414
8.8	60.289	63.209	-23.992	-1.414
9	59.661	62.581	-23.961	-1.383
9.2	59.033	61.953	-23.992	-1.414
9.4	58.436	61.356	-23.992	-1.414
9.6	57.84	60.76	-23.992	-1.414
9.8	57.243	60.163	-23.992	-1.414
10	56.678	59.598	-23.992	-1.414
12	51.497	54.417	-23.961	-1.383
14	47.196	50.116	-23.93	-1.352
16	43.333	46.253	-23.961	-1.383
18	40.319	43.239	-23.961	-1.383
20	37.744	40.664	-23.961	-1.383
22	35.546	38.466	-23.961	-1.383
24	33.662	36.582	-23.961	-1.383
26	31.998	34.918	-23.961	-1.383
28	30.522	33.442	-23.961	-1.383
30	29.266	32.186	-23.961	-1.383
32	28.167	31.087	-23.961	-1.383
34	27.162	30.082	-23.93	-1.352
36	26.252	29.172	-23.961	-1.383
38	25.435	28.355	-23.992	-1.414
40	24.744	27.664	-23.992	-1.414
42	24.085	27.005	-23.992	-1.414
44	23.488	26.408	-23.992	-1.414
46	22.955	25.875	-23.961	-1.383
48	22.421	25.341	-23.992	-1.414
50	22.013	24.933	-23.961	-1.383
52	21.573	24.493	-24.024	-1.446
54	21.165	24.085	-23.961	-1.383
56	20.788	23.708	-24.024	-1.446
58	20.474	23.394	-24.024	-1.446
60	20.16	23.08	-23.992	-1.414
62	19.846	22.766	-24.024	-1.446

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
11:33:05 Test No. 1; 623 ft. - 725 ft. Recovery Phase
test interval: b = 102 ft.
av. discharge: Q = 4.2 gpm. -2.92 ft. offset correction, test zone data

ELAPSED	RECOVERY DATA (ft)			
TIME	TEST ZONE		ANNULUS	
(min)	INPUT 1	CORRECTED	INPUT 2	ZERO REF.
64	19.563	22.483	-24.024	-1.446
66	19.343	22.263	-23.961	-1.383
68	19.092	22.012	-23.992	-1.414
70	18.841	21.761	-24.024	-1.446
72	18.621	21.541	-24.024	-1.446
74	18.433	21.353	-23.992	-1.414
76	18.244	21.164	-23.992	-1.414
78	18.056	20.976	-23.992	-1.414
80	17.836	20.756	-24.055	-1.477
82	17.679	20.599	-24.024	-1.446
84	17.553	20.473	-24.055	-1.477
86	17.396	20.316	-24.024	-1.446
88	17.271	20.191	-24.024	-1.446
90	17.114	20.034	-24.024	-1.446
92	16.957	19.877	-24.024	-1.446
94	16.863	19.783	-24.024	-1.446
96	16.706	19.626	-24.024	-1.446
98	16.611	19.531	-24.087	-1.509
100	16.549	19.469	-24.024	-1.446
105	16.266	19.186	-24.024	-1.446
110	16.015	18.935	-24.024	-1.446
115	15.795	18.715	-24.055	-1.477
120	15.607	18.527	-24.024	-1.446
125	15.45	18.37	-24.055	-1.477
130	15.261	18.181	-24.118	-1.54


ROMP 28 KUHLMAN OCALA PACKER TEST2
Test Interval: 674'-725'
drawdown (ft)
time (min)
ds = 170 ft;
log cycle: 0.2-2 min
T = 264Q/ds; Q = 2.4gpm
T = 3.73 gpd/ft
= 0.50 ft*ft/day
K = T/b; b = 51 ft
K = 0.001 ft/day


ROMP 28 KUHLMAN OCALA PACKER TEST 2
Test Interval: 674'-725'
recovery (feet)
time (minute)
ds = 90 ft
log cycle: 4 - 40 min
T = 264Q/ds; Q = 2.4 gpm
T = 7.04 gpd/ft
= 0.94 ft*ft/day
K = T/b; b = 51ft
K = 0.018 ft/day

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
15:52:07 Test No. 2; 674 ft. - 725 ft. Drawdown Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED	DRAWDOWN (ft)	
TIME	TEST ZONE	ANNULUS
(min)	INPUT 1	INPUT 2
0	-0.785	0
0.0083	-1.13	0
0.0166	-0.408	0
0.025	-0.282	0
0.0333	-0.847	0
0.0416	-1.193	0
0.05	-1.413	0
0.0583	-1.821	0
0.0666	-2.198	0
0.075	-2.606	0
0.0833	-3.171	0
0.0916	-3.799	0
0.1	-4.396	0
0.1083	-4.93	0
0.1166	-5.527	0
0.125	-6.5	0
0.1333	-7.505	0
0.1416	-9.452	0
0.15	-19.282	0
0.1583	-11.651	0.062
0.1666	-11.619	0
0.175	-11.651	-0.031
0.1833	-11.337	0
0.1916	-13.409	0.031
0.2	-13.347	0
0.2083	-13.943	0
0.2166	-14.603	0
0.225	-14.728	-0.031
0.2333	-16.142	0.031
0.2416	-17.618	0
0.25	-17.555	0
0.2583	-18.277	0
0.2666	-18.591	-0.031
0.275	-18.968	0
0.2833	-20.413	0
0.2916	-19.753	-0.062
0.3	-21.135	0
0.3083	-20.915	-0.031

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
15:52:07 Test No. 2; 674 ft. - 725 ft. Drawdown Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.3166	-19.628	0
0.325	-17.838	0
0.3333	-18.528	0
0.35	-17.806	0
0.3666	-16.676	-0.031
0.3833	-16.581	-0.031
0.4	-13.661	0.031
0.4166	-10.614	-0.031
0.4333	-8.447	0
0.45	-5.652	-0.062
0.4666	-1.633	0
0.4833	3.14	0
0.5	7.254	0
0.5166	17.271	0
0.5333	22.421	-0.031
0.55	31.34	0
0.5666	38.688	0
0.5833	44.12	0
0.6	49.05	-0.031
0.6166	50.84	0.031
0.6333	53.038	-0.031
0.65	55.455	0
0.6666	57.747	0
0.6833	57.936	0
0.7	59.663	0.031
0.7166	63.085	-0.031
0.7333	63.399	0
0.75	64.655	0
0.7666	66.037	0
0.7833	67.544	0
0.8	68.8	-0.031
0.8166	71.249	0
0.8333	73.824	-0.031
0.85	73.164	-0.031
0.8666	76.084	-0.031
0.8833	78	0.031
0.9	78	-0.031
0.9166	83.023	-0.031

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
15:52:07 Test No. 2; 674 ft. - 725 ft. Drawdown Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.9333	82.27	-0.031
0.95	84.719	-0.031
0.9666	86.194	0
0.9833	87.419	-0.031
1	90.401	-0.031
1.2	97.56	0
1.4	101.892	0
1.6	106.633	0
1.8	108.14	0
2	110.432	0
2.2	110.338	0.031
2.4	111.625	0
2.6	111.405	0
2.8	112.975	0
3	112.786	0
3.2	113.226	0
3.4	113.509	-0.062
3.6	113.509	0
3.8	113.634	0
4	113.54	-0.031
4.2	113.54	0
4.4	113.163	0
4.6	113.509	0
4.8	113.697	-0.031
5	113.195	0
5.2	114.042	0
5.4	113.823	0
5.6	113.509	0.031
5.8	113.54	-0.031
6	112.975	0.031
6.2	113.823	0.031
6.4	113.603	0.031
6.6	113.038	0.031
6.8	113.195	0.031
7	113.917	0
7.2	113.666	0.031
7.4	113.226	0.031
7.6	113.917	0

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
15:52:07 Test No. 2; 674 ft. - 725 ft. Drawdown Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
7.8	114.262	0
8	113.854	0
8.2	113.823	0.031
8.4	113.54	0.031
8.6	113.32	0.031
8.8	113.666	0
9	114.513	-0.062
9.2	112.818	-0.031
9.4	113.446	0
9.6	114.136	0
9.8	114.136	-0.031
10	113.352	0.031
12	113.979	0.094
14	114.136	0.094
16	114.827	0.125
18	114.607	0.125
20	113.948	0.062
22	114.388	0.125
24	114.702	0.094
26	114.199	0.157
28	113.32	0.094
30	114.136	0.094
32	114.231	0.094
34	114.639	0.125
36	114.199	0.157
38	114.262	0.157
40	114.764	0.125
42	114.513	0.125
44	114.67	0.157
46	114.482	0.157
48	114.953	0.125
50	114.607	0.157
52	115.047	0.157
54	115.11	0.125
56	116.052	0.157
58	116.397	0.157
60	116.271	0.157
62	117.339	0.157

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
15:52:07 Test No. 2; 674 ft. - 725 ft. Drawdown Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED	DRAWDOWN (ft)	
TIME	TEST ZONE	ANNULUS
(min)	INPUT 1	INPUT 2
64	116.271	0.094
66	116.617	0.157
68	116.931	0.094
70	116.334	0.125
72	115.424	0.157
74	116.052	0.157
76	116.052	0.157
78	115.549	0.22
80	115.298	0.22
82	115.518	0.188
84	114.953	0.188
86	115.298	0.22
88	115.235	0.251
90	115.235	0.251
92	115.455	0.22
94	114.796	0.22
96	114.702	0.22
98	115.329	0.22
100	115.047	0.188
105	114.513	0.22
110	114.325	0.22
115	114.262	0.251
120	114.262	0.188
125	114.325	0.251
130	114.388	0.188
135	114.984	0.188

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
18:07:33 Test No. 2; 674 ft. - 725 ft. Recovery Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0	115.581	0.22
0.0083	115.581	0.22
0.0166	115.957	0.188
0.025	116.742	0.188
0.0333	117.182	0.22
0.0416	118.594	0.22
0.05	118.877	0.22
0.0583	119.505	0.22
0.0666	119.882	0.188
0.075	120.447	0.157
0.0833	120.51	0.22
0.0916	120.761	0.188
0.1	121.671	0.188
0.1083	122.142	0.188
0.1166	122.55	0.188
0.125	123.963	0.22
0.1333	125.344	0.22
0.1416	126.82	0.22
0.15	128.578	0.22
0.1583	130.273	0.188
0.1666	132	0.251
0.175	133.004	0.188
0.1833	133.067	0.251
0.1916	133.036	0.22
0.2	133.036	0.22
0.2083	133.004	0.22
0.2166	133.004	0.251
0.225	132.973	0.22
0.2333	132.973	0.22
0.2416	132.973	0.251
0.25	133.004	0.188
0.2583	132.973	0.188
0.2666	132.627	0.188
0.275	132.282	0.22
0.2833	132.282	0.188
0.2916	132.533	0.188
0.3	132.973	0.188
0.3083	133.036	0.188

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
18:07:33 Test No. 2; 674 ft. - 725 ft. Recovery Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.3166	132.941	0.188
0.325	132.69	0.188
0.3333	132.094	0.188
0.35	131.058	0.188
0.3666	130.242	0.188
0.3833	129.739	0.188
0.4	129.488	0.188
0.4166	129.206	0.22
0.4333	128.829	0.188
0.45	128.201	0.22
0.4666	127.542	0.188
0.4833	126.977	0.188
0.5	126.6	0.188
0.5166	126.255	0.22
0.5333	125.658	0.22
0.55	125.124	0.188
0.5666	124.465	0.188
0.5833	123.806	0.188
0.6	123.461	0.188
0.6166	123.115	0.188
0.6333	122.833	0.188
0.65	122.55	0.188
0.6666	122.268	0.188
0.6833	121.891	0.188
0.7	121.514	0.188
0.7166	121.2	0.188
0.7333	120.949	0.22
0.75	120.823	0.188
0.7666	120.698	0.22
0.7833	120.572	0.188
0.8	120.384	0.22
0.8166	120.164	0.188
0.8333	119.944	0.188
0.85	119.725	0.188
0.8666	119.568	0.188
0.8833	119.442	0.188
0.9	119.348	0.188
0.9166	119.222	0.188

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
18:07:33 Test No. 2; 674 ft. - 725 ft. Recovery Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

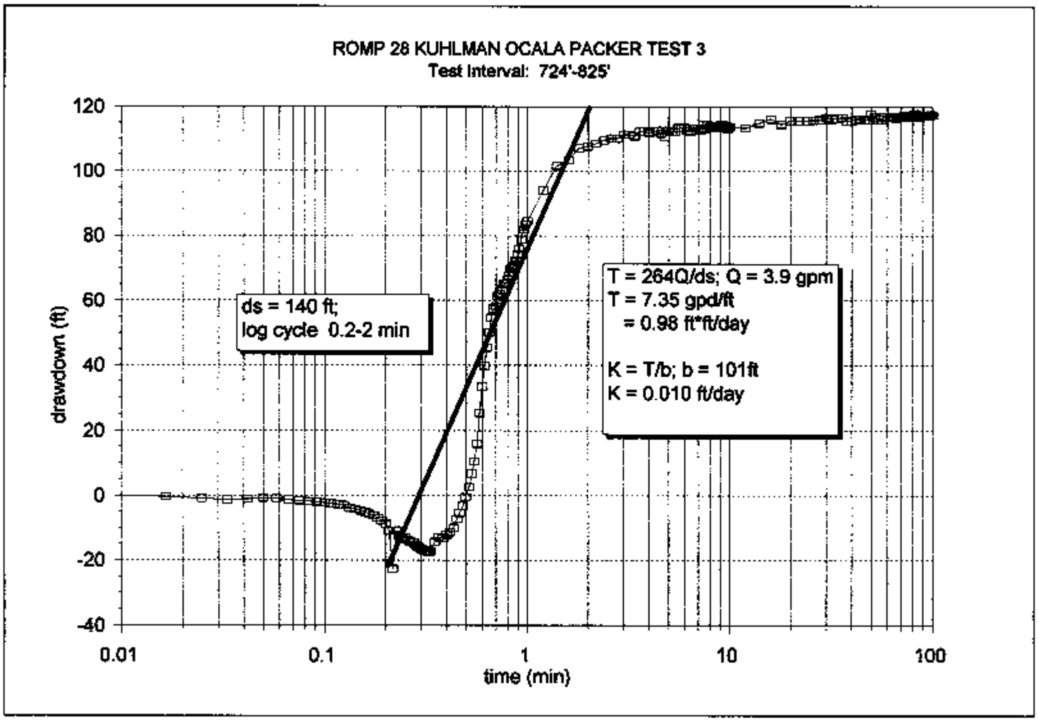
ELAPSED	RECOVERY (ft)	
TIME	TEST ZONE	ANNULUS
(min)	INPUT 1	INPUT 2
0.9333	119.065	0.22
0.95	118.877	0.188
0.9666	118.689	0.22
0.9833	118.532	0.188
1	118.375	0.188
1.2	116.491	0.22
1.4	114.827	0.188
1.6	113.289	0.22
1.8	111.782	0.188
2	110.338	0.188
2.2	108.925	0.188
2.4	107.544	0.188
2.6	106.194	0.188
2.8	104.844	0.188
3	103.525	0.188
3.2	102.269	0.188
3.4	101.013	0.188
3.6	99.789	0.188
3.8	98.564	0.22
4	97.371	0.22
4.2	96.178	0.22
4.4	95.017	0.22
4.6	93.855	0.188
4.8	92.662	0.22
5	91.469	0.188
5.2	90.244	0.22
5.4	89.083	0.22
5.6	88.015	0.188
5.8	86.916	0.188
6	85.817	0.188
6.2	84.781	0.188
6.4	83.745	0.188
6.6	82.741	0.188
6.8	81.736	0.188
7	80.762	0.188
7.2	79.789	0.188
7.4	78.816	0.22
7.6	77.874	0.188

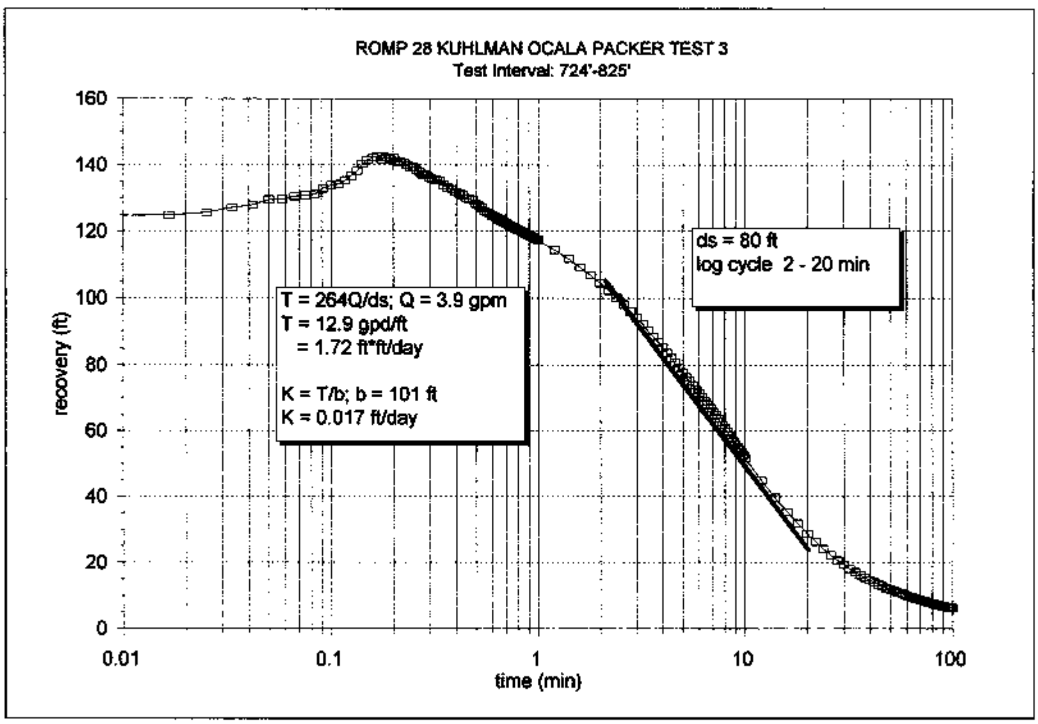
08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
18:07:33 Test No. 2; 674 ft. - 725 ft. Recovery Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
7.8	76.963	0.188
8	76.021	0.188
8.2	75.142	0.188
8.4	74.232	0.188
8.6	73.353	0.188
8.8	72.505	0.188
9	71.626	0.188
9.2	70.778	0.188
9.4	69.962	0.188
9.6	69.114	0.188
9.8	68.298	0.188
10	67.513	0.188
12	59.883	0.251
14	53.446	0.22
16	48.014	0.251
18	43.146	0.22
20	38.876	0.22
22	35.045	0.22
24	31.654	0.22
26	28.545	0.188
28	25.593	0.22
30	23.144	0.22
32	20.977	0.157
34	19.03	0.188
36	17.114	0.188
38	15.544	0.188
40	14.1	0.188
42	12.781	0.125
44	11.588	0.188
46	10.488	0.188
48	9.515	0.188
50	8.573	0.157
52	7.756	0.157
54	6.971	0.188
56	6.28	0.188
58	5.621	0.157
60	5.024	0.157
62	4.49	0.125

08/10/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
18:07:33 Test No. 2; 674 ft. - 725 ft. Recovery Phase
test interval: s = 51 ft.
av. discharge: Q = 2.4 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
64	3.956	44.844
66	3.517	44.844
68	3.077	44.844
70	2.669	44.844
72	2.292	44.844
74	1.947	44.844
76	1.633	44.844
78	1.35	44.844
80	1.067	44.844
82	0.785	44.844
84	0.533	44.844
86	0.345	44.844
88	0.157	44.844
90	-0.062	44.844
92	-0.251	44.844
94	-0.439	44.844
96	-0.596	44.844
98	-0.753	44.844
100	-0.847	44.844





ROMP 28 Kuhlman	Appendix E. Straight line calculations, Ocala Ls. packer test no. 3.

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
08:00:16 Test No. 3; 724 ft. - 825 ft. Drawdown Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0	0	0
0.0083	0.031	0
0.0166	-0.314	0
0.025	-0.816	-0.015
0.0333	-1.319	0
0.0416	-1.099	0
0.05	-0.722	0
0.0583	-0.879	0
0.0666	-1.256	0
0.075	-1.507	-0.015
0.0833	-1.695	0
0.0916	-1.915	-0.015
0.1	-2.167	0
0.1083	-2.386	0
0.1166	-2.669	-0.015
0.125	-2.952	0
0.1333	-3.831	-0.015
0.1416	-4.145	0
0.15	-4.554	0
0.1583	-5.056	0
0.1666	-5.59	0
0.175	-6.093	0
0.1833	-6.846	-0.015
0.1916	-7.726	-0.015
0.2	-8.668	0
0.2083	-10.804	0
0.2166	-22.739	-0.015
0.225	-10.772	0.015
0.2333	-12.28	0
0.2416	-13.473	-0.015
0.25	-12.939	0.015
0.2583	-13.788	-0.015
0.2666	-14.29	0
0.275	-14.573	0
0.2833	-15.421	-0.015
0.2916	-15.892	0
0.3	-16.457	0
0.3083	-17.054	-0.015

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
08:00:16 Test No. 3; 724 ft. - 825 ft. Drawdown Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.3166	-17.023	0
0.325	-17.337	0
0.3333	-17.18	-0.015
0.35	-14.227	-0.015
0.3666	-12.908	0
0.3833	-13.191	-0.015
0.4	-12.123	0
0.4166	-11.369	-0.015
0.4333	-9.956	0
0.45	-7.129	0
0.4666	-5.307	0
0.4833	-3.172	-0.015
0.5	-0.439	0
0.5166	2.638	-0.015
0.5333	6.815	0.015
0.55	10.646	-0.015
0.5666	16.017	-0.015
0.5833	25.501	0
0.6	33.572	0
0.6166	39.884	0
0.6333	45.443	-0.015
0.65	50.31	-0.015
0.6666	54.707	0
0.6833	57.502	-0.031
0.7	58.224	0.015
0.7166	61.521	0.015
0.7333	62.055	-0.031
0.75	63.499	0
0.7666	65.132	0
0.7833	65.289	0
0.8	66.671	0.031
0.8166	67.707	-0.031
0.8333	69.811	-0.015
0.85	70.376	0
0.8666	70.879	-0.015
0.8833	72.355	0
0.9	74.144	-0.031
0.9166	76.028	0

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
08:00:16 Test No. 3; 724 ft. - 825 ft. Drawdown Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.9333	78.917	0
0.95	80.895	-0.031
0.9666	82.089	0
0.9833	83.533	0
1	84.506	-0.047
1.2	94.115	-0.015
1.4	101.713	0
1.6	103.503	0.015
1.8	107.114	-0.015
2	107.679	0
2.2	108.684	0
2.4	109.72	0
2.6	110.191	0
2.8	110.159	0.015
3	111.447	0
3.2	111.447	0
3.4	110.976	0
3.6	112.389	0.015
3.8	112.451	0
4	111.949	0.015
4.2	112.42	0
4.4	112.765	0.031
4.6	111.761	0.031
4.8	110.725	0
5	112.703	-0.015
5.2	112.389	0.015
5.4	112.169	0.015
5.6	113.55	0
5.8	113.582	0.031
6	113.488	0.015
6.2	112.671	0
6.4	112.546	0.015
6.6	113.362	-0.015
6.8	113.393	0
7	113.425	0.031
7.2	112.954	0.047
7.4	114.367	0.047
7.6	113.236	0.047

08/15/95 ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing
08:00:16 Test No. 3; 724 ft. - 825 ft. Drawdown Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
7.8	114.429	0.031
8	113.707	0.031
8.2	114.178	0.062
8.4	113.833	0.031
8.6	114.116	0
8.8	113.613	0.031
9	113.99	0.031
9.2	114.586	0
9.4	113.99	0.015
9.6	114.147	0.047
9.8	113.331	0.031
10	113.77	0.047
12	113.55	0.031
14	115.057	0.031
16	116.188	0.031
18	114.586	0.062
20	115.748	0.062
22	115.654	0.062
24	115.717	0.062
26	115.874	0.094
28	115.999	0.109
30	116.659	0.062
32	116.219	0.094
34	116.408	0.078
36	116.69	0.109
38	115.623	0.078
40	115.842	0.078
42	116.188	0.094
44	116.156	0.078
46	115.968	0.094
48	116.125	0.078
50	117.758	0.109
52	116.91	0.109
54	116.282	0.094
56	116.282	0.125
58	117.035	0.078
60	116.973	0.125
62	116.878	0.109

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
08:00:16 Test No. 3; 724 ft. - 825 ft. Drawdown Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
64	116.973	0.094
66	116.439	0.109
68	116.847	0.109
70	116.784	0.094
72	117.161	0.078
74	117.287	0.078
76	116.91	0.094
78	117.412	0.109
80	117.695	0.125
82	118.072	0.125
84	116.941	0.109
86	117.255	0.125
88	117.287	0.125
90	117.318	0.141
92	117.098	0.125
94	117.381	0.109
96	117.318	0.125
98	117.632	0.109
100	117.412	0.125
105	117.538	0.125
110	117.192	0.141
115	117.506	0.141
120	117.412	0.141

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
10:00:35 Test No. 3; 724 ft. - 825 ft. Recovery Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0	123.189	0.125
0.0083	124.696	0.109
0.0166	124.822	0.125
0.025	125.638	0.141
0.0333	127.177	0.141
0.0416	127.962	0.156
0.05	129.594	0.125
0.0583	129.626	0.109
0.0666	130.536	0.109
0.075	130.85	0.109
0.0833	131.133	0.141
0.0916	132.828	0.141
0.1	133.958	0.125
0.1083	134.241	0.125
0.1166	135.434	0.141
0.125	136.752	0.109
0.1333	138.259	0.078
0.1416	140.394	0.109
0.15	141.556	0.141
0.1583	142.278	0.188
0.1666	142.592	0.156
0.175	141.713	0.172
0.1833	142.435	0.156
0.1916	141.901	0.156
0.2	142.184	0.156
0.2083	141.242	0.141
0.2166	141.054	0.156
0.225	140.74	0.141
0.2333	140.049	0.125
0.2416	139.327	0.141
0.25	139.515	0.125
0.2583	138.448	0.125
0.2666	137.883	0.125
0.275	137.255	0.141
0.2833	137.161	0.141
0.2916	136.784	0.125
0.3	136.219	0.141
0.3083	135.811	0.141

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
10:00:35 Test No. 3; 724 ft. - 825 ft. Recovery Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.3166	135.654	0.141
0.325	135.434	0.141
0.3333	135.34	0.141
0.35	133.895	0.141
0.3666	133.236	0.141
0.3833	132.64	0.125
0.4	131.855	0.141
0.4166	131.352	0.141
0.4333	130.819	0.141
0.45	130.002	0.141
0.4666	129.751	0.125
0.4833	129.469	0.141
0.5	128.307	0.125
0.5166	127.742	0.141
0.5333	127.051	0.125
0.55	126.172	0.141
0.5666	125.732	0.141
0.5833	125.293	0.125
0.6	124.728	0.141
0.6166	124.382	0.141
0.6333	123.849	0.141
0.65	123.503	0.141
0.6666	123.001	0.141
0.6833	122.656	0.141
0.7	122.342	0.141
0.7166	121.933	0.141
0.7333	121.651	0.141
0.75	121.274	0.141
0.7666	120.96	0.125
0.7833	120.678	0.141
0.8	120.395	0.141
0.8166	120.112	0.141
0.8333	119.83	0.141
0.85	119.579	0.141
0.8666	119.327	0.141
0.8833	119.013	0.141
0.9	118.794	0.141
0.9166	118.543	0.141

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
10:00:35 Test No. 3; 724 ft. - 825 ft. Recovery Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

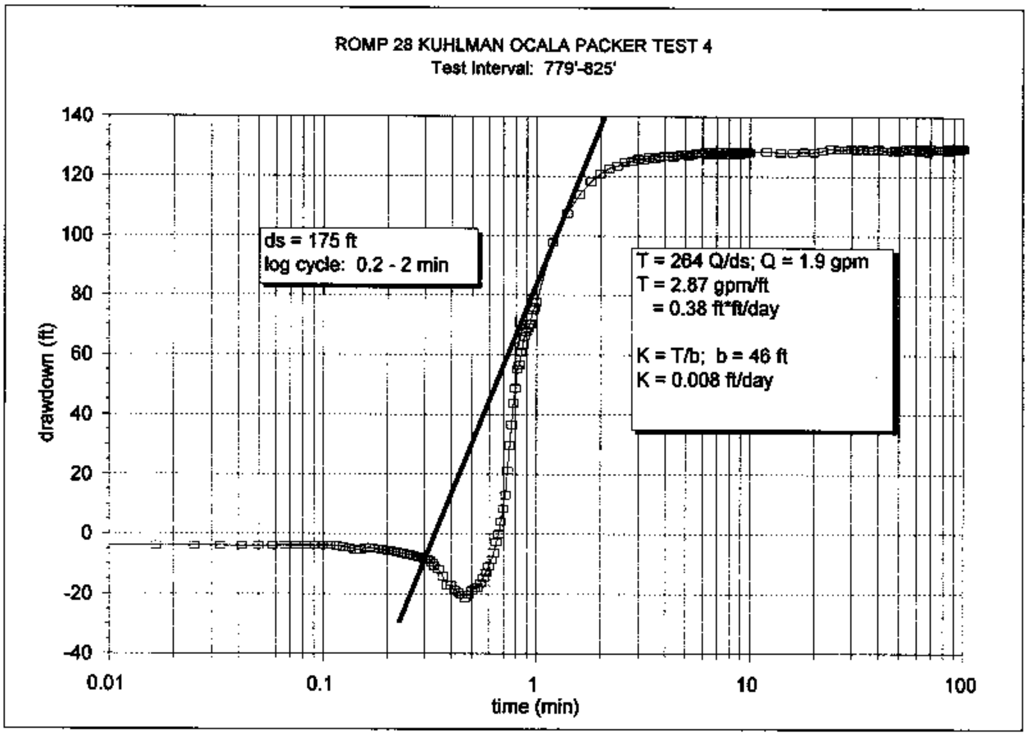
ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.9333	118.291	0.141
0.95	118.072	0.141
0.9666	117.82	0.141
0.9833	117.538	0.141
1	117.287	0.141
1.2	114.304	0.141
1.4	111.666	0.125
1.6	109.123	0.141
1.8	106.737	0.141
2	104.445	0.141
2.2	102.278	0.141
2.4	100.143	0.141
2.6	98.102	0.141
2.8	96.093	0.141
3	94.178	0.141
3.2	92.325	0.141
3.4	90.378	0.125
3.6	88.526	0.141
3.8	86.83	0.141
4	85.197	0.141
4.2	83.627	0.141
4.4	82.12	0.141
4.6	80.676	0.141
4.8	79.231	0.141
5	77.818	0.141
5.2	76.405	0.141
5.4	75.149	0.141
5.6	73.893	0.141
5.8	72.637	0.141
6	71.412	0.141
6.2	70.251	0.141
6.4	69.12	0.141
6.6	67.99	0.141
6.8	66.891	0.141
7	65.854	0.141
7.2	64.787	0.141
7.4	63.782	0.125
7.6	62.808	0.125

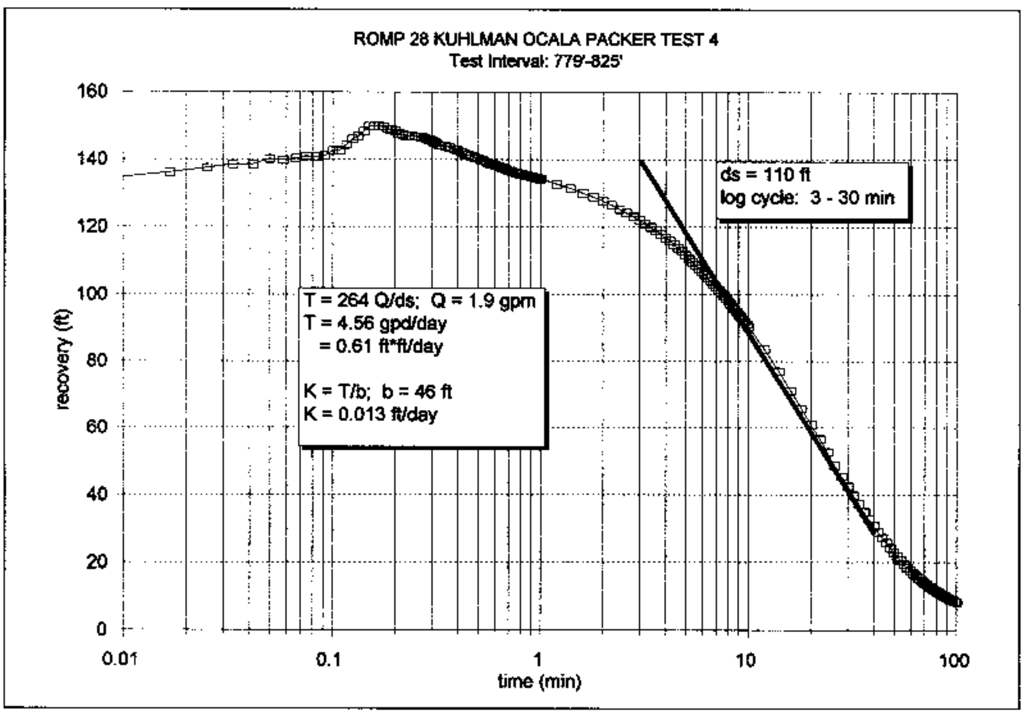
08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
10:00:35 Test No. 3; 724 ft. - 825 ft. Recovery Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
7.8	61.835	0.141
8	60.83	0.125
8.2	59.762	0.141
8.4	58.726	0.125
8.6	57.753	0.125
8.8	56.842	0.125
9	55.963	0.125
9.2	55.115	0.125
9.4	54.267	0.141
9.6	53.451	0.141
9.8	52.666	0.141
10	51.786	0.141
12	44.94	0.141
14	39.633	0.141
16	35.362	0.141
18	31.908	0.125
20	28.736	0.125
22	26.286	0.109
24	24.119	0.109
26	22.298	0.109
28	20.728	0.109
30	19.409	0.109
32	18.184	0.109
34	17.179	0.094
36	16.237	0.094
38	15.42	0.094
40	14.729	0.094
42	14.07	0.094
44	13.442	0.094
46	12.908	0.078
48	12.405	0.078
50	11.934	0.078
52	11.526	0.078
54	11.086	0.062
56	10.709	0.078
58	10.395	0.062
60	10.05	0.078
62	9.736	0.062

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
10:00:35 Test No. 3; 724 ft. - 825 ft. Recovery Phase
test interval: s = 101 ft.
av. discharge: Q = 3.9 gpm

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
64	9.484	0.062
66	9.202	0.062
68	8.95	0.062
70	8.699	0.062
72	8.479	0.062
74	8.26	0.047
76	8.04	0.062
78	7.883	0.047
80	7.663	0.062
82	7.506	0.047
84	7.317	0.047
86	7.16	0.047
88	7.003	0.047
90	6.878	0.047
92	6.721	0.047
94	6.595	0.047
96	6.438	0.047
98	6.312	0.047
100	6.218	0.047
105	5.935	0.047
110	5.653	0.031
115	5.433	0.047
120	5.244	0.015
125	4.993	0.031
130	4.836	0.015





ROMP 28 Kuhlman	Appendix E. Straight line calculations, Ocala Ls. packer test no. 4.

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
13:59:55 Test No. 4; 779 ft. - 825 ft. Drawdown Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0	-3.863	-0.078
0.0083	-3.863	-0.078
0.0166	-3.863	-0.078
0.025	-3.831	-0.078
0.0333	-3.831	-0.078
0.0416	-3.831	-0.078
0.05	-3.831	-0.078
0.0583	-3.831	-0.078
0.0666	-3.8	-0.078
0.075	-3.8	-0.078
0.0833	-3.8	-0.078
0.0916	-3.8	-0.078
0.1	-3.8	-0.078
0.1083	-3.8	-0.078
0.1166	-3.831	-0.078
0.125	-4.177	-0.078
0.1333	-4.616	-0.078
0.1416	-5.15	-0.078
0.15	-5.307	-0.078
0.1583	-4.554	-0.078
0.1666	-4.459	-0.078
0.175	-4.836	-0.078
0.1833	-4.993	-0.078
0.1916	-5.213	-0.078
0.2	-5.433	-0.078
0.2083	-5.59	-0.078
0.2166	-5.841	-0.078
0.225	-6.093	-0.078
0.2333	-6.312	-0.078
0.2416	-6.532	-0.078
0.25	-6.721	-0.078
0.2583	-6.941	-0.062
0.2666	-7.223	-0.078
0.275	-7.443	-0.078
0.2833	-7.663	-0.078
0.2916	-8.008	-0.078
0.3	-8.165	-0.078
0.3083	-8.417	-0.078

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
13:59:55 Test No. 4; 779 ft. - 825 ft. Drawdown Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	DRAWDOWN (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.3166	-8.668	-0.078
0.325	-9.485	-0.078
0.3333	-10.552	-0.062
0.35	-11.683	-0.078
0.3666	-14.007	-0.078
0.3833	-17.054	-0.094
0.4	-17.148	-0.094
0.4166	-18.499	-0.078
0.4333	-19.41	-0.078
0.45	-20.258	-0.078
0.4666	-21.326	-0.094
0.4833	-20.289	-0.078
0.5	-18.844	-0.078
0.5166	-17.965	-0.078
0.5333	-18.028	-0.078
0.55	-16.269	-0.062
0.5666	-14.541	-0.078
0.5833	-12.782	-0.078
0.6	-10.772	-0.094
0.6166	-8.605	-0.078
0.6333	-6.187	-0.078
0.65	-2.638	-0.062
0.6666	0	-0.094
0.6833	4.239	-0.078
0.7	8.574	-0.078
0.7166	13.19	-0.062
0.7333	21.356	-0.062
0.75	29.804	-0.062
0.7666	36.713	-0.078
0.7833	43.873	-0.031
0.8	48.897	-0.047
0.8166	55.241	-0.078
0.8333	56.748	-0.062
0.85	60.924	-0.062
0.8666	63.405	-0.047
0.8833	66.231	-0.047
0.9	67.707	-0.078
0.9166	69.089	-0.062

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
16:00:09 Test No. 4; 779 ft. - 825 ft. Recovery Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0	133.016	0.015
0.0083	134.366	0
0.0166	136.25	0
0.025	137.631	0
0.0333	138.636	0
0.0416	138.668	0.031
0.05	140.3	0.031
0.0583	139.829	0.015
0.0666	140.363	0.015
0.075	140.991	0
0.0833	140.74	0.015
0.0916	141.085	0.015
0.1	142.686	0
0.1083	142.717	0
0.1166	144.444	-0.015
0.125	146.14	-0.015
0.1333	146.893	0
0.1416	148.4	0.015
0.15	150.001	0.015
0.1583	149.97	0
0.1666	150.064	0.015
0.175	149.844	0
0.1833	149.153	0
0.1916	148.965	0
0.2	148.588	0
0.2083	147.803	0.031
0.2166	147.615	0.015
0.225	147.113	0
0.2333	146.987	0
0.2416	147.176	0
0.25	146.799	0.015
0.2583	146.83	0.031
0.2666	146.673	0
0.275	146.485	0
0.2833	146.108	0
0.2916	145.857	0.015
0.3	145.543	0
0.3083	145.135	0.015

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
16:00:09 Test No. 4; 779 ft. - 825 ft. Recovery Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.3166	144.947	0
0.325	144.381	0
0.3333	144.193	0
0.35	144.067	0.015
0.3666	143.565	0
0.3833	143.094	0.015
0.4	142.812	0.015
0.4166	142.247	0.015
0.4333	141.681	0.015
0.45	141.336	0
0.4666	141.148	0.015
0.4833	140.74	0.015
0.5	140.426	-0.015
0.5166	139.955	0
0.5333	139.704	0.015
0.55	139.201	0.015
0.5666	138.981	0.015
0.5833	138.668	0.015
0.6	138.479	0.015
0.6166	138.165	0.015
0.6333	137.945	0.015
0.65	137.569	0.015
0.6666	137.38	0
0.6833	137.066	0.015
0.7	136.784	0.015
0.7166	136.721	0.015
0.7333	136.533	0.015
0.75	136.313	0.015
0.7666	136.156	0.015
0.7833	135.968	0.015
0.8	135.811	0.015
0.8166	135.685	0.015
0.8333	135.559	0.015
0.85	135.434	0.015
0.8666	135.308	0.015
0.8833	135.151	0.015
0.9	135.026	0.015
0.9166	134.869	0.015

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
16:00:09 Test No. 4; 779 ft. - 825 ft. Recovery Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
0.9333	134.743	0.015
0.95	134.617	0.015
0.9666	134.523	0.015
0.9833	134.398	0.015
1	134.272	0.015
1.2	132.765	0.015
1.4	131.415	0.015
1.6	130.128	0.015
1.8	128.903	0.015
2	127.679	0.015
2.2	126.517	0.015
2.4	125.356	0.015
2.6	124.257	0.015
2.8	123.158	0.015
3	122.09	0.015
3.2	121.023	0.015
3.4	119.987	0.015
3.6	118.951	0.015
3.8	117.946	0.015
4	116.91	0.015
4.2	115.905	0.015
4.4	114.932	0.015
4.6	113.99	0.015
4.8	112.985	0.031
5	111.886	0.015
5.2	110.787	0.031
5.4	109.845	0.015
5.6	108.841	0.031
5.8	107.899	0.015
6	106.925	0.015
6.2	106.015	0.015
6.4	105.073	0.015
6.6	104.194	0.015
6.8	103.283	0.015
7	102.435	0.015
7.2	101.556	0.015
7.4	100.677	0.015
7.6	99.861	0.015

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
16:00:09 Test No. 4; 779 ft. - 825 ft. Recovery Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
7.8	99.013	0.015
8	98.197	0.015
8.2	97.349	0.015
8.4	96.532	0.015
8.6	95.716	0.015
8.8	94.931	0.015
9	94.178	0.015
9.2	93.393	0.015
9.4	92.639	0.015
9.6	91.917	0.015
9.8	91.163	0.015
10	90.441	0.015
12	83.69	0
14	77.033	0
16	71.098	0
18	65.792	0
20	61.05	0
22	56.716	-0.015
24	52.76	-0.015
26	48.803	-0.031
28	45.537	-0.031
30	42.522	-0.031
32	39.822	-0.047
34	37.278	-0.047
36	34.923	-0.062
38	32.787	-0.062
40	30.84	-0.047
42	29.019	-0.062
44	27.354	-0.078
46	25.815	-0.078
48	24.339	-0.078
50	23.052	-0.078
52	21.795	-0.078
54	20.633	-0.094
56	19.534	-0.094
58	18.498	-0.094
60	17.618	-0.109
62	16.802	-0.109

08/15/95 **ROMP 28 Kuhlman Ocala Ls. / Floridan Aq. Packer Testing**
16:00:09 Test No. 4; 779 ft. - 825 ft. Recovery Phase
test interval: b = 46 ft.
av. discharge: Q = 1.9 gpm (av. after dropping max and min)

ELAPSED TIME (min)	RECOVERY (ft) TEST ZONE INPUT 1	ANNULUS INPUT 2
64	16.048	-0.109
66	15.357	-0.109
68	14.698	-0.109
70	14.101	-0.109
72	13.567	-0.125
74	13.002	-0.109
76	12.499	-0.125
78	12.028	-0.125
80	11.557	-0.141
82	11.18	-0.141
84	10.772	-0.141
86	10.395	-0.141
88	10.05	-0.141
90	9.704	-0.156
92	9.39	-0.172
94	9.139	-0.156
96	8.856	-0.156
98	8.574	-0.141
100	8.354	-0.141

Appendix F

Surficial APT Specifications and Analyses Results

Appendix F. ROMP 28 Kuhlman, Surficial Aquifer Pumping Test Specifications.

BACKGROUND DATA: 15 HOURS FROM 03-01-93, 5:39 PM to 03-02-93, 8:40 AM.

PUMP TRIAL RUN: 1 HOUR ON 03-01-93 FROM 5:40 PM to 6:40 PM.

DRAWDOWN PHASE: 20 HOURS FROM 03-02-93, 8:40 AM to 03-03-93, 4:40 AM.

RECOVERY PHASE: 27.5 HOURS FROM 03-03-93, 4:40 AM to 03-04-93, 8:07 AM.

DISCHARGE MEASUREMENT: ORIFICE-MANOMETER TUBE (4 in. orifice on an 8 in. dia. discharge pipe)

AVERAGE PUMPING RATE: 399 GPM from oriface table, 8 in. pipe (46.53 in. manometer level)
(404 GPM calculated value, using 7.94 in. I.D. pipe)

METEORLOGICAL DATA: RAINFALL : 0.90 in., FRIDAY, 02-26-93.
0.20 in., THURSDAY, 03-04-93.

BAROMETER : 30.04 in., 8:00 AM, 03-02-93
29.62 in., 12:00 AM, 03-04-93

WELL SPECIFICATIONS:

TEST WELL	12 in. PVC CASING, L.S.- 40 ft., 12 in. 0.030 SLOT PVC SCREEN, 40 ft.- 200 ft. BL 6/20 GRADE SILICA SANDPACK, 210 ft - 38 ft BLS, CEMENT GROUT, 38 ft - L.S.
OB1 AND OB-2	2 in. PVC CASING, L.S.- 40 ft., 2 in. 0.020 SLOT PVC SCREEN, 40 ft.- 200 ft. BLS 6/20 GRADE SILICA SANDPACK, 210 ft.- 38 ft BLS, CEMENT GROUT, 38 ft - L.S.
OB-3	2 in. PVC CASING, L.S.- 20 ft., 2 in. 0.010 SLOT PVC SCREEN, 20 ft.- 100 ft. BLS NATURAL FORMATION SANDPACK, 100ft - L.S.

OBSERVATION WELLS, RADII FROM TEST WELL: OB-1 : 19.5 ft.
OB-2 : 49.5 ft.
OB-3 : 74.0 ft.

Appendix F, Table 1. ROMP 28 Kuhlman Surficial APT Drawdown Data.

ELAPSED TIME (MIN)	REDUCED DRAWDOWN DATA (displacement in feet)			
	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
0.001	0	0	0	0
0.033	3.09	0.01	0	0
0.066	6.66	0.03	0.01	0.01
0.101	9.85	0.03	0.01	0.01
0.134	13.27	0.06	0.02	0.01
0.167	16.21	0.07	0.02	0.01
0.200	18.63	0.09	0.02	0.01
0.233	20.63	0.1	0.02	0
0.266	22.42	0.13	0.03	0
0.300	24.02	0.15	0.03	0.01
0.334	25.15	0.16	0.03	0.02
0.367	25.84	0.18	0.03	0.03
0.400	26.47	0.2	0.03	0.04
0.433	27.02	0.22	0.04	0.04
0.467	27.57	0.24	0.04	0.04
0.500	28.22	0.26	0.04	0.04
0.533	28.84	0.28	0.04	0.05
0.567	29.56	0.28	0.04	0.06
0.600	29.92	0.31	0.05	0.06
0.634	29.93	0.32	0.05	0.07
0.667	29.93	0.34	0.05	0.08
0.700	29.93	0.35	0.06	0.08
0.733	29.93	0.37	0.06	0.09
0.768	29.93	0.39	0.06	0.09
0.801	29.93	0.41	0.06	0.1
0.834	29.94	0.41	0.06	0.1
0.867	29.93	0.43	0.06	0.1
0.900	29.93	0.45	0.07	0.1
0.933	29.94	0.47	0.07	0.1
0.966	29.94	0.48	0.07	0.11
1.001	29.93	0.49	0.07	0.11
1.08	29.93	0.54	0.08	0.12
1.17	29.94	0.58	0.09	0.12
1.25	29.93	0.61	0.09	0.13
1.3	29.93	0.65	0.1	0.14
1.4	29.94	0.68	0.11	0.14
1.5	29.94	0.72	0.12	0.14
1.6	29.94	0.75	0.13	0.14
1.7	29.94	0.8	0.13	0.15
1.7	29.94	0.82	0.14	0.15
1.8	29.94	0.86	0.15	0.15
1.9	29.94	0.89	0.16	0.15
2.0	29.94	0.92	0.16	0.15
2.1	29.94	0.95	0.17	0.15
2.2	29.94	0.98	0.18	0.15
2.3	29.94	1	0.19	0.15
2.3	29.94	1.03	0.19	0.15
2.4	29.94	1.05	0.2	0.14
2.5	29.94	1.08	0.21	0.14
2.6	29.94	1.11	0.22	0.14
2.7	29.94	1.13	0.23	0.13
2.8	29.94	1.16	0.24	0.13

Appendix F, Table 1. ROMP 28 Kuhlman Surficial APT Drawdown Data.

ELAPSED TIME (MIN)	REDUCED DRAWDOWN DATA (displacement in feet)			
	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
2.8	29.94	1.18	0.25	0.13
2.9	29.94	1.19	0.25	0.13
3.0	29.94	1.22	0.26	0.12
3.1	29.94	1.24	0.26	0.12
3.2	29.94	1.25	0.27	0.11
3.3	29.94	1.27	0.28	0.11
3.3	29.94	1.3	0.29	0.1
3.4	29.94	1.31	0.3	0.1
3.5	29.94	1.33	0.31	0.1
3.6	29.94	1.35	0.32	0.1
3.7	29.94	1.37	0.32	0.09
3.7	29.94	1.37	0.32	0.09
3.8	29.94	1.39	0.33	0.09
3.9	29.94	1.41	0.34	0.08
4.0	29.94	1.43	0.35	0.07
4.1	29.94	1.44	0.36	0.07
4.2	29.94	1.45	0.36	0.07
4.2	29.94	1.46	0.37	0.06
4.3	29.94	1.48	0.38	0.05
4.4	29.94	1.5	0.39	0.05
4.5	29.94	1.5	0.39	0.04
4.6	29.94	1.51	0.39	0.04
4.7	29.94	1.52	0.4	0.04
4.8	29.94	1.54	0.41	0.04
4.8	29.94	1.55	0.42	0.03
4.9	29.94	1.56	0.43	0.03
5.0	29.94	1.57	0.44	0.02
5.2	29.94	1.59	0.45	0.01
5.3	29.94	1.61	0.46	0
5.5	29.94	1.63	0.47	0.01
5.7	29.94	1.64	0.49	0.02
5.8	29.94	1.66	0.5	0.02
6.0	29.94	1.68	0.51	0.03
6.2	29.94	1.69	0.53	0.05
6.3	29.94	1.7	0.54	0.06
6.5	29.94	1.72	0.55	0.07
6.7	29.94	1.73	0.57	0.08
6.8	29.94	1.75	0.58	0.09
7.0	29.94	1.76	0.58	0.09
7.2	29.94	1.77	0.6	0.1
7.3	29.94	1.78	0.61	0.11
7.5	29.94	1.79	0.62	0.12
7.7	29.94	1.81	0.63	0.12
7.8	29.94	1.82	0.64	0.13
8.0	29.94	1.82	0.64	0.14
8.2	29.94	1.84	0.66	0.15
8.3	29.94	1.85	0.67	0.15
8.5	29.94	1.86	0.68	0.16
8.7	29.94	1.87	0.69	0.17
8.8	29.94	1.88	0.71	0.18
9.0	29.94	1.89	0.71	0.19
9.2	29.94	1.9	0.72	0.19

Appendix F, Table 1. ROMP 28 Kuhlman Surficial APT Drawdown Data.

ELAPSED TIME (MIN)	REDUCED DRAWDOWN DATA (displacement in feet)			
	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
9.3	29.94	1.91	0.73	0.2
9.5	29.94	1.93	0.74	0.21
9.7	29.94	1.94	0.75	0.22
9.8	29.94	1.95	0.76	0.22
10.0	29.94	1.95	0.77	0.22
10.5	29.94	1.98	0.79	0.25
11.0	29.94	2.01	0.82	0.27
11.5	29.94	2.03	0.84	0.28
12.0	29.94	2.06	0.87	0.3
12.5	29.94	2.08	0.9	0.32
13.0	29.94	2.1	0.91	0.34
13.5	29.94	2.12	0.93	0.34
14.0	29.94	2.14	0.96	0.36
14.5	29.94	2.16	0.98	0.38
15.0	29.94	2.18	0.99	0.39
15.5	29.94	2.2	1.02	0.41
16.0	29.94	2.21	1.03	0.41
16.5	29.94	2.23	1.05	0.43
17.0	29.94	2.25	1.07	0.44
17.5	29.94	2.27	1.09	0.45
18.0	29.94	2.28	1.1	0.47
18.5	29.94	2.3	1.12	0.47
19.0	29.94	2.31	1.13	0.48
19.5	29.94	2.33	1.15	0.49
20.0	29.94	2.33	1.16	0.5
21	29.94	2.37	1.19	0.53
22	29.94	2.4	1.22	0.54
23	29.94	2.42	1.24	0.55
24	29.94	2.44	1.26	0.57
25	29.94	2.46	1.28	0.59
26	29.94	2.5	1.31	0.6
27	29.94	2.53	1.34	0.61
28	29.94	2.55	1.35	0.63
29	29.94	2.57	1.38	0.64
30	29.94	2.59	1.4	0.66
31	29.94	2.61	1.41	0.67
32	29.94	2.63	1.43	0.68
33	29.94	2.65	1.45	0.69
34	29.94	2.66	1.48	0.71
35	29.94	2.68	1.49	0.72
36	29.94	2.69	1.5	0.73
37	29.94	2.71	1.52	0.73
38	29.94	2.72	1.54	0.74
39	29.94	2.73	1.55	0.76
40	29.94	2.75	1.56	0.77
45	29.94	2.81	1.63	0.81
50	29.94	2.86	1.68	0.85
55	29.94	2.91	1.73	0.88
60	29.94	2.95	1.78	0.92
65	29.94	3.02	1.83	0.94
70	29.94	3.06	1.87	0.98
75	29.94	3.1	1.91	1.01

Appendix F, Table 1. ROMP 28 Kuhlman Surficial APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)			
(MIN)	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
80	29.94	3.12	1.94	1.03
85	29.94	3.15	1.97	1.05
90	29.94	3.17	2	1.08
100	29.94	3.22	2.05	1.11
110	29.94	3.26	2.09	1.14
120	29.95	3.29	2.12	1.17
130	29.94	3.32	2.16	1.19
140	29.94	3.34	2.18	1.22
150	29.95	3.36	2.22	1.24
160	29.94	3.38	2.24	1.25
170	29.94	3.4	2.25	1.27
180	29.94	3.42	2.28	1.29
195	29.94	3.43	2.3	1.31
210	29.94	3.46	2.31	1.31
225	29.94	3.48	2.34	1.33
240	29.94	3.49	2.35	1.34
255	29.94	3.5	2.37	1.36
270	29.94	3.51	2.38	1.37
285	29.94	3.52	2.39	1.37
327	29.94	3.55	2.43	1.4
357	29.95	3.68	2.58	1.5
387	29.94	3.64	2.56	1.49
417	29.94	3.65	2.56	1.5
447	29.94	3.66	2.56	1.51
477	29.95	3.68	2.57	1.51
507	29.94	3.68	2.58	1.52
537	29.95	3.69	2.6	1.54
567	29.95	3.7	2.61	1.56
597	29.95	3.72	2.63	1.56
627	29.95	3.73	2.63	1.56
657	29.95	3.73	2.63	1.58
687	29.95	3.75	2.67	1.58
717	29.95	3.75	2.67	1.58
747	29.95	3.76	2.69	1.6
777	29.95	3.77	2.69	1.6
807	29.95	3.77	2.69	1.6
837	29.96	3.74	2.69	1.63
867	29.96	3.72	2.67	1.61
897	29.96	3.74	2.68	1.61
927	29.96	3.75	2.69	1.62
957	29.96	3.75	2.69	1.62
987	29.96	3.82	2.76	1.64
1017	29.96	3.79	2.74	1.63
1047	29.96	3.79	2.73	1.63
1077	29.96	3.79	2.73	1.63
1107	29.96	3.79	2.72	1.63
1137	29.96	3.78	2.72	1.64
1167	29.96	3.8	2.75	1.63
1197	29.96	3.77	2.73	1.64

Appendix F, Table 2. ROMP 28 Kuhlman Surficial APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)			
(MIN)	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
0.001	29.96	3.77	2.73	1.64
0.033	29.96	3.77	2.73	1.64
0.066	29.96	3.76	2.73	1.64
0.099	29.96	3.75	2.73	1.65
0.132	29.96	3.75	2.73	1.65
0.167	29.07	3.74	2.74	1.66
0.200	25.43	3.72	2.73	1.66
0.233	22.76	3.71	2.73	1.66
0.266	20.77	3.69	2.73	1.67
0.300	19.61	3.68	2.74	1.68
0.333	19.21	3.67	2.73	1.68
0.366	19.05	3.66	2.73	1.69
0.400	18.6	3.64	2.73	1.69
0.433	17.81	3.63	2.73	1.69
0.467	17.03	3.62	2.73	1.7
0.500	16.58	3.61	2.73	1.7
0.533	16.32	3.61	2.73	1.71
0.566	16.01	3.59	2.73	1.71
0.599	15.53	3.58	2.72	1.71
0.634	14.98	3.56	2.72	1.72
0.667	14.55	3.55	2.72	1.72
0.700	14.28	3.55	2.72	1.73
0.733	14.07	3.54	2.72	1.73
0.766	13.78	3.53	2.71	1.73
0.799	13.41	3.51	2.71	1.73
0.834	13.07	3.5	2.71	1.74
0.867	12.83	3.49	2.71	1.74
0.900	12.64	3.49	2.7	1.74
0.933	12.45	3.48	2.7	1.74
0.966	12.2	3.47	2.7	1.74
0.999	11.96	3.46	2.7	1.75
1.03	11.74	3.44	2.69	1.75
1.07	11.57	3.43	2.69	1.75
1.10	11.42	3.42	2.69	1.75
1.13	11.26	3.42	2.69	1.75
1.17	11.08	3.41	2.69	1.75
1.20	10.9	3.4	2.69	1.75
1.23	10.74	3.39	2.68	1.75
1.27	10.62	3.38	2.68	1.75
1.30	10.51	3.37	2.68	1.75
1.33	10.37	3.36	2.67	1.75
1.37	10.21	3.36	2.67	1.75
1.45	9.91	3.33	2.66	1.75
1.53	9.69	3.31	2.66	1.75
1.62	9.43	3.29	2.65	1.75
1.70	9.26	3.27	2.63	1.75
1.78	9.03	3.25	2.63	1.75
1.87	8.89	3.23	2.63	1.75
1.95	8.7	3.22	2.62	1.75
2.03	8.57	3.19	2.61	1.74
2.12	8.43	3.17	2.6	1.74
2.20	8.3	3.16	2.59	1.74

Appendix F, Table 2. ROMP 28 Kuhlman Surficial APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)			
(MIN)	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
2.28	8.19	3.14	2.58	1.73
2.37	8.07	3.13	2.57	1.73
2.45	7.97	3.11	2.56	1.73
2.53	7.86	3.1	2.56	1.72
2.62	7.78	3.08	2.55	1.72
2.70	7.69	3.06	2.54	1.71
2.78	7.6	3.05	2.54	1.71
2.87	7.53	3.04	2.53	1.7
2.95	7.45	3.03	2.52	1.7
3.03	7.38	3.01	2.51	1.69
3.12	7.3	3	2.5	1.69
3.20	7.24	2.98	2.5	1.69
3.28	7.17	2.97	2.49	1.69
3.37	7.12	2.96	2.48	1.68
3.45	7.06	2.94	2.47	1.68
3.53	7	2.93	2.47	1.67
3.62	6.94	2.92	2.46	1.67
3.70	6.87	2.91	2.45	1.66
3.78	6.84	2.9	2.44	1.65
3.87	6.78	2.89	2.44	1.65
3.95	6.73	2.87	2.43	1.64
4.03	6.68	2.86	2.42	1.64
4.12	6.65	2.85	2.42	1.63
4.20	6.59	2.85	2.41	1.63
4.28	6.55	2.84	2.4	1.63
4.37	6.51	2.82	2.39	1.63
4.45	6.47	2.81	2.38	1.62
4.53	6.43	2.8	2.37	1.61
4.62	6.38	2.79	2.37	1.61
4.70	6.35	2.78	2.37	1.6
4.78	6.3	2.77	2.36	1.59
4.87	6.27	2.76	2.35	1.59
4.95	6.24	2.75	2.35	1.59
5.03	6.2	2.74	2.34	1.58
5.12	6.17	2.73	2.33	1.57
5.20	6.13	2.72	2.32	1.57
5.28	6.1	2.72	2.31	1.56
5.37	6.07	2.71	2.31	1.56
5.5	6	2.69	2.3	1.56
5.7	5.94	2.67	2.29	1.55
5.9	5.88	2.65	2.28	1.54
6.0	5.83	2.64	2.26	1.53
6.2	5.76	2.62	2.24	1.51
6.4	5.71	2.6	2.24	1.5
6.5	5.66	2.59	2.23	1.5
6.7	5.61	2.58	2.21	1.49
6.9	5.56	2.56	2.2	1.48
7.0	5.51	2.54	2.19	1.47
7.2	5.46	2.53	2.18	1.46
7.4	5.42	2.52	2.17	1.46
7.5	5.37	2.51	2.16	1.45
7.7	5.32	2.49	2.15	1.44

Appendix F, Table 2. ROMP 28 Kuhlman Surficial APT Recovery Data.

ELAPSED TIME (MIN)	REDUCED RECOVERY DATA (displacement in feet)			
	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
7.9	5.28	2.48	2.14	1.43
8.0	5.25	2.46	2.12	1.43
8.2	5.21	2.46	2.12	1.42
8.4	5.17	2.44	2.11	1.41
8.5	5.14	2.42	2.09	1.4
8.7	5.1	2.41	2.09	1.4
8.9	5.07	2.4	2.07	1.39
9.0	5.03	2.4	2.06	1.38
9.2	5	2.38	2.05	1.37
9.4	4.96	2.37	2.05	1.37
9.5	4.93	2.36	2.04	1.37
9.7	4.9	2.34	2.03	1.36
9.9	4.87	2.33	2.02	1.35
10.0	4.84	2.33	2.01	1.34
10.2	4.81	2.32	2	1.34
10.4	4.78	2.3	1.99	1.33
10.9	4.7	2.27	1.97	1.31
11.4	4.61	2.25	1.94	1.3
11.9	4.54	2.21	1.92	1.28
12.4	4.46	2.2	1.9	1.26
12.9	4.4	2.16	1.87	1.25
13.4	4.33	2.14	1.86	1.24
13.9	4.27	2.12	1.83	1.22
14.4	4.21	2.09	1.81	1.21
14.9	4.15	2.08	1.8	1.19
15.4	4.1	2.05	1.78	1.18
15.9	4.05	2.02	1.75	1.17
16.4	3.99	2.01	1.73	1.16
16.9	3.94	1.99	1.73	1.15
17.4	3.89	1.96	1.7	1.13
17.9	3.85	1.95	1.69	1.12
18.4	3.8	1.93	1.67	1.11
18.9	3.76	1.9	1.65	1.1
19.4	3.72	1.89	1.64	1.09
19.9	3.68	1.87	1.62	1.08
20.4	3.65	1.85	1.6	1.07
21	3.57	1.82	1.58	1.05
22	3.5	1.79	1.55	1.04
23	3.43	1.76	1.53	1.02
24	3.37	1.73	1.51	1.01
25	3.31	1.7	1.48	0.99
26	3.26	1.67	1.47	0.99
27	3.21	1.64	1.44	0.97
28	3.16	1.62	1.41	0.96
29	3.1	1.59	1.4	0.94
30	3.06	1.57	1.38	0.93
31	3.02	1.55	1.36	0.92
32	2.97	1.52	1.34	0.91
33	2.93	1.5	1.32	0.9
34	2.89	1.48	1.3	0.89
35	2.85	1.46	1.29	0.88
36	2.81	1.44	1.28	0.87

Appendix F, Table 2. ROMP 28 Kuhlman Surficial APT Recovery Data.

ELAPSED TIME (MIN)	REDUCED RECOVERY DATA (displacement in feet)			
	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
37	2.77	1.43	1.26	0.86
38	2.74	1.4	1.24	0.86
39	2.71	1.39	1.23	0.85
40	2.68	1.37	1.22	0.84
45	2.53	1.29	1.15	0.79
50	2.4	1.22	1.09	0.76
55	2.3	1.15	1.03	0.73
60	2.2	1.1	0.99	0.71
65	2.11	1.05	0.95	0.68
70	2.03	1	0.9	0.67
75	1.96	0.97	0.87	0.65
80	1.9	0.93	0.84	0.63
85	1.84	0.9	0.81	0.61
90	1.78	0.86	0.78	0.6
100	1.68	0.81	0.73	0.56
110	1.59	0.76	0.68	0.54
120	1.51	0.73	0.64	0.52
130	1.44	0.68	0.6	0.49
140	1.38	0.66	0.58	0.48
150	1.32	0.62	0.54	0.46
160	1.27	0.6	0.51	0.45
170	1.22	0.56	0.49	0.43
180	1.17	0.54	0.46	0.41
195	1.11	0.51	0.43	0.4
210	1.06	0.48	0.4	0.39
225	1.01	0.46	0.38	0.37
240	0.96	0.44	0.35	0.35
255	0.92	0.41	0.33	0.34
270	0.86	0.4	0.31	0.33
285	0.83	0.38	0.29	0.32
327	0.74	0.42	0.39	0.37
357	0.68	0.39	0.33	0.34
387	0.63	0.35	0.28	0.32
417	0.58	0.33	0.25	0.3
447	0.53	0.31	0.22	0.29
477	0.49	0.29	0.2	0.28
507	0.45	0.27	0.19	0.27
537	0.4	0.27	0.17	0.27
567	0.38	0.25	0.17	0.26
597	0.34	0.23	0.15	0.25
627	0.32	0.22	0.14	0.24
657	0.29	0.21	0.13	0.25
687	0.27	0.21	0.13	0.23
717	0.25	0.2	0.12	0.22
747	0.23	0.2	0.12	0.22
777	0.21	0.18	0.11	0.22
807	0.19	0.18	0.1	0.21
837	0.17	0.17	0.09	0.21
867	0.16	0.17	0.09	0.2
897	0.15	0.16	0.09	0.2
927	0.14	0.16	0.09	0.2
957	0.12	0.15	0.08	0.19

Appendix F, Table 2. ROMP 28 Kuhlman Surficial APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)			
(MIN)	SURF-MON	SURF-OB1	SURF-OB2	SURF-OB3
987	0.11	0.15	0.08	0.19
1017	0.09	0.15	0.07	0.18
1047	0.08	0.14	0.07	0.17
1077	0.06	0.13	0.07	0.17
1107	0.05	0.13	0.06	0.16
1137	0.03	0.11	0.05	0.16
1167	0.02	0.11	0.04	0.15
1197	0.01	0.1	0.04	0.15
1227	0	0.1	0.03	0.15
1257	0.02	0.09	0.03	0.15
1287	0.02	0.1	0.03	0.15
1317	0.03	0.09	0.03	0.15
1347	0.04	0.09	0.03	0.15
1377	0.05	0.09	0.03	0.15
1407	0.05	0.09	0.03	0.15
1437	0.05	0.09	0.03	0.15
1467	0.06	0.09	0.03	0.15
1497	0.06	0.09	0.03	0.15
1527	0.06	0.09	0.03	0.15
1557	0.07	0.09	0.03	0.14
1587	0.07	0.09	0.03	0.14
1617	0.07	0.09	0.03	0.14
1647	0.08	0.09	0.03	0.15

Appendix G

Arcadia Fm. \ Hawthorn Gp. Intermediate APT Specifications and Analyses Results

Intermediate Aquifer Pumping Test Specifications

Test Zone: 370' - 430' BLS, Arcadia Fm./ Hawthorn Gp.

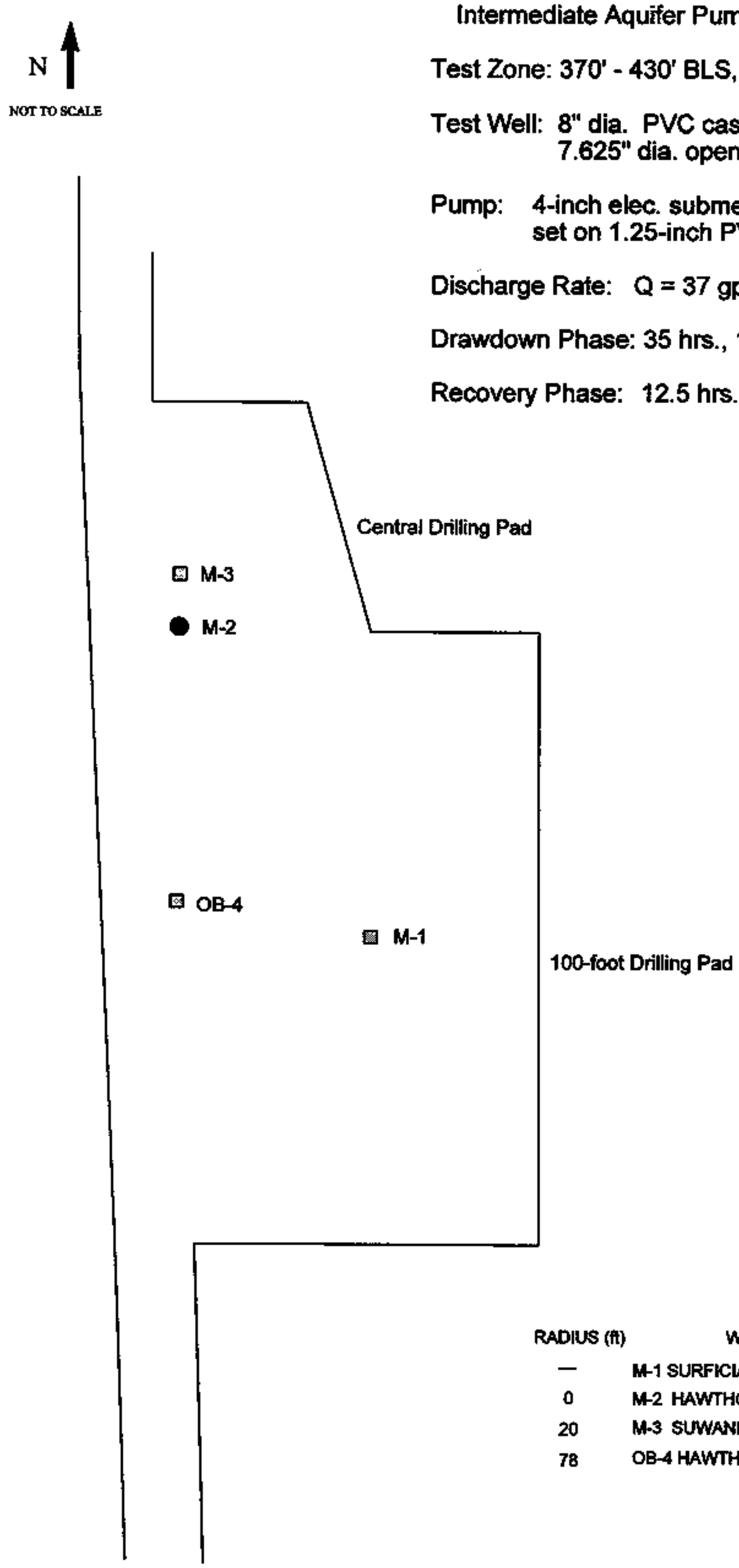
Test Well: 8" dia. PVC casing, L.S. - 370' BLS
7.625" dia. open hole , 370' - 430' BLS

Pump: 4-inch elec. submersible , 3 ph. 240 v.
set on 1.25-inch PVC drop pipe, 132' BLS.

Discharge Rate: Q = 37 gpm (average)

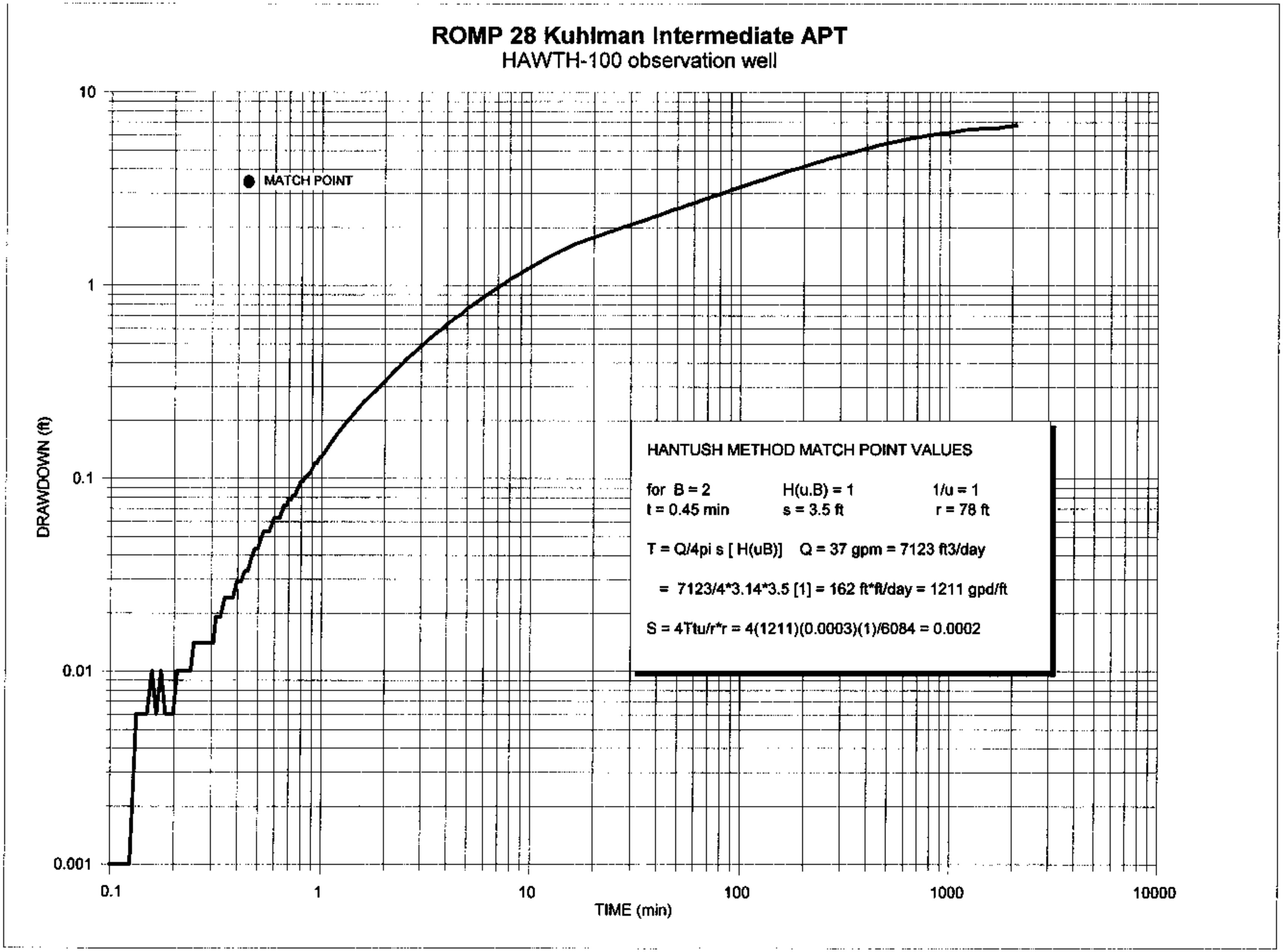
Drawdown Phase: 35 hrs., 11:46/2-27-96 to 22:56/2-28-96

Recovery Phase: 12.5 hrs., 22:59/2-28-96 to 11:24/2-29-96

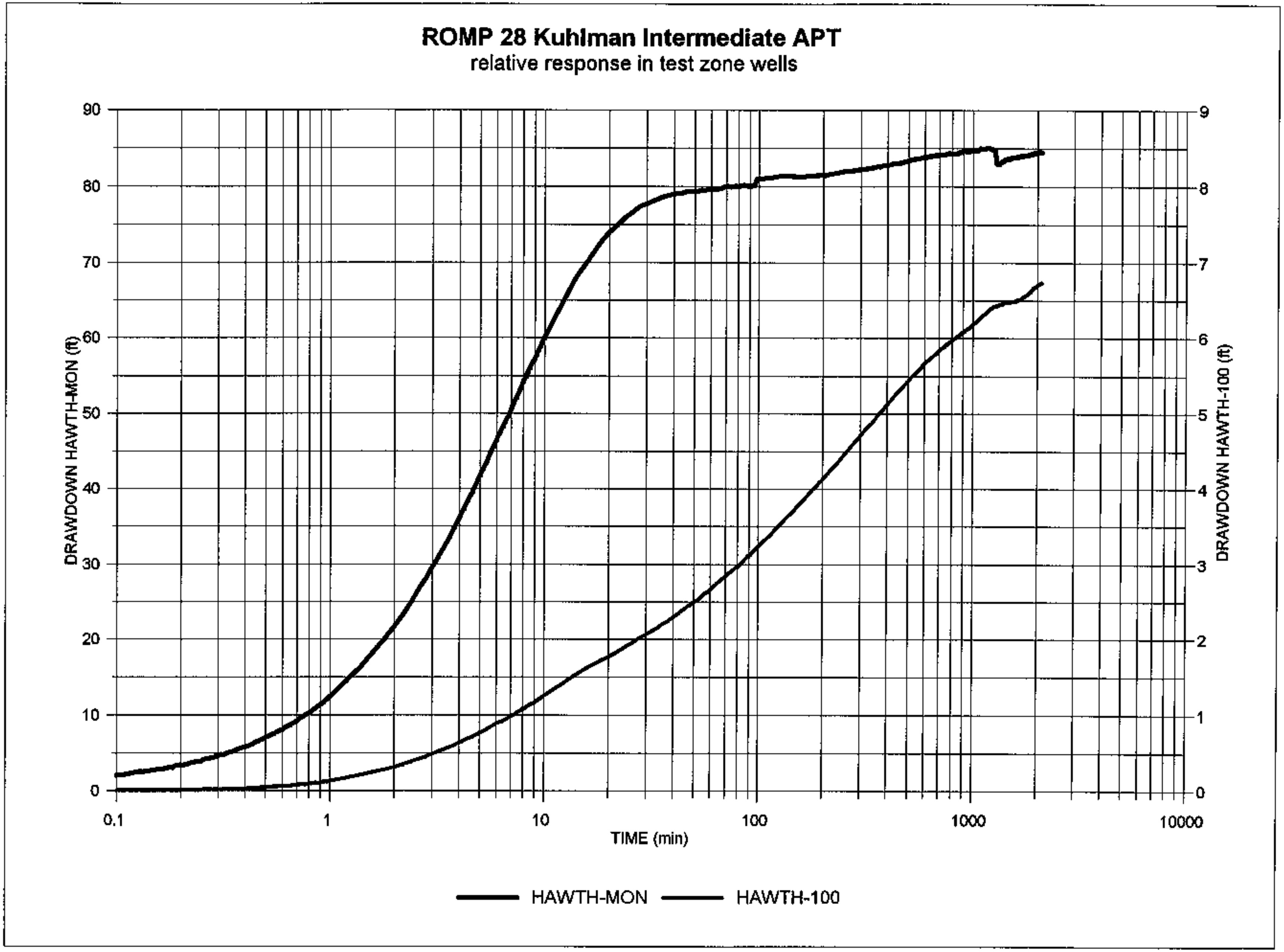


RADIUS (ft)	WELL
—	M-1 SURFICIAL MONITOR
0	M-2 HAWTHORN MONITOR-TEST
20	M-3 SUWANNEE MONITOR
78	OB-4 HAWTH-100\OCALA-SH DUAL ZONE

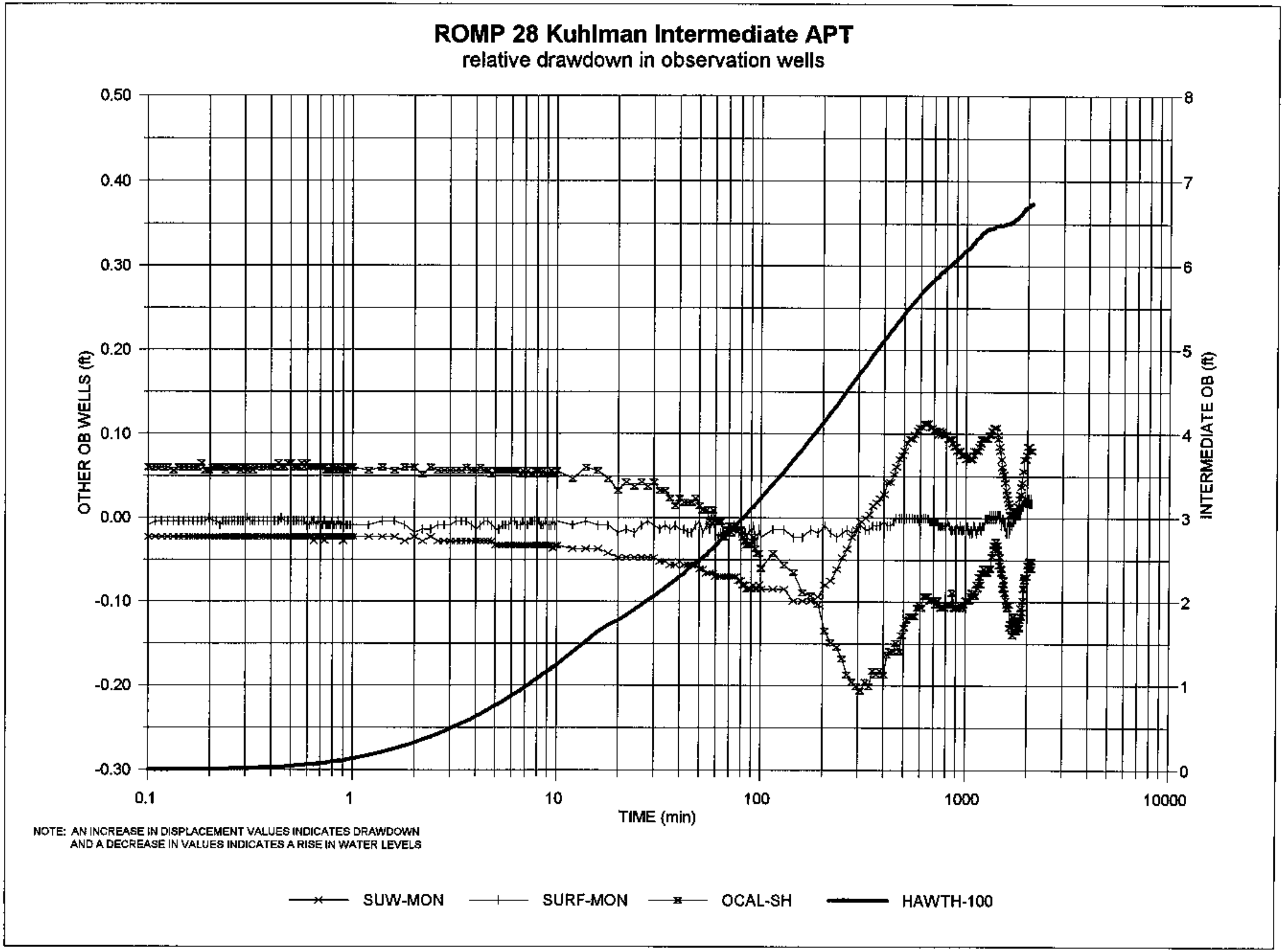
ROMP 28 Kuhlman	Appendix G. Intermediate APT layout with test specifications



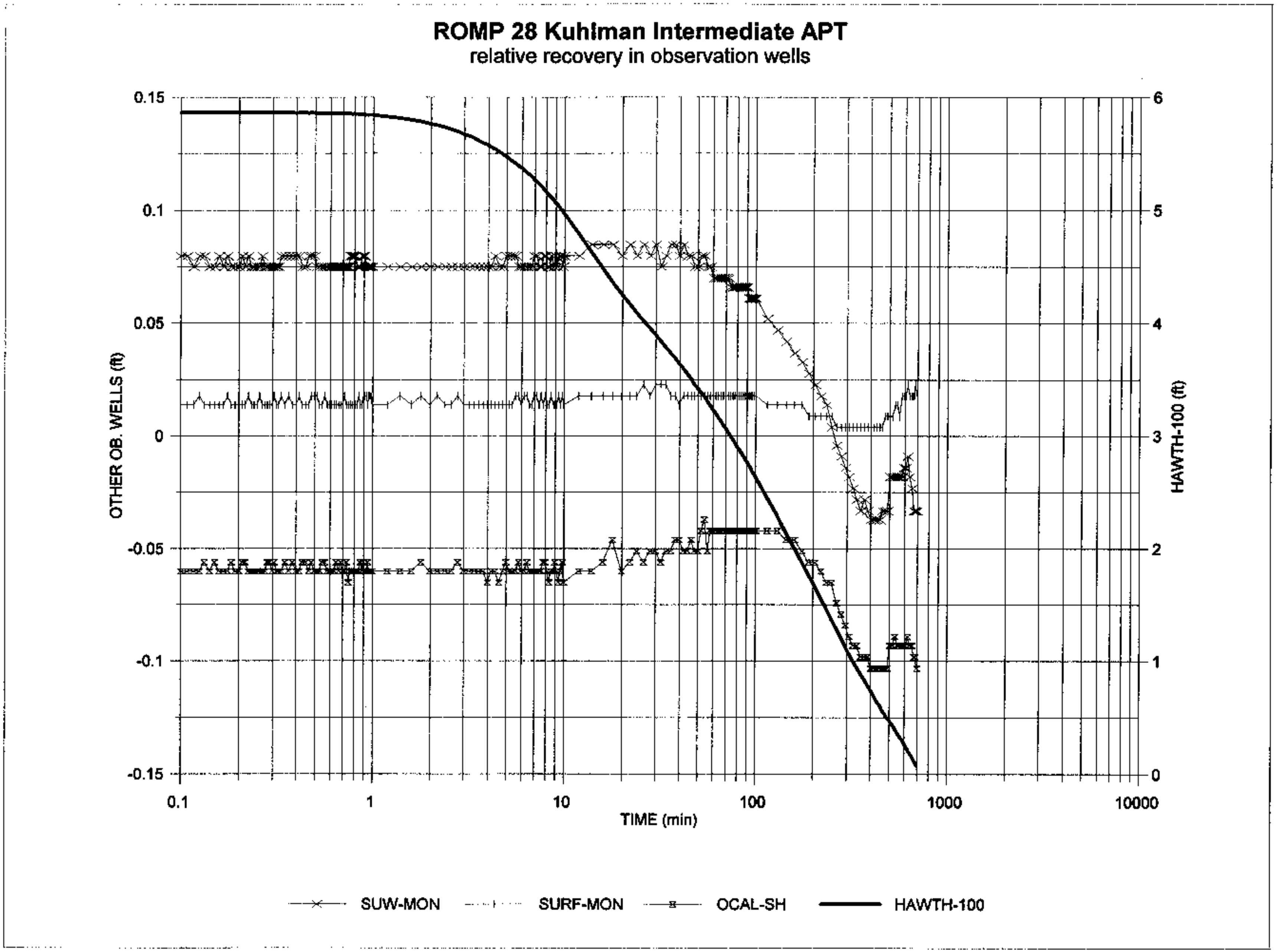
Appendix G, Figure 1. Time-drawdown log plot, Intermediate aquifer test zone observation well.



Appendix G, Figure 2. Time-drawdown semilog plot, Intermediate test zone wells.



Appendix G, Figure 3. Time-drawdown semilog plot, relative response of Intermediate APT observation wells.



Appendix G, Figure 4. Time-recovery semilog plot, HAWTH-100 well and other observation wells.

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
0.001	0.062	0.001	-0.023	-0.004	0.06
0.008	0.125	0.001	-0.023	-0.004	0.056
0.017	0.314	0.001	-0.023	-0.004	0.06
0.025	0.44	0.001	-0.023	-0.009	0.051
0.033	0.597	0.001	-0.023	-0.004	0.06
0.042	0.722	0.001	-0.023	-0.004	0.056
0.050	0.848	0.001	-0.023	-0.004	0.06
0.058	0.974	0.001	-0.023	-0.004	0.06
0.067	1.162	0.001	-0.023	-0.004	0.056
0.075	1.257	0.001	-0.023	-0.004	0.06
0.083	1.445	0.001	-0.023	-0.004	0.065
0.092	1.54	0.001	-0.023	-0.009	0.06
0.100	1.665	0.001	-0.023	-0.004	0.06
0.108	1.822	0.001	-0.023	-0.004	0.06
0.117	1.948	0.001	-0.023	-0.004	0.06
0.125	2.105	0.001	-0.023	-0.004	0.056
0.133	2.2	0.006	-0.023	-0.004	0.06
0.142	2.388	0.006	-0.023	-0.004	0.06
0.150	2.482	0.006	-0.023	-0.004	0.06
0.158	2.64	0.01	-0.023	-0.004	0.06
0.167	2.734	0.006	-0.023	-0.004	0.06
0.175	2.86	0.01	-0.023	-0.004	0.065
0.183	2.985	0.006	-0.023	-0.004	0.056
0.192	3.111	0.006	-0.023	0	0.056
0.200	3.268	0.006	-0.023	-0.004	0.06
0.208	3.394	0.01	-0.023	-0.004	0.06
0.217	3.52	0.01	-0.023	-0.009	0.06
0.225	3.645	0.01	-0.023	-0.004	0.06
0.233	3.74	0.01	-0.023	-0.004	0.056
0.242	3.897	0.01	-0.023	-0.004	0.06
0.250	4.022	0.014	-0.023	-0.004	0.06
0.258	4.18	0.014	-0.023	-0.004	0.06
0.267	4.305	0.014	-0.023	-0.004	0.06
0.275	4.431	0.014	-0.023	-0.004	0.056
0.283	4.557	0.014	-0.023	-0.004	0.06
0.292	4.651	0.014	-0.023	-0.004	0.06
0.300	4.808	0.014	-0.023	0	0.056
0.308	4.934	0.014	-0.023	-0.004	0.06
0.317	4.997	0.019	-0.023	-0.004	0.056
0.325	5.154	0.019	-0.023	-0.004	0.06
0.333	5.28	0.019	-0.023	-0.004	0.06
0.350	5.531	0.024	-0.023	-0.004	0.06
0.367	5.814	0.024	-0.023	-0.004	0.06
0.383	6.034	0.024	-0.023	-0.004	0.06

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
0.400	6.285	0.029	-0.023	-0.004	0.06
0.417	6.537	0.029	-0.023	-0.004	0.065
0.433	6.788	0.033	-0.023	0	0.06
0.450	6.977	0.033	-0.023	-0.004	0.06
0.467	7.228	0.038	-0.023	-0.004	0.065
0.483	7.48	0.043	-0.023	-0.004	0.065
0.500	7.731	0.043	-0.023	-0.004	0.06
0.517	8.014	0.048	-0.023	-0.004	0.06
0.533	8.203	0.053	-0.023	-0.004	0.06
0.550	8.423	0.053	-0.023	-0.004	0.065
0.567	8.643	0.053	-0.023	-0.004	0.06
0.583	8.894	0.057	-0.023	-0.009	0.065
0.600	9.177	0.062	-0.023	-0.009	0.06
0.617	9.366	0.062	-0.023	-0.004	0.06
0.633	9.554	0.062	-0.028	-0.004	0.06
0.650	9.806	0.067	-0.023	-0.009	0.06
0.667	9.994	0.072	-0.023	-0.004	0.06
0.683	10.246	0.072	-0.023	-0.009	0.06
0.700	10.497	0.077	-0.023	-0.009	0.06
0.717	10.717	0.077	-0.028	-0.004	0.06
0.733	10.937	0.081	-0.023	-0.009	0.056
0.750	11.157	0.081	-0.023	-0.009	0.056
0.767	11.409	0.086	-0.023	-0.009	0.056
0.783	11.66	0.091	-0.023	-0.004	0.06
0.800	11.88	0.096	-0.023	-0.009	0.056
0.817	12.1	0.096	-0.023	-0.009	0.06
0.833	12.257	0.101	-0.023	-0.004	0.056
0.850	12.477	0.101	-0.023	-0.009	0.06
0.867	12.697	0.105	-0.023	-0.009	0.056
0.883	12.98	0.105	-0.028	-0.004	0.056
0.900	13.138	0.11	-0.023	-0.009	0.056
0.917	13.326	0.115	-0.023	-0.009	0.056
0.933	13.609	0.12	-0.023	-0.009	0.06
0.950	13.86	0.12	-0.023	-0.009	0.06
0.967	14.018	0.124	-0.023	-0.009	0.06
0.983	14.206	0.129	-0.023	-0.009	0.06
1	14.489	0.129	-0.023	-0.009	0.056
1.2	16.972	0.172	-0.023	-0.004	0.06
1.4	19.424	0.211	-0.023	-0.004	0.056
1.6	21.844	0.249	-0.028	-0.009	0.06
1.8	23.951	0.283	-0.023	-0.018	0.06
2	26.025	0.316	-0.028	-0.014	0.051
2.2	28.1	0.354	-0.023	-0.014	0.06
2.4	30.112	0.388	-0.028	-0.009	0.056

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
2.6	31.935	0.421	-0.028	-0.009	0.056
2.8	33.79	0.45	-0.028	-0.009	0.056
3	35.55	0.484	-0.028	-0.004	0.056
3.2	37.154	0.517	-0.028	-0.004	0.056
3.4	38.851	0.546	-0.028	-0.004	0.06
3.6	40.392	0.575	-0.028	-0.009	0.056
3.8	41.932	0.599	-0.028	-0.014	0.056
4	43.41	0.632	-0.028	-0.009	0.06
4.2	44.888	0.656	-0.028	-0.004	0.056
4.4	46.208	0.685	-0.028	-0.004	0.056
4.6	47.56	0.704	-0.028	-0.009	0.051
4.8	48.786	0.733	-0.033	-0.014	0.056
5	50.012	0.762	-0.033	-0.014	0.056
5.2	51.207	0.781	-0.033	-0.009	0.056
5.4	52.433	0.805	-0.033	-0.009	0.056
5.6	53.471	0.829	-0.033	-0.009	0.056
5.8	54.634	0.853	-0.033	-0.004	0.056
6	55.672	0.877	-0.033	-0.004	0.056
6.2	56.803	0.896	-0.033	-0.009	0.056
6.4	57.747	0.915	-0.033	-0.009	0.051
6.6	58.69	0.934	-0.033	-0.004	0.056
6.8	59.728	0.958	-0.033	-0.009	0.051
7	60.639	0.977	-0.033	-0.009	0.056
7.2	61.488	0.996	-0.033	-0.004	0.051
7.4	62.369	1.015	-0.033	-0.004	0.051
7.6	63.186	1.039	-0.033	-0.004	0.056
7.8	64.067	1.059	-0.033	-0.004	0.056
8	64.853	1.078	-0.033	-0.004	0.056
8.2	65.576	1.092	-0.033	-0.009	0.051
8.4	66.331	1.111	-0.033	-0.009	0.056
8.6	67.054	1.13	-0.033	-0.004	0.051
8.8	67.714	1.145	-0.033	-0.009	0.051
9	68.437	1.159	-0.033	-0.009	0.051
9.2	69.161	1.183	-0.033	-0.009	0.056
9.4	69.79	1.197	-0.037	-0.004	0.051
9.6	70.387	1.217	-0.033	-0.009	0.051
9.8	71.016	1.231	-0.033	-0.004	0.056
10	71.582	1.245	-0.037	-0.009	0.046
12	76.708	1.394	-0.037	-0.004	0.06
14	80.292	1.518	-0.037	-0.009	0.056
16	82.179	1.633	-0.042	-0.009	0.046
18	81.676	1.71	-0.047	-0.018	0.032
20	81.299	1.772	-0.047	-0.014	0.042
22	80.984	1.834	-0.047	-0.018	0.037

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
24	80.701	1.901	-0.047	-0.009	0.042
26	80.575	1.959	-0.047	-0.004	0.037
28	80.387	2.016	-0.047	-0.009	0.042
30	80.324	2.059	-0.052	-0.014	0.032
32	80.198	2.112	-0.052	-0.009	0.032
34	80.261	2.155	-0.056	-0.014	0.023
36	80.198	2.203	-0.056	-0.009	0.014
38	80.135	2.251	-0.052	-0.014	0.023
40	80.198	2.294	-0.056	-0.014	0.018
42	80.198	2.332	-0.056	-0.018	0.018
44	80.072	2.38	-0.056	-0.018	0.018
46	80.135	2.423	-0.056	-0.009	0.023
48	80.198	2.457	-0.061	-0.004	0.014
50	80.23	2.49	-0.061	-0.018	0.009
52	80.292	2.524	-0.066	-0.009	0.009
54	80.355	2.557	-0.066	-0.014	-0.004
56	80.418	2.6	-0.066	-0.004	0.009
58	80.387	2.629	-0.07	-0.018	-0.004
60	80.45	2.662	-0.07	-0.023	-0.004
62	80.45	2.701	-0.07	-0.018	-0.004
64	80.45	2.734	-0.07	-0.018	-0.023
66	80.481	2.768	-0.07	-0.018	-0.014
68	80.481	2.801	-0.07	-0.014	-0.009
70	80.513	2.825	-0.07	-0.014	-0.018
72	80.544	2.868	-0.07	-0.009	-0.009
74	80.575	2.897	-0.07	-0.014	-0.009
76	80.513	2.921	-0.075	-0.018	-0.014
78	80.575	2.949	-0.075	-0.023	-0.014
80	80.701	2.973	-0.08	-0.018	-0.023
82	80.701	2.997	-0.08	-0.018	-0.028
84	80.764	3.021	-0.085	-0.023	-0.032
86	80.827	3.05	-0.085	-0.014	-0.032
88	80.827	3.079	-0.085	-0.018	-0.032
90	80.858	3.112	-0.08	-0.009	-0.023
92	80.858	3.131	-0.085	-0.023	-0.037
94	80.953	3.155	-0.085	-0.028	-0.042
96	80.921	3.184	-0.08	-0.014	-0.042
98	80.953	3.203	-0.085	-0.023	-0.06
100	80.953	3.232	-0.085	-0.014	-0.042
115	81.204	3.399	-0.085	-0.014	-0.056
130	81.425	3.552	-0.099	-0.023	-0.065
145	81.362	3.691	-0.099	-0.023	-0.089
160	81.33	3.82	-0.099	-0.014	-0.093
175	81.456	3.945	-0.094	-0.018	-0.103

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
190	81.487	4.055	-0.08	-0.009	-0.135
205	81.519	4.16	-0.075	-0.018	-0.149
220	81.676	4.256	-0.061	-0.023	-0.154
235	81.833	4.346	-0.047	-0.018	-0.168
250	81.991	4.437	-0.037	-0.014	-0.187
265	82.085	4.523	-0.023	-0.018	-0.196
280	82.116	4.6	-0.014	-0.014	-0.201
295	82.242	4.676	-0.004	-0.009	-0.206
310	82.336	4.748	0	-0.014	-0.196
325	82.368	4.815	0.004	-0.014	-0.201
340	82.494	4.882	0.014	-0.009	-0.182
355	82.62	4.939	0.018	-0.009	-0.187
370	82.651	5.002	0.023	-0.009	-0.182
385	82.84	5.059	0.028	-0.004	-0.187
400	82.84	5.121	0.042	-0.009	-0.163
415	82.965	5.169	0.042	-0.009	-0.159
430	83.06	5.222	0.052	-0.004	-0.159
445	83.06	5.269	0.061	0	-0.149
460	83.154	5.317	0.07	0	-0.159
475	83.248	5.36	0.075	0	-0.14
490	83.343	5.403	0.08	0	-0.131
505	83.437	5.441	0.089	0	-0.121
520	83.532	5.48	0.094	0	-0.117
535	83.594	5.518	0.094	0	-0.117
550	83.657	5.551	0.099	0	-0.117
565	83.657	5.585	0.104	0	-0.107
580	83.815	5.623	0.108	-0.004	-0.103
595	83.877	5.657	0.108	0	-0.107
610	83.846	5.685	0.113	0	-0.093
625	83.972	5.714	0.113	0	-0.093
640	84.003	5.738	0.113	0	-0.093
655	84.035	5.762	0.108	-0.004	-0.098
670	84.098	5.786	0.108	-0.004	-0.098
685	84.098	5.805	0.104	-0.004	-0.098
700	84.098	5.829	0.104	-0.004	-0.103
715	84.192	5.853	0.099	-0.004	-0.098
730	84.192	5.872	0.104	-0.009	-0.103
745	84.16	5.896	0.099	-0.009	-0.107
760	84.318	5.919	0.104	-0.009	-0.107
775	84.349	5.934	0.099	-0.009	-0.107
790	84.286	5.953	0.099	-0.009	-0.103
805	84.318	5.972	0.094	-0.004	-0.103
820	84.318	5.991	0.094	-0.009	-0.103
835	84.318	6.005	0.094	-0.014	-0.103

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
850	84.349	6.025	0.089	-0.014	-0.089
865	84.475	6.039	0.085	-0.014	-0.107
880	84.538	6.058	0.085	-0.014	-0.107
895	84.569	6.072	0.08	-0.009	-0.107
910	84.727	6.092	0.08	-0.014	-0.107
925	84.695	6.106	0.08	-0.009	-0.103
940	84.632	6.12	0.075	-0.014	-0.107
955	84.632	6.139	0.075	-0.014	-0.107
970	84.695	6.154	0.075	-0.014	-0.103
985	84.695	6.168	0.07	-0.014	-0.098
1000	84.821	6.182	0.075	-0.009	-0.098
1015	84.789	6.197	0.075	-0.014	-0.098
1030	84.695	6.211	0.07	-0.018	-0.098
1045	84.664	6.225	0.07	-0.014	-0.093
1060	84.821	6.244	0.07	-0.018	-0.089
1075	84.915	6.259	0.075	-0.009	-0.089
1090	85.072	6.273	0.08	-0.009	-0.093
1105	85.01	6.292	0.08	-0.014	-0.093
1120	84.947	6.311	0.08	-0.018	-0.079
1135	85.01	6.321	0.08	-0.014	-0.084
1150	85.041	6.335	0.085	-0.009	-0.07
1165	85.135	6.345	0.089	-0.009	-0.079
1180	85.041	6.369	0.094	-0.014	-0.065
1195	85.104	6.378	0.094	-0.009	-0.065
1210	84.947	6.393	0.094	-0.009	-0.06
1225	84.978	6.402	0.094	-0.009	-0.065
1240	84.915	6.412	0.094	0	-0.065
1255	84.821	6.421	0.094	0	-0.065
1270	84.789	6.431	0.094	0	-0.065
1285	83.091	6.431	0.099	0	-0.06
1300	82.997	6.431	0.099	0.004	-0.06
1315	83.06	6.44	0.099	0	-0.06
1330	82.997	6.445	0.104	0.004	-0.046
1345	83.28	6.45	0.104	0	-0.046
1360	83.28	6.455	0.108	0.004	-0.032
1375	83.406	6.46	0.108	0	-0.037
1390	83.406	6.469	0.108	0.004	-0.032
1405	83.563	6.479	0.108	0	-0.028
1420	83.626	6.479	0.099	0.004	-0.032
1435	83.594	6.479	0.094	0.004	-0.037
1450	83.657	6.483	0.085	0	-0.056
1465	83.72	6.483	0.08	0.004	-0.046
1480	83.689	6.479	0.07	-0.009	-0.065
1495	83.689	6.483	0.061	-0.004	-0.06

Appendix G, Table 1. ROMP 28 Kuhlman Intermediate APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
1510	83.783	6.483	0.056	0	-0.084
1525	83.877	6.488	0.052	-0.004	-0.074
1540	83.877	6.493	0.047	-0.009	-0.079
1555	83.877	6.493	0.042	-0.004	-0.089
1570	83.877	6.493	0.033	-0.018	-0.098
1585	83.877	6.498	0.028	-0.018	-0.103
1600	83.94	6.503	0.023	-0.009	-0.107
1615	84.003	6.507	0.018	-0.004	-0.103
1630	83.909	6.512	0.014	-0.018	-0.103
1645	84.035	6.507	0.004	-0.009	-0.131
1660	84.003	6.512	0.004	-0.004	-0.126
1675	84.035	6.522	0.004	-0.009	-0.126
1690	84.066	6.526	0.009	-0.004	-0.14
1705	84.035	6.541	0.004	0	-0.117
1720	84.066	6.546	0.004	-0.004	-0.126
1735	84.129	6.55	0.004	0	-0.121
1750	84.129	6.56	0.009	0	-0.135
1765	84.16	6.569	0.009	0.004	-0.135
1780	84.129	6.569	0.009	0.004	-0.126
1795	84.098	6.579	0.014	0.004	-0.126
1810	84.16	6.589	0.014	0.004	-0.121
1825	84.223	6.598	0.023	0.004	-0.131
1840	84.255	6.608	0.028	0.004	-0.121
1855	84.223	6.612	0.028	0.009	-0.107
1870	84.255	6.627	0.037	0.014	-0.117
1885	84.381	6.636	0.042	0.014	-0.112
1900	84.318	6.651	0.056	0.014	-0.098
1915	84.381	6.655	0.056	0.014	-0.084
1930	84.381	6.675	0.07	0.018	-0.07
1945	84.475	6.679	0.07	0.023	-0.074
1960	84.475	6.679	0.07	0.023	-0.07
1975	84.443	6.689	0.07	0.018	-0.07
1990	84.443	6.694	0.075	0.023	-0.07
2005	84.412	6.703	0.085	0.018	-0.056
2020	84.538	6.708	0.08	0.023	-0.06
2035	84.601	6.722	0.085	0.018	-0.051
2050	84.601	6.722	0.08	0.018	-0.056
2065	84.538	6.722	0.08	0.023	-0.056
2080	84.538	6.727	0.08	0.018	-0.06
2095	84.506	6.732	0.08	0.018	-0.051
2110	84.538	6.732	0.08	0.018	-0.056

Appendix G, Table 2. ROMP 28 Kuhlman Intermediate APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
0.001	83.815	5.864	0.08	0.014	-0.06
0.008	83.878	5.864	0.075	0.014	-0.06
0.017	83.784	5.864	0.075	0.014	-0.056
0.025	83.846	5.864	0.075	0.014	-0.056
0.033	83.815	5.864	0.075	0.014	-0.06
0.042	83.815	5.864	0.075	0.014	-0.06
0.050	83.846	5.864	0.075	0.018	-0.056
0.058	83.941	5.864	0.075	0.018	-0.06
0.067	83.689	5.864	0.075	0.014	-0.06
0.075	83.563	5.864	0.08	0.014	-0.056
0.083	83.469	5.864	0.08	0.014	-0.06
0.092	83.438	5.864	0.075	0.014	-0.056
0.100	83.343	5.864	0.08	0.014	-0.06
0.108	83.217	5.869	0.08	0.014	-0.06
0.117	83.155	5.864	0.075	0.014	-0.06
0.125	83.06	5.864	0.08	0.018	-0.06
0.133	82.966	5.864	0.08	0.014	-0.056
0.142	82.903	5.869	0.075	0.014	-0.06
0.150	82.809	5.864	0.075	0.014	-0.056
0.158	82.714	5.864	0.08	0.014	-0.06
0.167	82.62	5.864	0.075	0.014	-0.06
0.175	82.526	5.864	0.08	0.018	-0.06
0.183	82.463	5.864	0.075	0.014	-0.056
0.192	82.368	5.864	0.075	0.014	-0.06
0.200	82.274	5.864	0.075	0.014	-0.06
0.208	82.18	5.864	0.08	0.014	-0.056
0.217	82.117	5.864	0.075	0.014	-0.056
0.225	82.022	5.864	0.08	0.018	-0.06
0.233	81.928	5.864	0.075	0.014	-0.06
0.242	81.865	5.864	0.075	0.014	-0.06
0.250	81.771	5.864	0.075	0.014	-0.06
0.258	81.677	5.864	0.075	0.018	-0.06
0.267	81.614	5.864	0.08	0.014	-0.06
0.275	81.519	5.864	0.075	0.014	-0.06
0.283	81.425	5.864	0.075	0.014	-0.056
0.292	81.331	5.864	0.075	0.014	-0.056
0.300	81.268	5.864	0.075	0.014	-0.06
0.308	81.173	5.864	0.075	0.018	-0.056
0.317	81.11	5.864	0.075	0.014	-0.06
0.325	81.016	5.864	0.075	0.014	-0.06
0.333	80.922	5.864	0.08	0.018	-0.06
0.350	80.765	5.864	0.08	0.014	-0.056
0.367	80.576	5.864	0.08	0.018	-0.06

Appendix G, Table 2. ROMP 28 Kuhlman Intermediate APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
0.383	80.419	5.864	0.08	0.014	-0.056
0.400	80.23	5.86	0.08	0.014	-0.06
0.417	80.073	5.864	0.08	0.018	-0.06
0.433	79.915	5.864	0.075	0.014	-0.056
0.450	79.758	5.864	0.075	0.014	-0.056
0.467	79.601	5.86	0.08	0.014	-0.06
0.483	79.444	5.864	0.08	0.018	-0.056
0.500	79.255	5.86	0.08	0.018	-0.06
0.517	79.098	5.86	0.075	0.018	-0.06
0.533	78.941	5.86	0.075	0.014	-0.06
0.550	78.752	5.86	0.075	0.014	-0.056
0.567	78.595	5.86	0.075	0.018	-0.056
0.583	78.437	5.86	0.075	0.014	-0.06
0.600	78.28	5.86	0.075	0.014	-0.06
0.617	78.092	5.86	0.075	0.014	-0.06
0.633	77.934	5.86	0.075	0.014	-0.06
0.650	77.777	5.855	0.075	0.014	-0.056
0.667	77.62	5.855	0.075	0.014	-0.06
0.683	77.463	5.855	0.075	0.014	-0.056
0.700	77.274	5.855	0.075	0.014	-0.06
0.717	77.117	5.855	0.075	0.018	-0.06
0.733	76.959	5.855	0.075	0.014	-0.056
0.750	76.771	5.855	0.075	0.014	-0.065
0.767	76.614	5.855	0.08	0.014	-0.06
0.783	76.456	5.85	0.08	0.014	-0.06
0.800	76.268	5.855	0.08	0.014	-0.06
0.817	76.11	5.85	0.08	0.014	-0.06
0.833	75.922	5.85	0.075	0.014	-0.06
0.850	75.765	5.85	0.075	0.018	-0.06
0.867	75.607	5.845	0.075	0.014	-0.056
0.883	75.419	5.845	0.08	0.014	-0.06
0.900	75.261	5.845	0.08	0.018	-0.056
0.917	75.104	5.841	0.08	0.018	-0.06
0.933	74.915	5.841	0.075	0.018	-0.06
0.950	74.758	5.841	0.075	0.014	-0.056
0.967	74.601	5.841	0.075	0.018	-0.06
0.983	74.412	5.841	0.075	0.018	-0.06
1	74.255	5.841	0.075	0.014	-0.06
1.2	72.243	5.826	0.075	0.014	-0.06
1.4	70.293	5.812	0.075	0.018	-0.06
1.6	68.375	5.798	0.075	0.014	-0.06
1.8	66.457	5.783	0.075	0.018	-0.056
2	64.602	5.764	0.075	0.014	-0.06

Appendix G, Table 2. ROMP 28 Kuhlman Intermediate APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)				
(min)	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
2.2	62.778	5.75	0.075	0.018	-0.06
2.4	60.986	5.731	0.075	0.014	-0.06
2.6	59.225	5.712	0.075	0.014	-0.06
2.8	57.527	5.692	0.075	0.018	-0.056
3	55.829	5.673	0.075	0.014	-0.06
3.2	54.194	5.654	0.075	0.014	-0.06
3.4	52.591	5.635	0.075	0.014	-0.06
3.6	50.987	5.611	0.075	0.014	-0.06
3.8	49.447	5.592	0.075	0.014	-0.06
4	47.937	5.573	0.075	0.014	-0.065
4.2	46.523	5.554	0.075	0.014	-0.06
4.4	45.076	5.535	0.08	0.014	-0.06
4.6	43.662	5.516	0.075	0.014	-0.065
4.8	42.278	5.492	0.075	0.014	-0.06
5	40.926	5.473	0.08	0.014	-0.056
5.2	39.637	5.449	0.08	0.014	-0.06
5.4	38.349	5.43	0.08	0.014	-0.06
5.6	37.091	5.41	0.08	0.018	-0.06
5.8	35.865	5.387	0.075	0.018	-0.056
6	34.67	5.372	0.075	0.014	-0.06
6.2	33.507	5.348	0.075	0.018	-0.06
6.4	32.407	5.329	0.075	0.018	-0.056
6.6	31.307	5.31	0.075	0.014	-0.06
6.8	30.238	5.291	0.075	0.014	-0.06
7	29.169	5.267	0.08	0.018	-0.06
7.2	28.163	5.248	0.08	0.018	-0.06
7.4	27.189	5.229	0.075	0.014	-0.06
7.6	26.245	5.21	0.075	0.018	-0.06
7.8	25.334	5.186	0.08	0.014	-0.056
8	24.422	5.167	0.08	0.018	-0.056
8.2	23.542	5.148	0.075	0.014	-0.06
8.4	22.693	5.128	0.075	0.014	-0.065
8.6	21.876	5.109	0.08	0.018	-0.06
8.8	21.09	5.09	0.075	0.014	-0.06
9	20.304	5.066	0.08	0.014	-0.056
9.2	19.581	5.052	0.075	0.014	-0.06
9.4	18.858	5.033	0.08	0.018	-0.065
9.6	18.167	5.009	0.08	0.014	-0.06
9.8	17.475	4.995	0.075	0.018	-0.056
10	16.847	4.971	0.08	0.014	-0.065
12	11.503	4.789	0.08	0.018	-0.06
14	8.077	4.627	0.085	0.018	-0.06
16	6.034	4.483	0.085	0.018	-0.056

Appendix G, Table 2. ROMP 28 Kuhlman Intermediate APT Recovery Data.

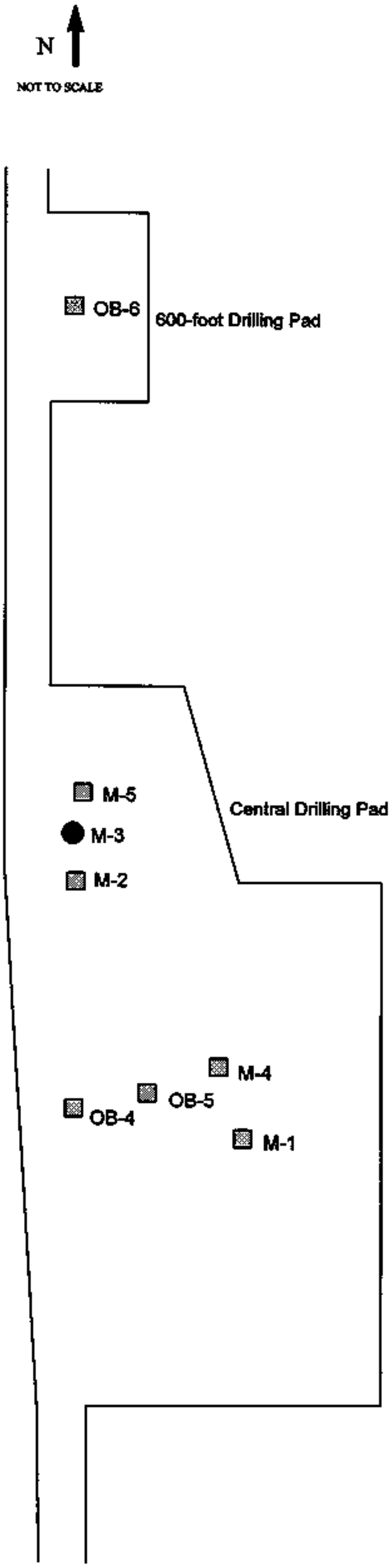
ELAPSED TIME (min)	REDUCED RECOVERY DATA (displacement in feet)				
	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
18	4.965	4.359	0.085	0.018	-0.046
20	4.494	4.254	0.08	0.018	-0.06
22	4.274	4.168	0.085	0.018	-0.056
24	4.18	4.086	0.08	0.018	-0.051
26	4.085	4.015	0.085	0.023	-0.056
28	4.023	3.952	0.08	0.018	-0.051
30	3.96	3.895	0.085	0.023	-0.051
32	3.897	3.838	0.075	0.023	-0.056
34	3.834	3.785	0.08	0.023	-0.051
36	3.771	3.737	0.085	0.018	-0.051
38	3.708	3.689	0.085	0.018	-0.046
40	3.677	3.642	0.08	0.014	-0.046
42	3.614	3.599	0.085	0.018	-0.051
44	3.582	3.551	0.08	0.018	-0.051
46	3.52	3.508	0.08	0.018	-0.046
48	3.488	3.46	0.075	0.018	-0.051
50	3.457	3.422	0.075	0.018	-0.051
52	3.394	3.383	0.08	0.018	-0.042
54	3.362	3.35	0.08	0.018	-0.037
56	3.331	3.302	0.075	0.018	-0.051
58	3.3	3.269	0.075	0.018	-0.042
60	3.268	3.23	0.07	0.018	-0.042
62	3.237	3.197	0.07	0.018	-0.042
64	3.205	3.163	0.07	0.018	-0.042
66	3.174	3.13	0.07	0.018	-0.042
68	3.111	3.096	0.07	0.018	-0.042
70	3.08	3.063	0.07	0.018	-0.042
72	3.048	3.029	0.07	0.018	-0.042
74	3.017	3.001	0.066	0.018	-0.042
76	2.985	2.967	0.066	0.018	-0.042
78	2.954	2.938	0.066	0.018	-0.042
80	2.954	2.91	0.066	0.018	-0.042
82	2.922	2.876	0.066	0.018	-0.042
84	2.891	2.852	0.066	0.018	-0.042
86	2.86	2.824	0.066	0.018	-0.042
88	2.828	2.795	0.066	0.018	-0.042
90	2.797	2.766	0.066	0.018	-0.042
92	2.765	2.738	0.061	0.018	-0.042
94	2.734	2.714	0.061	0.018	-0.042
96	2.702	2.685	0.061	0.018	-0.042
98	2.702	2.661	0.061	0.018	-0.042
100	2.671	2.632	0.061	0.018	-0.042
115	2.482	2.455	0.052	0.014	-0.042

Appendix G, Table 2. ROMP 28 Kuhlman Intermediate APT Recovery Data.

ELAPSED TIME (min)	REDUCED RECOVERY DATA (displacement in feet)				
	HAWTH-MON	HAWTH-100	SUW-MON	SURF-MON	OCAL-SH
130	2.325	2.293	0.047	0.014	-0.042
145	2.168	2.139	0.042	0.014	-0.046
160	2.011	2.005	0.037	0.014	-0.046
175	1.885	1.881	0.033	0.014	-0.051
190	1.791	1.766	0.028	0.009	-0.056
205	1.665	1.661	0.023	0.009	-0.056
220	1.571	1.56	0.018	0.009	-0.06
235	1.477	1.465	0.014	0.009	-0.065
250	1.382	1.374	0.004	0.009	-0.065
265	1.288	1.288	-0.004	0.004	-0.074
280	1.225	1.211	-0.009	0.004	-0.079
295	1.131	1.139	-0.014	0.004	-0.084
310	1.068	1.072	-0.018	0.004	-0.089
325	1.005	1.005	-0.023	0.004	-0.093
340	0.942	0.948	-0.028	0.004	-0.093
355	0.911	0.89	-0.033	0.004	-0.098
370	0.848	0.842	-0.028	0.004	-0.098
385	0.785	0.79	-0.033	0.004	-0.098
400	0.754	0.742	-0.037	0.004	-0.103
415	0.691	0.694	-0.037	0.004	-0.103
430	0.66	0.651	-0.037	0.004	-0.103
445	0.628	0.612	-0.037	0.004	-0.103
460	0.565	0.569	-0.033	0.004	-0.103
475	0.534	0.536	-0.033	0.009	-0.103
490	0.502	0.498	-0.033	0.009	-0.103
505	0.471	0.474	-0.018	0.009	-0.093
520	0.44	0.44	-0.018	0.009	-0.093
535	0.408	0.407	-0.018	0.014	-0.089
550	0.377	0.368	-0.018	0.014	-0.093
565	0.345	0.34	-0.018	0.009	-0.093
580	0.314	0.311	-0.018	0.018	-0.093
595	0.282	0.282	-0.014	0.018	-0.093
610	0.282	0.253	-0.014	0.018	-0.093
625	0.251	0.229	-0.009	0.023	-0.089
640	0.188	0.196	-0.018	0.018	-0.093
655	0.188	0.162	-0.023	0.018	-0.093
670	0.157	0.134	-0.033	0.018	-0.098
685	0.125	0.11	-0.033	0.023	-0.098
700	0.094	0.081	-0.033	0.018	-0.103
715	0.062	0.062			
730	0.031	0.028			
745	0	0.004			

Appendix H

Suwannee Ls. \ U. Floridan APT Specifications and Analyses Results



Suwannee/Floridan Aquifer Pumping Test Specifications

Test Zone: 485' - 600' BLS, Suwannee Ls./ U. Ocala Fm.

Test Well: 14"/8" dia. Steel/PVC casing, L.S.-230'/230'-485' BLS
7.625" dia. open hole , 485' - 600' BLS

Pump: deisel powered 6-inch vertical lineshaft turbine set at 180' BLS., 6-inch discharge hose, with inline flow meter and manometer tube.

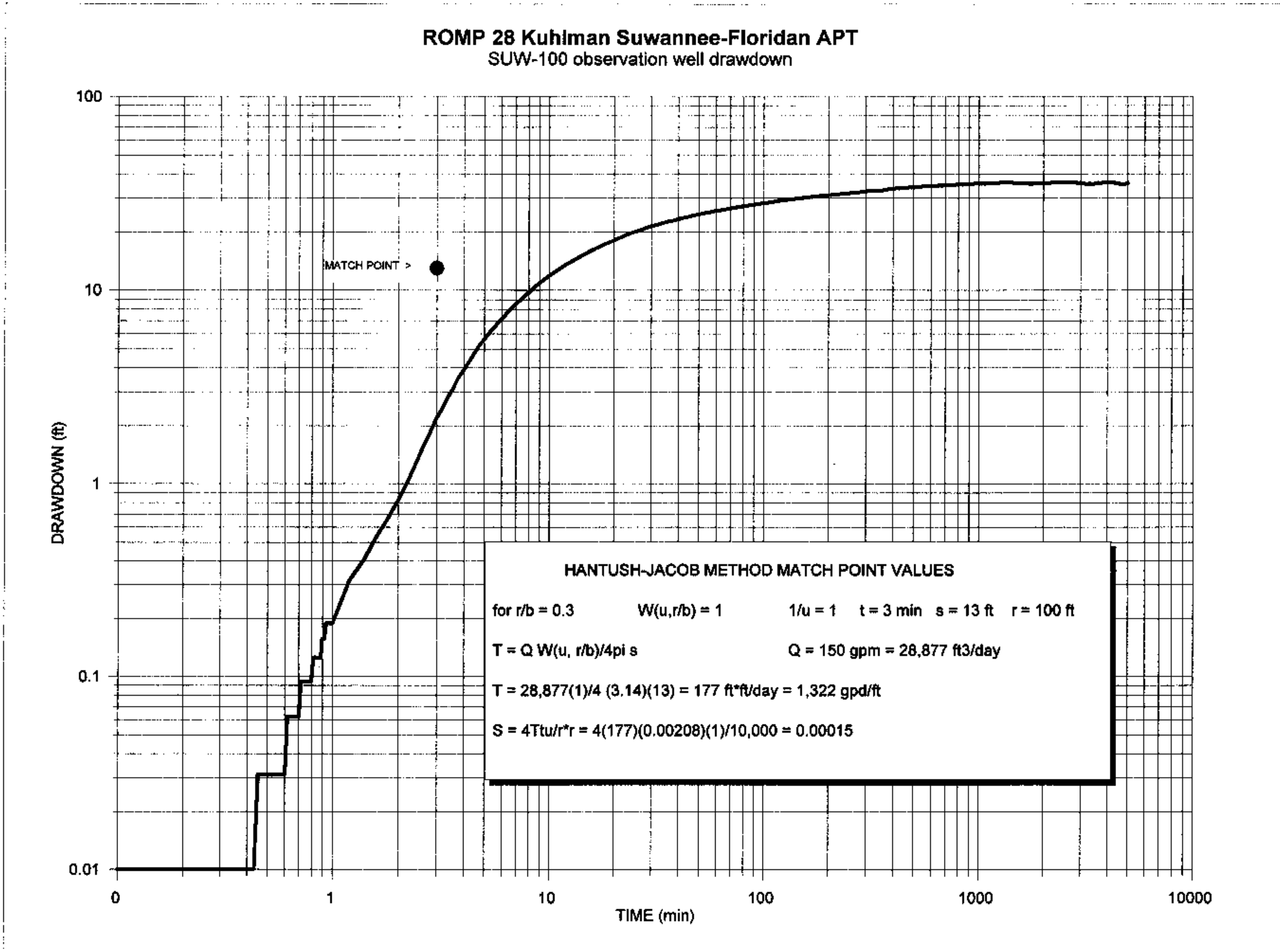
Discharge Rate: Q = 150 gpm (average)

Drawdown Phase: 83.5 hrs., 08:50/8-19-96 to 20:40/8-22-96

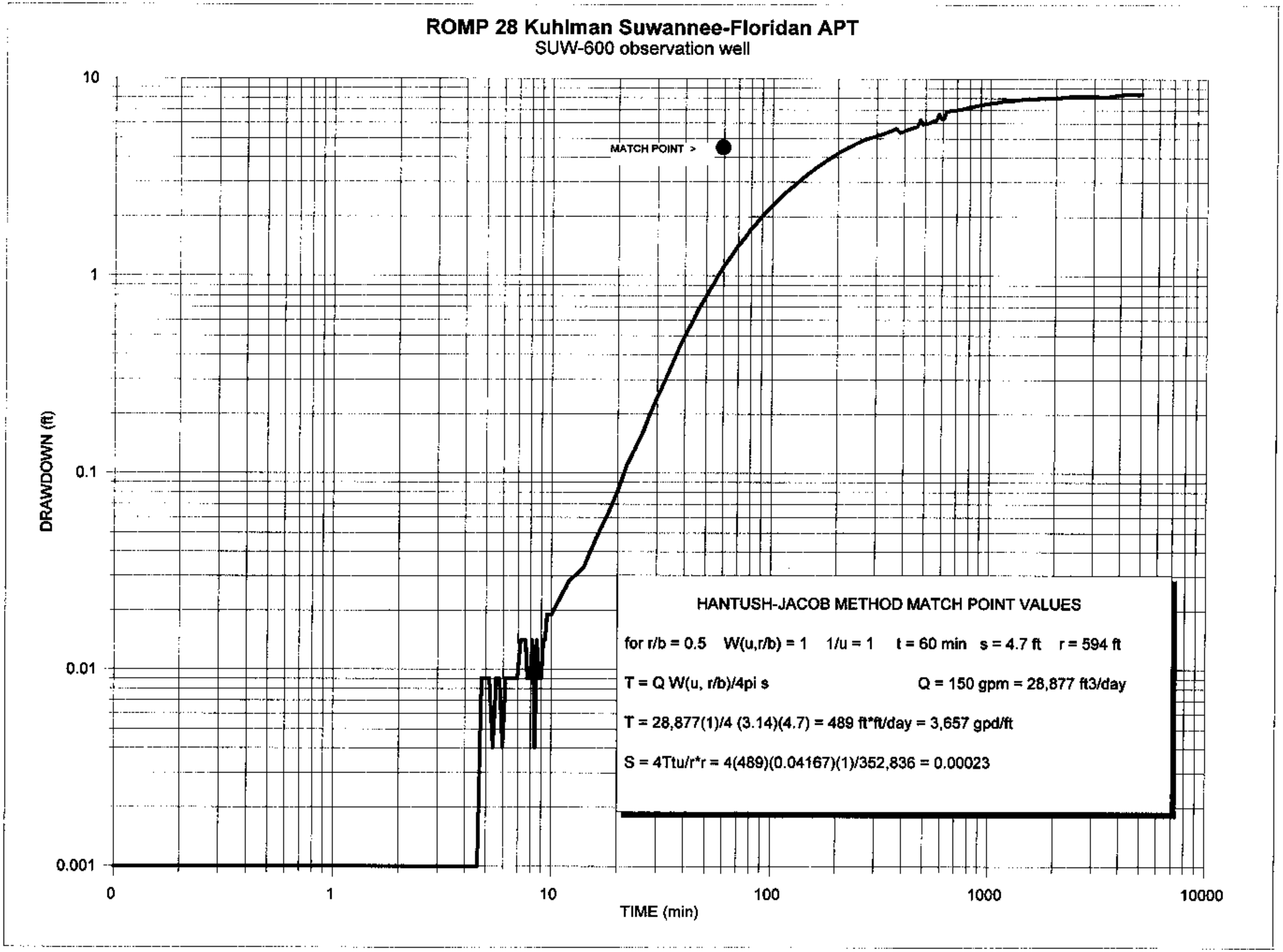
Recovery Phase: 17.25 hrs., 20:40/8-22-96 to 14:00/8-23-96

RADIUS (ft)	WELL
—	M-1 SURFICIAL MONITOR
20	M-2 HAWTHORN MONITOR
0	M-3 SUWANNEE MONITOR-TEST
8	M-5 AVON PARK MONITOR
99	OB-4 HAWTH \ OCALA-SH DUAL ZONE
100	OB-5 SUWANNEE \ OCALA-DP DUAL ZONE
594	OB-6 SUWANNEE \ AVON PARK DUAL ZONE

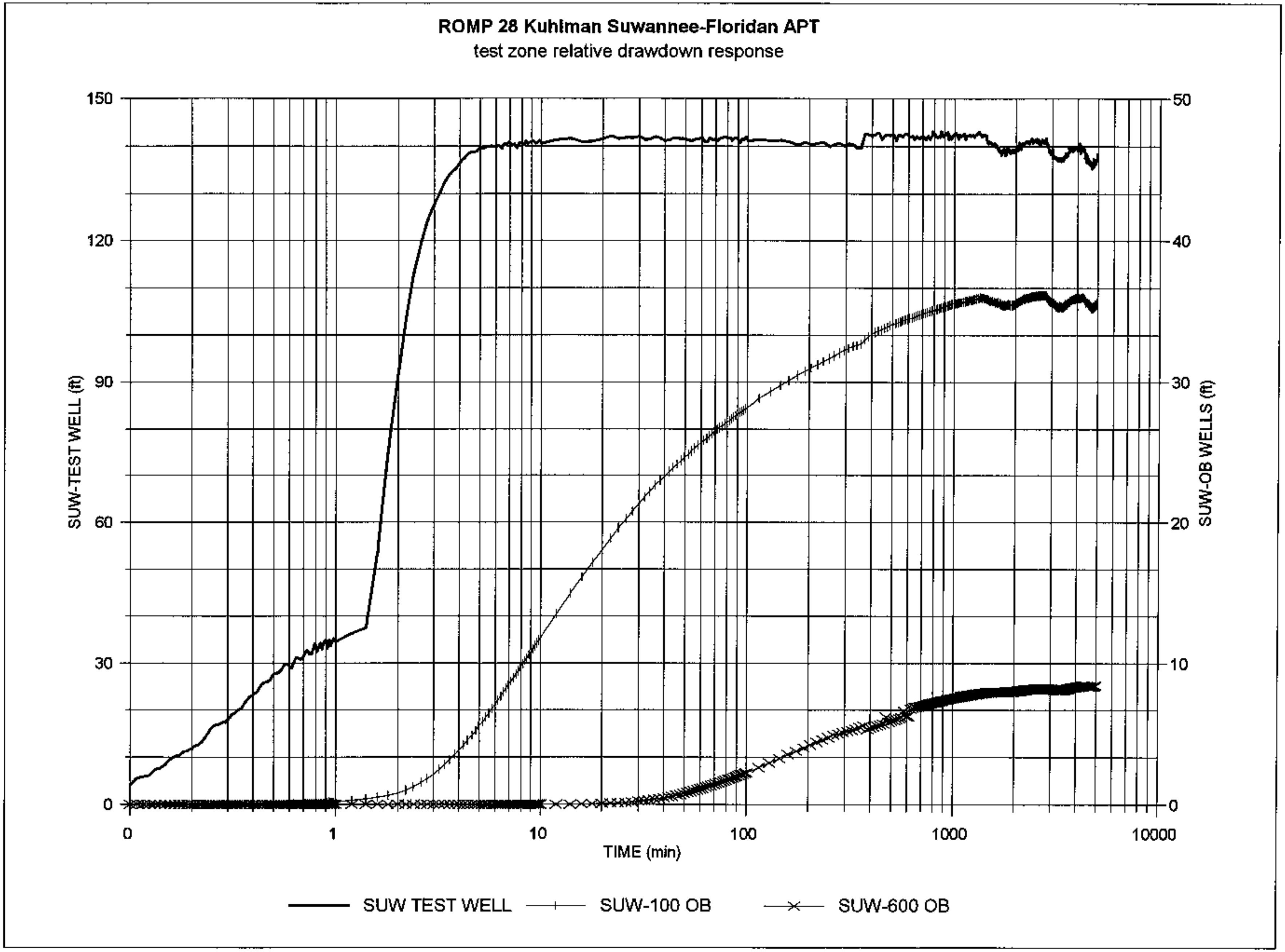
ROMP 28 Kuhlman | Appendix H. Suwannee/Floridan APT layout and test specifications



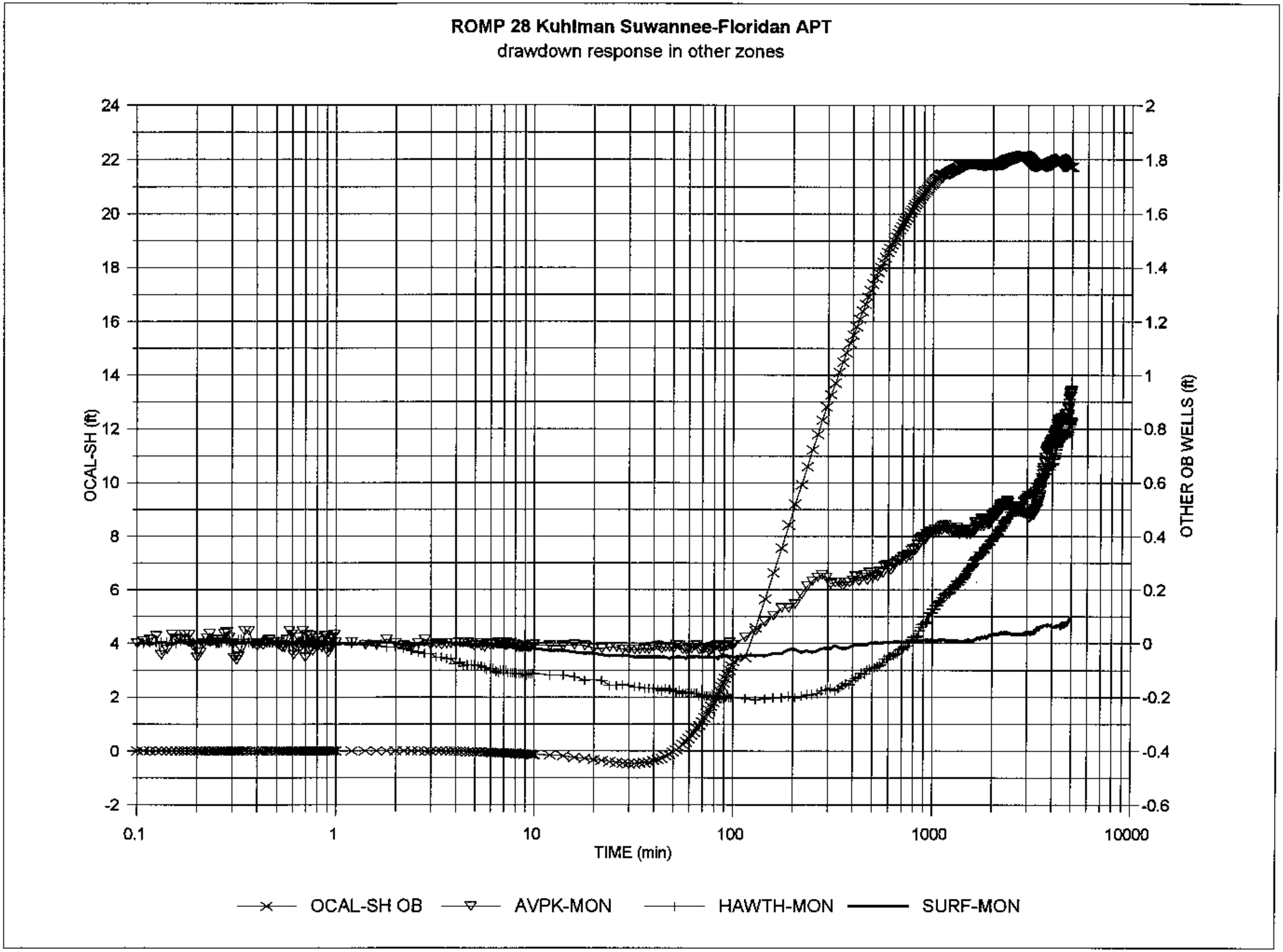
Appendix H: Figure 1. Time-drawdown log plot, Suwannee-Floridan APT observation well.



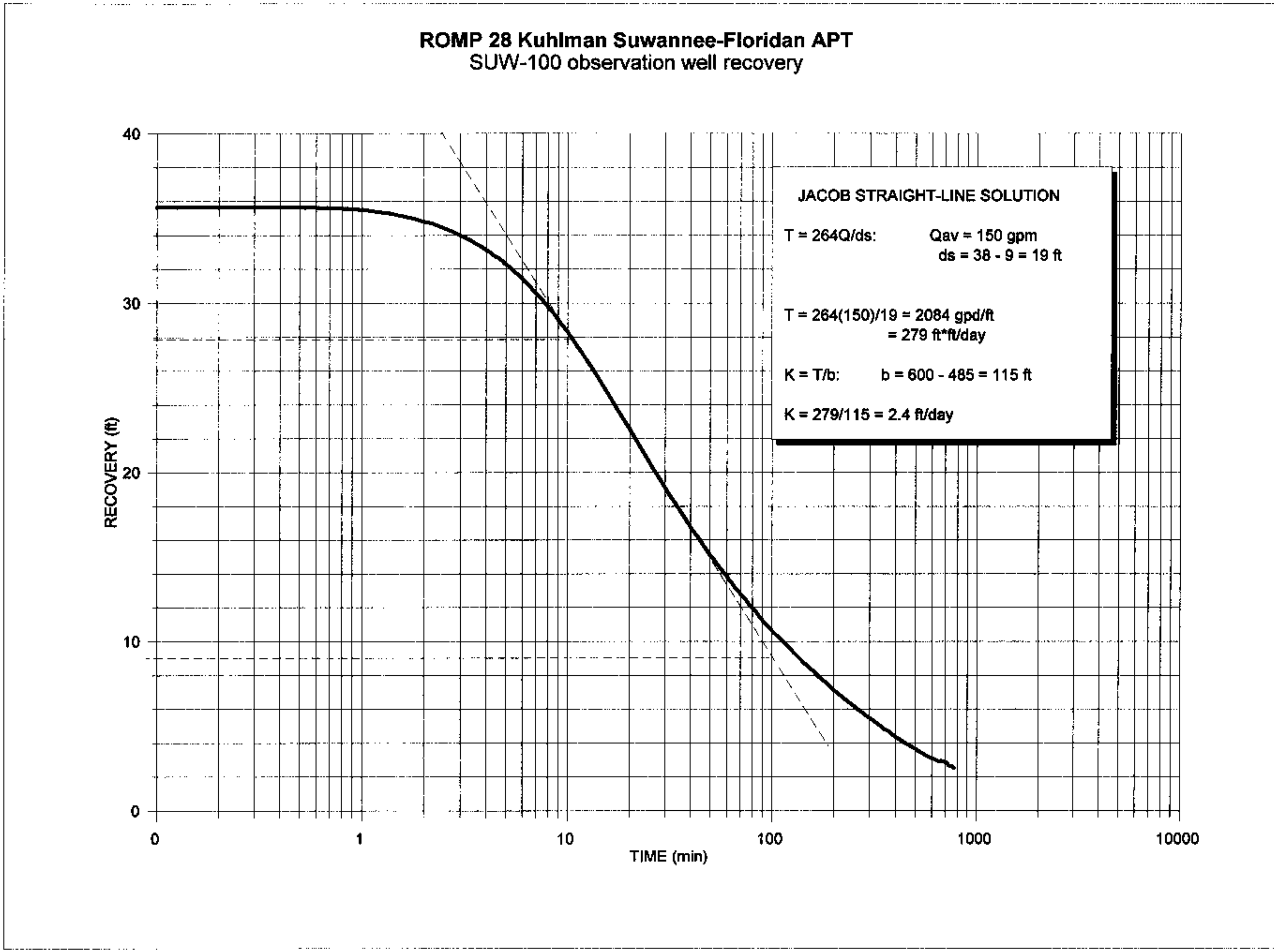
Appendix H: Figure 2. Time-drawdown log plot, Suwannee-Floridan APT observation well.



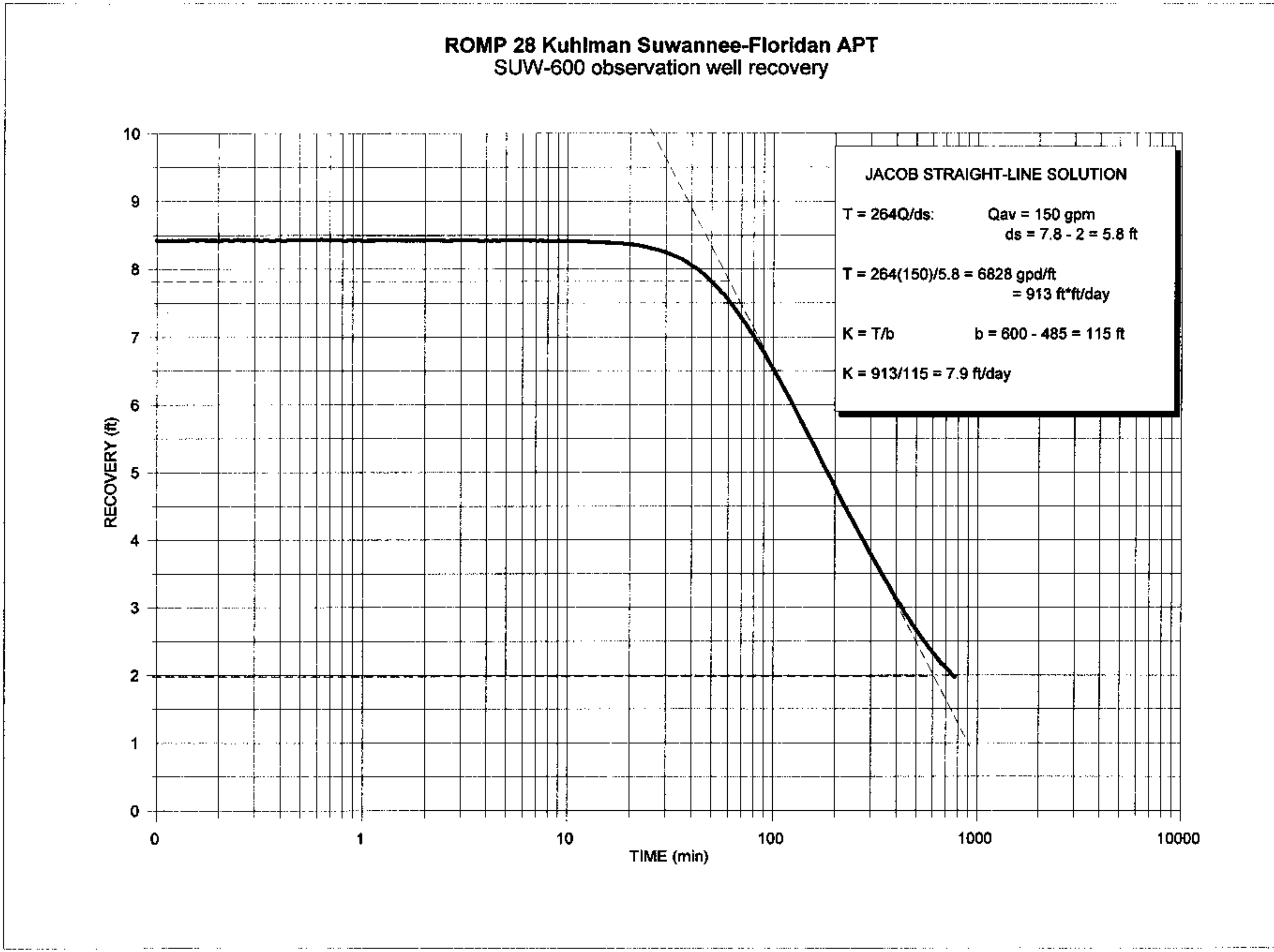
Appendix H, Figure 3. Time-drawdown semilog plot of test zone wells, Suwannee-Floridan APT.



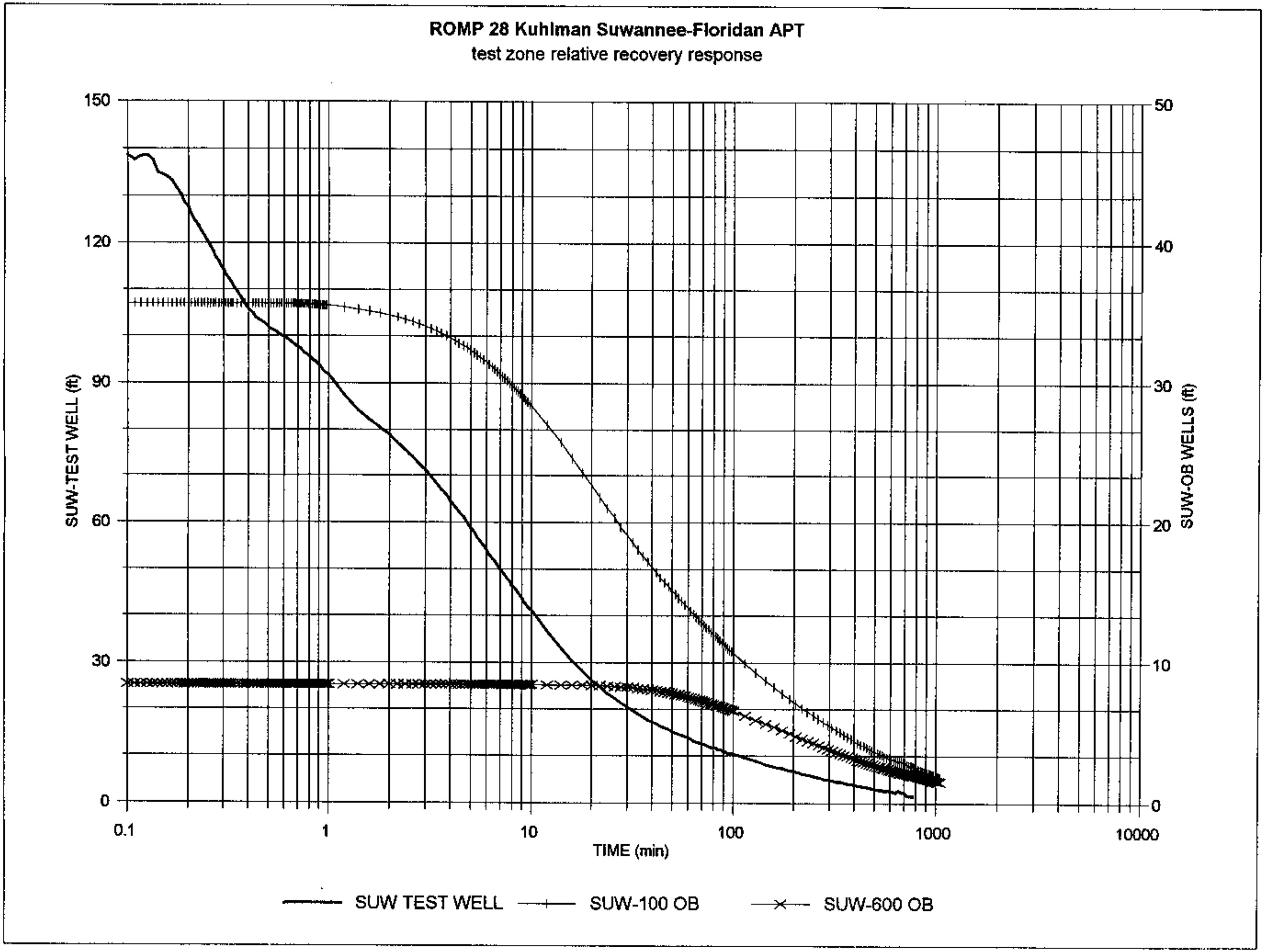
Appendix H, Figure 4. Time-drawdown semilog plot of other observation zones, Suwannee-Floridan APT.



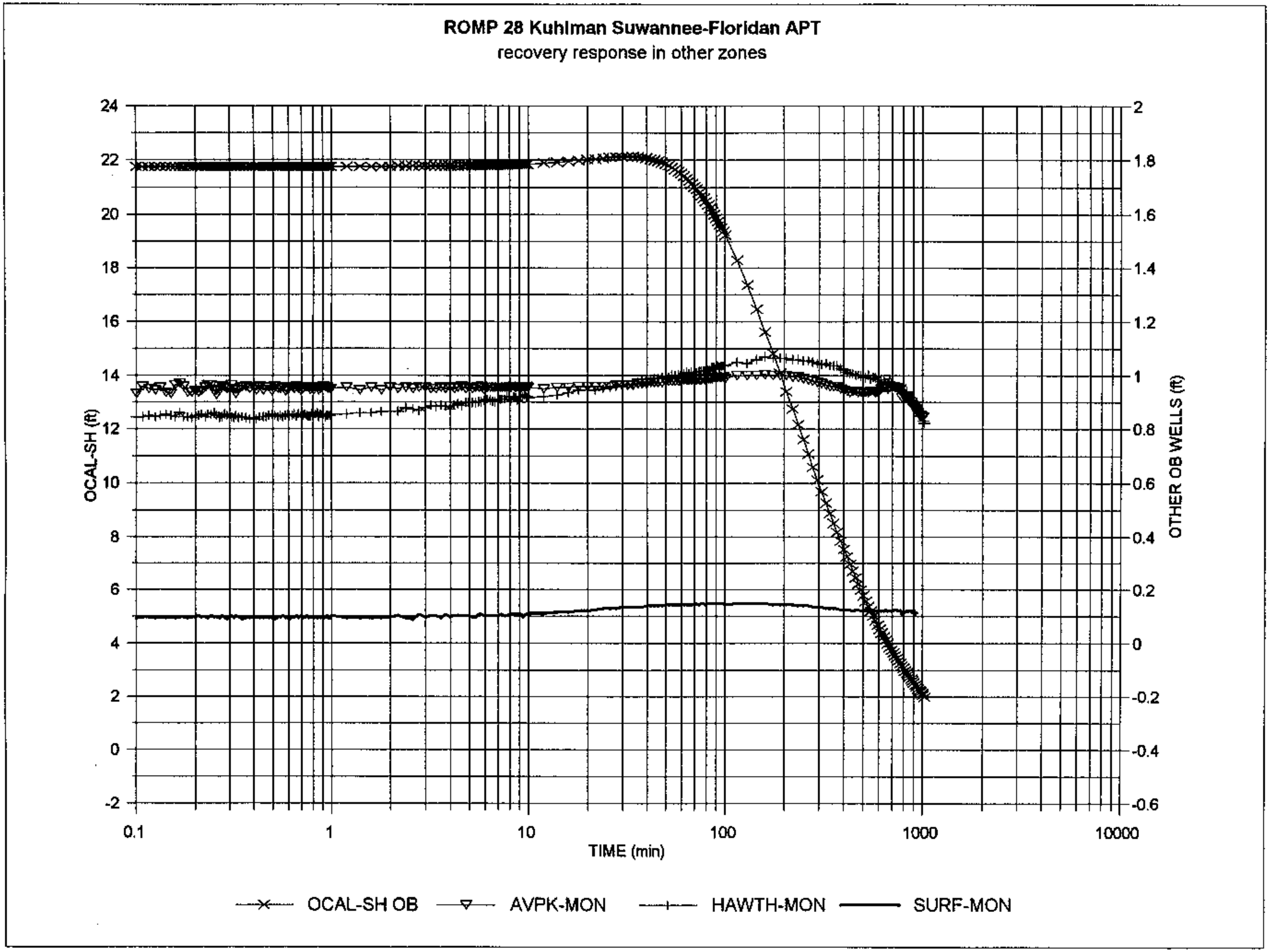
Appendix H: Figure 5. Time-recovery semilog plot, Suwannee-Floridan APT observation well.



Appendix H: Figure 6. Time-recovery semilog plot, Suwannee-Floridan APT observation well.



Appendix H, Figure 7. Time-recovery semilog plot of test zone observation wells, Suwannee-Floridan APT.



Appendix H, Figure 8. Time-recovery semilog plot of other observation zones, Suwannee-Floridan APT.

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
0.001	0.031	0.01	0.001	0.004	0.009	0.004	0
0.008	0.031	0.01	0.001	0	0.009	0.009	0
0.017	0.001	0.01	0.001	0.009	0.009	0.014	-0.004
0.025	0.031	0.01	0.001	0.009	0.009	0.009	0
0.033	0.001	0.01	0.001	0	0.009	0.004	-0.004
0.042	0.031	0.01	0.001	0.009	0.009	0.009	0
0.050	2.89	0.01	0.001	0.014	0.014	0.009	-0.004
0.058	5.089	0.01	0.001	0.014	0.018	0.004	0
0.067	2.67	0.01	0.001	0	0.004	0.009	0
0.075	2.23	0.01	0.001	-0.004	0.014	0.004	0.004
0.083	2.544	0.01	0.001	0.004	0.009	-0.004	0
0.092	2.952	0.01	0.001	-0.004	0.004	0.009	0
0.100	4.115	0.01	0.001	0	0.009	0	-0.004
0.108	5.528	0.01	0.001	0.009	0.009	0	0
0.117	5.842	0.01	0.001	0.014	0.009	0.004	-0.004
0.125	6.188	0.01	0.001	0.028	0.009	0.004	0
0.133	7.319	0.01	0.001	-0.042	0.009	0.004	0
0.142	7.79	0.01	0.001	-0.023	0.014	0.004	0
0.150	8.45	0.01	0.001	0.033	0.004	0.004	-0.004
0.158	9.612	0.01	0.001	0.019	0.014	0	0
0.167	10.178	0.01	0.001	0.014	0.009	0.009	0
0.175	10.461	0.01	0.001	0.033	0.004	0.014	0
0.183	11.152	0.01	0.001	0.033	0.014	0.014	-0.004
0.192	11.34	0.01	0.001	-0.009	0.009	0.004	-0.004
0.200	11.874	0.01	0.001	-0.052	0.014	0.009	0.004
0.208	12.345	0.01	0.001	-0.033	0.009	0	0
0.217	12.66	0.01	0.001	0	0.014	0.009	0.004
0.225	13.256	0.01	0.001	0.019	0.014	0.014	0
0.233	14.136	0.01	0.001	0.038	0.014	0.009	-0.004
0.242	15.079	0.01	0.001	0.014	0.014	0.009	0.004
0.250	16.241	0.01	0.001	0.004	0.009	0	0.004
0.258	16.807	0.01	0.001	0	0.009	0	0
0.267	17.026	0.01	0.001	0.014	0.009	0.004	0.004
0.275	17.089	0.01	0.001	0.038	0.009	0.019	0.004
0.283	17.466	0.01	0.001	0.042	0.009	0.009	0
0.292	17.529	0.01	0.001	0.023	0.014	0.004	0.004
0.300	18	0.01	0.001	0	0.014	0.004	0
0.308	18.629	0.01	0.001	-0.052	0.014	0	0.004
0.317	19.131	0.01	0.001	-0.061	0.009	0.004	0.004
0.325	19.32	0.01	0.001	-0.047	0.014	0.014	0
0.333	19.791	0.01	0.001	-0.019	0.018	0.014	0
0.350	20.357	0.01	0.001	0.047	0.014	0.004	0
0.367	21.833	0.01	0.001	0.047	0.009	0.004	0.004
0.383	22.839	0.01	0.001	0	0.009	0.004	0
0.400	23.247	0.01	0.001	-0.009	0.009	0.009	0
0.417	23.907	0.01	0.001	0	0.014	0	0
0.433	25.007	0.01	0.001	-0.004	0.018	0.014	0
0.450	25.761	0.031	0.001	0.004	0.009	0.014	-0.004
0.467	26.012	0.031	0.001	0.014	0	0.004	0
0.483	26.515	0.031	0.001	0.004	0.009	0.004	0
0.500	27.489	0.031	0.001	0.004	0.014	0.004	0.004
0.517	27.929	0.031	0.001	-0.004	0.009	0.009	0.004

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME (min)	REDUCED DRAWDOWN DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
0.533	28.054	0.031	0.001	-0.014	0.009	0.009	0
0.550	28.808	0.031	0.001	-0.014	0.009	0.009	0
0.567	29.594	0.031	0.001	0.014	0.009	0	-0.004
0.583	29.814	0.031	0.001	0.047	0.009	-0.004	0.004
0.600	29.217	0.031	0.001	0.033	0.004	0.004	-0.004
0.617	28.871	0.062	0.001	-0.042	0.014	0.004	0.004
0.633	30.128	0.062	0.001	-0.014	0.009	0	-0.004
0.650	31.228	0.062	0.001	0.023	0.009	0.004	0
0.667	30.976	0.062	0.001	-0.014	0.014	0.009	0
0.683	30.819	0.062	0.001	0.047	0.009	0	-0.004
0.700	30.945	0.062	0.001	-0.052	0.014	0	-0.004
0.717	32.296	0.094	0.001	0.033	0.014	0.004	0
0.733	32.673	0.094	0.001	-0.023	0.014	0.004	0
0.750	31.95	0.094	0.001	0.028	0.009	0.004	0
0.767	31.95	0.094	0.001	-0.028	0.004	0.004	0
0.783	32.956	0.094	0.001	-0.004	0.018	0.009	-0.004
0.800	34.118	0.094	0.001	0.019	0.014	-0.004	0
0.817	32.547	0.125	0.001	-0.009	0.014	0.004	0
0.833	33.459	0.125	0.001	0.009	0.004	-0.004	0
0.850	34.181	0.125	0.001	-0.014	0.009	0	0
0.867	33.019	0.125	0.001	0.009	0.009	0.004	0
0.883	34.37	0.125	0.001	0.028	0.009	-0.004	-0.004
0.900	34.81	0.156	0.001	0.028	0.009	-0.004	-0.004
0.917	33.176	0.156	0.001	-0.033	0.009	-0.004	0
0.933	34.935	0.188	0.001	-0.014	0.009	0.004	0.004
0.950	33.71	0.188	0.001	0.019	0.004	0.004	-0.004
0.967	34.747	0.188	0.001	0.023	0.004	0	-0.004
0.983	35.218	0.188	0.001	0.033	0.014	0	0
1	34.495	0.188	0.001	0.004	0.009	-0.004	0
1.2	36.349	0.313	0.001	0.004	0.014	0	-0.004
1.4	37.575	0.407	0.001	-0.004	0.009	-0.004	0
1.6	53.601	0.533	0.001	-0.004	0	-0.009	0.004
1.8	75.6	0.658	0.001	0.014	0	-0.014	0
2	91.819	0.815	0.001	0	0.004	-0.014	0
2.2	103.952	1.003	0.001	-0.009	0	-0.019	-0.009
2.4	113.164	1.254	0.001	-0.014	0.004	-0.028	-0.004
2.6	120.017	1.537	0.001	0	-0.004	-0.033	-0.004
2.8	124.513	1.819	0.001	0.014	-0.009	-0.038	-0.004
3	127.72	2.164	0.001	-0.004	0	-0.038	0
3.2	130.236	2.478	0.001	0	0	-0.052	0
3.4	132.657	2.823	0.001	-0.004	-0.004	-0.052	0
3.6	134.26	3.168	0.001	0	-0.009	-0.057	0
3.8	135.203	3.513	0.001	0	-0.014	-0.057	0
4	136.493	3.858	0.001	0	-0.014	-0.076	-0.004
4.2	137.467	4.204	0.001	0.004	-0.018	-0.071	-0.004
4.4	138.474	4.549	0.001	0.004	-0.023	-0.086	-0.009
4.6	138.694	4.894	0.001	0.004	-0.028	-0.081	-0.004
4.8	138.851	5.239	0.009	0	-0.037	-0.081	-0.014
5	139.48	5.553	0.009	-0.009	-0.037	-0.081	-0.009
5.2	139.574	5.866	0.009	0	-0.033	-0.086	-0.004
5.4	139.826	6.18	0.004	-0.009	-0.047	-0.086	-0.009
5.6	139.951	6.494	0.009	-0.014	-0.042	-0.09	-0.004

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME (min)	REDUCED DRAWDOWN DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
5.8	139.92	6.807	0.009	0	-0.052	-0.1	-0.009
6	139.826	7.09	0.004	-0.004	-0.056	-0.095	-0.004
6.2	140.14	7.404	0.009	-0.004	-0.056	-0.095	-0.009
6.4	139.385	7.655	0.009	0	-0.061	-0.105	-0.009
6.6	140.455	7.968	0.009	0.004	-0.061	-0.11	-0.014
6.8	140.455	8.219	0.009	0	-0.07	-0.1	-0.014
7	140.8	8.47	0.009	0	-0.07	-0.1	-0.014
7.2	140.109	8.721	0.014	0.004	-0.08	-0.1	-0.019
7.4	140.455	8.972	0.014	-0.004	-0.08	-0.11	-0.014
7.6	139.606	9.223	0.014	0	-0.08	-0.11	-0.014
7.8	140.612	9.474	0.009	-0.004	-0.089	-0.11	-0.014
8	140.612	9.725	0.009	-0.004	-0.094	-0.11	-0.014
8.2	140.297	9.945	0.014	-0.014	-0.099	-0.11	-0.019
8.4	141.115	10.164	0.004	-0.014	-0.108	-0.114	-0.014
8.6	140.455	10.384	0.014	-0.014	-0.099	-0.114	-0.023
8.8	140.863	10.604	0.009	-0.014	-0.113	-0.114	-0.019
9	140.895	10.823	0.009	-0.009	-0.123	-0.114	-0.019
9.2	140.989	11.043	0.014	-0.014	-0.123	-0.119	-0.019
9.4	140.675	11.231	0.014	-0.014	-0.123	-0.114	-0.014
9.6	140.863	11.451	0.019	-0.014	-0.127	-0.114	-0.019
9.8	141.272	11.639	0.019	-0.004	-0.137	-0.114	-0.014
10	140.486	11.827	0.019	-0.004	-0.146	-0.11	-0.019
12	141.335	13.521	0.028	-0.009	-0.194	-0.119	-0.028
14	141.618	14.964	0.033	-0.009	-0.241	-0.119	-0.028
16	140.863	16.156	0.047	-0.004	-0.279	-0.124	-0.033
18	141.052	17.192	0.061	-0.009	-0.321	-0.138	-0.038
20	141.524	18.102	0.081	-0.019	-0.369	-0.134	-0.038
22	142.027	18.886	0.109	-0.019	-0.402	-0.138	-0.043
24	141.555	19.639	0.133	-0.014	-0.435	-0.157	-0.047
26	141.838	20.266	0.162	-0.014	-0.444	-0.157	-0.047
28	141.712	20.831	0.2	-0.023	-0.459	-0.153	-0.047
30	141.964	21.364	0.238	-0.023	-0.459	-0.157	-0.047
32	141.304	21.835	0.281	-0.023	-0.449	-0.162	-0.052
34	141.461	22.243	0.328	-0.023	-0.435	-0.162	-0.052
36	141.964	22.65	0.376	-0.019	-0.406	-0.167	-0.052
38	141.587	22.995	0.433	-0.023	-0.359	-0.167	-0.052
40	141.115	23.309	0.491	-0.014	-0.321	-0.167	-0.052
42	141.366	23.623	0.543	-0.009	-0.269	-0.172	-0.052
44	141.712	23.905	0.6	-0.019	-0.194	-0.177	-0.052
46	141.587	24.156	0.672	-0.014	-0.127	-0.167	-0.052
48	141.524	24.439	0.724	-0.014	-0.052	-0.172	-0.057
50	141.492	24.658	0.781	-0.019	0.037	-0.177	-0.052
52	141.272	24.878	0.848	-0.004	0.127	-0.181	-0.052
54	141.083	25.097	0.91	-0.009	0.241	-0.177	-0.052
56	141.461	25.317	0.977	-0.023	0.34	-0.186	-0.052
58	141.555	25.505	1.039	-0.023	0.458	-0.186	-0.057
60	141.712	25.693	1.105	-0.019	0.581	-0.181	-0.047
62	141.021	25.85	1.167	-0.019	0.695	-0.186	-0.052
64	140.958	26.007	1.225	-0.009	0.827	-0.186	-0.052
66	141.838	26.164	1.291	-0.004	0.955	-0.186	-0.047
68	141.304	26.321	1.358	-0.023	1.092	-0.196	-0.052
70	141.398	26.478	1.411	-0.023	1.23	-0.191	-0.052

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME (min)	REDUCED DRAWDOWN DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
72	141.146	26.634	1.477	-0.019	1.367	-0.196	-0.052
74	141.649	26.76	1.534	-0.019	1.513	-0.196	-0.052
76	141.807	26.885	1.596	-0.028	1.655	-0.196	-0.052
78	141.901	27.042	1.654	-0.023	1.792	-0.196	-0.052
80	141.649	27.136	1.72	-0.014	1.944	-0.196	-0.052
82	141.838	27.262	1.777	-0.009	2.086	-0.201	-0.052
84	141.083	27.387	1.835	-0.004	2.237	-0.196	-0.057
86	141.618	27.513	1.892	-0.014	2.388	-0.205	-0.047
88	141.744	27.607	1.939	-0.028	2.535	-0.205	-0.052
90	141.304	27.732	2.001	-0.014	2.696	-0.201	-0.047
92	140.832	27.827	2.059	-0.004	2.847	-0.201	-0.047
94	141.587	27.921	2.106	-0.009	3.008	-0.196	-0.047
96	141.304	28.015	2.163	0.004	3.164	-0.201	-0.052
98	141.901	28.109	2.216	-0.004	3.32	-0.201	-0.047
100	141.178	28.203	2.268	-0.004	3.471	-0.201	-0.052
115	141.335	28.83	2.635	0.023	4.591	-0.205	-0.047
130	141.115	29.332	2.969	0.047	5.654	-0.21	-0.047
145	141.272	29.772	3.269	0.081	6.641	-0.205	-0.047
160	140.958	30.148	3.554	0.104	7.567	-0.201	-0.038
175	140.234	30.493	3.797	0.133	8.417	-0.201	-0.038
190	140.832	30.775	4.031	0.133	9.2	-0.196	-0.023
205	140.266	31.026	4.231	0.147	9.922	-0.201	-0.023
220	140.643	31.246	4.426	0.185	10.588	-0.196	-0.033
235	140.863	31.466	4.607	0.214	11.229	-0.191	-0.028
250	139.951	31.685	4.764	0.233	11.8	-0.191	-0.033
265	140.455	31.873	4.916	0.247	12.328	-0.186	-0.028
280	140.612	32.093	5.004	0.257	12.828	-0.177	-0.019
295	140.172	32.25	5.092	0.247	13.285	-0.172	-0.019
310	140.549	32.407	5.18	0.224	13.719	-0.167	-0.019
325	140.36	32.564	5.268	0.228	14.129	-0.177	-0.009
340	139.606	32.626	5.373	0.228	14.506	-0.167	-0.014
355	139.7	32.72	5.479	0.214	14.864	-0.157	-0.019
370	142.561	33.003	5.584	0.228	15.203	-0.148	-0.019
385	142.404	33.254	5.321	0.228	15.514	-0.153	-0.014
400	142.184	33.442	5.411	0.238	15.816	-0.138	-0.009
415	142.467	33.536	5.497	0.252	16.108	-0.129	-0.004
430	142.876	33.661	5.578	0.233	16.395	-0.124	-0.004
445	141.492	33.724	5.649	0.247	16.659	-0.11	-0.004
460	142.278	33.85	5.726	0.257	16.918	-0.114	-0.004
475	142.31	33.912	6.18	0.238	17.167	-0.1	-0.004
490	142.215	34.007	5.864	0.266	17.403	-0.095	0
505	142.561	34.132	5.921	0.247	17.619	-0.095	0
520	141.366	34.195	5.978	0.257	17.831	-0.09	0
535	142.373	34.258	6.035	0.252	18.024	-0.086	0
550	142.247	34.289	6.087	0.271	18.213	-0.081	0
565	142.027	34.383	6.149	0.266	18.396	-0.071	0
580	142.498	34.446	6.624	0.29	18.57	-0.057	0.004
595	142.467	34.477	6.23	0.295	18.73	-0.057	0.004
610	141.901	34.54	6.278	0.281	18.876	-0.047	0
625	142.09	34.54	6.769	0.276	19.018	-0.047	0.004
640	141.555	34.634	6.836	0.295	19.159	-0.043	0.004
655	142.121	34.697	6.887	0.3	19.286	-0.038	0.004

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME (min)	REDUCED DRAWDOWN DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
670	141.807	34.759	6.911	0.309	19.413	-0.038	0.004
685	141.775	34.791	6.934	0.309	19.535	-0.023	0.004
700	141.995	34.854	6.958	0.314	19.653	-0.019	0.004
715	141.964	34.885	6.987	0.324	19.761	-0.023	0.004
730	141.461	34.916	7.02	0.328	19.865	-0.014	0.004
745	142.153	34.979	7.048	0.319	19.968	-0.009	0.004
760	141.524	35.01	7.087	0.333	20.062	-0.009	0.004
775	142.121	35.042	7.12	0.328	20.156	0	0.004
790	143.159	35.105	7.158	0.348	20.25	0.014	0.004
805	142.53	35.136	7.182	0.352	20.34	0.023	0.009
820	141.932	35.167	7.21	0.348	20.42	0.023	0.004
835	141.932	35.199	7.244	0.357	20.5	0.023	0.004
850	141.932	35.23	7.272	0.371	20.58	0.028	0.009
865	143.096	35.293	7.301	0.39	20.655	0.047	0.009
880	142.027	35.324	7.329	0.395	20.726	0.062	0.009
895	142.404	35.324	7.358	0.4	20.796	0.071	0.009
910	142.404	35.387	7.386	0.39	20.862	0.076	0.009
925	143.002	35.418	7.41	0.39	20.928	0.076	0.009
940	141.524	35.45	7.429	0.409	20.994	0.081	0.014
955	142.247	35.481	7.458	0.405	21.055	0.1	0.009
970	141.681	35.512	7.477	0.414	21.111	0.1	0.009
985	142.027	35.544	7.496	0.419	21.163	0.114	0.014
1000	142.53	35.575	7.51	0.414	21.215	0.114	0.009
1015	142.876	35.575	7.538	0.409	21.266	0.129	0.009
1030	142.373	35.575	7.557	0.429	21.318	0.129	0.009
1045	141.587	35.606	7.572	0.429	21.365	0.143	0.009
1060	142.436	35.638	7.586	0.414	21.412	0.143	0.009
1075	142.058	35.638	7.61	0.429	21.455	0.153	0.009
1090	142.31	35.669	7.629	0.429	21.488	0.157	0.014
1105	142.247	35.701	7.643	0.433	21.492	0.162	0.009
1120	142.656	35.701	7.662	0.424	21.445	0.162	0.009
1135	141.681	35.732	7.676	0.438	21.469	0.172	0.014
1150	141.995	35.763	7.691	0.433	21.492	0.181	0.014
1165	142.215	35.763	7.7	0.443	21.516	0.186	0.009
1180	142.31	35.795	7.714	0.429	21.539	0.186	0.009
1195	142.467	35.826	7.724	0.433	21.563	0.181	0.009
1210	142.09	35.826	7.733	0.433	21.586	0.191	0.009
1225	142.341	35.826	7.743	0.433	21.605	0.186	0.009
1240	142.341	35.857	7.757	0.414	21.629	0.191	0.009
1255	141.964	35.889	7.772	0.419	21.647	0.201	0.009
1270	142.341	35.889	7.786	0.414	21.671	0.205	0.009
1285	142.53	35.92	7.8	0.419	21.694	0.215	0.009
1300	142.467	35.952	7.81	0.424	21.713	0.21	0.009
1315	143.159	35.952	7.819	0.419	21.737	0.22	0.009
1330	142.53	35.952	7.838	0.433	21.751	0.234	0.009
1345	142.624	36.014	7.843	0.429	21.779	0.224	0.009
1360	141.995	35.983	7.857	0.419	21.793	0.22	0.009
1375	142.31	35.983	7.867	0.409	21.807	0.234	0.004
1390	142.278	35.983	7.876	0.414	21.821	0.229	0.004
1405	142.373	35.952	7.89	0.429	21.836	0.239	0.009
1420	142.373	35.92	7.895	0.414	21.845	0.244	0.004
1435	141.461	35.92	7.905	0.424	21.85	0.239	0.004

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
1450	140.8	35.889	7.914	0.429	21.85	0.253	0.009
1465	140.612	35.857	7.928	0.414	21.85	0.248	0.009
1480	141.052	35.857	7.928	0.429	21.84	0.258	0.009
1495	140.926	35.763	7.933	0.409	21.831	0.263	0.009
1510	140.675	35.795	7.933	0.424	21.84	0.268	0.009
1525	140.423	35.763	7.938	0.414	21.84	0.272	0.014
1540	140.423	35.763	7.943	0.429	21.84	0.277	0.009
1555	140.455	35.732	7.948	0.409	21.845	0.282	0.004
1570	140.706	35.732	7.952	0.424	21.85	0.282	0.009
1585	139.889	35.669	7.952	0.414	21.854	0.287	0.009
1600	140.36	35.669	7.952	0.424	21.859	0.291	0.009
1615	139.543	35.638	7.962	0.414	21.854	0.296	0.004
1630	139.7	35.638	7.962	0.429	21.859	0.311	0.009
1645	139.197	35.638	7.971	0.452	21.864	0.315	0.014
1660	138.757	35.575	7.976	0.457	21.864	0.32	0.014
1675	139.228	35.575	7.967	0.433	21.854	0.315	0.014
1690	138.191	35.544	7.981	0.457	21.854	0.325	0.019
1705	139.102	35.512	7.976	0.438	21.85	0.32	0.019
1720	138.819	35.481	7.976	0.457	21.85	0.325	0.023
1735	139.48	35.45	7.976	0.457	21.845	0.344	0.019
1750	138.662	35.481	7.981	0.438	21.831	0.33	0.014
1765	138.096	35.45	7.981	0.448	21.831	0.335	0.023
1780	138.159	35.45	7.971	0.467	21.821	0.339	0.023
1795	139.92	35.481	7.976	0.471	21.817	0.339	0.023
1810	139.7	35.512	7.986	0.438	21.803	0.339	0.019
1825	139.417	35.544	7.99	0.462	21.798	0.344	0.023
1840	139.102	35.512	7.99	0.448	21.803	0.354	0.023
1855	138.757	35.512	7.986	0.457	21.803	0.354	0.028
1870	139.228	35.481	8	0.457	21.798	0.358	0.023
1885	138.505	35.481	7.995	0.471	21.798	0.358	0.019
1900	138.882	35.481	8	0.457	21.793	0.363	0.019
1915	139.323	35.481	8	0.448	21.798	0.368	0.023
1930	138.725	35.481	8.009	0.462	21.798	0.373	0.028
1945	138.977	35.481	8.005	0.448	21.789	0.373	0.028
1960	139.385	35.512	8.005	0.448	21.798	0.368	0.033
1975	138.851	35.512	8.005	0.452	21.793	0.382	0.028
1990	138.914	35.512	8.014	0.457	21.793	0.387	0.028
2005	139.92	35.575	8.019	0.462	21.798	0.382	0.033
2020	140.046	35.606	8.024	0.481	21.798	0.387	0.033
2035	139.165	35.638	8.024	0.467	21.803	0.382	0.033
2050	139.197	35.669	8.033	0.476	21.803	0.392	0.033
2065	140.832	35.701	8.043	0.486	21.817	0.397	0.038
2080	140.517	35.732	8.047	0.491	21.821	0.402	0.033
2095	140.58	35.763	8.057	0.486	21.836	0.406	0.033
2110	139.385	35.763	8.062	0.476	21.84	0.406	0.033
2125	140.643	35.795	8.071	0.481	21.854	0.411	0.033
2140	140.549	35.826	8.076	0.491	21.859	0.411	0.033
2155	140.8	35.857	8.081	0.5	21.868	0.406	0.033
2170	140.234	35.889	8.09	0.5	21.883	0.421	0.038
2185	140.643	35.92	8.1	0.495	21.892	0.425	0.033
2200	140.863	35.92	8.104	0.51	21.906	0.421	0.038
2215	140.926	35.889	8.119	0.514	21.915	0.43	0.038

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
2230	140.926	35.952	8.124	0.519	21.934	0.435	0.043
2245	141.083	35.952	8.133	0.505	21.948	0.43	0.038
2260	140.926	35.983	8.138	0.519	21.958	0.44	0.038
2275	140.989	35.983	8.143	0.514	21.972	0.44	0.038
2290	140.738	35.983	8.143	0.519	21.981	0.445	0.038
2305	140.612	35.983	8.152	0.524	21.991	0.459	0.043
2320	141.209	36.014	8.157	0.519	22	0.449	0.043
2335	141.209	36.014	8.162	0.524	22.01	0.454	0.038
2350	141.146	36.046	8.162	0.524	22.019	0.454	0.038
2365	141.115	36.014	8.166	0.519	22.024	0.464	0.043
2380	141.744	36.046	8.171	0.533	22.033	0.468	0.043
2395	141.492	36.077	8.171	0.529	22.047	0.468	0.043
2410	140.769	36.077	8.171	0.524	22.047	0.464	0.038
2425	141.398	36.108	8.176	0.514	22.052	0.473	0.038
2440	141.146	36.108	8.181	0.514	22.061	0.473	0.038
2455	141.272	36.077	8.181	0.514	22.061	0.473	0.038
2470	141.461	36.108	8.176	0.505	22.075	0.473	0.038
2485	141.366	36.108	8.181	0.51	22.08	0.473	0.038
2500	140.895	36.077	8.185	0.514	22.08	0.492	0.038
2515	141.587	36.14	8.185	0.514	22.094	0.478	0.033
2530	141.304	36.108	8.185	0.505	22.099	0.483	0.033
2545	141.492	36.108	8.19	0.505	22.104	0.488	0.038
2560	141.178	36.108	8.19	0.5	22.108	0.492	0.033
2575	140.643	36.108	8.19	0.495	22.113	0.492	0.033
2590	141.272	36.14	8.19	0.51	22.113	0.488	0.033
2605	141.178	36.14	8.195	0.505	22.122	0.497	0.033
2620	140.392	36.108	8.195	0.491	22.122	0.488	0.033
2635	140.455	36.14	8.2	0.5	22.127	0.497	0.033
2650	141.209	36.14	8.204	0.51	22.132	0.502	0.033
2665	141.052	36.14	8.204	0.5	22.141	0.512	0.033
2680	141.524	36.14	8.209	0.5	22.141	0.507	0.033
2695	141.178	36.14	8.209	0.495	22.146	0.512	0.033
2710	140.989	36.14	8.209	0.495	22.151	0.507	0.033
2725	140.863	36.14	8.214	0.491	22.155	0.512	0.033
2740	141.335	36.171	8.219	0.495	22.155	0.516	0.033
2755	140.675	36.171	8.219	0.495	22.16	0.521	0.033
2770	141.272	36.171	8.223	0.495	22.165	0.521	0.033
2785	141.083	36.171	8.223	0.491	22.169	0.526	0.033
2800	141.775	36.14	8.228	0.491	22.174	0.526	0.033
2815	140.612	36.14	8.228	0.491	22.174	0.526	0.033
2830	140.046	36.077	8.233	0.491	22.184	0.531	0.033
2845	140.423	35.983	8.233	0.491	22.184	0.526	0.033
2860	140.297	35.983	8.228	0.486	22.179	0.521	0.033
2875	139.165	35.92	8.228	0.486	22.179	0.531	0.038
2890	139.071	35.857	8.228	0.491	22.174	0.54	0.038
2905	138.914	35.826	8.223	0.491	22.169	0.54	0.033
2920	138.631	35.763	8.228	0.505	22.155	0.545	0.033
2935	139.197	35.763	8.219	0.486	22.146	0.55	0.033
2950	138.254	35.732	8.219	0.491	22.141	0.55	0.043
2965	138.757	35.701	8.214	0.491	22.127	0.55	0.043
2980	138.631	35.669	8.209	0.481	22.113	0.555	0.038
2995	138.316	35.638	8.204	0.491	22.094	0.555	0.033

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME (min)	REDUCED DRAWDOWN DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
3010	139.511	35.638	8.2	0.481	22.089	0.559	0.043
3025	138.065	35.575	8.2	0.481	22.066	0.569	0.038
3040	137.593	35.606	8.195	0.486	22.052	0.555	0.038
3055	137.908	35.606	8.185	0.471	22.042	0.559	0.043
3070	137.688	35.575	8.185	0.471	22.019	0.559	0.038
3085	137.499	35.544	8.181	0.471	22.014	0.564	0.038
3100	137.656	35.512	8.176	0.486	21.995	0.559	0.033
3115	137.593	35.481	8.171	0.491	21.977	0.559	0.038
3130	137.688	35.387	8.166	0.481	21.958	0.569	0.043
3145	137.625	35.418	8.157	0.486	21.948	0.559	0.038
3160	137.216	35.387	8.152	0.476	21.934	0.559	0.043
3175	136.901	35.355	8.147	0.481	21.915	0.555	0.043
3190	137.122	35.355	8.138	0.491	21.897	0.559	0.038
3205	137.436	35.324	8.133	0.486	21.878	0.55	0.038
3220	137.247	35.355	8.133	0.481	21.868	0.564	0.043
3235	137.027	35.324	8.128	0.491	21.85	0.559	0.038
3240	136.901	35.324	8.124	0.495	21.826	0.559	0.038
3265	137.31	35.324	8.124	0.5	21.821	0.559	0.043
3280	137.499	35.387	8.124	0.5	21.817	0.564	0.052
3295	137.405	35.355	8.119	0.505	21.803	0.564	0.043
3310	136.87	35.355	8.114	0.5	21.793	0.569	0.052
3325	137.09	35.324	8.114	0.5	21.784	0.574	0.043
3340	137.153	35.324	8.119	0.505	21.784	0.574	0.057
3355	137.562	35.324	8.114	0.514	21.774	0.583	0.047
3370	137.499	35.324	8.114	0.519	21.765	0.569	0.052
3385	137.53	35.355	8.114	0.524	21.77	0.583	0.062
3400	136.933	35.355	8.119	0.533	21.756	0.588	0.057
3415	137.436	35.324	8.119	0.543	21.746	0.588	0.052
3430	137.782	35.387	8.119	0.533	21.746	0.588	0.057
3445	137.782	35.418	8.124	0.548	21.741	0.593	0.052
3460	138.222	35.418	8.128	0.557	21.741	0.598	0.057
3475	137.719	35.45	8.138	0.572	21.746	0.607	0.062
3490	138.568	35.45	8.138	0.576	21.746	0.607	0.062
3505	138.568	35.512	8.143	0.586	21.746	0.612	0.062
3520	138.128	35.512	8.147	0.586	21.751	0.612	0.062
3535	138.191	35.512	8.152	0.6	21.756	0.612	0.062
3550	137.813	35.512	8.157	0.6	21.76	0.617	0.062
3565	138.568	35.575	8.166	0.614	21.765	0.617	0.062
3580	138.474	35.575	8.171	0.619	21.77	0.617	0.062
3595	138.725	35.606	8.181	0.634	21.774	0.626	0.067
3610	138.662	35.638	8.185	0.648	21.784	0.622	0.067
3625	139.606	35.669	8.19	0.657	21.784	0.626	0.067
3640	139.543	35.701	8.195	0.657	21.789	0.622	0.067
3655	139.04	35.701	8.2	0.657	21.793	0.631	0.067
3670	139.731	35.732	8.209	0.676	21.803	0.631	0.067
3685	139.448	35.763	8.219	0.681	21.812	0.631	0.067
3700	139.951	35.795	8.223	0.696	21.817	0.631	0.067
3715	139.668	35.826	8.233	0.696	21.831	0.631	0.067
3730	139.008	35.826	8.238	0.696	21.84	0.636	0.067
3745	139.134	35.826	8.247	0.719	21.85	0.646	0.067
3760	139.26	35.795	8.257	0.729	21.859	0.655	0.071
3775	139.951	35.857	8.261	0.724	21.868	0.646	0.067

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
3790	138.945	35.857	8.266	0.724	21.878	0.655	0.067
3805	139.48	35.857	8.271	0.729	21.887	0.665	0.071
3820	140.046	35.889	8.276	0.734	21.897	0.655	0.071
3835	140.046	35.889	8.276	0.738	21.901	0.65	0.067
3850	139.889	35.889	8.28	0.729	21.906	0.66	0.067
3865	139.354	35.92	8.28	0.724	21.915	0.66	0.067
3880	139.794	35.889	8.29	0.729	21.92	0.65	0.067
3895	140.046	35.92	8.295	0.743	21.93	0.665	0.067
3910	139.543	35.952	8.299	0.753	21.939	0.665	0.067
3925	139.826	35.92	8.304	0.743	21.948	0.669	0.067
3940	139.668	35.92	8.309	0.743	21.953	0.669	0.067
3955	139.951	35.952	8.309	0.758	21.958	0.669	0.067
3970	139.323	35.952	8.314	0.748	21.963	0.669	0.067
3985	139.92	35.983	8.318	0.762	21.967	0.674	0.062
4000	139.165	35.952	8.314	0.758	21.972	0.669	0.062
4015	139.165	35.952	8.318	0.753	21.977	0.674	0.062
4030	139.385	35.983	8.318	0.758	21.981	0.669	0.062
4045	139.071	35.952	8.323	0.748	21.981	0.674	0.062
4060	140.077	35.952	8.328	0.767	21.991	0.689	0.062
4075	139.606	35.952	8.333	0.762	21.995	0.693	0.062
4090	140.643	35.952	8.338	0.777	22	0.689	0.062
4105	138.568	35.952	8.342	0.781	22.01	0.693	0.062
4120	139.889	35.952	8.347	0.767	22.014	0.703	0.062
4135	139.448	35.983	8.357	0.791	22.019	0.703	0.062
4150	139.448	35.952	8.357	0.786	22.024	0.713	0.062
4165	139.354	35.952	8.361	0.772	22.024	0.713	0.062
4180	140.046	35.983	8.366	0.786	22.028	0.713	0.062
4195	139.354	36.014	8.371	0.796	22.038	0.722	0.067
4210	139.511	36.014	8.38	0.8	22.038	0.732	0.067
4225	139.668	36.046	8.39	0.8	22.047	0.736	0.062
4240	139.102	36.014	8.395	0.819	22.052	0.741	0.067
4255	139.826	35.983	8.399	0.81	22.061	0.746	0.067
4270	139.323	35.983	8.409	0.819	22.071	0.746	0.067
4285	139.323	35.983	8.414	0.815	22.075	0.751	0.067
4300	139.008	35.952	8.418	0.824	22.08	0.751	0.067
4315	138.662	35.889	8.418	0.834	22.08	0.756	0.067
4330	137.625	35.857	8.423	0.839	22.08	0.756	0.067
4345	137.656	35.795	8.423	0.829	22.075	0.756	0.067
4360	138.065	35.763	8.423	0.839	22.071	0.756	0.071
4375	137.562	35.732	8.423	0.829	22.066	0.756	0.071
4390	136.744	35.701	8.423	0.829	22.057	0.76	0.067
4405	138.285	35.669	8.418	0.815	22.047	0.765	0.062
4420	138.128	35.669	8.418	0.824	22.038	0.765	0.067
4435	137.876	35.669	8.414	0.839	22.019	0.78	0.057
4450	137.562	35.669	8.414	0.839	22.024	0.78	0.076
4465	136.839	35.638	8.409	0.843	22.005	0.775	0.062
4480	137.342	35.606	8.414	0.829	21.995	0.78	0.067
4495	136.587	35.606	8.409	0.839	21.991	0.78	0.076
4510	136.87	35.512	8.404	0.834	21.972	0.784	0.062
4525	136.807	35.544	8.399	0.834	21.972	0.78	0.081
4540	136.713	35.544	8.404	0.839	21.953	0.775	0.067
4555	136.241	35.512	8.39	0.839	21.944	0.775	0.081

Appendix H, Table 1. ROMP 28 Kuhlman Suwannee-Floridan APT Drawdown Data.

ELAPSED TIME	REDUCED DRAWDOWN DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
4570	136.744	35.45	8.39	0.843	21.925	0.78	0.071
4585	136.493	35.418	8.385	0.834	21.911	0.784	0.062
4600	136.461	35.45	8.38	0.848	21.901	0.775	0.067
4615	136.776	35.45	8.371	0.843	21.892	0.77	0.081
4630	136.713	35.418	8.371	0.834	21.873	0.775	0.071
4645	136.398	35.324	8.366	0.858	21.854	0.78	0.076
4660	135.832	35.355	8.361	0.839	21.845	0.78	0.076
4675	135.298	35.293	8.352	0.839	21.831	0.78	0.076
4690	135.864	35.293	8.347	0.834	21.817	0.78	0.067
4705	136.335	35.324	8.347	0.839	21.803	0.775	0.071
4720	135.707	35.293	8.342	0.839	21.793	0.78	0.076
4735	135.675	35.261	8.342	0.858	21.779	0.78	0.076
4750	135.612	35.261	8.338	0.858	21.77	0.784	0.076
4765	136.398	35.324	8.342	0.862	21.76	0.78	0.081
4780	136.556	35.324	8.333	0.858	21.746	0.789	0.071
4795	137.373	35.355	8.342	0.848	21.737	0.794	0.076
4810	136.87	35.355	8.342	0.881	21.732	0.789	0.076
4825	136.052	35.355	8.342	0.858	21.727	0.789	0.076
4840	136.87	35.418	8.352	0.886	21.727	0.803	0.081
4855	136.807	35.45	8.352	0.877	21.727	0.803	0.081
4870	136.996	35.45	8.361	0.896	21.732	0.808	0.086
4885	136.618	35.45	8.371	0.915	21.732	0.808	0.086
4900	136.367	35.45	8.376	0.92	21.737	0.823	0.086
4915	137.216	35.45	8.376	0.92	21.737	0.823	0.091
4930	137.247	35.481	8.385	0.924	21.741	0.818	0.086
4945	137.467	35.481	8.385	0.939	21.737	0.832	0.091
4960	137.405	35.544	8.39	0.934	21.741	0.827	0.091
4975	137.908	35.606	8.399	0.943	21.746	0.832	0.091
4990	138.254	35.606	8.404	0.948	21.746	0.842	0.095
5005	138.285	35.701	8.409	0.943	21.756	0.837	0.091

Appendix H, Table 2

Suwannee-Floridan APT

Recovery Data

Appendix H, Table 2. ROMP 28 Kuhlman Suwannee-Floridan APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
0.001	138.284	35.669	8.428	0.962	21.765	0.846	0.091
0.008	138.2767	35.669	8.423	0.939	21.765	0.842	0.095
0.017	138.2684	35.669	8.414	0.972	21.765	0.846	0.095
0.025	138.26	35.669	8.418	0.953	21.765	0.851	0.091
0.033	138.2517	35.669	8.423	0.962	21.765	0.846	0.091
0.042	138.2434	35.669	8.423	0.934	21.765	0.846	0.095
0.050	138.235	35.669	8.428	0.972	21.765	0.846	0.091
0.058	138.2267	35.669	8.428	0.943	21.77	0.842	0.091
0.067	138.2184	35.669	8.423	0.953	21.765	0.851	0.095
0.075	138.21	35.669	8.428	0.958	21.765	0.856	0.095
0.083	138.2017	35.669	8.433	0.948	21.765	0.846	0.095
0.092	138.1934	35.669	8.428	0.967	21.77	0.846	0.095
0.100	138.185	35.669	8.423	0.934	21.765	0.846	0.091
0.108	138.1767	35.669	8.423	0.962	21.765	0.846	0.095
0.117	138.1684	35.669	8.423	0.953	21.765	0.851	0.095
0.125	138.16	35.669	8.423	0.948	21.765	0.846	0.091
0.133	138.1517	35.669	8.428	0.958	21.765	0.851	0.095
0.142	138.1434	35.669	8.423	0.939	21.765	0.856	0.091
0.150	138.135	35.669	8.433	0.934	21.765	0.851	0.095
0.158	138.1267	35.669	8.428	0.967	21.765	0.846	0.091
0.167	138.1184	35.669	8.433	0.972	21.765	0.861	0.095
0.175	138.11	35.669	8.423	0.962	21.77	0.846	0.095
0.183	138.1017	35.669	8.428	0.939	21.765	0.846	0.091
0.192	138.0934	35.669	8.423	0.939	21.765	0.842	0.095
0.200	138.085	35.669	8.423	0.943	21.765	0.851	0.095
0.208	138.0767	35.669	8.423	0.939	21.765	0.851	0.1
0.217	138.0684	35.669	8.433	0.943	21.77	0.856	0.095
0.225	138.06	35.669	8.423	0.958	21.765	0.846	0.095
0.233	138.0517	35.669	8.418	0.967	21.765	0.856	0.091
0.242	138.0434	35.669	8.433	0.967	21.77	0.856	0.1
0.250	138.035	35.669	8.437	0.943	21.77	0.861	0.095
0.258	138.0267	35.669	8.428	0.929	21.765	0.851	0.095
0.267	138.0184	35.669	8.423	0.948	21.77	0.842	0.091
0.275	138.01	35.669	8.423	0.962	21.765	0.846	0.1
0.283	138.0017	35.669	8.433	0.958	21.77	0.856	0.091
0.292	137.9934	35.669	8.423	0.953	21.765	0.851	0.086
0.300	137.985	35.669	8.428	0.953	21.765	0.856	0.095
0.308	137.9767	35.669	8.423	0.967	21.765	0.846	0.1
0.317	137.9684	35.669	8.423	0.953	21.765	0.842	0.091
0.325	137.96	35.669	8.418	0.934	21.77	0.851	0.1
0.333	137.9517	35.669	8.428	0.948	21.765	0.842	0.095
0.350	137.935	35.669	8.423	0.958	21.77	0.846	0.086
0.367	137.9184	35.669	8.418	0.962	21.77	0.842	0.091
0.383	137.9017	35.669	8.423	0.953	21.765	0.837	0.091
0.400	137.885	35.669	8.423	0.958	21.765	0.842	0.091
0.417	137.8684	35.669	8.418	0.948	21.765	0.837	0.095
0.433	137.8517	35.669	8.428	0.962	21.765	0.846	0.091
0.450	137.835	35.669	8.423	0.948	21.77	0.846	0.091
0.467	137.8184	35.669	8.423	0.958	21.765	0.846	0.095
0.483	137.8017	35.669	8.433	0.958	21.765	0.851	0.091
0.500	137.785	35.669	8.433	0.943	21.77	0.856	0.091
0.517	137.7684	35.669	8.428	0.962	21.765	0.851	0.086

Appendix H, Table 2. ROMP 28 Kuhlman Suwannee-Floridan APT Recovery Data.

ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
0.533	137.7517	35.638	8.423	0.953	21.765	0.846	0.095
0.550	137.735	35.669	8.423	0.953	21.77	0.851	0.095
0.567	137.7184	35.669	8.423	0.958	21.765	0.846	0.1
0.583	137.7017	35.669	8.428	0.943	21.77	0.851	0.091
0.600	137.685	35.638	8.428	0.948	21.765	0.856	0.091
0.617	137.6684	35.638	8.423	0.958	21.77	0.851	0.086
0.633	137.6517	35.638	8.437	0.958	21.77	0.851	0.095
0.650	137.635	35.638	8.433	0.953	21.77	0.856	0.095
0.667	137.6184	35.638	8.423	0.962	21.765	0.846	0.1
0.683	137.6017	35.638	8.433	0.953	21.765	0.856	0.091
0.700	137.585	35.606	8.428	0.943	21.77	0.851	0.1
0.717	137.5684	35.606	8.423	0.953	21.765	0.851	0.091
0.733	137.5517	35.606	8.433	0.958	21.765	0.856	0.095
0.750	137.535	35.606	8.428	0.958	21.765	0.851	0.1
0.767	137.5184	35.606	8.428	0.958	21.77	0.846	0.091
0.783	137.5017	35.606	8.428	0.948	21.77	0.846	0.095
0.800	137.485	35.575	8.428	0.953	21.765	0.861	0.095
0.817	137.4684	35.575	8.418	0.948	21.77	0.851	0.091
0.833	137.4517	35.575	8.418	0.958	21.765	0.856	0.095
0.850	137.435	35.575	8.428	0.958	21.765	0.861	0.091
0.867	137.4184	35.575	8.423	0.948	21.765	0.846	0.095
0.883	137.4017	35.544	8.423	0.953	21.765	0.856	0.091
0.900	137.385	35.544	8.423	0.958	21.765	0.856	0.095
0.917	137.3684	35.544	8.418	0.962	21.77	0.856	0.091
0.933	137.3517	35.544	8.433	0.958	21.765	0.846	0.095
0.950	137.335	35.544	8.433	0.958	21.77	0.851	0.1
0.967	137.3184	35.512	8.428	0.953	21.77	0.851	0.091
0.983	137.3017	35.512	8.423	0.953	21.77	0.851	0.091
1	137.285	35.512	8.418	0.953	21.77	0.856	0.1
1.2	137.085	35.387	8.423	0.958	21.765	0.856	0.091
1.4	136.885	35.261	8.423	0.948	21.77	0.861	0.091
1.6	136.685	35.136	8.428	0.958	21.77	0.861	0.091
1.8	136.485	34.979	8.423	0.948	21.77	0.866	0.091
2	136.285	34.822	8.423	0.958	21.77	0.866	0.095
2.2	136.085	34.697	8.433	0.953	21.774	0.866	0.1
2.4	135.885	34.508	8.428	0.958	21.774	0.88	0.091
2.6	135.685	34.352	8.418	0.953	21.774	0.875	0.086
2.8	135.485	34.195	8.423	0.958	21.774	0.87	0.105
3	135.285	34.007	8.428	0.958	21.779	0.88	0.095
3.2	135.085	33.85	8.423	0.953	21.779	0.89	0.1
3.4	134.885	33.693	8.423	0.953	21.779	0.885	0.1
3.6	134.685	33.505	8.423	0.958	21.784	0.89	0.091
3.8	134.485	33.348	8.418	0.953	21.784	0.885	0.105
4	134.285	33.16	8.423	0.958	21.784	0.875	0.095
4.2	134.085	33.003	8.418	0.953	21.784	0.89	0.1
4.4	133.885	32.814	8.423	0.958	21.789	0.894	0.1
4.6	133.685	32.658	8.418	0.962	21.789	0.89	0.1
4.8	133.485	32.501	8.423	0.953	21.793	0.899	0.1
5	133.285	32.313	8.423	0.958	21.793	0.899	0.1
5.2	133.085	32.156	8.423	0.953	21.793	0.899	0.095
5.4	132.885	31.967	8.423	0.958	21.798	0.899	0.095
5.6	132.685	31.811	8.423	0.958	21.803	0.904	0.105

Appendix H, Table 2. ROMP 28 Kuhlman Suwannee-Floridan APT Recovery Data.

ELAPSED TIME (min)	REDUCED RECOVERY DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
5.8	132.485	31.654	8.428	0.962	21.803	0.904	0.105
6	132.285	31.497	8.423	0.948	21.807	0.909	0.1
6.2	132.085	31.309	8.423	0.958	21.807	0.913	0.1
6.4	131.885	31.152	8.423	0.958	21.812	0.909	0.1
6.6	131.685	30.995	8.418	0.958	21.812	0.904	0.1
6.8	131.485	30.807	8.423	0.958	21.817	0.904	0.1
7	131.285	30.65	8.423	0.958	21.817	0.913	0.1
7.2	131.085	30.493	8.414	0.958	21.821	0.913	0.105
7.4	130.885	30.336	8.428	0.958	21.821	0.913	0.105
7.6	130.685	30.179	8.418	0.958	21.826	0.913	0.1
7.8	130.485	30.023	8.418	0.958	21.826	0.923	0.1
8	130.285	29.834	8.418	0.958	21.831	0.923	0.105
8.2	130.085	29.677	8.418	0.958	21.831	0.909	0.105
8.4	129.885	29.552	8.418	0.962	21.836	0.923	0.105
8.6	129.685	29.395	8.414	0.958	21.84	0.918	0.105
8.8	129.485	29.238	8.414	0.962	21.845	0.909	0.11
9	129.285	29.081	8.418	0.958	21.845	0.923	0.105
9.2	129.085	28.925	8.423	0.958	21.845	0.923	0.105
9.4	128.885	28.768	8.414	0.962	21.85	0.923	0.095
9.6	128.685	28.642	8.418	0.958	21.854	0.928	0.105
9.8	128.485	28.485	8.414	0.962	21.854	0.923	0.105
10	128.285	28.36	8.418	0.958	21.859	0.918	0.11
12	126.285	26.98	8.409	0.953	21.897	0.923	0.11
14	124.285	25.725	8.399	0.958	21.93	0.928	0.115
16	122.285	24.595	8.39	0.958	21.963	0.937	0.115
18	120.285	23.529	8.385	0.962	21.991	0.947	0.119
20	118.285	22.65	8.366	0.962	22.024	0.947	0.119
22	116.285	21.803	8.352	0.962	22.052	0.947	0.124
24	114.285	21.05	8.328	0.962	22.075	0.952	0.129
26	112.285	20.36	8.304	0.962	22.099	0.957	0.129
28	110.285	19.701	8.28	0.967	22.113	0.961	0.129
30	108.285	19.137	8.252	0.967	22.122	0.961	0.134
32	106.285	18.603	8.219	0.967	22.127	0.966	0.134
34	104.285	18.102	8.181	0.967	22.127	0.971	0.134
36	102.285	17.631	8.143	0.972	22.118	0.976	0.134
38	100.285	17.223	8.104	0.972	22.104	0.98	0.134
40	98.285	16.815	8.062	0.972	22.08	0.98	0.139
42	96.285	16.439	8.019	0.977	22.052	0.98	0.139
44	94.285	16.094	7.971	0.977	22.014	0.99	0.139
46	92.285	15.749	7.924	0.977	21.972	0.99	0.139
48	90.285	15.435	7.876	0.977	21.925	0.995	0.139
50	88.285	15.153	7.824	0.982	21.868	1	0.143
52	86.285	14.87	7.772	0.982	21.812	0.995	0.143
54	84.285	14.619	7.719	0.982	21.746	1.004	0.143
56	82.285	14.368	7.667	0.982	21.671	1.004	0.143
58	80.285	14.117	7.619	0.982	21.591	1.004	0.143
60	78.285	13.898	7.567	0.982	21.511	1.004	0.143
62	76.285	13.678	7.51	0.986	21.426	1.009	0.143
64	74.285	13.458	7.458	0.986	21.332	1.014	0.143
66	72.285	13.239	7.401	0.986	21.238	1.009	0.143
68	70.285	13.051	7.348	0.986	21.135	1.014	0.143
70	68.285	12.862	7.296	0.986	21.036	1.014	0.143

Appendix H, Table 2. ROMP 28 Kuhlman Suwannee-Floridan APT Recovery Data.

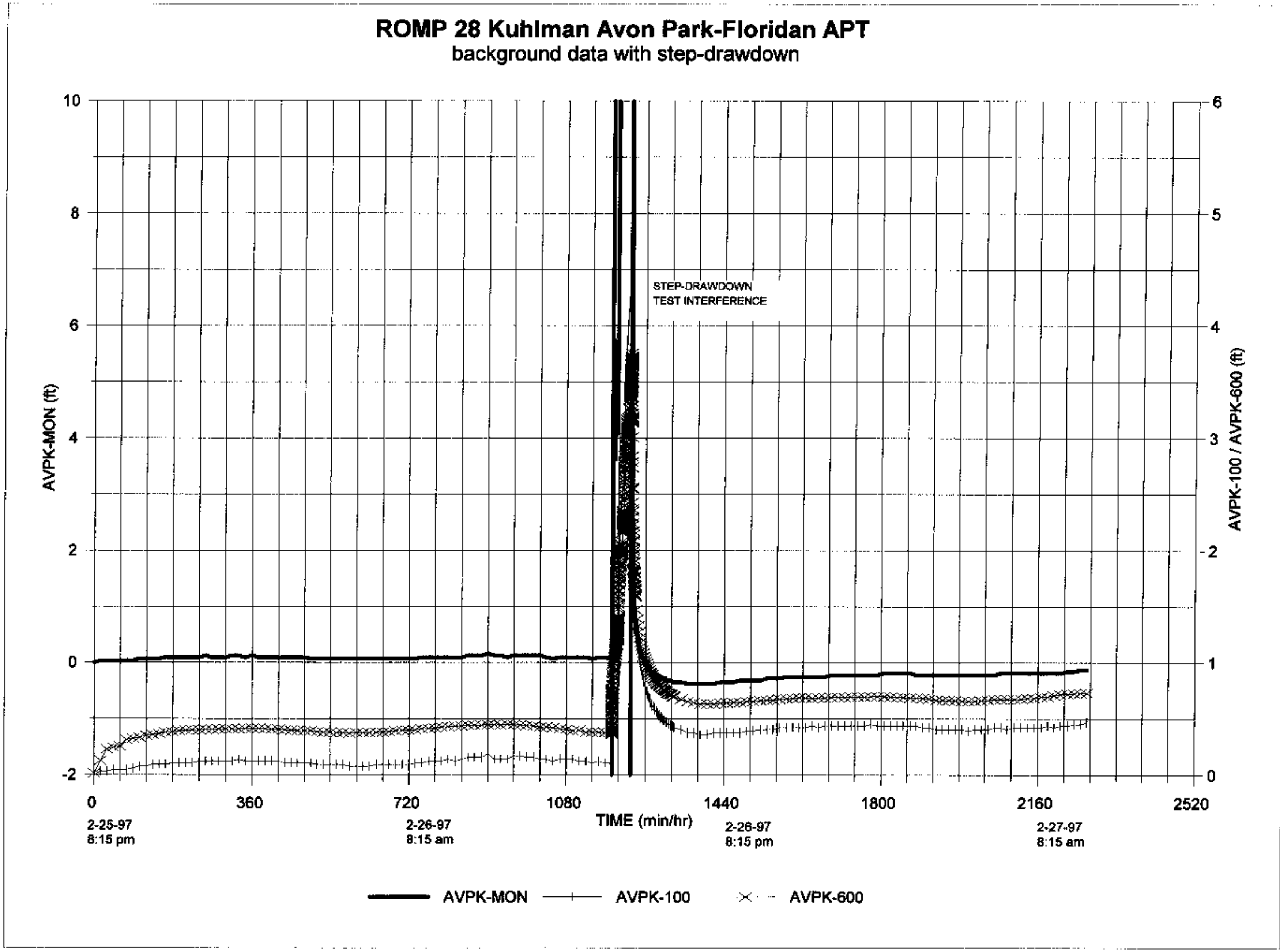
ELAPSED TIME	REDUCED RECOVERY DATA (displacement in feet)						
(min)	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
72	66.285	12.674	7.244	0.986	20.933	1.014	0.148
74	64.285	12.517	7.191	0.986	20.824	1.019	0.143
76	62.285	12.36	7.134	0.986	20.711	1.019	0.148
78	60.285	12.172	7.082	0.991	20.599	1.019	0.148
80	58.285	12.015	7.034	0.986	20.481	1.019	0.143
82	56.285	11.89	6.977	0.991	20.363	1.023	0.148
84	54.285	11.733	6.925	0.991	20.246	1.023	0.148
86	52.285	11.576	6.882	0.991	20.123	1.033	0.148
88	50.285	11.419	6.83	0.996	20.001	1.033	0.148
90	48.285	11.294	6.782	0.996	19.874	1.033	0.148
92	46.285	11.168	6.73	0.996	19.752	1.038	0.148
94	44.285	11.043	6.682	0.996	19.625	1.033	0.148
96	42.285	10.917	6.635	0.996	19.502	1.038	0.148
98	40.285	10.823	6.587	0.996	19.375	1.038	0.148
100	38.285	10.698	6.539	0.991	19.248	1.038	0.143
115	23.285	9.945	6.206	1.001	18.302	1.052	0.148
130	8.285	9.286	5.902	1.001	17.36	1.047	0.148
145	-6.715	8.721	5.626	1.001	16.47	1.062	0.148
160	-21.715	8.251	5.378	1.005	15.632	1.071	0.148
175	-36.715	7.811	5.145	1.001	14.84	1.067	0.143
190	-51.715	7.435	4.935	1.001	14.105	1.067	0.143
205	-66.715	7.09	4.74	1.001	13.417	1.067	0.143
220	-81.715	6.776	4.559	0.996	12.776	1.062	0.143
235	-96.715	6.494	4.397	0.996	12.177	1.062	0.139
250	-111.715	6.243	4.245	0.991	11.621	1.057	0.139
265	-126.715	5.992	4.097	0.986	11.069	1.057	0.139
280	-141.715	5.772	3.964	0.982	10.573	1.052	0.134
295	-156.715	5.553	3.835	0.977	10.111	1.047	0.134
310	-171.715	5.364	3.716	0.972	9.677	1.043	0.134
325	-186.715	5.176	3.607	0.967	9.266	1.047	0.129
340	-201.715	5.019	3.502	0.962	8.879	1.038	0.129
355	-216.715	4.831	3.402	0.962	8.516	1.038	0.129
370	-231.715	4.705	3.312	0.962	8.171	1.038	0.129
385	-246.715	4.549	3.221	0.953	7.846	1.028	0.124
400	-261.715	4.392	3.135	0.948	7.534	1.023	0.124
415	-276.715	4.266	3.054	0.943	7.241	1.014	0.124
430	-291.715	4.141	2.978	0.939	6.963	1.009	0.124
445	-306.715	4.047	2.911	0.943	6.698	1.009	0.119
460	-321.715	3.921	2.845	0.943	6.453	1.004	0.124
475	-336.715	3.827	2.778	0.939	6.221	1.004	0.124
490	-351.715	3.733	2.716	0.939	5.99	1	0.119
505	-366.715	3.639	2.659	0.939	5.772	0.995	0.119
520	-381.715	3.545	2.602	0.939	5.564	0.995	0.119
535	-396.715	3.451	2.554	0.939	5.371	1.004	0.119
550	-411.715	3.388	2.502	0.943	5.196	0.99	0.119
565	-426.715	3.294	2.454	0.943	5.016	0.995	0.119
580	-441.715	3.231	2.406	0.939	4.851	0.995	0.119
595	-456.715	3.137	2.364	0.939	4.686	0.985	0.119
610	-471.715	3.105	2.321	0.943	4.534	0.985	0.119
625	-486.715	3.043	2.283	0.953	4.393	0.98	0.119
640	-501.715	2.98	2.244	0.958	4.256	0.98	0.119
655	-516.715	2.917	2.211	0.958	4.133	0.976	0.124

Appendix H, Table 2. ROMP 28 Kuhlman Suwannee-Floridan APT Recovery Data.

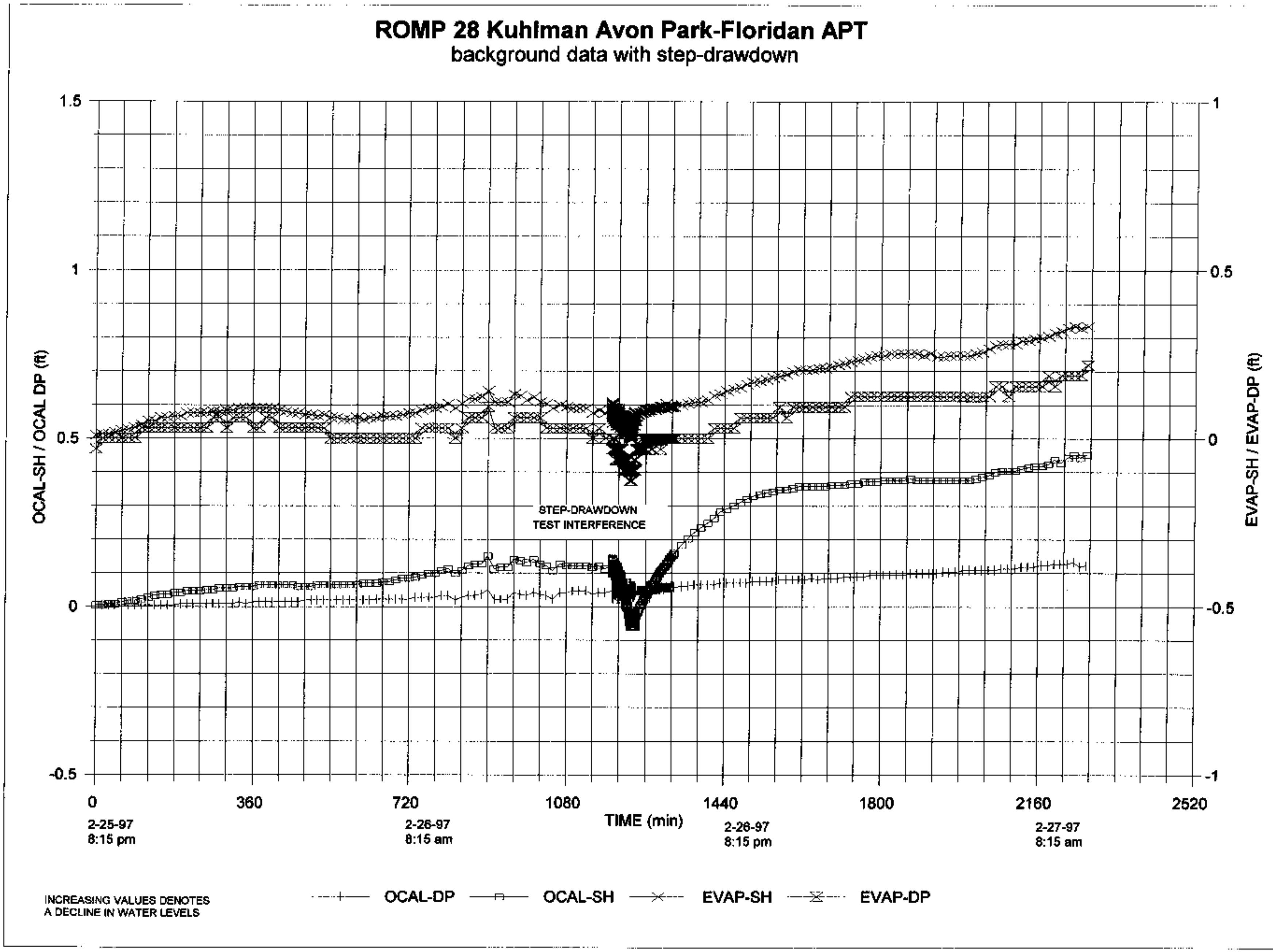
ELAPSED TIME (min)	REDUCED RECOVERY DATA (displacement in feet)						
	SUW-TEST	SUW-100	SUW-600	AVPK-MON	OCAL-SH	HAWTH-MON	SURF-MON
670	-531.715	2.949	2.168	0.953	3.996	0.976	0.119
685	-546.715	2.917	2.144	0.958	3.873	0.98	0.119
700	-561.715	2.886	2.111	0.962	3.759	0.976	0.119
715	-576.715	2.823	2.082	0.962	3.655	0.961	0.124
730	-591.715	2.698	2.059	0.958	3.551	0.961	0.124
745	-606.715	2.635	2.03	0.958	3.447	0.961	0.124
760	-621.715	2.635	1.997	0.953	3.357	0.957	0.119
775	-636.715	2.541	1.968	0.953	3.258	0.947	0.124
790		2.478	1.939	0.92	3.164	0.942	0.11
805		2.447	1.911	0.924	3.074	0.937	0.115
820		2.384	1.882	0.92	2.979	0.937	0.115
835		2.321	1.858	0.92	2.904	0.942	0.119
850		2.321	1.825	0.915	2.823	0.928	0.119
865		2.258	1.792	0.905	2.743	0.923	0.119
880		2.227	1.768	0.901	2.667	0.918	0.119
895		2.196	1.744	0.891	2.596	0.909	0.115
910		2.164	1.716	0.881	2.525	0.904	0.124
925		2.133	1.692	0.877	2.44	0.89	0.11
940		2.07	1.658	0.872	2.374	0.885	0.115
955		2.039	1.639	0.862	2.308	0.87	
970		2.007	1.601	0.853	2.232	0.861	
985		1.976	1.577	0.853	2.175	0.851	
1000		1.945	1.558	0.848	2.119	0.851	
1015		1.913	1.53	0.848	2.057	0.832	
1030		1.882	1.511		1.991	0.823	
1045		1.819	1.496				

Appendix I

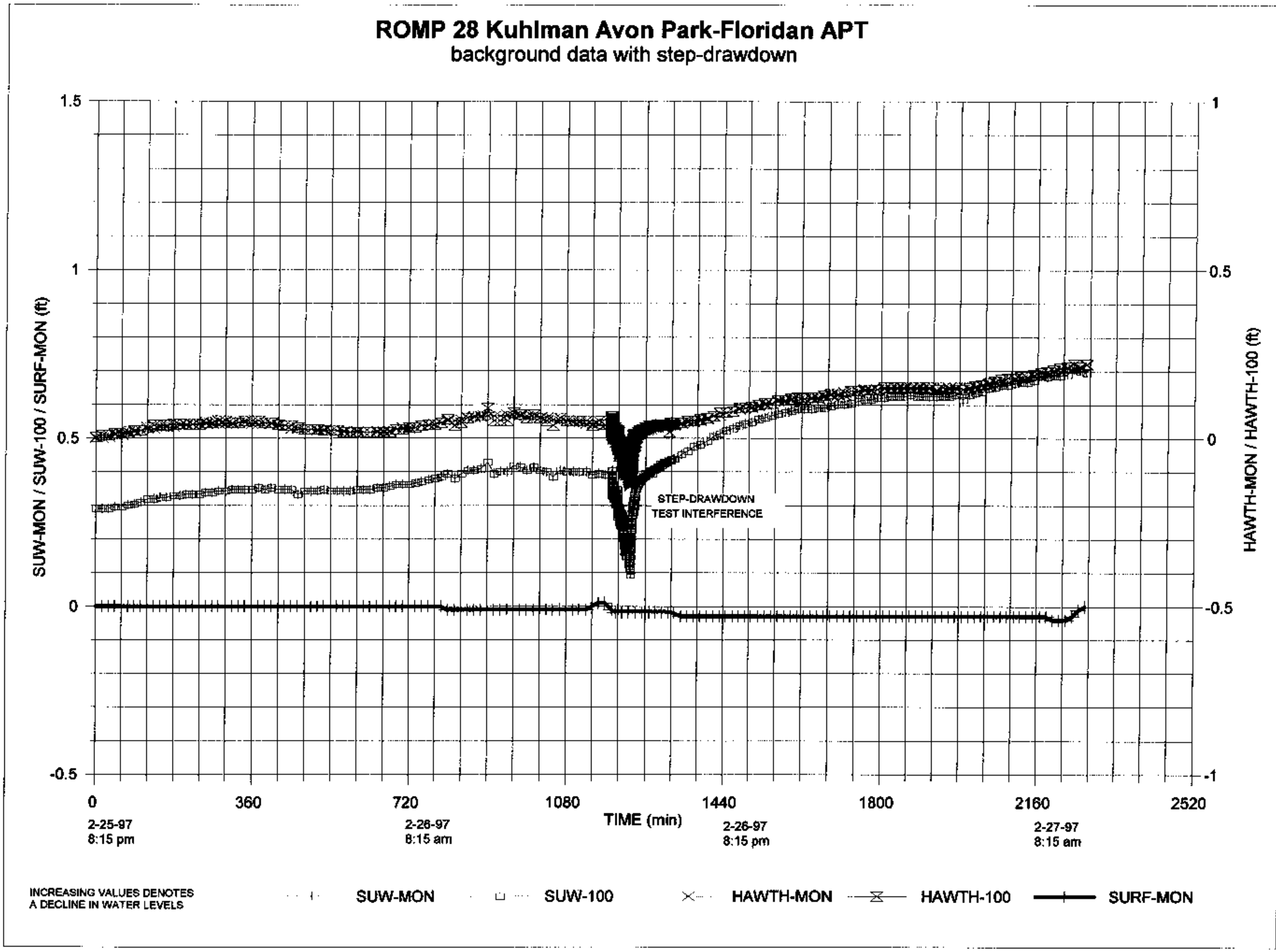
Avon Park Fm. \ U. Floridan APT Specifications and Analyses Results



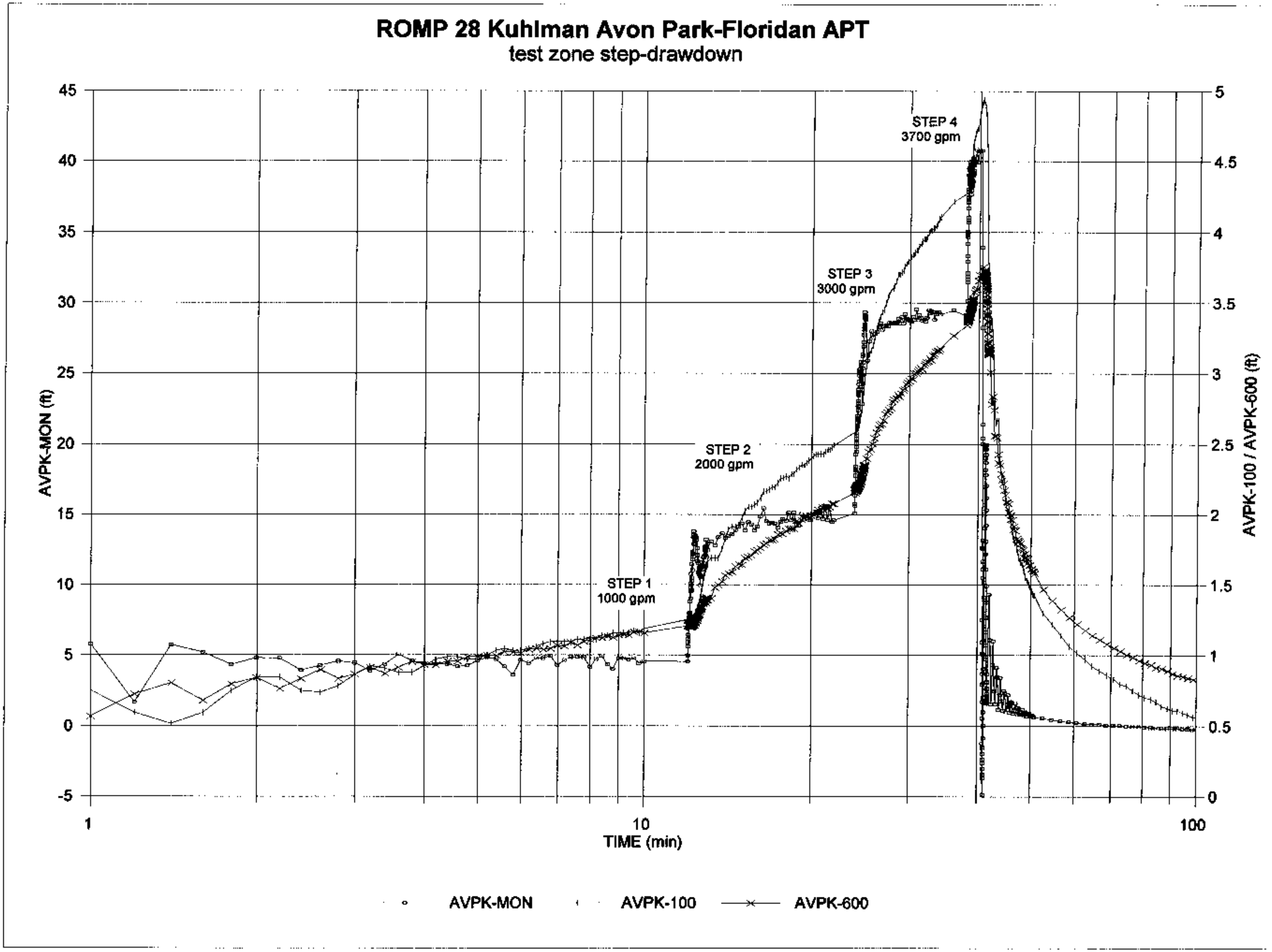
Appendix I, Figure 1. Test zone background data, Avon Park-Floridan APT.



Appendix I, Figure 2. Background data in upper/lower observation zones, Avon Park-Floridan APT.



Appendix I, Figure 3. Background data in upper observation zones, Avon Park-Floridan APT.



Appendix I, Figure 4. Step-drawdown data for test zone wells, Avon Park-Floridan APT.

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
25-Feb-97	8:15:00 PM	0	0	0	0.014	0.004	0.004	-0.141	0.291	0.158	0	0.004	0.009	-0.031	70.17
	8:30:00 PM	15	0.031	0.031	0.129	0.004	0.004	-0.141	0.291	0.201	0	0.009	0.014	0	70.17
	8:45:00 PM	30	0.031	0.031	0.229	0.004	0.009	-0.141	0.291	0.249	0.004	0.009	0.014	0	70.17
	9:00:00 PM	45	0.031	0.047	0.248	0.004	0.009	-0.141	0.296	0.344	0.009	0.014	0.019	0	70.17
	9:15:00 PM	60	0.031	0.047	0.253	0.004	0.014	-0.125	0.296	0.368	0.009	0.014	0.023	0	70.17
	9:30:00 PM	75	0.031	0.047	0.315	0.004	0.018	-0.125	0.301	0.368	0.014	0.019	0.028	0	70.17
	9:45:00 PM	90	0.031	0.062	0.325	0.004	0.018	-0.125	0.305	0.416	0.019	0.023	0.033	0	70.17
	10:00:00 PM	105	0.062	0.078	0.334	0.004	0.023	-0.125	0.31	0.464	0.023	0.023	0.042	0.031	70.17
	10:15:00 PM	120	0.062	0.078	0.353	0.004	0.028	-0.11	0.32	0.478	0.028	0.033	0.052	0.031	70.17
	10:30:00 PM	135	0.062	0.094	0.358	0.004	0.033	-0.11	0.32	0.493	0.028	0.038	0.052	0.031	70.17
	10:45:00 PM	150	0.062	0.094	0.368	0.004	0.037	-0.11	0.324	0.507	0.033	0.038	0.062	0.031	70.17
	11:00:00 PM	165	0.093	0.094	0.382	0.004	0.037	-0.11	0.324	0.498	0.033	0.038	0.062	0.031	70.17
	11:15:00 PM	180	0.093	0.109	0.387	0.004	0.042	-0.094	0.329	0.512	0.033	0.042	0.066	0.031	70.17
	11:30:00 PM	195	0.093	0.109	0.392	0.009	0.042	-0.11	0.329	0.512	0.038	0.042	0.066	0.031	70.17
	11:45:00 PM	210	0.093	0.109	0.396	0.009	0.047	-0.094	0.334	0.536	0.038	0.042	0.076	0.031	70.17
26-Feb-97	12:00:00 AM	225	0.093	0.109	0.401	0.009	0.047	-0.094	0.334	0.545	0.043	0.042	0.076	0.031	70.17
	12:15:00 AM	240	0.093	0.125	0.401	0.009	0.047	-0.094	0.334	0.55	0.043	0.042	0.076	0.031	70.17
	12:30:00 AM	255	0.125	0.125	0.406	0.009	0.051	-0.094	0.339	0.56	0.043	0.047	0.076	0.031	70.17
	12:45:00 AM	270	0.093	0.125	0.406	0.009	0.051	-0.094	0.339	0.569	0.043	0.047	0.081	0.062	70.17
	1:00:00 AM	285	0.093	0.125	0.411	0.009	0.056	-0.094	0.344	0.584	0.043	0.052	0.081	0.062	70.17
	1:15:00 AM	300	0.093	0.125	0.411	0.009	0.056	-0.094	0.344	0.593	0.043	0.052	0.085	0.031	70.17
	1:30:00 AM	315	0.125	0.125	0.411	0.009	0.056	-0.094	0.348	0.598	0.043	0.047	0.085	0.062	70.17
	1:45:00 AM	330	0.125	0.141	0.411	0.014	0.061	-0.078	0.348	0.603	0.047	0.047	0.09	0.062	70.17
	2:00:00 AM	345	0.093	0.125	0.415	0.009	0.061	-0.094	0.348	0.617	0.047	0.052	0.09	0.062	70.17
	2:15:00 AM	360	0.125	0.125	0.415	0.014	0.061	-0.078	0.348	0.622	0.043	0.052	0.09	0.031	70.17
	2:30:00 AM	375	0.093	0.125	0.415	0.014	0.066	-0.078	0.353	0.622	0.043	0.052	0.09	0.031	70.17
	2:45:00 AM	390	0.093	0.125	0.411	0.014	0.066	-0.078	0.348	0.627	0.047	0.047	0.09	0.062	70.17
	3:00:00 AM	405	0.093	0.125	0.406	0.014	0.066	-0.078	0.353	0.632	0.043	0.047	0.09	0.062	70.17
	3:15:00 AM	420	0.093	0.125	0.406	0.014	0.066	-0.078	0.348	0.627	0.038	0.042	0.085	0.031	70.17
	3:30:00 AM	435	0.093	0.109	0.401	0.014	0.066	-0.078	0.348	0.632	0.038	0.038	0.081	0.031	70.17
	3:45:00 AM	450	0.093	0.109	0.396	0.014	0.066	-0.078	0.348	0.641	0.028	0.038	0.076	0.031	70.17
	4:00:00 AM	465	0.093	0.109	0.392	0.014	0.061	-0.078	0.334	0.641	0.028	0.033	0.076	0.031	70.17

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
	4:15:00 AM	480	0.093	0.109	0.392	0.019	0.061	-0.078	0.344	0.646	0.028	0.028	0.071	0.031	70.17
	4:30:00 AM	495	0.062	0.109	0.392	0.019	0.061	-0.094	0.344	0.651	0.028	0.028	0.071	0.031	70.17
	4:45:00 AM	510	0.062	0.094	0.387	0.019	0.066	-0.094	0.344	0.651	0.023	0.028	0.066	0.031	70.17
	5:00:00 AM	525	0.062	0.094	0.382	0.019	0.066	-0.078	0.348	0.656	0.028	0.023	0.071	0.031	70.17
	5:15:00 AM	540	0.062	0.094	0.382	0.019	0.066	-0.094	0.344	0.656	0.023	0.023	0.062	0	70.17
	5:30:00 AM	555	0.062	0.094	0.377	0.019	0.066	-0.094	0.344	0.656	0.023	0.023	0.062	0	70.17
	5:45:00 AM	570	0.062	0.094	0.377	0.019	0.066	-0.094	0.344	0.656	0.023	0.019	0.057	0	70.17
	6:00:00 AM	585	0.062	0.078	0.372	0.019	0.066	-0.078	0.344	0.656	0.019	0.019	0.057	0	70.17
	6:15:00 AM	600	0.062	0.078	0.377	0.019	0.066	-0.094	0.348	0.66	0.023	0.019	0.062	0	70.17
	6:30:00 AM	615	0.062	0.078	0.377	0.019	0.07	-0.078	0.348	0.66	0.019	0.019	0.057	0	70.17
	6:45:00 AM	630	0.062	0.078	0.377	0.019	0.07	-0.078	0.348	0.665	0.019	0.019	0.062	0	70.17
	7:00:00 AM	645	0.062	0.094	0.382	0.023	0.07	-0.078	0.353	0.665	0.023	0.019	0.062	0	70.17
	7:15:00 AM	660	0.062	0.094	0.382	0.023	0.075	-0.078	0.353	0.665	0.023	0.019	0.066	0	70.17
	7:30:00 AM	675	0.062	0.094	0.387	0.023	0.075	-0.078	0.358	0.651	0.023	0.019	0.066	0	70.17
	7:45:00 AM	690	0.062	0.094	0.392	0.023	0.08	-0.078	0.363	0.66	0.028	0.028	0.066	0	70.17
	8:00:00 AM	705	0.062	0.094	0.396	0.023	0.085	-0.078	0.363	0.66	0.033	0.028	0.071	0	70.17
	8:15:00 AM	720	0.062	0.094	0.396	0.023	0.085	-0.062	0.363	0.66	0.028	0.033	0.076	0	70.17
	8:30:00 AM	735	0.062	0.109	0.401	0.028	0.089	-0.062	0.367	0.603	0.033	0.033	0.076	0	70.17
	8:45:00 AM	750	0.093	0.109	0.411	0.028	0.094	-0.062	0.372	0.665	0.038	0.038	0.085	0.031	70.17
	9:00:00 AM	765	0.093	0.125	0.415	0.028	0.099	-0.047	0.377	0.689	0.038	0.042	0.09	0.031	70.17
	9:15:00 AM	780	0.093	0.125	0.42	0.028	0.099	-0.047	0.382	0.699	0.043	0.042	0.09	0.031	70.17
	9:30:00 AM	795	0.093	0.125	0.425	0.033	0.108	-0.047	0.386	0.713	0.047	0.047	0.095	0.031	70.17
	9:45:00 AM	810	0.093	0.141	0.43	0.033	0.113	-0.031	0.396	0.723	0.052	0.057	0.105	0.031	70.16
	10:00:00 AM	825	0.093	0.125	0.435	0.019	0.099	-0.031	0.382	0.723	0.052	0.038	0.09	0	70.16
	10:15:00 AM	840	0.093	0.141	0.435	0.028	0.108	-0.031	0.396	0.747	0.057	0.047	0.105	0.031	70.16
	10:30:00 AM	855	0.125	0.156	0.444	0.033	0.122	-0.015	0.406	0.766	0.062	0.061	0.119	0.062	70.16
	10:45:00 AM	870	0.125	0.156	0.444	0.033	0.127	-0.015	0.406	0.766	0.062	0.066	0.119	0.062	70.16
	11:00:00 AM	885	0.125	0.156	0.444	0.038	0.127	-0.015	0.41	0.766	0.062	0.066	0.124	0.062	70.16
	11:15:00 AM	900	0.156	0.188	0.449	0.052	0.151	0	0.429	0.742	0.067	0.09	0.143	0.094	70.16
	11:30:00 AM	915	0.125	0.141	0.449	0.023	0.113	-0.015	0.396	0.747	0.067	0.052	0.109	0.031	70.16
	11:45:00 AM	930	0.125	0.141	0.444	0.023	0.118	-0.015	0.401	0.727	0.067	0.052	0.109	0.031	70.16
	12:00:00 PM	945	0.093	0.141	0.454	0.023	0.118	-0.015	0.401	0.742	0.071	0.052	0.109	0.031	70.16

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
	12:15:00 PM	960	0.125	0.172	0.449	0.042	0.141	0	0.42	0.751	0.067	0.076	0.133	0.062	70.16
	12:30:00 PM	975	0.125	0.172	0.444	0.038	0.137	0	0.415	0.747	0.067	0.071	0.128	0.062	70.16
	12:45:00 PM	990	0.125	0.156	0.439	0.033	0.132	0	0.406	0.751	0.067	0.061	0.114	0.062	70.16
	1:00:00 PM	1005	0.125	0.156	0.435	0.042	0.141	0	0.415	0.756	0.062	0.071	0.124	0.062	70.16
	1:15:00 PM	1020	0.125	0.141	0.425	0.038	0.127	-0.015	0.406	0.756	0.062	0.061	0.109	0.062	70.16
	1:30:00 PM	1035	0.093	0.141	0.425	0.033	0.122	-0.015	0.401	0.766	0.062	0.052	0.105	0.031	70.16
	1:45:00 PM	1050	0.062	0.125	0.42	0.023	0.108	-0.015	0.386	0.766	0.057	0.038	0.09	0.031	70.16
	2:00:00 PM	1065	0.093	0.141	0.411	0.042	0.127	-0.015	0.406	0.77	0.052	0.061	0.1	0.031	70.16
	2:15:00 PM	1080	0.093	0.141	0.406	0.042	0.122	-0.015	0.401	0.766	0.052	0.052	0.095	0.031	70.16
	2:30:00 PM	1095	0.093	0.141	0.392	0.047	0.122	-0.015	0.401	0.766	0.047	0.052	0.09	0.031	70.16
	2:45:00 PM	1110	0.093	0.125	0.396	0.047	0.122	-0.015	0.401	0.775	0.047	0.052	0.09	0.031	70.16
	3:00:00 PM	1125	0.093	0.125	0.382	0.047	0.122	-0.015	0.401	0.775	0.043	0.052	0.09	0.031	70.16
	3:15:00 PM	1140	0.062	0.109	0.382	0.038	0.118	-0.031	0.391	0.77	0.043	0.038	0.076	0	70.17
trial pumping	3:30:00 PM	1155	0.093	0.125	0.382	0.042	0.122	-0.015	0.396	0.77	0.043	0.052	0.085	0.031	70.18
step	3:45:00 PM	1170	0.093	0.109	0.377	0.042	0.113	-0.031	0.391	0.766	0.038	0.042	0.076	0	70.18
drawdown	4:00:00 PM	1185	0.062	0.109	0.387	0.047	0.122	-0.031	0.406	0.761	0.043	0.052	0.085	0	70.16
STEP 1	4:06:00 PM	1185.001	0.062	0.109	0.382	0.038	0.118	0.299	0.372	0.708	0.047	0.047	0.081	0	
		1185.0083	0.062	0.109	0.392	0.042	0.113	0.787	0.382	0.708	0.038	0.061	0.062	0	
		1185.0166	0.062	0.109	0.368	0.038	0.137	0.299	0.367	0.694	0.038	0.042	0.095	0	
		1185.025	0.062	0.109	0.372	0.047	0.141	0.566	0.367	0.708	0.067	0.047	0.071	0	
		1185.0333	0.062	0.109	0.377	0.057	0.141	0.566	0.372	0.727	0.047	0.047	0.081	0	
		1185.0416	0.062	0.109	0.372	0.052	0.141	-0.125	0.386	0.689	0.052	0.057	0.109	0	
		1185.05	0.062	0.109	0.372	0.057	0.127	0	0.372	0.713	0.052	0.052	0.1	0	
		1185.0583	0.156	0.109	0.396	0.052	0.108	0.598	0.377	0.699	0.043	0.066	0.076	0	
		1185.0666	5.442	0.109	0.382	0.047	0.127	-0.141	0.372	0.708	0.038	0.047	0.105	0	
		1185.075	-4.41	0.109	0.382	0.057	0.132	0.015	0.377	0.703	0.043	0.057	0.09	0	
		1185.0833	-0.5	0.109	0.377	0.057	0.137	0.157	0.391	0.708	0.047	0.038	0.109	0	
		1185.0916	5.661	0.109	0.382	0.038	0.122	0.409	0.363	0.689	0.043	0.047	0.085	0	
		1185.1	7.257	0.109	0.387	0.042	0.137	-0.157	0.377	0.718	0.043	0.038	0.071	0	
		1185.1083	7.163	0.125	0.377	0.062	0.103	0.771	0.348	0.713	0.043	0.033	0.081	0	
		1185.1166	6.85	0.109	0.368	0.038	0.132	0.015	0.363	0.703	0.038	0.052	0.095	0	
		1185.125	9.352	0.109	0.363	0.033	0.137	0.125	0.372	0.713	0.043	0.057	0.1	0	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
			AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1185.1333	12.136	0.109	0.382	0.057	0.122	-0.015	0.363	0.718	0.033	0.033	0.081	0	
		1185.1416	15.858	0.109	0.401	0.038	0.141	1.196	0.367	0.694	0.057	0.047	0.066	0	
		1185.15	17.359	0.109	0.377	0.057	0.113	0.472	0.363	0.699	0.047	0.042	0.081	0	
		1185.1583	18.235	0.109	0.382	0.047	0.132	-0.314	0.372	0.703	0.052	0.052	0.085	0	
		1185.1666	17.985	0.109	0.363	0.062	0.132	0.566	0.363	0.723	0.052	0.042	0.085	0	
		1185.175	18.454	0.109	0.387	0.052	0.137	-0.173	0.367	0.699	0.057	0.047	0.085	0	
		1185.1833	19.517	0.109	0.392	0.042	0.141	0.299	0.367	0.713	0.047	0.038	0.081	0	
		1185.1916	20.675	0.109	0.387	0.038	0.118	0.157	0.367	0.723	0.043	0.033	0.085	0	
		1185.2	21.582	0.109	0.396	0.057	0.118	0.22	0.367	0.708	0.043	0.042	0.076	-0.031	
		1185.2083	21.863	0.109	0.401	0.057	0.113	1.07	0.372	0.727	0.019	0.028	0.066	0	
		1185.2166	20.631	0.109	0.382	0.066	0.113	-0.015	0.377	0.727	0.052	0.057	0.095	0	
		1185.225	21.363	0.109	0.382	0.033	0.127	0.456	0.358	0.727	0.047	0.061	0.09	0	
		1185.2333	21.55	0.109	0.392	0.047	0.127	0.44	0.372	0.727	0.033	0.028	0.085	0	
		1185.2416	22.051	0.109	0.368	0.047	0.132	0.094	0.363	0.713	0.038	0.038	0.1	0	
		1185.25	21.206	0.109	0.396	0.052	0.118	0.692	0.377	0.732	0.052	0.033	0.085	0	
		1185.2583	20.331	0.109	0.411	0.038	0.137	0.362	0.377	0.742	0.043	0.057	0.066	0	
		1185.2666	19.33	0.125	0.396	0.066	0.137	0.803	0.372	0.751	0.062	0.033	0.085	0	
		1185.275	18.298	0.125	0.396	0.062	0.122	0.062	0.367	0.756	0.067	0.042	0.085	0	
		1185.2833	17.578	0.125	0.392	0.042	0.113	0.22	0.363	0.742	0.028	0.052	0.081	0	
		1185.2916	16.828	0.125	0.396	0.033	0.132	0.535	0.372	0.723	0.043	0.038	0.09	0	
		1185.3	16.265	0.125	0.411	0.042	0.127	0.078	0.382	0.742	0.052	0.042	0.076	0	
		1185.3083	14.951	0.125	0.392	0.052	0.127	0.314	0.363	0.761	0.038	0.038	0.085	0	
		1185.3166	13.043	0.141	0.392	0.042	0.113	0.755	0.377	0.756	0.023	0.028	0.095	0	
		1185.325	12.699	0.141	0.415	0.047	0.127	0.519	0.348	0.766	0.028	0.028	0.062	0	
		1185.3333	11.167	0.141	0.411	0.057	0.118	0.078	0.353	0.785	0.047	0.042	0.062	0	
		1185.35	9.008	0.156	0.43	0.042	0.122	0.645	0.372	0.799	0.052	0.028	0.071	0	
		1185.3666	7.132	0.172	0.435	0.047	0.146	-0.299	0.367	0.79	0.038	0.052	0.1	0	
		1185.3833	4.598	0.172	0.439	0.038	0.127	-0.393	0.358	0.809	0.009	0.042	0.071	0	
		1185.4	3.253	0.188	0.454	0.038	0.103	0.015	0.358	0.79	0.028	0.052	0.076	0	
		1185.4166	2.127	0.203	0.478	0.028	0.122	-0.535	0.358	0.804	0.019	0.033	0.081	0	
		1185.4333	0.719	0.235	0.482	0.047	0.132	0.015	0.367	0.814	0.043	0.042	0.081	-0.031	
		1185.45	-1.001	0.235	0.497	0.052	0.113	0.125	0.344	0.823	0.052	0.023	0.085	0	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1185.4666	-2.127	0.266	0.525	0.047	0.108	-0.031	0.367	0.804	0.033	0.033	0.095	0	
		1185.4833	-3.222	0.282	0.535	0.042	0.103	-0.062	0.358	0.823	0.038	0.033	0.081	0	
		1185.5	-4.41	0.313	0.568	0.042	0.122	0.267	0.348	0.809	0.047	0.038	0.071	0	
		1185.5166	-3.597	0.345	0.573	0.047	0.132	0.11	0.348	0.814	0.052	0.033	0.09	0	
		1185.5333	-4.723	0.36	0.616	0.057	0.103	0.251	0.348	0.818	0.023	0.038	0.066	0	
		1185.55	-4.504	0.392	0.611	0.052	0.132	-0.267	0.344	0.828	0.052	0.042	0.081	0	
		1185.5666	-4.16	0.423	0.669	0.042	0.137	0.362	0.353	0.833	0.033	0.028	0.085	0	
		1185.5833	-3.597	0.439	0.669	0.057	0.118	0.708	0.358	0.633	0.023	0.028	0.071	0	
		1185.6	-2.721	0.486	0.707	0.052	0.122	-0.062	0.358	0.828	0.052	0.033	0.071	0	
		1185.6166	-1.626	0.501	0.702	0.052	0.132	0.377	0.363	0.823	0.038	0.033	0.09	0	
		1185.6333	-0.469	0.533	0.721	0.047	0.132	-0.125	0.358	0.814	0.043	0.028	0.071	0	
		1185.65	1.157	0.548	0.731	0.047	0.122	0.566	0.348	0.823	0.052	0.038	0.081	0	
		1185.6666	2.095	0.58	0.745	0.047	0.108	0.062	0.353	0.828	0.043	0.028	0.076	0	
		1185.6833	3.003	0.595	0.75	0.033	0.113	0.094	0.363	0.847	0.023	0.033	0.071	0	
		1185.7	3.785	0.627	0.76	0.047	0.122	-0.047	0.367	0.852	0.028	0.038	0.095	0	
		1185.7166	5.067	0.642	0.76	0.042	0.122	0.33	0.363	0.633	0.047	0.047	0.071	0	
		1185.7333	5.974	0.674	0.745	0.057	0.127	0.251	0.348	0.842	0.038	0.042	0.076	0	
		1185.75	7.695	0.705	0.736	0.038	0.132	0.062	0.353	0.838	0.052	0.038	0.076	0	
		1185.7666	8.946	0.721	0.721	0.033	0.137	-0.141	0.344	0.828	0.052	0.042	0.09	0	
		1185.7833	8.883	0.721	0.721	0.057	0.127	0.346	0.344	0.871	0.028	0.033	0.066	0	
		1185.8	9.196	0.752	0.702	0.052	0.132	0.535	0.348	0.847	0.023	0.033	0.062	0	
		1185.8166	10.291	0.768	0.674	0.066	0.141	-0.236	0.329	0.876	0.057	0.038	0.076	-0.031	
		1185.8333	10.197	0.768	0.674	0.038	0.137	0.314	0.353	0.838	0.047	0.028	0.071	0	
		1185.85	10.041	0.768	0.659	0.062	0.137	0.267	0.363	0.842	0.038	0.023	0.09	-0.031	
		1185.8666	9.384	0.768	0.626	0.052	0.127	0.283	0.358	0.885	0.057	0.033	0.095	-0.031	
		1185.8833	9.915	0.784	0.65	0.062	0.099	0.22	0.358	0.871	0.009	0.028	0.071	0	
		1185.9	9.665	0.784	0.621	0.047	0.118	-0.094	0.363	0.857	0.023	0.023	0.095	0	
		1185.9166	8.414	0.784	0.583	0.042	0.108	0.125	0.344	0.852	0.009	0.028	0.076	0	
		1185.9333	8.508	0.784	0.597	0.047	0.132	0.173	0.358	0.852	0.033	0.033	0.066	-0.031	
		1185.95	7.225	0.768	0.578	0.047	0.137	-0.173	0.344	0.857	0.047	0.028	0.066	0	
		1185.9666	7.382	0.768	0.573	0.038	0.122	-0.015	0.339	0.866	0.023	0.047	0.076	-0.031	
		1185.9833	6.475	0.752	0.559	0.038	0.118	0.047	0.339	0.852	0.038	0.038	0.071	0	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
	4:07:00 PM	1186	5.787	0.752	0.568	0.038	0.113	0.881	0.329	0.861	0.038	0.019	0.047	0	
		1186.2	1.689	0.595	0.726	0.042	0.118	0.283	0.363	0.852	0.047	0.014	0.066	0	
		1186.4	5.755	0.517	0.807	0.052	0.108	-0.015	0.344	0.842	0.019	0.019	0.071	-0.031	
		1186.6	5.224	0.595	0.683	0.052	0.113	-0.031	0.358	0.852	0.023	0.028	0.071	-0.031	
		1186.8	4.348	0.752	0.798	0.052	0.137	0.062	0.344	0.857	0.043	0.028	0.071	-0.031	
	4:08:00 PM	1187	4.817	0.846	0.841	0.047	0.127	-0.22	0.339	0.857	0.028	0.033	0.09	0	
		1187.2	4.786	0.846	0.764	0.052	0.132	0.299	0.344	0.838	0.009	0.028	0.066	0	
		1187.4	3.972	0.752	0.836	0.023	0.099	-0.456	0.334	0.833	0.028	0.014	0.057	-0.031	
		1187.6	4.285	0.737	0.898	0.042	0.118	0.472	0.344	0.842	0.028	0.009	0.066	-0.031	
		1187.8	4.598	0.784	0.836	0.028	0.118	0.173	0.353	0.823	0.004	0.028	0.085	0	
	4:09:00 PM	1188	4.473	0.862	0.865	0.066	0.127	0.141	0.334	0.847	0.033	0.014	0.076	-0.031	
		1188.2	3.91	0.925	0.917	0.047	0.122	0.472	0.339	0.833	0.004	0.004	0.085	-0.031	
		1188.4	4.379	0.909	0.874	0.052	0.113	0.44	0.324	0.823	-0.004	0.014	0.057	-0.031	
		1188.6	5.067	0.878	0.917	0.033	0.122	0.566	0.32	0.833	0	0.004	0.057	-0.031	
		1188.8	4.629	0.878	0.956	0.047	0.132	0.425	0.324	0.833	0.014	0.004	0.066	-0.031	
	4:10:00 PM	1189	4.442	0.925	0.937	0.028	0.137	0.409	0.353	0.842	0	0.023	0.071	-0.031	
		1189.2	4.379	0.972	0.932	0.047	0.132	0.96	0.344	0.838	0.028	0.014	0.09	0	
		1189.4	4.41	0.986	0.96	0.042	0.113	-0.11	0.344	0.838	0.019	0.014	0.085	-0.031	
		1189.6	4.223	0.986	0.96	0.052	0.108	0.204	0.344	0.833	-0.004	0.033	0.066	-0.031	
		1189.8	4.285	0.972	0.989	0.066	0.122	0.661	0.324	0.842	0.023	0.028	0.062	0	
	4:11:00 PM	1190	4.629	0.972	0.994	0.038	0.099	-0.015	0.329	0.833	0	0.014	0.076	-0.031	
		1190.2	4.879	1.003	0.999	0.062	0.118	0.362	0.32	0.818	0.014	0.014	0.076	-0.031	
		1190.4	4.723	1.035	0.999	0.047	0.132	0.141	0.348	0.828	0.014	0.023	0.076	-0.031	
		1190.6	4.223	1.05	1.027	0.047	0.099	0	0.339	0.833	0.009	0.019	0.081	-0.031	
		1190.8	3.628	1.035	1.023	0.033	0.127	-0.236	0.344	0.814	0.019	0.009	0.076	-0.031	
	4:12:00 PM	1191	4.66	1.035	1.018	0.047	0.099	0.346	0.334	0.814	0.028	0.019	0.076	-0.031	
		1191.2	4.473	1.05	1.042	0.057	0.122	-0.503	0.32	0.838	0.019	0.019	0.071	-0.031	
		1191.4	4.786	1.066	1.051	0.042	0.122	0.409	0.32	0.804	0.014	0.014	0.057	-0.031	
		1191.6	4.786	1.082	1.042	0.042	0.122	-0.299	0.339	0.823	0.033	0.019	0.085	-0.031	
		1191.8	4.973	1.097	1.051	0.052	0.118	0.047	0.32	0.828	0.019	0.028	0.081	-0.031	
	4:13:00 PM	1192	4.316	1.097	1.07	0.066	0.103	0.047	0.339	0.823	0	0.028	0.09	-0.031	
		1192.2	4.66	1.097	1.066	0.066	0.103	-0.692	0.305	0.847	0.004	0.009	0.057	-0.031	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1192.4	4.848	1.097	1.094	0.047	0.118	-0.33	0.324	0.823	0.009	0	0.066	-0.031	
		1192.6	4.911	1.113	1.075	0.057	0.094	-0.11	0.329	0.814	0	0	0.071	-0.031	
		1192.8	4.848	1.113	1.099	0.038	0.089	0.362	0.324	0.818	-0.014	-0.004	0.062	-0.031	
	4:14:00 PM	1193	4.191	1.129	1.109	0.052	0.113	0.614	0.32	0.823	0	0.009	0.066	-0.031	
		1193.2	4.723	1.113	1.123	0.047	0.113	-0.094	0.315	0.818	0	0.004	0.057	-0.062	
		1193.4	4.942	1.144	1.123	0.047	0.113	-0.11	0.315	0.818	-0.014	0.014	0.071	-0.031	
		1193.6	4.348	1.144	1.137	0.062	0.108	-0.614	0.32	0.818	0.004	0.014	0.052	-0.031	
		1193.8	4.066	1.16	1.128	0.042	0.094	0.125	0.315	0.799	-0.014	0	0.057	-0.031	
	4:15:00 PM	1194	4.786	1.16	1.142	0.042	0.099	0.015	0.32	0.809	0.009	0.014	0.047	-0.031	70.15
		1194.2	4.786	1.16	1.152	0.057	0.103	0.472	0.324	0.814	0.023	0.014	0.052	-0.031	
		1194.4	4.692	1.16	1.142	0.033	0.113	-0.708	0.315	0.809	0.009	0.019	0.052	-0.031	
		1194.6	4.786	1.176	1.166	0.038	0.108	0.33	0.324	0.814	-0.004	-0.004	0.047	-0.062	
		1194.8	4.473	1.16	1.171	0.038	0.118	0.157	0.305	0.828	0.009	0.014	0.038	-0.062	
	4:16:00 PM	1195	4.598	1.191	1.161	0.042	0.103	-0.031	0.348	0.852	0.009	0.009	0.066	-0.031	
	4:18:00 PM	1197	4.567	1.254	1.209	0.047	0.103	-0.031	0.348	0.823	0	0.009	0.071	-0.031	
STEP 2		1197.001	5.943	1.238	1.214	0.062	0.103	-0.062	0.329	0.809	-0.004	-0.014	0.052	-0.031	
		1197.0083	5.005	1.254	1.209	0.052	0.099	-0.22	0.315	0.794	0	0.004	0.057	-0.031	
		1197.0166	6.131	1.238	1.228	0.033	0.103	0.866	0.329	0.756	0	-0.014	0.076	-0.031	
		1197.025	5.63	1.254	1.214	0.038	0.108	-0.078	0.301	0.77	0	0	0.052	-0.031	
		1197.0333	6.162	1.254	1.219	0.038	0.08	0.393	0.291	0.78	-0.004	-0.004	0.062	-0.031	
		1197.0416	6.475	1.238	1.209	0.023	0.103	-0.283	0.329	0.775	-0.014	0.009	0.052	-0.031	
		1197.05	7.1	1.254	1.204	0.052	0.103	-0.062	0.301	0.775	0.014	0.014	0.057	-0.031	
		1197.0583	7.225	1.254	1.209	0.033	0.108	-0.094	0.329	0.77	0.004	0.004	0.062	-0.031	
		1197.0666	7.726	1.254	1.214	0.047	0.103	-0.047	0.31	0.766	0	0.009	0.071	-0.031	
		1197.075	8.007	1.254	1.228	0.052	0.103	0	0.31	0.79	0.009	0.014	0.057	-0.031	
		1197.0833	7.914	1.254	1.214	0.033	0.103	0.078	0.296	0.78	0.004	0	0.052	-0.031	
		1197.0916	7.851	1.254	1.219	0.038	0.094	0.503	0.31	0.785	-0.014	0.004	0.047	-0.031	
		1197.1	8.007	1.254	1.199	0.042	0.103	0.818	0.324	0.799	0	0	0.066	-0.031	
		1197.1083	8.821	1.254	1.223	0.057	0.108	0.125	0.334	0.794	-0.004	0.004	0.066	-0.031	
		1197.1166	9.571	1.254	1.228	0.047	0.085	0.299	0.315	0.785	0	0.009	0.057	-0.031	
		1197.125	9.54	1.254	1.214	0.047	0.094	0.299	0.32	0.79	0	0.019	0.062	-0.031	
		1197.1333	9.04	1.254	1.228	0.033	0.113	0.551	0.32	0.79	0.023	-0.004	0.066	-0.031	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1197.1416	9.822	1.254	1.204	0.047	0.099	-0.015	0.305	0.79	0.004	0	0.081	-0.031	
		1197.15	10.791	1.254	1.214	0.028	0.108	0.157	0.329	0.785	0	0.004	0.066	-0.031	
		1197.1583	10.103	1.27	1.209	0.038	0.108	0.11	0.31	0.77	0.014	-0.009	0.081	-0.031	
		1197.1666	9.603	1.254	1.214	0.047	0.089	0.566	0.32	0.794	-0.014	0.009	0.076	-0.031	
		1197.175	9.665	1.27	1.228	0.028	0.108	0.661	0.315	0.785	0	0.014	0.081	-0.031	
		1197.1833	10.291	1.254	1.228	0.038	0.113	-0.708	0.315	0.78	-0.009	0.009	0.057	-0.031	
		1197.1916	10.51	1.254	1.214	0.042	0.108	0.44	0.315	0.809	-0.004	-0.009	0.057	-0.031	
		1197.2	11.448	1.27	1.199	0.033	0.108	0.204	0.315	0.799	0.004	0	0.081	-0.031	
		1197.2083	11.042	1.27	1.219	0.047	0.113	0.645	0.315	0.794	0.009	0	0.057	-0.031	
		1197.2166	11.823	1.254	1.219	0.047	0.089	-0.236	0.329	0.79	-0.019	0.014	0.085	-0.031	
		1197.225	11.792	1.254	1.219	0.033	0.099	-0.314	0.301	0.799	0.014	0.009	0.057	-0.031	
		1197.2333	12.261	1.27	1.214	0.057	0.103	0.267	0.305	0.79	0.023	0.014	0.071	-0.031	
		1197.2416	12.011	1.27	1.204	0.042	0.099	0.047	0.296	0.79	-0.009	0.019	0.066	-0.031	
		1197.25	13.419	1.27	1.219	0.042	0.108	-0.362	0.329	0.79	0.014	0.009	0.062	-0.031	
		1197.2583	12.355	1.27	1.219	0.042	0.089	-0.141	0.329	0.814	0.009	0.023	0.081	-0.031	
		1197.2666	12.011	1.27	1.204	0.042	0.103	-0.188	0.315	0.799	-0.019	0.019	0.081	-0.031	
		1197.275	12.887	1.27	1.233	0.057	0.108	-0.283	0.324	0.794	-0.014	0.004	0.085	-0.031	
		1197.2833	12.887	1.27	1.223	0.028	0.099	0.031	0.315	0.785	-0.009	0	0.076	-0.031	
		1197.2916	13.575	1.27	1.223	0.047	0.103	-0.188	0.31	0.809	-0.014	0.009	0.066	-0.031	
		1197.3	13.794	1.27	1.228	0.047	0.089	-0.236	0.32	0.79	-0.014	0.019	0.076	-0.031	
		1197.3083	13.294	1.27	1.214	0.057	0.122	0.724	0.301	0.814	0.014	-0.004	0.057	-0.031	
		1197.3166	13.294	1.27	1.233	0.042	0.122	0.991	0.32	0.799	0.004	0.004	0.076	-0.031	
		1197.325	13.137	1.27	1.238	0.052	0.089	0.425	0.32	0.79	-0.004	0.014	0.062	-0.031	
		1197.3333	13.137	1.285	1.247	0.038	0.099	-0.078	0.334	0.79	0.004	0.019	0.081	-0.031	
		1197.35	13.387	1.285	1.233	0.042	0.108	0.535	0.315	0.804	-0.004	-0.004	0.066	-0.031	
		1197.3666	13.512	1.285	1.242	0.042	0.085	0.11	0.329	0.847	0.014	0.014	0.085	-0.031	
		1197.3833	13.356	1.285	1.228	0.066	0.118	0.078	0.305	0.857	0.009	0.019	0.066	-0.031	
		1197.4	12.949	1.301	1.242	0.052	0.094	0.566	0.32	0.847	0.014	0	0.076	-0.031	
		1197.4166	13.231	1.301	1.247	0.052	0.103	0.031	0.32	0.838	0.014	0.009	0.076	-0.031	
		1197.4333	13.356	1.301	1.252	0.052	0.089	-0.267	0.296	0.833	0.009	0.009	0.057	-0.031	
		1197.45	12.605	1.301	1.252	0.057	0.099	0.314	0.324	0.857	0.014	0.009	0.09	-0.031	
		1197.4666	11.698	1.317	1.247	0.042	0.113	0	0.31	0.852	0.009	0	0.066	-0.031	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet) AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	RECORDER SURF-MON
		1197.4833	12.105	1.317	1.247	0.052	0.085	-0.047	0.315	0.876	0	0.019	0.076	-0.031	
		1197.5	12.136	1.333	1.271	0.038	0.099	0.74	0.315	0.857	-0.009	0.014	0.076	-0.031	
		1197.5166	11.573	1.333	1.257	0.052	0.103	-0.582	0.31	0.885	0.009	0.004	0.066	-0.031	
		1197.5333	10.885	1.348	1.276	0.038	0.113	0.22	0.31	0.866	-0.009	0	0.062	-0.031	
		1197.55	10.791	1.364	1.286	0.033	0.099	0.204	0.305	0.861	-0.009	0.009	0.071	-0.031	
		1197.5666	11.104	1.364	1.295	0.057	0.113	-0.047	0.305	0.881	0.019	0.004	0.062	-0.031	
		1197.5833	11.26	1.38	1.309	0.038	0.089	0.393	0.32	0.881	-0.014	0.009	0.076	-0.031	
		1197.6	10.791	1.38	1.29	0.033	0.089	0.535	0.31	0.881	0	0.004	0.081	-0.031	
		1197.6166	9.978	1.395	1.314	0.071	0.089	0.881	0.32	0.909	-0.019	0.009	0.071	-0.031	
		1197.6333	10.635	1.411	1.319	0.042	0.089	0.346	0.31	0.895	-0.004	0.019	0.062	-0.031	
		1197.65	11.323	1.427	1.329	0.033	0.103	-0.062	0.305	0.881	0.014	0.009	0.071	-0.031	
		1197.6666	10.697	1.427	1.333	0.066	0.113	0.614	0.296	0.895	0.009	0.019	0.062	-0.031	
		1197.6833	10.541	1.442	1.338	0.071	0.118	0.299	0.31	0.909	0.019	0.009	0.071	-0.031	
		1197.7	11.229	1.458	1.352	0.057	0.08	-0.425	0.315	0.9	-0.004	0.009	0.071	-0.031	
		1197.7166	11.636	1.474	1.343	0.052	0.099	-0.157	0.286	0.905	-0.004	0	0.047	-0.031	
		1197.7333	11.605	1.489	1.348	0.042	0.108	-0.157	0.301	0.895	-0.014	0.014	0.066	-0.031	
		1197.75	11.354	1.505	1.367	0.057	0.085	-0.456	0.305	0.89	-0.009	-0.009	0.066	-0.031	
		1197.7666	11.135	1.521	1.376	0.062	0.108	0.188	0.324	0.914	0.019	0	0.062	-0.031	
		1197.7833	11.949	1.521	1.376	0.052	0.118	-0.157	0.305	0.924	0	0.019	0.076	-0.031	
		1197.8	12.042	1.552	1.376	0.066	0.113	-0.141	0.305	0.919	0.014	0	0.062	-0.031	
		1197.8166	11.542	1.552	1.391	0.052	0.103	-0.11	0.301	0.905	-0.009	0.004	0.057	-0.031	
		1197.8333	11.949	1.568	1.381	0.062	0.094	0.661	0.305	0.9	0.014	-0.014	0.066	-0.031	
		1197.85	12.512	1.583	1.4	0.057	0.08	0.173	0.296	0.895	-0.004	-0.019	0.052	-0.031	
		1197.8666	12.668	1.583	1.386	0.047	0.085	0.015	0.301	0.914	-0.014	-0.019	0.052	-0.031	
		1197.8833	12.449	1.599	1.376	0.047	0.094	0.283	0.291	0.909	0.009	-0.009	0.076	-0.031	
		1197.9	12.136	1.615	1.4	0.047	0.099	-0.047	0.305	0.909	0.019	-0.009	0.066	-0.031	
		1197.9166	12.731	1.615	1.395	0.047	0.094	0.283	0.31	0.924	0.014	-0.014	0.076	-0.031	
		1197.9333	13.231	1.63	1.391	0.038	0.099	0.393	0.286	0.905	0.004	-0.023	0.071	-0.031	
		1197.95	12.668	1.63	1.41	0.062	0.08	-0.346	0.305	0.924	-0.019	-0.019	0.057	-0.031	
		1197.9666	11.98	1.646	1.4	0.057	0.075	0.078	0.277	0.924	-0.009	-0.014	0.038	-0.062	
		1197.9833	12.449	1.646	1.395	0.062	0.099	0.44	0.296	0.924	0.019	-0.009	0.066	-0.062	
	4:19:00 PM	1198	12.949	1.662	1.41	0.047	0.108	-0.409	0.301	0.952	-0.019	-0.009	0.062	-0.031	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
			AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1198.2	13.075	1.693	1.405	0.038	0.099	-0.283	0.281	0.909	-0.019	-0.019	0.066	-0.031	
		1198.4	12.824	1.693	1.481	0.028	0.094	0.33	0.296	0.895	-0.019	-0.023	0.052	-0.062	
		1198.6	13.367	1.693	1.501	0.047	0.07	0.141	0.296	0.909	-0.009	-0.009	0.071	-0.062	
		1198.8	13.669	1.756	1.524	0.057	0.094	0.22	0.301	0.895	-0.014	-0.004	0.057	-0.062	
	4:20:00 PM	1199	13.325	1.834	1.568	0.047	0.094	0.031	0.267	0.885	-0.028	-0.009	0.057	-0.062	
		1199.2	13.481	1.897	1.587	0.057	0.075	0.173	0.286	0.876	-0.028	-0.019	0.057	-0.031	
		1199.4	13.638	1.913	1.591	0.038	0.089	-0.267	0.277	0.871	-0.019	-0.019	0.052	-0.031	
		1199.6	13.919	1.913	1.634	0.028	0.099	0.094	0.296	0.866	-0.033	-0.023	0.066	-0.031	
		1199.8	14.138	1.928	1.649	0.047	0.094	-0.598	0.281	0.861	-0.019	-0.004	0.047	-0.031	
	4:21:00 PM	1200	14.357	1.976	1.644	0.042	0.085	0.472	0.272	0.842	-0.019	-0.028	0.066	-0.031	
		1200.2	13.857	2.023	1.692	0.057	0.103	0.015	0.286	0.866	-0.014	-0.004	0.076	-0.031	
		1200.4	14.482	2.054	1.701	0.038	0.094	-0.094	0.281	0.833	-0.009	-0.004	0.062	-0.031	
		1200.6	14.294	2.054	1.711	0.038	0.089	0.755	0.277	0.857	-0.028	-0.033	0.066	-0.031	
		1200.8	13.888	2.07	1.74	0.047	0.094	0.33	0.291	0.833	-0.019	-0.028	0.066	-0.062	
	4:22:00 PM	1201	14.138	2.085	1.749	0.052	0.085	0.125	0.272	0.847	-0.019	-0.014	0.062	-0.031	
		1201.2	14.889	2.117	1.763	0.062	0.075	0.629	0.277	0.847	-0.033	-0.019	0.071	-0.031	
		1201.4	15.452	2.164	1.787	0.047	0.085	-0.062	0.277	0.833	-0.028	-0.009	0.062	-0.031	
		1201.6	14.545	2.164	1.797	0.057	0.099	-0.708	0.277	0.861	-0.009	-0.009	0.057	-0.031	
		1201.8	14.357	2.179	1.821	0.047	0.066	0.157	0.286	0.847	-0.047	-0.028	0.066	-0.031	
	4:23:00 PM	1202	14.451	2.195	1.821	0.023	0.085	-0.11	0.267	0.818	-0.023	-0.023	0.066	-0.062	
		1202.2	14.357	2.195	1.826	0.057	0.075	0.236	0.262	0.842	-0.047	-0.023	0.062	-0.062	
		1202.4	14.075	2.226	1.859	0.047	0.08	0.44	0.248	0.852	-0.043	-0.019	0.062	-0.062	
		1202.6	14.482	2.258	1.869	0.062	0.099	0.015	0.277	0.818	-0.033	-0.028	0.052	-0.031	
		1202.8	14.701	2.258	1.864	0.033	0.075	-0.267	0.267	0.838	-0.047	-0.023	0.066	-0.031	
	4:24:00 PM	1203	14.576	2.273	1.883	0.052	0.085	-0.094	0.258	0.818	-0.028	-0.042	0.071	-0.062	
		1203.2	15.139	2.258	1.902	0.047	0.089	0.094	0.253	0.814	-0.028	-0.019	0.033	-0.062	
		1203.4	14.607	2.289	1.902	0.062	0.08	0.377	0.258	0.838	-0.028	-0.042	0.042	-0.062	
		1203.6	15.139	2.289	1.902	0.047	0.08	-0.677	0.248	0.823	-0.038	-0.052	0.042	-0.062	
		1203.8	14.482	2.321	1.959	0.033	0.075	0.708	0.258	0.836	-0.033	-0.047	0.047	-0.062	
	4:25:00 PM	1204	14.232	2.336	1.936	0.047	0.08	0.393	0.243	0.847	-0.038	-0.042	0.038	-0.062	
		1204.2	15.045	2.352	1.964	0.057	0.075	-0.488	0.253	0.838	-0.033	-0.028	0.052	-0.062	
		1204.4	14.795	2.352	1.974	0.042	0.085	-0.236	0.281	0.804	-0.028	-0.033	0.052	-0.062	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1204.6	14.764	2.368	1.986	0.047	0.061	-0.094	0.267	0.809	-0.033	-0.014	0.057	-0.031	
		1204.8	14.962	2.383	1.979	0.047	0.08	0.141	0.248	0.828	-0.038	-0.023	0.047	-0.062	
	4:26:00 PM	1205	14.638	2.399	1.993	0.057	0.08	-0.204	0.248	0.814	-0.052	-0.052	0.047	-0.062	
		1205.2	15.045	2.415	2.002	0.057	0.08	-0.141	0.277	0.823	-0.033	-0.028	0.047	-0.031	
		1205.4	15.201	2.43	2.017	0.057	0.07	0.362	0.267	0.814	-0.038	-0.023	0.062	-0.031	
		1205.6	14.764	2.43	2.036	0.047	0.094	-0.078	0.258	0.833	-0.028	-0.033	0.042	-0.062	
		1205.8	15.483	2.43	2.012	0.057	0.047	-0.125	0.253	0.814	-0.038	-0.038	0.066	-0.031	
	4:27:00 PM	1206	14.701	2.43	2.05	0.057	0.061	0.015	0.258	0.823	-0.038	-0.038	0.038	-0.062	
		1206.2	15.639	2.446	2.055	0.028	0.07	0.267	0.238	0.823	-0.043	-0.042	0.038	-0.062	
		1206.4	14.638	2.462	2.045	0.057	0.051	-0.314	0.258	0.818	-0.033	-0.033	0.062	-0.062	
		1206.6	15.577	2.462	2.055	0.038	0.056	-0.362	0.238	0.804	-0.043	-0.033	0.033	-0.062	
		1206.8	14.482	2.477	2.079	0.038	0.07	0.031	0.258	0.794	-0.038	-0.042	0.052	-0.062	
	4:28:00 PM	1207	14.607	2.493	2.079	0.042	0.061	-0.094	0.272	0.847	-0.038	-0.042	0.047	-0.062	
	4:30:00 PM	1209	15.108	2.587	2.155	0.042	0.056	-0.094	0.272	0.823	-0.043	-0.038	0.052	-0.062	70.15
STEP 3	4:31:00 PM	1210.001	15.796	2.603	2.17	0.047	0.051	-0.314	0.248	0.809	-0.038	-0.033	0.057	-0.062	
		1210.0083	16.39	2.603	2.189	0.057	0.07	0.566	0.234	0.794	-0.038	-0.047	0.033	-0.062	
		1210.0166	16.39	2.603	2.174	0.042	0.07	0.33	0.258	0.761	-0.038	-0.033	0.057	-0.062	
		1210.025	15.639	2.603	2.179	0.038	0.047	-0.314	0.248	0.785	-0.043	-0.047	0.052	-0.062	
		1210.0333	17.172	2.603	2.174	0.033	0.056	-0.031	0.238	0.766	-0.038	-0.042	0.023	-0.062	
		1210.0416	16.89	2.603	2.189	0.019	0.066	0.677	0.238	0.747	-0.057	-0.047	0.033	-0.062	
		1210.05	17.797	2.603	2.184	0.047	0.07	-0.346	0.229	0.799	-0.057	-0.028	0.033	-0.062	
		1210.0583	18.141	2.603	2.174	0.042	0.07	0.929	0.248	0.77	-0.043	-0.042	0.052	-0.062	
		1210.0666	18.141	2.603	2.174	0.047	0.061	0.519	0.234	0.79	-0.038	-0.052	0.038	-0.062	
		1210.075	18.423	2.603	2.165	0.019	0.056	-1.023	0.224	0.78	-0.038	-0.028	0.052	-0.062	
		1210.0833	18.204	2.603	2.189	0.033	0.056	-0.204	0.224	0.766	-0.057	-0.038	0.038	-0.062	
		1210.0916	18.266	2.603	2.189	0.042	0.066	-0.314	0.253	0.785	-0.043	-0.047	0.033	-0.062	
		1210.1	18.392	2.603	2.179	0.019	0.051	0.173	0.248	0.761	-0.033	-0.052	0.047	-0.062	
		1210.1083	19.267	2.618	2.194	0.038	0.051	0.078	0.243	0.77	-0.043	-0.066	0.023	-0.062	
		1210.1166	19.83	2.603	2.184	0.042	0.056	-0.299	0.238	0.766	-0.057	-0.033	0.042	-0.062	
		1210.125	19.455	2.603	2.189	0.033	0.047	0.661	0.262	0.794	-0.067	-0.042	0.062	-0.062	
		1210.1333	20.112	2.618	2.184	0.038	0.042	-0.11	0.215	0.775	-0.028	-0.042	0.047	-0.062	
		1210.1416	20.08	2.603	2.165	0.042	0.061	0.629	0.234	0.775	-0.047	-0.047	0.042	-0.062	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1210.15	20.424	2.618	2.184	0.023	0.075	-0.015	0.229	0.756	-0.043	-0.052	0.028	-0.062	
		1210.1583	20.612	2.603	2.174	0.047	0.061	-0.22	0.238	0.78	-0.038	-0.042	0.042	-0.062	
		1210.1666	20.362	2.618	2.203	0.038	0.056	-0.031	0.243	0.79	-0.062	-0.042	0.023	-0.062	
		1210.175	20.768	2.618	2.179	0.062	0.051	-0.913	0.258	0.794	-0.038	-0.038	0.038	-0.062	
		1210.1833	21.3	2.618	2.184	0.057	0.07	-0.283	0.248	0.785	-0.028	-0.042	0.042	-0.062	
		1210.1916	21.3	2.618	2.189	0.047	0.047	-0.031	0.253	0.77	-0.057	-0.042	0.047	-0.062	
		1210.2	21.269	2.618	2.17	0.057	0.042	0.944	0.243	0.775	-0.047	-0.052	0.038	-0.062	
		1210.2083	21.707	2.618	2.194	0.047	0.061	0.11	0.258	0.785	-0.043	-0.033	0.062	-0.062	
		1210.2166	21.582	2.618	2.17	0.052	0.061	0.519	0.253	0.785	-0.043	-0.052	0.052	-0.062	
		1210.225	21.832	2.618	2.189	0.047	0.066	-0.283	0.253	0.78	-0.038	-0.057	0.038	-0.062	
		1210.2333	22.019	2.618	2.174	0.062	0.066	0.488	0.234	0.78	-0.023	-0.038	0.047	-0.062	
		1210.2416	21.988	2.618	2.179	0.047	0.066	0.661	0.253	0.766	-0.033	-0.057	0.066	-0.062	
		1210.25	22.864	2.618	2.179	0.042	0.047	-0.393	0.243	0.775	-0.062	-0.047	0.062	-0.062	
		1210.2583	22.426	2.618	2.194	0.028	0.051	0.677	0.229	0.766	-0.062	-0.057	0.038	-0.062	
		1210.2666	22.645	2.618	2.203	0.042	0.056	0.11	0.229	0.77	-0.038	-0.033	0.038	-0.062	
		1210.275	22.864	2.618	2.184	0.023	0.07	0.015	0.234	0.756	-0.038	-0.047	0.042	-0.062	
		1210.2833	22.739	2.618	2.194	0.052	0.056	-0.598	0.234	0.785	-0.019	-0.042	0.042	-0.062	
		1210.2916	23.083	2.634	2.189	0.033	0.07	0.503	0.229	0.794	-0.019	-0.042	0.047	-0.062	
		1210.3	22.958	2.634	2.203	0.038	0.051	-0.157	0.238	0.79	-0.047	-0.042	0.057	-0.062	
		1210.3083	23.458	2.618	2.203	0.038	0.051	0.33	0.243	0.77	-0.028	-0.042	0.033	-0.062	
		1210.3166	23.552	2.634	2.184	0.042	0.051	0.393	0.234	0.785	-0.062	-0.042	0.038	-0.062	
		1210.325	23.927	2.634	2.203	0.042	0.061	0.188	0.238	0.794	-0.057	-0.042	0.052	-0.062	
		1210.3333	23.708	2.634	2.198	0.052	0.066	0.472	0.243	0.818	-0.033	-0.042	0.033	-0.062	
		1210.35	23.896	2.634	2.213	0.062	0.061	0.047	0.253	0.814	-0.067	-0.047	0.028	-0.062	
		1210.3666	24.24	2.634	2.189	0.038	0.051	-0.141	0.238	0.804	-0.047	-0.023	0.047	-0.062	
		1210.3833	24.459	2.634	2.198	0.047	0.066	-0.047	0.258	0.799	-0.033	-0.042	0.052	-0.062	
		1210.4	24.865	2.65	2.203	0.047	0.061	-0.125	0.229	0.823	-0.043	-0.047	0.047	-0.062	
		1210.4166	25.147	2.65	2.203	0.057	0.056	0.078	0.234	0.823	-0.052	-0.052	0.042	-0.062	
		1210.4333	25.303	2.65	2.208	0.028	0.033	0.33	0.234	0.828	-0.043	-0.066	0.042	-0.062	
		1210.45	25.334	2.666	2.232	0.062	0.056	-0.22	0.238	0.852	-0.062	-0.038	0.028	-0.062	
		1210.4666	25.334	2.666	2.198	0.062	0.066	0.22	0.238	0.861	-0.038	-0.042	0.052	-0.062	
		1210.4833	25.334	2.666	2.222	0.042	0.056	-0.283	0.224	0.847	-0.038	-0.033	0.042	-0.062	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
			AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1210.5	25.866	2.681	2.227	0.047	0.051	0.062	0.234	0.847	-0.023	-0.033	0.038	-0.062	
		1210.5166	25.616	2.681	2.217	0.038	0.061	0.22	0.229	0.838	-0.028	-0.047	0.047	-0.062	
		1210.5333	25.115	2.681	2.246	0.038	0.051	0.062	0.234	0.852	-0.047	-0.038	0.033	-0.062	
		1210.55	25.022	2.697	2.227	0.047	0.066	-0.094	0.234	0.861	-0.057	-0.038	0.047	-0.062	
		1210.5666	24.553	2.713	2.237	0.042	0.051	-0.346	0.229	0.852	-0.062	-0.052	0.028	-0.062	
		1210.5833	24.459	2.713	2.251	0.052	0.056	0.566	0.248	0.671	-0.043	-0.047	0.047	-0.062	
		1210.6	24.24	2.713	2.256	0.042	0.061	-0.267	0.248	0.866	-0.062	-0.038	0.052	-0.062	
		1210.6166	24.24	2.728	2.251	0.057	0.061	0	0.243	0.885	-0.033	-0.038	0.047	-0.062	
		1210.6333	23.896	2.744	2.237	0.047	0.042	0.771	0.219	0.876	-0.067	-0.057	0.052	-0.062	
		1210.65	23.865	2.744	2.26	0.066	0.07	0.236	0.243	0.881	-0.028	-0.047	0.042	-0.062	
		1210.6666	24.897	2.76	2.289	0.042	0.033	-0.125	0.224	0.866	-0.052	-0.047	0.038	-0.062	
		1210.6833	22.895	2.775	2.28	0.042	0.047	-0.488	0.229	0.871	-0.033	-0.057	0.042	-0.062	
		1210.7	24.302	2.775	2.265	0.047	0.037	-0.062	0.224	0.876	-0.067	-0.042	0.052	-0.062	
		1210.7166	26.273	2.791	2.294	0.052	0.033	0.283	0.234	0.876	-0.062	-0.057	0.033	-0.062	
		1210.7333	25.397	2.807	2.289	0.047	0.042	0.141	0.224	0.871	-0.038	-0.057	0.047	-0.062	
		1210.75	26.366	2.807	2.294	0.052	0.047	-0.803	0.224	0.895	-0.047	-0.047	0.052	-0.062	
		1210.7666	26.929	2.822	2.308	0.042	0.042	-0.346	0.224	0.857	-0.071	-0.057	0.028	-0.062	
		1210.7833	27.242	2.838	2.313	0.066	0.042	-0.377	0.229	0.9	-0.067	-0.042	0.033	-0.062	
		1210.8	25.803	2.838	2.303	0.052	0.061	-0.314	0.224	0.885	-0.038	-0.052	0.033	-0.062	
		1210.8166	27.742	2.854	2.327	0.042	0.033	0.062	0.234	0.671	-0.047	-0.052	0.033	-0.094	
		1210.8333	28.399	2.869	2.303	0.028	0.066	-0.267	0.229	0.885	-0.038	-0.066	0.047	-0.062	
		1210.85	28.086	2.885	2.303	0.062	0.042	0.724	0.224	0.895	-0.071	-0.071	0.052	-0.062	
		1210.8666	28.211	2.901	2.323	0.038	0.037	-0.299	0.229	0.881	-0.057	-0.042	0.038	-0.062	
		1210.8833	29.181	2.901	2.327	0.038	0.037	-0.393	0.224	0.885	-0.071	-0.052	0.033	-0.062	
		1210.9	28.462	2.916	2.327	0.047	0.037	-0.535	0.224	0.895	-0.057	-0.047	0.038	-0.062	
		1210.9166	28.899	2.932	2.337	0.052	0.051	0.346	0.243	0.9	-0.038	-0.061	0.047	-0.062	
		1210.9333	29.368	2.948	2.351	0.047	0.056	-0.299	0.234	0.895	-0.033	-0.042	0.038	-0.062	
		1210.95	28.931	2.948	2.346	0.042	0.051	0.33	0.224	0.865	-0.038	-0.057	0.042	-0.062	
		1210.9666	29.087	2.964	2.356	0.042	0.037	0.362	0.229	0.914	-0.071	-0.047	0.042	-0.062	
		1210.9833	28.868	2.964	2.351	0.047	0.066	0.047	0.219	0.89	-0.036	-0.042	0.042	-0.062	
	4:[illegible] PM	1211	28.806	2.979	2.342	0.028	0.047	0.031	0.215	0.895	-0.076	-0.052	0.042	-0.062	
		1211.2	25.929	3.089	2.399	0.047	0.051	0.314	0.234	0.881	-0.057	-0.061	0.047	-0.062	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1211.4	27.305	3.136	2.447	0.047	0.047	-0.22	0.224	0.866	-0.081	-0.052	0.057	-0.062	
		1211.6	27.993	3.167	2.466	0.052	0.056	0.425	0.205	0.881	-0.043	-0.066	0.057	-0.062	
		1211.8	27.586	3.199	2.504	0.033	0.037	0.251	0.215	0.885	-0.057	-0.08	0.033	-0.062	
	4:33:00 PM	1212	27.836	3.261	2.542	0.038	0.047	0.11	0.224	0.871	-0.076	-0.076	0.042	-0.094	
		1212.2	27.961	3.324	2.585	0.052	0.051	0.708	0.224	0.866	-0.071	-0.052	0.042	-0.062	
		1212.4	28.305	3.371	2.614	0.038	0.033	-0.157	0.2	0.861	-0.062	-0.076	0.014	-0.062	
		1212.6	28.587	3.403	2.638	0.057	0.056	-0.015	0.2	0.838	-0.076	-0.071	0.038	-0.094	
		1212.8	28.149	3.434	2.643	0.047	0.056	-0.566	0.191	0.847	-0.067	-0.08	0.042	-0.062	
	4:34:00 PM	1213	28.337	3.45	2.671	0.033	0.033	-0.188	0.181	0.838	-0.076	-0.061	0.033	-0.062	
		1213.2	28.399	3.497	2.714	0.057	0.047	0.834	0.205	0.838	-0.076	-0.057	0.042	-0.062	
		1213.4	28.368	3.544	2.729	0.052	0.047	-0.141	0.191	0.838	-0.067	-0.076	0.038	-0.062	
		1213.6	28.618	3.559	2.743	0.033	0.037	-0.22	0.186	0.818	-0.091	-0.076	0.038	-0.062	
		1213.8	28.555	3.591	2.762	0.047	0.047	0.047	0.205	0.828	-0.071	-0.08	0.052	-0.062	
	4:35:00 PM	1214	28.587	3.606	2.8	0.028	0.033	-0.047	0.195	0.833	-0.091	-0.076	0.033	-0.062	
		1214.2	28.618	3.622	2.819	0.062	0.037	-0.393	0.195	0.823	-0.105	-0.071	0.019	-0.094	
		1214.4	28.524	3.654	2.829	0.047	0.042	0.267	0.205	0.828	-0.095	-0.085	0.038	-0.094	
		1214.6	28.868	3.701	2.853	0.038	0.037	-0.031	0.181	0.823	-0.076	-0.095	0.023	-0.062	
		1214.8	28.555	3.701	2.839	0.038	0.023	0.11	0.167	0.809	-0.081	-0.08	0.033	-0.094	
	4:36:00 PM	1215	29.024	3.716	2.862	0.066	0.047	-0.314	0.191	0.828	-0.071	-0.095	0.042	-0.094	
		1215.2	28.587	3.732	2.886	0.038	0.023	0.015	0.162	0.833	-0.081	-0.09	0.019	-0.094	
		1215.4	29.243	3.763	2.896	0.047	0.018	-0.094	0.191	0.799	-0.071	-0.076	0.047	-0.094	
		1215.6	28.899	3.779	2.925	0.033	0.028	-0.582	0.191	0.785	-0.091	-0.08	0.042	-0.094	
		1215.8	28.837	3.795	2.939	0.042	0.037	0.173	0.2	0.804	-0.076	-0.1	0.038	-0.094	
	4:37:00 PM	1216	28.743	3.81	2.948	0.023	0.014	0.204	0.172	0.79	-0.095	-0.104	0.033	-0.094	
		1216.2	28.681	3.826	2.968	0.042	0.023	-0.062	0.181	0.799	-0.095	-0.08	0.028	-0.094	
		1216.4	28.993	3.842	2.963	0.052	0.028	0	0.167	0.79	-0.071	-0.09	0.047	-0.094	
		1216.6	28.806	3.857	3.001	0.042	0.004	0.204	0.167	0.818	-0.1	-0.095	0.014	-0.094	
		1216.8	29.556	3.873	3.006	0.042	0.018	0.661	0.167	0.79	-0.081	-0.09	0.023	-0.094	
	4:38:00 PM	1217	28.806	3.873	3.02	0.038	0.014	-0.062	0.181	0.77	-0.095	-0.08	0.023	-0.094	
		1217.2	29.181	3.904	3.03	0.047	0.018	-0.204	0.152	0.775	-0.11	-0.076	0.019	-0.094	
		1217.4	28.931	3.92	3.044	0.052	0.009	-0.11	0.172	0.785	-0.1	-0.1	0.033	-0.094	
		1217.6	28.774	3.936	3.034	0.052	0.018	-0.015	0.167	0.78	-0.086	-0.1	0.038	-0.094	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1217.8	28.837	3.952	3.063	0.033	0.009	-0.141	0.172	0.766	-0.105	-0.1	0.028	-0.094	
	4:39:00 PM	1218	28.712	3.952	3.073	0.062	0.009	0.173	0.172	0.761	-0.095	-0.09	0.042	-0.094	
		1218.2	28.962	3.967	3.082	0.062	0.009	0.314	0.167	0.775	-0.1	-0.104	0.047	-0.094	
		1218.4	29.525	3.999	3.087	0.057	-0.004	-0.33	0.167	0.78	-0.1	-0.1	0.042	-0.062	
		1218.6	29.275	4.014	3.111	0.047	0.004	-0.535	0.181	0.766	-0.095	-0.085	0.023	-0.062	
		1218.8	29.431	4.014	3.097	0.047	0.014	-0.456	0.167	0.766	-0.091	-0.085	0.028	-0.094	
	4:40:00 PM	1219	29.368	4.03	3.13	0.052	0.009	-0.503	0.176	0.775	-0.1	-0.085	0.019	-0.094	
		1219.2	28.837	4.03	3.14	0.052	0.009	0.125	0.172	0.77	-0.091	-0.085	0.014	-0.094	
		1219.4	29.243	4.046	3.159	0.052	-0.004	-0.456	0.176	0.766	-0.1	-0.085	0.033	-0.094	
		1219.6	29.337	4.061	3.168	0.047	0.004	0.456	0.148	0.761	-0.095	-0.1	0.014	-0.094	
		1219.8	29.368	4.093	3.163	0.052	-0.004	-0.125	0.181	0.751	-0.11	-0.09	0.023	-0.094	
	4:41:00 PM	1220	29.212	4.108	3.178	0.052	0.004	-0.173	0.2	0.794	-0.095	-0.085	0.042	-0.062	
	4:43:00 PM	1222	29.494	4.218	3.269	0.042	-0.014	-0.188	0.181	0.747	-0.1	-0.1	0.028	-0.094	
	4:45:00 PM	1224	29.087	4.281	3.345	0.042	-0.028	-0.204	0.186	0.713	-0.1	-0.095	0.033	-0.094	70.15
STEP 4	4:46:00 PM	1225.001	30.182	4.312	3.407	0.042	-0.028	-0.157	0.152	0.646	-0.091	-0.09	0.014	-0.125	
		1225.0083	31.682	4.312	3.398	0.028	-0.033	0.236	0.124	0.636	-0.1	-0.109	0.014	-0.094	
		1225.0166	31.933	4.312	3.393	0.028	-0.037	-0.755	0.148	0.636	-0.1	-0.1	0.014	-0.125	
		1225.025	31.495	4.312	3.407	0.052	-0.037	0.157	0.133	0.656	-0.124	-0.095	0.004	-0.094	
		1225.0333	32.12	4.312	3.398	0.033	-0.028	-0.204	0.152	0.651	-0.105	-0.114	0.014	-0.125	
		1225.0416	32.965	4.312	3.398	0.028	-0.028	-0.11	0.138	0.66	-0.119	-0.104	0.023	-0.125	
		1225.05	33.371	4.312	3.378	0.038	-0.033	0.141	0.138	0.651	-0.105	-0.119	0.038	-0.094	
		1225.0583	34.215	4.312	3.388	0.028	-0.042	0.062	0.133	0.641	-0.129	-0.104	0.019	-0.094	
		1225.0666	34.841	4.312	3.402	0.052	-0.018	0.22	0.133	0.675	-0.091	-0.104	0.004	-0.125	
		1225.075	34.716	4.312	3.398	0.042	-0.023	-0.204	0.133	0.66	-0.119	-0.104	0.004	-0.094	
		1225.0833	34.997	4.312	3.388	0.066	-0.023	-0.141	0.157	0.68	-0.124	-0.104	0.033	-0.094	
		1225.0916	35.06	4.312	3.388	0.028	-0.023	-0.094	0.133	0.641	-0.105	-0.1	0.019	-0.094	
		1225.1	35.716	4.312	3.388	0.042	-0.028	0.078	0.143	0.66	-0.105	-0.1	0.004	-0.125	
		1225.1083	35.873	4.312	3.378	0.047	-0.028	-0.094	0.143	0.646	-0.105	-0.104	0.028	-0.094	
		1225.1166	36.06	4.312	3.393	0.033	-0.023	-1.007	0.148	0.651	-0.105	-0.1	0.019	-0.094	
		1225.125	36.717	4.312	3.374	0.042	-0.018	-0.566	0.133	0.675	-0.091	-0.109	0.028	-0.094	
		1225.1333	37.123	4.312	3.374	0.028	-0.018	-0.692	0.162	0.68	-0.091	-0.104	0.033	-0.094	
		1225.1416	37.436	4.328	3.378	0.066	-0.023	0.425	0.157	0.665	-0.095	-0.114	0.038	-0.125	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet) AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	RECORDER SURF-MON
		1225.15	37.905	4.312	3.388	0.047	-0.037	0.299	0.148	0.675	-0.129	-0.109	0.009	-0.094	
		1225.1583	37.186	4.312	3.369	0.033	-0.028	0.472	0.129	0.656	-0.105	-0.109	0.033	-0.125	
		1225.1666	37.53	4.312	3.364	0.033	-0.028	-0.598	0.133	0.665	-0.11	-0.1	0.019	-0.094	
		1225.175	38.061	4.312	3.402	0.042	-0.028	0.299	0.133	0.67	-0.105	-0.114	0.009	-0.125	
		1225.1833	39.062	4.312	3.393	0.047	-0.033	0.015	0.133	0.68	-0.095	-0.1	0.019	-0.094	
		1225.1916	39.593	4.312	3.388	0.038	-0.042	-0.488	0.148	0.66	-0.11	-0.104	0.023	-0.094	
		1225.2	38.749	4.312	3.378	0.019	-0.033	-0.094	0.138	0.646	-0.11	-0.095	0.019	-0.094	
		1225.2083	38.405	4.328	3.402	0.042	-0.037	0.519	0.148	0.651	-0.105	-0.109	0.009	-0.125	
		1225.2166	39.468	4.312	3.402	0.062	-0.018	0.456	0.152	0.67	-0.081	-0.104	0.014	-0.094	
		1225.225	39.375	4.328	3.393	0.057	-0.028	0.976	0.133	0.665	-0.105	-0.119	0.014	-0.094	
		1225.2333	38.937	4.328	3.407	0.047	-0.023	-0.125	0.148	0.646	-0.105	-0.104	0.019	-0.125	
		1225.2416	38.999	4.328	3.393	0.028	-0.037	-0.031	0.148	0.651	-0.11	-0.104	0.009	-0.094	
		1225.25	38.468	4.328	3.398	0.062	-0.023	-0.236	0.138	0.66	-0.091	-0.104	0.009	-0.094	
		1225.2583	38.53	4.328	3.383	0.033	-0.033	-0.519	0.143	0.651	-0.115	-0.09	0.014	-0.094	
		1225.2666	39.593	4.328	3.398	0.033	-0.028	0.377	0.148	0.656	-0.1	-0.1	0.028	-0.094	
		1225.275	39.406	4.328	3.398	0.038	-0.028	-0.062	0.157	0.636	-0.11	-0.09	0.019	-0.094	
		1225.2833	39.531	4.328	3.412	0.042	-0.028	0.173	0.138	0.636	-0.124	-0.104	0.009	-0.094	
		1225.2916	39.5	4.344	3.393	0.047	-0.033	0.078	0.124	0.636	-0.105	-0.114	0.028	-0.094	
		1225.3	39.218	4.328	3.398	0.033	-0.042	-0.047	0.138	0.641	-0.119	-0.1	0.019	-0.094	
		1225.3083	40	4.328	3.402	0.042	-0.023	-0.078	0.143	0.66	-0.115	-0.1	0.023	-0.094	
		1225.3166	39.812	4.344	3.378	0.023	-0.014	-0.456	0.129	0.636	-0.1	-0.104	0.033	-0.094	
		1225.325	39.625	4.344	3.388	0.042	-0.028	-0.078	0.148	0.636	-0.11	-0.104	0.023	-0.125	
		1225.3333	39.281	4.344	3.407	0.071	-0.028	0.204	0.148	0.67	-0.086	-0.104	0	-0.094	
		1225.35	38.655	4.344	3.383	0.047	-0.023	0.22	0.133	0.665	-0.105	-0.119	0.033	-0.094	
		1225.3666	38.906	4.344	3.398	0.042	-0.009	0.629	0.148	0.68	-0.105	-0.104	0.038	-0.094	
		1225.3833	38.499	4.344	3.407	0.057	-0.042	0.425	0.157	0.665	-0.115	-0.104	0.019	-0.094	
		1225.4	38.812	4.359	3.412	0.023	-0.028	0.22	0.133	0.66	-0.105	-0.104	0.014	-0.094	
		1225.4166	38.874	4.359	3.426	0.047	-0.018	-0.566	0.148	0.665	-0.105	-0.1	0.019	-0.094	
		1225.4333	39.719	4.375	3.436	0.033	-0.028	0.393	0.152	0.656	-0.091	-0.1	0.019	-0.094	
		1225.45	38.468	4.375	3.431	0.062	-0.028	-0.393	0.148	0.675	-0.095	-0.104	0.009	-0.125	
		1225.4666	38.499	4.375	3.421	0.038	-0.033	-0.015	0.148	0.66	-0.11	-0.109	0.023	-0.094	
		1225.4833	38.249	4.391	3.426	0.052	-0.023	-0.236	0.143	0.675	-0.1	-0.104	0.009	-0.094	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1225.5	37.968	4.391	3.402	0.038	-0.023	-0.377	0.129	0.675	-0.1	-0.123	0.019	-0.094	
		1225.5166	38.655	4.406	3.45	0.047	-0.042	-0.015	0.152	0.675	-0.11	-0.123	0.028	-0.094	
		1225.5333	38.468	4.391	3.441	0.057	-0.047	0.33	0.138	0.689	-0.11	-0.109	0.028	-0.125	
		1225.55	38.249	4.406	3.46	0.052	-0.037	-0.062	0.129	0.694	-0.11	-0.114	0.019	-0.094	
		1225.5666	37.686	4.422	3.431	0.047	-0.047	0.125	0.143	0.694	-0.105	-0.119	0.033	-0.094	
		1225.5833	38.718	4.422	3.441	0.047	-0.033	-0.362	0.133	0.699	-0.115	-0.104	0.009	-0.094	
		1225.6	39.406	4.438	3.45	0.033	-0.042	-0.44	0.133	0.718	-0.11	-0.119	0.004	-0.094	
		1225.6166	39.031	4.438	3.455	0.042	-0.018	-0.283	0.133	0.703	-0.105	-0.109	0.014	-0.125	
		1225.6333	39.343	4.453	3.469	0.047	-0.023	-0.094	0.119	0.713	-0.115	-0.123	0.028	-0.094	
		1225.65	38.249	4.469	3.455	0.038	-0.047	0.141	0.152	0.713	-0.129	-0.128	0.033	-0.094	
		1225.6666	38.593	4.469	3.464	0.042	-0.051	0.047	0.152	0.708	-0.124	-0.114	0.033	-0.125	
		1225.6833	38.405	4.485	3.464	0.062	-0.028	-0.991	0.133	0.708	-0.11	-0.114	0.019	-0.094	
		1225.7	38.718	4.5	3.474	0.042	-0.051	-0.346	0.138	0.703	-0.115	-0.1	0.028	-0.094	
		1225.7166	39.093	4.5	3.464	0.052	-0.037	-0.204	0.143	0.718	-0.124	-0.104	0.028	-0.094	
		1225.7333	38.624	4.516	3.488	0.042	-0.028	0.015	0.136	0.708	-0.091	-0.119	0.023	-0.094	
		1225.75	40.094	4.532	3.469	0.038	-0.051	0.031	0.124	0.708	-0.119	-0.109	0.028	-0.125	
		1225.7666	38.624	4.532	3.484	0.038	-0.051	-0.251	0.129	0.718	-0.105	-0.095	0.004	-0.094	
		1225.7833	39.812	4.547	3.479	0.033	-0.028	0.85	0.124	0.718	-0.105	-0.104	0.023	-0.125	
		1225.8	39.031	4.547	3.493	0.057	-0.033	0.062	0.133	0.723	-0.11	-0.119	0.014	-0.094	
		1225.8166	40.219	4.563	3.479	0.047	-0.051	0.11	0.129	0.737	-0.119	-0.119	0.028	-0.094	
		1225.8333	40.031	4.563	3.484	0.052	-0.051	-0.519	0.133	0.727	-0.119	-0.109	0.028	-0.094	
		1225.85	39.062	4.579	3.512	0.047	-0.033	-0.188	0.138	0.708	-0.115	-0.104	0.023	-0.094	
		1225.8666	39.124	4.579	3.517	0.033	-0.042	0.503	0.138	0.737	-0.115	-0.109	0.009	-0.094	
		1225.8833	40.062	4.594	3.507	0.038	-0.028	-0.488	0.133	0.727	-0.129	-0.1	0.033	-0.094	
		1225.9	39.187	4.61	3.493	0.023	-0.051	0.33	0.133	0.703	-0.119	-0.119	0.038	-0.094	
		1225.9166	39.218	4.61	3.522	0.052	-0.033	0.236	0.129	0.727	-0.124	-0.1	0.014	-0.125	
		1225.9333	40.313	4.626	3.512	0.052	-0.033	-0.188	0.129	0.723	-0.095	-0.109	0.009	-0.094	
		1225.95	39.75	4.626	3.517	0.047	-0.033	0.236	0.133	0.742	-0.115	-0.133	0.019	-0.094	
		1225.9666	39.343	4.642	3.531	0.042	-0.037	-0.566	0.143	0.742	-0.11	-0.119	0.009	-0.094	
		1225.9833	39.25	4.642	3.536	0.028	-0.028	-0.393	0.133	0.723	-0.105	-0.128	0.004	-0.094	
	4:47:00 PM	1226	39.906	4.642	3.536	0.052	-0.042	-0.094	0.138	0.737	-0.115	-0.123	0.009	-0.125	
		1226.2	40.031	4.704	3.579	0.038	-0.033	0.866	0.138	0.713	-0.115	-0.133	0.004	-0.125	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet) AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	RECORDER SURF-MON
		1226.4	40.875	4.72	3.593	0.062	-0.042	-0.283	0.124	0.742	-0.139	-0.109	0.009	-0.094	
		1226.6	39.969	4.736	3.603	0.052	-0.047	-0.047	0.114	0.732	-0.124	-0.123	0.019	-0.094	
		1226.8	40.75	4.783	3.66	0.028	-0.042	0.346	0.129	0.727	-0.119	-0.123	0.004	-0.125	
RECOVERY	4:48:00 PM	1227	40.75	4.861	3.698	0.052	-0.037	-0.251	0.138	0.761	-0.124	-0.128	0.028	-0.125	
26-Feb-97	4:48:12 PM	1227.2	40.813	4.908	3.679	0.033	-0.042	-0.33	0.129	0.727	-0.139	-0.109	0.042	-0.125	
		1227.4	33.934	4.924	3.703	0.038	-0.042	-0.393	0.124	0.751	-0.129	-0.128	0.038	-0.125	
		1227.6	28.274	4.939	3.756	0.038	-0.056	-0.141	0.124	0.737	-0.134	-0.128	0.009	-0.094	
	4:48:48 PM	1227.8	21.394	4.908	3.732	0.042	-0.028	-0.818	0.124	0.732	-0.119	-0.128	0.038	-0.125	
		1227.801	20.018	4.892	3.727	0.038	-0.061	-0.078	0.133	0.732	-0.115	-0.123	0.019	-0.125	
		1227.8083	20.424	4.892	3.722	0.052	-0.033	-0.047	0.109	0.723	-0.119	-0.128	0.019	-0.125	
		1227.8166	12.637	4.892	3.722	0.052	-0.037	-0.362	0.133	0.737	-0.124	-0.104	0.023	-0.125	
		1227.825	12.605	4.877	3.718	0.028	-0.033	-0.11	0.105	0.694	-0.11	-0.104	0.033	-0.094	
		1227.8333	11.698	4.877	3.708	0.052	-0.047	-0.346	0.119	0.703	-0.129	-0.119	0.019	-0.125	
		1227.8416	13.168	4.877	3.722	0.042	-0.042	0.204	0.095	0.708	-0.119	-0.123	0.028	-0.125	
		1227.85	11.167	4.877	3.718	0.057	-0.037	0.015	0.129	0.713	-0.139	-0.119	0.014	-0.094	
		1227.8583	10.51	4.877	3.722	0.033	-0.042	0.771	0.105	0.67	-0.143	-0.133	0.004	-0.094	
		1227.8666	7.538	4.877	3.718	0.042	-0.037	0.094	0.105	0.68	-0.119	-0.1	0.023	-0.125	
		1227.875	5.974	4.861	3.732	0.071	-0.037	-0.015	0.114	0.684	-0.124	-0.119	-0.004	-0.125	
		1227.8833	5.13	4.861	3.694	0.047	-0.047	-0.204	0.124	0.656	-0.139	-0.109	0.047	-0.125	
		1227.8916	3.722	4.861	3.703	0.033	-0.037	-0.125	0.105	0.651	-0.119	-0.119	0.023	-0.125	
		1227.9	2.94	4.845	3.722	0.042	-0.051	-0.031	0.114	0.66	-0.119	-0.109	0	-0.094	
		1227.9083	1.751	4.845	3.703	0.042	-0.028	0.188	0.119	0.67	-0.124	-0.123	0.023	-0.094	
		1227.9166	0.563	4.845	3.713	0.057	-0.051	0.488	0.138	0.67	-0.115	-0.123	0.019	-0.094	
		1227.925	-1.188	4.845	3.689	0.052	-0.033	-0.11	0.114	0.636	-0.129	-0.128	0.033	-0.094	
		1227.9333	-5.318	4.83	3.703	0.038	-0.033	0.062	0.138	0.641	-0.119	-0.109	0.033	-0.125	
		1227.9416	-1.47	4.83	3.694	0.042	-0.033	0.062	0.114	0.627	-0.139	-0.123	0.033	-0.125	
		1227.95	-1.939	4.814	3.703	0.057	-0.028	0.173	0.138	0.656	-0.115	-0.123	0.023	-0.125	
		1227.9583	-2.596	4.814	3.679	0.052	-0.037	0.33	0.119	0.641	-0.134	-0.109	0.028	-0.125	
		1227.9666	-3.66	4.798	3.698	0.052	-0.033	-0.251	0.148	0.641	-0.11	-0.119	0.028	-0.125	
		1227.975	-4.817	4.798	3.684	0.047	-0.047	-0.236	0.143	0.636	-0.124	-0.128	0.028	-0.094	
		1227.9833	-3.66	4.798	3.698	0.047	-0.061	-0.031	0.138	0.636	-0.119	-0.109	0	-0.094	
		1227.9916	-3.409	4.783	3.689	0.042	-0.051	-0.409	0.133	0.641	-0.139	-0.095	0.033	-0.094	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1228	-3.472	4.783	3.679	0.052	-0.037	0.74	0.109	0.632	-0.119	-0.119	0.014	-0.125	
		1228.0083	-3.472	4.767	3.66	0.062	-0.061	0.456	0.129	0.656	-0.124	-0.109	0.038	-0.094	
		1228.0166	-3.003	4.767	3.689	0.071	-0.042	-0.031	0.148	0.646	-0.11	-0.128	0.033	-0.094	
		1228.025	-2.346	4.767	3.66	0.047	-0.028	0.535	0.133	0.636	-0.119	-0.104	0.028	-0.094	
		1228.0333	-1.564	4.751	3.67	0.038	-0.042	-0.314	0.124	0.632	-0.129	-0.1	0.023	-0.125	
		1228.0416	-0.844	4.751	3.66	0.062	-0.023	-0.314	0.138	0.646	-0.119	-0.1	0.038	-0.125	
		1228.05	0.031	4.736	3.66	0.057	-0.042	0.33	0.138	0.622	-0.139	-0.095	0.023	-0.094	
		1228.0583	1.001	4.72	3.651	0.052	-0.056	-0.267	0.152	0.636	-0.11	-0.1	0.028	-0.094	
		1228.0666	2.033	4.72	3.665	0.066	-0.047	-0.188	0.129	0.641	-0.134	-0.109	0.014	-0.094	
		1228.075	3.065	4.704	3.655	0.047	-0.037	-0.11	0.124	0.617	-0.129	-0.104	0.023	-0.125	
		1228.0833	4.066	4.704	3.67	0.042	-0.047	0.755	0.129	0.641	-0.105	-0.1	0.014	-0.094	
		1228.0916	5.067	4.689	3.66	0.033	-0.023	-0.047	0.138	0.622	-0.129	-0.104	0.019	-0.125	
		1228.1	6.099	4.689	3.651	0.052	-0.037	-0.299	0.124	0.632	-0.105	-0.1	0.019	-0.094	
		1228.1083	7.1	4.673	3.655	0.052	-0.037	0.456	0.133	0.656	-0.115	-0.114	0.023	-0.094	
		1228.1166	8.007	4.657	3.641	0.047	-0.028	-0.236	0.143	0.66	-0.129	-0.109	0.028	-0.094	
		1228.125	9.134	4.642	3.641	0.038	-0.042	0.094	0.124	0.636	-0.134	-0.104	0.014	-0.125	
		1228.1333	10.228	4.626	3.646	0.057	-0.056	0.015	0.138	0.656	-0.129	-0.104	0.019	-0.094	
		1228.15	12.199	4.61	3.622	0.042	-0.042	-0.598	0.148	0.665	-0.139	-0.109	0.019	-0.094	
		1228.1666	14.044	4.579	3.608	0.047	-0.037	-0.535	0.133	0.665	-0.115	-0.114	0.028	-0.094	
		1228.1833	15.702	4.547	3.603	0.052	-0.051	-0.125	0.157	0.684	-0.115	-0.095	0.028	-0.094	
		1228.2	16.984	4.516	3.589	0.038	-0.056	0.409	0.152	0.68	-0.134	-0.095	0.023	-0.094	
		1228.2166	18.204	4.485	3.56	0.047	-0.056	-0.566	0.152	0.689	-0.134	-0.085	0.033	-0.094	
		1228.2333	19.017	4.453	3.536	0.047	-0.028	0.078	0.148	0.699	-0.1	-0.095	0.028	-0.094	
		1228.25	19.736	4.406	3.522	0.052	-0.028	0.031	0.162	0.708	-0.105	-0.095	0.047	-0.094	
		1228.2666	19.705	4.375	3.493	0.038	-0.033	-0.393	0.148	0.694	-0.11	-0.1	0.033	-0.094	
		1228.2833	19.955	4.328	3.507	0.057	-0.028	1.054	0.143	0.723	-0.1	-0.095	0.019	-0.094	
		1228.3	19.643	4.297	3.464	0.033	-0.037	0.188	0.172	0.713	-0.129	-0.09	0.047	-0.094	
		1228.3166	19.267	4.249	3.431	0.042	-0.051	-0.078	0.152	0.723	-0.1	-0.085	0.033	-0.094	
		1228.3333	18.736	4.202	3.421	0.047	-0.056	-0.173	0.167	0.718	-0.11	-0.08	0.019	-0.094	
		1228.35	17.829	4.155	3.412	0.038	-0.037	0.062	0.176	0.708	-0.1	-0.08	0.023	-0.094	
		1228.3666	17.047	4.108	3.374	0.062	-0.042	0.015	0.148	0.737	-0.105	-0.09	0.023	-0.094	
		1228.3833	16.202	4.061	3.369	0.052	-0.028	-0.047	0.181	0.732	-0.1	-0.071	0.033	-0.125	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
			AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1228.4	15.358	4.014	3.331	0.047	-0.061	-0.141	0.162	0.727	-0.119	-0.09	0.028	-0.094	
		1228.4166	14.232	3.967	3.292	0.066	-0.028	0.598	0.172	0.737	-0.1	-0.08	0.047	-0.094	
		1228.4333	13.106	3.92	3.283	0.052	-0.042	-0.236	0.157	0.737	-0.119	-0.085	0.028	-0.094	
		1228.45	12.23	3.873	3.245	0.042	-0.047	-0.299	0.176	0.737	-0.095	-0.066	0.047	-0.094	
		1228.4666	11.135	3.826	3.226	0.047	-0.037	0.173	0.181	0.747	-0.1	-0.09	0.047	-0.094	
		1228.4833	9.947	3.763	3.221	0.042	-0.042	-0.299	0.176	0.718	-0.105	-0.08	0.014	-0.094	
		1228.5	8.789	3.732	3.216	0.047	-0.061	-0.094	0.186	0.727	-0.105	-0.076	0.023	-0.094	
		1228.5166	7.726	3.685	3.173	0.052	-0.051	-0.755	0.162	0.747	-0.1	-0.08	0.033	-0.094	
		1228.5333	6.694	3.638	3.149	0.047	-0.042	0.44	0.176	0.723	-0.105	-0.095	0.042	-0.125	
		1228.55	5.724	3.606	3.144	0.047	-0.037	-0.267	0.181	0.756	-0.11	-0.076	0.047	-0.094	
		1228.5666	4.723	3.575	3.14	0.062	-0.033	-0.645	0.172	0.761	-0.081	-0.066	0.038	-0.094	
		1228.5833	3.91	3.528	3.159	0.052	-0.023	-0.283	0.2	0.756	-0.091	-0.061	0.038	-0.094	
		1228.6	3.128	3.497	3.144	0.042	-0.033	-0.251	0.2	0.756	-0.081	-0.076	0.057	-0.094	
		1228.6166	2.627	3.465	3.163	0.047	-0.037	0.456	0.176	0.766	-0.081	-0.076	0.019	-0.094	
		1228.6333	2.158	3.45	3.14	0.052	-0.047	0.062	0.176	0.756	-0.119	-0.071	0.023	-0.094	
		1228.65	1.876	3.418	3.144	0.052	-0.023	-0.535	0.2	0.766	-0.105	-0.08	0.062	-0.094	
		1228.6666	1.72	3.403	3.159	0.038	-0.051	-0.251	0.2	0.747	-0.115	-0.071	0.028	-0.094	
		1228.6833	1.626	3.387	3.144	0.057	-0.037	-0.267	0.181	0.766	-0.11	-0.061	0.052	-0.094	
		1228.7	1.657	3.356	3.14	0.038	-0.028	0.393	0.176	0.766	-0.081	-0.085	0.033	-0.094	
		1228.7166	1.814	3.34	3.154	0.052	-0.061	-0.125	0.2	0.775	-0.1	-0.066	0.033	-0.094	
		1228.7333	2.095	3.34	3.168	0.052	-0.028	0.598	0.205	0.747	-0.081	-0.076	0.038	-0.094	
		1228.75	2.314	3.324	3.173	0.062	-0.061	-0.614	0.195	0.78	-0.1	-0.052	0.033	-0.094	
		1228.7666	2.69	3.324	3.149	0.062	-0.056	0.598	0.191	0.785	-0.11	-0.061	0.052	-0.094	
		1228.7833	3.159	3.324	3.192	0.052	-0.028	0	0.186	0.78	-0.1	-0.061	0.028	-0.125	
	4:49:48 PM	1228.8	3.691	3.309	3.187	0.062	-0.042	0.031	0.191	0.78	-0.071	-0.057	0.028	-0.125	
		1229	9.352	3.387	3.011	0.042	-0.033	0.173	0.224	0.794	-0.076	-0.071	0.042	-0.094	
		1229.2	6.099	3.371	2.786	0.057	-0.056	-0.236	0.238	0.761	-0.091	-0.052	0.057	-0.125	
		1229.4	1.564	3.167	2.839	0.057	-0.037	0.393	0.215	0.818	-0.071	-0.047	0.033	-0.125	
		1229.6	4.348	2.916	2.743	0.057	-0.056	-0.362	0.248	0.794	-0.071	-0.038	0.071	-0.125	
	4:50:48 PM	1229.8	6.037	2.728	2.561	0.038	-0.047	0.141	0.229	0.799	-0.067	-0.038	0.028	-0.094	
		1230	2.471	2.65	2.557	0.042	-0.051	-0.362	0.253	0.809	-0.062	-0.038	0.057	-0.125	
		1230.2	1.564	2.666	2.547	0.052	-0.056	0.047	0.253	0.818	-0.047	-0.042	0.052	-0.094	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
		1230.4	4.16	2.666	2.428	0.062	-0.037	-0.551	0.248	0.814	-0.047	-0.023	0.042	-0.094	
		1230.6	3.503	2.556	2.37	0.047	-0.051	-0.047	0.272	0.809	-0.043	-0.033	0.047	-0.094	
	4:51:48 PM	1230.8	1.188	2.399	2.351	0.062	-0.028	0.22	0.262	0.838	-0.033	-0.038	0.071	-0.094	
		1231	2.221	2.305	2.294	0.042	-0.042	0.614	0.272	0.823	-0.028	-0.019	0.066	-0.094	
		1231.2	3.409	2.289	2.246	0.052	-0.047	0.267	0.277	0.804	-0.052	-0.014	0.047	-0.094	
		1231.4	1.783	2.273	2.222	0.038	-0.037	-0.047	0.286	0.814	-0.033	-0.038	0.066	-0.094	
		1231.6	1.126	2.242	2.174	0.038	-0.033	-0.22	0.277	0.809	-0.052	-0.028	0.066	-0.094	
	4:52:48 PM	1231.8	2.533	2.179	2.141	0.047	-0.037	0.236	0.277	0.833	-0.028	-0.014	0.052	-0.094	
		1232	2.314	2.101	2.093	0.042	-0.056	0.393	0.296	0.823	-0.023	-0.009	0.071	-0.094	
		1232.2	1.001	2.023	2.088	0.052	-0.047	-0.346	0.281	0.818	-0.028	-0.019	0.057	-0.094	
		1232.4	1.532	2.023	2.079	0.028	-0.028	0.125	0.281	0.799	-0.014	-0.023	0.042	-0.094	
		1232.6	2.221	2.007	2.017	0.042	-0.051	0.488	0.272	0.828	-0.023	-0.009	0.057	-0.094	
	4:53:48 PM	1232.8	1.407	1.976	1.969	0.062	-0.047	-0.236	0.301	0.833	-0.028	-0.019	0.062	-0.094	
		1233	0.969	1.928	1.998	0.057	-0.037	0.346	0.281	0.842	-0.019	-0.009	0.052	-0.094	
		1233.2	1.751	1.881	1.964	0.028	-0.028	-0.377	0.296	0.804	-0.023	-0.004	0.062	-0.094	
		1233.4	1.657	1.85	1.897	0.062	-0.051	-0.015	0.296	0.833	-0.028	-0.009	0.071	-0.094	
		1233.6	0.907	1.819	1.921	0.062	-0.033	0.078	0.301	0.833	-0.019	-0.019	0.038	-0.094	
	4:54:48 PM	1233.8	1.157	1.803	1.892	0.038	-0.033	0.267	0.305	0.828	-0.023	-0.014	0.062	-0.094	
		1234	1.626	1.787	1.83	0.038	-0.028	-0.078	0.296	0.833	-0.009	-0.004	0.071	-0.062	
		1234.2	1.094	1.756	1.835	0.052	-0.051	0.015	0.31	0.818	-0.038	0.009	0.062	-0.062	
		1234.4	0.875	1.709	1.821	0.038	-0.037	-0.456	0.315	0.828	-0.004	0.009	0.066	-0.094	
		1234.6	1.313	1.693	1.811	0.047	-0.051	-0.094	0.286	0.828	-0.009	0.014	0.038	-0.062	
	4:55:48 PM	1234.8	1.22	1.678	1.797	0.042	-0.033	0.015	0.31	0.838	0	-0.019	0.052	-0.062	
		1235	0.844	1.662	1.768	0.038	-0.014	0.283	0.32	0.823	0.009	0	0.076	-0.062	
		1235.2	0.969	1.646	1.759	0.033	-0.033	0.204	0.296	0.823	0.009	0	0.062	-0.062	
		1235.4	1.188	1.63	1.754	0.047	-0.033	0.157	0.315	0.842	-0.009	-0.004	0.057	-0.094	
		1235.6	0.875	1.599	1.697	0.038	-0.056	-0.314	0.31	0.823	-0.009	-0.004	0.071	-0.062	
	4:56:48 PM	1235.8	0.813	1.568	1.725	0.042	-0.018	-0.346	0.305	0.833	-0.023	0.014	0.066	-0.062	
		1236	1.001	1.552	1.697	0.062	-0.042	-0.267	0.301	0.842	0.009	0	0.057	-0.094	
		1236.2	0.938	1.536	1.687	0.033	-0.061	0.047	0.301	0.842	-0.023	-0.004	0.052	-0.062	
		1236.4	0.719	1.521	1.658	0.052	-0.037	0.047	0.305	0.838	0.004	-0.014	0.057	-0.062	
		1236.6	0.844	1.505	1.644	0.047	-0.023	-0.062	0.32	0.818	0.004	-0.014	0.076	-0.062	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
	4:57:48 PM	1236.8	0.907	1.489	1.644	0.042	-0.042	0.062	0.334	0.828	0.004	0	0.062	-0.062	
		1237	0.75	1.474	1.615	0.038	-0.014	-0.125	0.315	0.818	0.009	-0.004	0.081	-0.062	
		1237.2	0.719	1.458	1.615	0.042	-0.023	0.188	0.334	0.833	-0.014	-0.004	0.076	-0.062	
		1237.4	0.813	1.442	1.601	0.042	-0.028	0.377	0.324	0.833	-0.014	0.004	0.066	-0.062	
		1237.6	0.75	1.427	1.596	0.057	-0.042	-0.157	0.324	0.852	0.009	0	0.052	-0.062	
	4:58:48 PM	1237.8	0.656	1.427	1.587	0.047	-0.028	-0.078	0.348	0.871	0	0.004	0.066	-0.062	
	5:00:48 PM	1239.8	0.563	1.301	1.472	0.042	-0.028	-0.062	0.348	0.852	0.004	0.004	0.066	-0.031	70.15
	5:02:48 PM	1241.8	0.469	1.223	1.391	0.047	-0.018	-0.062	0.358	0.847	0.009	0.014	0.071	-0.031	
	5:04:48 PM	1243.8	0.375	1.144	1.329	0.047	-0.014	-0.047	0.363	0.838	0.009	0.014	0.071	-0.031	
	5:06:48 PM	1245.8	0.312	1.066	1.271	0.047	-0.009	-0.031	0.367	0.838	0.014	0.019	0.071	-0.031	
	5:08:48 PM	1247.8	0.25	1.019	1.223	0.047	0	-0.031	0.372	0.823	0.019	0.023	0.076	-0.031	
	5:10:48 PM	1249.8	0.187	0.972	1.18	0.047	0.004	-0.015	0.377	0.818	0.019	0.023	0.076	-0.031	
	5:12:48 PM	1251.8	0.156	0.925	1.142	0.047	0.009	-0.015	0.377	0.804	0.019	0.023	0.076	-0.031	
	5:14:48 PM	1253.8	0.125	0.893	1.113	0.047	0.014	-0.015	0.382	0.794	0.023	0.028	0.076	0	70.15
	5:16:48 PM	1255.8	0.062	0.862	1.085	0.047	0.018	-0.015	0.386	0.79	0.023	0.023	0.081	-0.031	
	5:18:48 PM	1257.8	0.062	0.831	1.056	0.047	0.023	-0.015	0.386	0.78	0.023	0.028	0.081	0	
	5:20:48 PM	1259.8	0.031	0.799	1.032	0.047	0.028	0	0.386	0.77	0.028	0.028	0.081	-0.031	
	5:22:48 PM	1261.8	0	0.784	1.008	0.047	0.023	0	0.396	0.761	0.028	0.033	0.085	0	
	5:24:48 PM	1263.8	-0.031	0.752	0.989	0.052	0.037	0	0.396	0.737	0.023	0.033	0.085	0	
	5:26:48 PM	1265.8	-0.031	0.721	0.965	0.047	0.042	0	0.396	0.699	0.028	0.033	0.081	0	
	5:28:48 PM	1267.8	-0.062	0.705	0.951	0.047	0.047	0	0.396	0.684	0.028	0.033	0.085	0	
	5:30:48 PM	1269.8	-0.093	0.69	0.937	0.047	0.051	0	0.396	0.689	0.033	0.038	0.085	0	70.15
	5:32:48 PM	1271.8	-0.093	0.674	0.917	0.052	0.056	0.015	0.401	0.684	0.028	0.038	0.085	0	
	5:34:48 PM	1273.8	-0.156	0.642	0.908	0.057	0.066	0	0.406	0.689	0.033	0.038	0.09	-0.031	
	5:36:48 PM	1275.8	-0.156	0.627	0.894	0.052	0.066	0	0.396	0.684	0.033	0.038	0.09	-0.031	
	5:38:48 PM	1277.8	-0.156	0.611	0.874	0.052	0.07	0.015	0.406	0.684	0.033	0.038	0.09	0	
	5:40:48 PM	1279.8	-0.156	0.611	0.86	0.052	0.07	0.015	0.406	0.68	0.033	0.038	0.09	0	
	5:42:48 PM	1281.8	-0.187	0.595	0.851	0.052	0.075	0.015	0.41	0.68	0.038	0.038	0.09	0	
	5:44:48 PM	1283.8	-0.187	0.58	0.841	0.052	0.08	0.015	0.41	0.675	0.033	0.038	0.085	0	70.15
	5:46:48 PM	1285.8	-0.218	0.564	0.831	0.052	0.085	0.015	0.41	0.675	0.038	0.038	0.09	0	
	5:48:48 PM	1287.8	-0.218	0.564	0.817	0.052	0.089	0.015	0.415	0.67	0.033	0.038	0.09	0	
	5:50:48 PM	1289.8	-0.218	0.548	0.812	0.052	0.094	0.031	0.415	0.675	0.038	0.042	0.09	0	

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
	5:52:48 PM	1291.8	-0.218	0.533	0.803	0.052	0.099	0.015	0.415	0.67	0.038	0.042	0.09	0	
	5:54:48 PM	1293.8	-0.25	0.533	0.793	0.052	0.099	0.031	0.415	0.67	0.038	0.038	0.09	0	
	5:56:48 PM	1295.8	-0.281	0.501	0.793	0.057	0.108	0.015	0.425	0.675	0.038	0.042	0.095	-0.031	
	5:58:48 PM	1297.8	-0.25	0.517	0.779	0.057	0.108	0.031	0.42	0.665	0.043	0.038	0.095	0	
	6:00:48 PM	1299.8	-0.25	0.501	0.774	0.057	0.113	0.031	0.425	0.66	0.038	0.042	0.095	0	70.15
	6:02:48 PM	1301.8	-0.281	0.486	0.764	0.057	0.118	0.031	0.425	0.656	0.038	0.042	0.095	0	
	6:04:48 PM	1303.8	-0.281	0.486	0.76	0.052	0.122	0.031	0.425	0.651	0.038	0.042	0.09	0	
	6:06:48 PM	1305.8	-0.281	0.486	0.75	0.057	0.122	0.031	0.429	0.636	0.038	0.042	0.09	0	
	6:08:48 PM	1307.8	-0.281	0.47	0.745	0.057	0.127	0.031	0.429	0.622	0.038	0.042	0.105	0	
	6:10:48 PM	1309.8	-0.312	0.47	0.741	0.057	0.132	0.031	0.429	0.612	0.038	0.042	0.095	0	
	6:12:48 PM	1311.8	-0.312	0.47	0.731	0.057	0.132	0.031	0.429	0.598	0.038	0.042	0.095	0	
	6:14:48 PM	1313.8	-0.312	0.454	0.731	0.057	0.137	0.031	0.434	0.598	0.038	0.042	0.095	0	70.15
	6:16:48 PM	1315.8	-0.312	0.454	0.721	0.057	0.146	0.047	0.434	0.598	0.038	0.019	0.095	0	
	6:18:48 PM	1317.8	-0.312	0.454	0.721	0.057	0.146	0.031	0.434	0.598	0.043	0.047	0.095	0	
	6:20:48 PM	1319.8	-0.312	0.439	0.721	0.062	0.151	0.031	0.439	0.598	0.043	0.042	0.095	0	
	6:22:48 PM	1321.8	-0.312	0.439	0.712	0.057	0.151	0.047	0.439	0.598	0.038	0.042	0.095	0	
	6:24:48 PM	1323.8	-0.344	0.439	0.702	0.062	0.155	0.047	0.439	0.593	0.038	0.047	0.095	0	
	6:26:48 PM	1325.8	-0.344	0.423	0.702	0.057	0.16	0.047	0.439	0.589	0.038	0.047	0.095	0	
	6:28:48 PM	1327.8	-0.344	0.423	0.698	0.057	0.16	0.047	0.439	0.708	0.043	0.042	0.095	0	70.15
	6:43:48 PM	1342.8	-0.344	0.407	0.674	0.062	0.184	0.031	0.453	0.636	0.043	0.047	0.1	0	70.14
	6:58:48 PM	1357.8	-0.375	0.376	0.655	0.062	0.203	0.047	0.463	0.641	0.047	0.052	0.105	0	70.14
	7:13:49 PM	1372.8	-0.375	0.376	0.645	0.066	0.222	0.047	0.477	0.646	0.047	0.052	0.109	0	70.14
	7:28:49 PM	1387.8	-0.375	0.36	0.635	0.066	0.236	0.047	0.482	0.656	0.052	0.057	0.109	0	70.14
	7:43:49 PM	1402.8	-0.375	0.36	0.635	0.066	0.25	0.062	0.492	0.656	0.057	0.061	0.114	0	70.14
	7:58:49 PM	1417.8	-0.375	0.376	0.635	0.066	0.264	0.078	0.506	0.66	0.067	0.066	0.128	0.031	70.14
	8:13:49 PM	1432.8	-0.344	0.376	0.64	0.071	0.283	0.078	0.515	0.66	0.067	0.076	0.133	0.031	70.14
	8:28:49 PM	1447.8	-0.344	0.376	0.64	0.071	0.292	0.094	0.525	0.67	0.076	0.076	0.143	0.031	70.14
	8:43:49 PM	1462.8	-0.344	0.376	0.645	0.071	0.302	0.094	0.53	0.68	0.081	0.08	0.148	0.031	70.14
	8:58:49 PM	1477.8	-0.312	0.376	0.645	0.071	0.311	0.11	0.539	0.68	0.086	0.09	0.152	0.062	70.14
	9:13:49 PM	1492.8	-0.312	0.392	0.655	0.071	0.321	0.11	0.544	0.708	0.091	0.09	0.162	0.062	70.14
	9:28:49 PM	1507.8	-0.312	0.392	0.655	0.076	0.33	0.125	0.549	0.727	0.091	0.095	0.167	0.062	70.14
	9:43:49 PM	1522.8	-0.312	0.407	0.664	0.076	0.335	0.125	0.558	0.732	0.095	0.1	0.171	0.062	70.14

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE EVENT	CLOCK	ELAPSED TIME (min)	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet) AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	RECORDER SURF-MON
	9:58:49 PM	1537.8	-0.281	0.407	0.669	0.076	0.34	0.125	0.563	0.732	0.1	0.104	0.176	0.062	70.14
	10:13:49 PM	1552.8	-0.281	0.407	0.669	0.076	0.344	0.141	0.568	0.737	0.105	0.104	0.181	0.062	70.14
	10:28:49 PM	1567.8	-0.281	0.423	0.674	0.081	0.349	0.141	0.573	0.737	0.11	0.114	0.186	0.094	70.14
	10:43:49 PM	1582.8	-0.25	0.423	0.678	0.081	0.349	0.141	0.578	0.742	0.11	0.114	0.191	0.062	70.14
	10:58:49 PM	1597.8	-0.25	0.423	0.683	0.081	0.354	0.157	0.582	0.751	0.115	0.119	0.2	0.094	70.14
	11:13:49 PM	1612.8	-0.25	0.423	0.688	0.081	0.359	0.157	0.587	0.761	0.115	0.123	0.205	0.094	70.14
	11:28:49 PM	1627.8	-0.25	0.423	0.688	0.081	0.359	0.157	0.587	0.78	0.119	0.119	0.205	0.094	70.14
	11:43:49 PM	1642.8	-0.25	0.439	0.683	0.085	0.359	0.157	0.587	0.79	0.119	0.123	0.205	0.094	70.14
	11:58:49 PM	1657.8	-0.25	0.423	0.688	0.081	0.359	0.157	0.592	0.79	0.119	0.123	0.21	0.094	70.14
27-Feb-97	12:13:49 AM	1672.8	-0.25	0.439	0.688	0.085	0.359	0.157	0.592	0.79	0.124	0.128	0.21	0.094	70.14
	12:28:49 AM	1687.8	-0.218	0.439	0.693	0.085	0.363	0.157	0.597	0.794	0.129	0.133	0.214	0.094	70.14
	12:43:49 AM	1702.8	-0.218	0.439	0.693	0.085	0.363	0.173	0.601	0.804	0.129	0.133	0.219	0.094	70.14
	12:58:49 AM	1717.8	-0.218	0.439	0.693	0.09	0.363	0.173	0.601	0.809	0.129	0.138	0.224	0.094	70.14
	1:13:49 AM	1732.8	-0.218	0.439	0.698	0.09	0.368	0.173	0.606	0.818	0.134	0.142	0.229	0.125	70.14
	1:28:49 AM	1747.8	-0.218	0.439	0.698	0.09	0.368	0.173	0.611	0.818	0.139	0.142	0.234	0.125	70.14
	1:43:49 AM	1762.8	-0.218	0.439	0.698	0.09	0.373	0.173	0.616	0.833	0.143	0.147	0.238	0.125	70.14
	1:58:49 AM	1777.8	-0.218	0.454	0.702	0.095	0.373	0.188	0.616	0.838	0.143	0.147	0.243	0.125	70.14
	2:13:49 AM	1792.8	-0.218	0.439	0.702	0.095	0.373	0.188	0.621	0.828	0.148	0.147	0.248	0.125	70.14
	2:28:49 AM	1807.8	-0.187	0.439	0.702	0.095	0.377	0.173	0.621	0.833	0.148	0.152	0.248	0.125	70.14
	2:43:49 AM	1822.8	-0.187	0.439	0.698	0.095	0.377	0.188	0.625	0.838	0.148	0.152	0.253	0.125	70.14
	2:58:49 AM	1837.8	-0.187	0.439	0.693	0.095	0.377	0.188	0.625	0.847	0.148	0.152	0.253	0.125	70.14
	3:13:49 AM	1852.8	-0.187	0.439	0.693	0.095	0.377	0.188	0.625	0.847	0.148	0.152	0.253	0.125	70.14
	3:28:49 AM	1867.8	-0.187	0.439	0.688	0.1	0.382	0.188	0.63	0.847	0.148	0.152	0.253	0.125	70.14
	3:43:49 AM	1882.8	-0.218	0.439	0.688	0.1	0.377	0.188	0.625	0.847	0.148	0.152	0.253	0.125	70.14
	3:58:49 AM	1897.8	-0.218	0.423	0.683	0.1	0.377	0.188	0.625	0.852	0.148	0.152	0.248	0.125	70.14
	4:13:49 AM	1912.8	-0.218	0.423	0.678	0.1	0.377	0.188	0.625	0.818	0.148	0.152	0.253	0.125	70.14
	4:28:49 AM	1927.8	-0.218	0.407	0.669	0.1	0.377	0.188	0.625	0.78	0.143	0.147	0.243	0.125	70.14
	4:43:49 AM	1942.8	-0.218	0.407	0.669	0.104	0.377	0.204	0.625	0.766	0.143	0.152	0.243	0.125	70.14
	4:58:49 AM	1957.8	-0.218	0.407	0.669	0.104	0.377	0.188	0.625	0.756	0.148	0.152	0.248	0.125	70.14
	5:13:49 AM	1972.8	-0.218	0.407	0.664	0.104	0.377	0.204	0.63	0.747	0.148	0.152	0.248	0.125	70.14
	5:28:49 AM	1987.8	-0.218	0.407	0.659	0.109	0.377	0.188	0.616	0.727	0.148	0.147	0.248	0.125	70.14
	5:43:49 AM	2002.8	-0.218	0.392	0.659	0.109	0.377	0.188	0.63	0.732	0.148	0.152	0.248	0.125	70.14

Appendix I, Table 1. ROMP 28 Kuhlman Avon Park-Floridan APT, Background data and trial pumping/step tests.

DATE		ELAPSED TIME	BACKGROUND WATER LEVELS, TRANSDUCER/DATA LOGGER (displacement in feet)												RECORDER
EVENT	CLOCK	(min)	AVPK-MON	AVPK-100	AVPK-600	OCAL-DP	OCAL-SH	SUW-MON	SUW-100	SUW-600	HAW-MON	HAW-100	EVAP-SH	EVAP-DP	SURF-MON
	5:58:49 AM	2017.8	-0.218	0.407	0.659	0.109	0.382	0.204	0.635	0.718	0.153	0.157	0.253	0.125	70.14
	6:13:49 AM	2032.8	-0.218	0.407	0.664	0.109	0.387	0.204	0.64	0.723	0.158	0.161	0.257	0.125	70.14
	6:28:49 AM	2047.8	-0.218	0.407	0.669	0.109	0.392	0.22	0.649	0.723	0.162	0.166	0.267	0.125	70.14
	6:43:49 AM	2062.8	-0.218	0.423	0.674	0.109	0.401	0.22	0.654	0.727	0.167	0.171	0.277	0.157	70.14
	6:58:49 AM	2077.8	-0.187	0.423	0.674	0.114	0.406	0.22	0.659	0.727	0.167	0.176	0.281	0.157	70.14
	7:13:49 AM	2092.8	-0.187	0.407	0.674	0.114	0.406	0.22	0.659	0.732	0.167	0.18	0.281	0.125	70.14
	7:28:49 AM	2107.8	-0.187	0.423	0.674	0.114	0.406	0.22	0.664	0.718	0.177	0.18	0.281	0.157	70.14
	7:43:49 AM	2122.8	-0.187	0.423	0.678	0.119	0.411	0.251	0.668	0.708	0.177	0.185	0.291	0.157	70.14
	7:58:49 AM	2137.8	-0.187	0.423	0.683	0.119	0.415	0.236	0.668	0.689	0.182	0.185	0.291	0.157	70.14
	8:13:49 AM	2152.8	-0.187	0.423	0.683	0.119	0.42	0.236	0.673	0.675	0.186	0.19	0.296	0.157	70.14
	8:28:49 AM	2167.8	-0.187	0.423	0.698	0.124	0.42	0.251	0.687	0.632	0.186	0.195	0.3	0.157	70.14
	8:43:49 AM	2182.8	-0.187	0.439	0.698	0.124	0.425	0.267	0.683	0.627	0.191	0.2	0.305	0.188	70.14
	8:58:49 AM	2197.8	-0.187	0.423	0.707	0.128	0.439	0.251	0.687	0.641	0.201	0.204	0.315	0.157	70.13
	9:13:49 AM	2212.8	-0.187	0.439	0.717	0.128	0.429	0.251	0.687	0.751	0.201	0.209	0.32	0.188	70.13
	9:28:49 AM	2227.8	-0.156	0.439	0.721	0.128	0.444	0.283	0.692	0.77	0.21	0.214	0.329	0.188	70.13
	9:43:49 AM	2242.8	-0.156	0.454	0.726	0.133	0.453	0.283	0.707	0.818	0.21	0.223	0.334	0.188	70.14
	9:58:49 AM	2257.8	-0.125	0.454	0.731	0.119	0.444	0.236	0.702	0.828	0.215	0.214	0.329	0.188	70.16
27-Feb-97	10:13:49 AM	2272.8	-0.125	0.47	0.731	0.124	0.453	0.283	0.697	0.852	0.22	0.223	0.334	0.22	70.17