FPL

Florida Power and Light

TURKEY POINT EXPLORATORY DRILLING AND AQUIFER PERFORMANCE TEST PROGRAM

August 19, 2009

HDR

FLORIDA POWER AND LIGHT COMPANY

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1.0 INTRODUCTION

Florida Power & Light Company (FPL) further evaluated the use of radial collector wells as one of the potential sources of cooling water for the proposed Turkey Point Units 6 &7.

Radial collector wells consist of a central concrete caisson (up to 20-30 feet in diameter) excavated to a target optimal depth at which well screens project laterally outward in a radial pattern from the bottom of the well. Radial wells are designed to induce infiltration from a nearby surface-water source, combining the desirable features of a groundwater and surface-water supply. Radial wells can provide an abundant, dependable supply of water with constant temperature, low turbidity and filtration of undesirable surface water constituents. The project location at Turkey Point, along with the local and regional boundaries, and several major water control structures are shown in Figure 1.1.

In order to further evaluate the use of a radial collector well system, an exploratory drilling and aquifer testing program was performed on the Turkey Point plant property after planning, consultation with and review by local and state agencies. Drilling was performed on the Turkey Point peninsula, or the “Point” (the landmass extending out into Biscayne Bay) to assess the subsurface lithology and to install a test production well and monitoring wells for an aquifer performance test (APT). There were several goals of the APT. The first goal was to provide information on the potential yield of the shallow water bearing units beneath the Point that could potentially be utilized for a radial well system. The second goal was to provide data for an evaluation of the aquifer characteristics of this shallow permeable interval. The APT was also conducted to allow for an evaluation of potential short term water quality changes under pumping conditions. The final goal of the APT was to provide information for numerical model calibration to assess the performance of radial collector wells. The following sections of this report describe the procedures and results of the drilling and testing program performed on the Point.

2.0 EXPLORATORY DRILLING PROGRAM

The drilling program performed on the Point began on January 5, 2009, and concluded on February 11, 2009. The program consisted of soil borings, rock/soil classification, water quality sampling, and monitoring well and test production well installation for the APT. The drilling included one pilot hole (MW-1) drilled to a depth of 75 feet below land surface (bls) to determine the lithology of the shallow stratigraphic units beneath the Point. The purpose of the pilot hole was to provide information on the subsurface conditions so that the depth of the test production well and monitoring wells for the APT could be selected. Once drilled, the casing was set in the pilot hole, caliper, temperature, gamma, and fluid conductivity geophysical logs were run under static (non-pumping) conditions. A video survey was also conducted in the pilot hole to provide an in-situ visual log of the subsurface at the Point.

Formation samples were collected at four additional boring locations (MW-2 through MW-5) using split-spoon and reverse air methods, as appropriate, from land surface to the maximum depth drilled. Split spoon cores were collected in accordance with ASTM Standard D 1586-84 (Standard Method for Penetration Test and Split-Barrel Sampling of Soils). Split spoon samples were obtained to refusal or mud loss utilizing mud rotary drilling techniques. Formation cuttings were collected continuously during reverse-air drilling. Each formation sample was placed in a sample storage bag on 5-foot intervals and marked with the boring name, date, time, and depth interval of the sample. The boring locations are shown on Figure 2.1.

2.1 Geological Interpretation Methods

The lithologic information collected from each borehole was reviewed in the field during drilling by a geologist registered in the State of Florida. The geologic interpretation of the stratigraphy at the site based on the data obtained during drilling is discussed below.

The upper 75 feet of subsurface material encountered at the site included well defined sequences of sandy limestone, cemented sand, and coralline limestone. In order to characterize this variability in the near surface stratigraphy on the Point, the facies encountered are identified by the primary rock type with the formation name applied based on the similarity to the literature description. Detailed paleontologic or petrographic classification of the facies encountered was outside the scope of the study.

2.2 Regional Conditions

The Turkey Point site is located in the Coastal Marshes and Mangroves physiographic zone of Florida (Davis, 1943). The site is underlain by geologic formations that make up the Biscayne aquifer, named after Biscayne Bay. The aquifer extends along the eastern coast from southern Dade County into coastal Palm Beach County as a wedge-shaped underground reservoir having a thin edge to the west. It underlies the Everglades as far north as northern Broward County.

The Biscayne aquifer is identified by Fish and Stewart (1991) as that part of the surficial aquifer system in southeastern Florida composed of (from land surface downward) the Pamlico Sand, Miami Oolite, Anastasia Formation, Key Largo Limestone, and Fort Thompson Formation (all of Pleistocene age), and contiguous, highly permeable beds of the Tamiami Formation of Pliocene and late Miocene age, where at least 10 feet of the section is very highly permeable (a horizontal hydraulic conductivity of about 1,000 feet/d or more). The Anastasia Formation, the Key Largo Limestone, and the Fort Thompson Formation constitute the bulk of the very highly permeable sediments of the Biscayne aquifer in eastern Dade County. The average hydraulic conductivity of the three formations probably exceeds 10,000 feet/d over much of the area (Fish and Stewart 1991). Figure 2.2 is a stratigraphic section that represents eastern Miami Dade County and the Turkey Point site.

Near the western limit, the base of the aquifer is about 20 feet below sea level and then slopes downward to the east at an average of about 3 to 4 feet/mile, forming a wedge-shaped aquifer. In coastal southeastern Dade County, the base is 110 to 120 feet below sea level, but in coastal northeastern Dade County, a basin or trough reaches a depth of at least 187 feet below sea level (Figure 2.3). In the area of the FPL Turkey Point plant property, the Biscayne aquifer is approximately 115 feet thick (Fish and Stewart 1991), although drilling to the base of the aquifer was not performed for this investigation. The aquifer water quality is saline to saltwater in the area of Turkey Point plant property.

Transmissivity of the Biscayne aquifer varies with the lithology of the geologic formations present and with the thickness of zones with well-developed secondary-solution porosity. The area that has transmissivities greater than 1,000,000 feet^2/d coincides with the thickest sequence of the Fort Thompson Formation or the Key Largo Limestone. The decrease in transmissivity to the west corresponds to the thinning of highly permeable marine beds in the Fort Thompson Formation. The relatively lower transmissivity of northeastern and coastal east-central Dade County corresponds with the predominance of the Anastasia Formation, the Miami Oolite, and the upper part of the Tamiami Formation. This decrease in transmissivity occurs although there is an increase in thickness of the aquifer because sand and calcareous sandstone become the principal lithologies (Fish and Stewart, 1991).

Fish and Stewart (1991) provide an indication of the horizontal hydraulic conductivity of the rocks or sediments that make up the Biscayne aquifer. According to the report, highly transmissive limestone formations are present at depths ranging from approximately land surface to approximately 80 feet below land surface (bls) near the Turkey Point plant property. Other research shows that the porosity and permeability of the aquifer are reported to be highly heterogeneous and anisotropic, and mostly related to secondary porosity due to biogenic activity such as touching-vug macroporosity, which forms tabular-shaped stratiform groundwater flow zones of regional extent. Cunningham et al. (20009), who used data from numerous test core holes, reported that macroporosity associated with burrows is important to groundwater flow in the aquifer formations.

2.3 General Lithologic Section

In the area of the Turkey Point plant site, the literature indicates that the shallow formations in the area consist of, in descending order, the Miami Limestone, the Key Largo Limestone, and the Fort Thompson Formation. The Key Largo is known to form the Florida Keys, but in some areas has encroached on the mainland at some time in the past (Hofmeister, 1974). This is illustrated in Figure 2.4, which shows that the Key Largo Limestone is present in the area of Turkey Point. Deeper formations are not the focus of this study, which is to evaluate the shallow formations for a proposed radial collector well system. Less permeable units of the Tamiami Formation, and the deeper Hawthorn Group (Scott, 1998), form the confining unit between the Biscayne aquifer and the Upper Floridan aquifer (Fish and Stewart, 1991). The units reported to be present at the Point are discussed below.

Miami Limestone

The Miami Limestone was named by Hoffmeister et al. (1967) and is composed of a bryozoan facies and an oolitic facies. During reef growth, carbonate sand banks periodically accumulated behind the reef in environments similar to the Bahamas today. One such lime-sand bank covered the southwestern end of the coral reefs and, when sea level last dropped, the exposed lime-sand or oöid bank formed the Lower Keys. Thickness is variable reaching a maximum thickness of approximately 50 feet. The oolitic facies consists of well-sorted ooids, with varying amounts of skeletal material (corals, echinoids, mollusks, algae) and some quart sand. Hoffmeister et al. (1967) and Perkins (1977). The Miami Limestone grades laterally to the south into the Key Largo limestone (FGS, 1991). Throughout the Lower Keys, the Miami Limestone lies on top of the coralline Key Largo Limestone, and varies from a few feet up to 35 feet in thickness.

Key Largo Limestone

The Key Largo Limestone was named by Sanford (1909), and is a Pleistocene reef limestone that forms the upper Florida Keys. It stretches in the subsurface at least from Miami to the Dry Tortugas, and its thickness, although variable, can be up to 200 feet. About 1.8 million years ago, a shallow sea covered what is now south Florida. From that time to about 10,000 years ago, often called the Pleistocene "Ice Ages," world sea levels underwent many fluctuations of several hundred feet, both above and below present sea level, in response to the repeated growth and melting of the glaciers. Colonies of coral became established in the shallow sea along the rim of the broad, flat Florida Platform. The subtropical climate allowed the corals to grow rapidly and in great abundance, forming reefs. As sea levels fluctuated, the corals maintained footholds along the edge of the platform; their reefs grew upward when sea level rose, and their colonies retreated to lower depths along the platform’s rim when sea levels fell. During times of rising sea levels, dead reefs provided good foundations for new coral growth. In this manner, during successive phases of growth, the Key Largo Limestone accumulated from about 75 to 200-feet thick in places. The last major drop in sea level exposed the ancient reefs, which are the present Keys. Exposures of the Key Largo Limestone can be seen in many places along the Keys: in canal cuts, at shorelines, and in construction spoil piles (Schmidt and Lane, 1994).

The Key Largo limestone consists of an organic framework of coral colonies with intra and interbedded calcarenites. In general, the formation contains a large amount of coral in growth position (Hoffmeister, et. al.1967).

Fort Thompson Formation

The Pleistocene Fort Thompson Formation consists of fossiliferous sandy marine limestone and calcareous sandstones interstratified with thin layers of dense freshwater limestone, and is generally highly permeable and produces high water yields. The shell beds are characteristically variably sandy and slightly indurated to unindurated. The sandy limestones present in the Fort Thompson were deposited under both freshwater and marine conditions. The sand present is both fine to medium grained (FGS, 1991).

2.4 Site Stratigraphy

As discussed, in order to characterize the variability in the near surface stratigraphy on the Point, the facies encountered are identified by the primary rock or soil type, with the formation name applied based on the similarity to the literature description. Detailed paleontologic or petrographic classification of the facies encountered was outside the scope of the study. The depths and elevations of the individual facies encountered are included in Table 2.1.

Subsurface materials encountered during drilling at Turkey Point include fill material underlain by peat or muck. The muck indicates native material and was encountered in all borings at approximately 10 feet bls (Table 2.1). Beneath the peat/muck layer is a gray sandy limestone facies. Beneath the sandy limestone is calcareous cemented sand. The sand is fine grained with some shell material, however the sand was not encountered at boring MW-5 to the northwest of the Point, and was only 2-feet thick at boring MW-3. Below the sand layer is a coralline limestone with some gray limestone and shell. Below the coralline limestone is a light gray to white sandy limestone with some shell. Soil boring logs are included in Appendix A. The fill material was placed to form the landmass referred to as the “Point” extending into Biscayne Bay. The fill material extended to depths of eight to nine feet on the Point. The lithofacies encountered below the fill material are described in more detail below. Lithologic cross sections are included as Figures 2.5 and 2.6.

Fill Material

The fill material consists predominantly of limestone boulders and rock fragments approximately 8 to 9 feet thick at the Point.

Peat

The peat layer consists of dark brown to black clayey sand/sandy clay with abundant plant material. The peat (or muck) is wet, and exhibited a strong sulpher odor. The thickness of the peat ranges from 1 foot to 3.5 feet at the Point. Figure 2.7 shows a contour map of the top elevation of the peat layer. As shown, the peat layer dips to the south-southeast at the Point.

Gray Sandy Limestone (Miami Limestone)

A limestone facies consisting of gray sandy limestone with varying amounts of shell (mollusks, gastropod), and some bryozoan fossils were encountered below the peat and extends to depths ranging from 32 to 35 feet bls. Based on the literature, this facies is likely part of the Miami Limestone, although no ooids were noted at the Point, and similar facies have been described as part of the Key Largo Limestone (Hoffmeister, 1967). The limestone appears to fit the classification of a calcarenite, which is a rock that is formed by the percolation of water through a matrix of calcareous shell fragments and sand causing the dissolved lime to cement the mass together. Fossil mollusk percentages can range from 10 percent to 60 percent. At the Point, the percentage of fossils in the rock cuttings based on visual inspection was approximately 10 to 30 percent.

The video survey indicates a moderate to high degree of cavities, channels, tubes, and diverse irregular passageways in this unit as shown on Figure 2.8. A contour map of the top of the sandy limestone layer is included as Figure 2.9, which shows the unit dipping to the southeast. The top elevation ranges from approximately -7 feet to -4 feet NAVD 88.

Calcareous Cemented Sand
The cemented sand consists of light gray to white cemented calcareous sand and fine sand, well sorted, fine grained, some shell material. The cemented sand extends to depths ranging from 36 to 43 feet bls where present. The sand facies was not present at MW-5, and only two feet thick at MW-3. Figure 2.10 shows the top elevation of the cemented sand, which does not dip to the east-southeast, but shows a relatively flat surface varying by approximately 0.5 feet. Figure 2.11 shows an isopach contour map of the thickness of the sand unit, which shows the unit pinching out to the northeast. Video still images of the cemented sand are shown on Figure 2.12. The sand is possibly part of the Miami Limestone as quartz sand is typically present in this facies.

Coralline Limestone
The corraline limestone consists of gray limestone and yellow-brown calcite-replaced coral consistent with descriptions of the Key Largo Limestone (Hoffmeister, et al. (1967). In the pilot hole, the coralline limestone extends to a depth of approximately 58 feet bls. Video survey indicates coralline structure in a limestone matrix, with coralline structure, abundant cavities, channels, tubes, and diverse irregular passageways, as shown on Figure 2.13. A contour map of the top elevation of the coralline limestone is shown on Figure 2.14. As shown, the top elevation ranges from -29 to -40 feet NAVD 88 and dips to the east.

Lt Gray to White Sandy Limestone
This unit consists of light gray to white sandy limestone and moderately fossiliferous limestone. The cuttings were noted to be smaller than the shallower limestone facies. The video survey indicates varying degrees of small channels, tubes, and diverse irregular passageways within the unit. The upper portion of the light gray limestone (approximately 57 to 66 feet bls) appears to be more dense, with little to no well developed burrows and openings as compared to the lower part as illustrated on Figure 2.15. This limestone facies is likely part of the Fort Thompson Formation (Hoffmeister, et al. (1967), with the denser limestone possibly a freshwater limestone layer.

2.5 Geophysical Logging Results

Geophysical logging consisting of caliper, temperature, gamma, and fluid conductivity were run in pilot hole MW-1 under static conditions. The logs are included as Figures 2.16 and 2.17.

The background temperature log shows a decrease in temperature from the base of the casing at 24 feet bls, to about 32 feet bls, where only a slight decrease is observed to the total depth of the borehole. The temperature near the casing at approximately 26 feet bls is shown at 85.5 degrees Fahrenheit(F), decreasing to approximately 79 degrees F at 32 feet bls. The temperature then gradually decreases s to 78.3 degrees F at the base of the borehole (75 feet bls).

The fluid conductivity log shows the measured conductivity just below the casing (depth of 24 feet bls) at 48,000 uS/cm, increasing to approximately 52,500 at a depth of 32 feet bls. The conductivity then gradually increases to 56,000 uS/cm at the bottom of the borehole.

The caliper log indicates a potential zone where the formation consists of cavities and openings, corresponding to a depth interval of 25 to 34 feet bls, which corresponds to the gray sandy limestone (Miami Limestone). The caliper could also indicate some washout due to drilling, however, the zone corresponds to the initial mud losses noted during drilling at about 23 to 24 feet bls. A second zone is noted near the base of the borehole at a depth of 66 to 75 feet bls, corresponding to the lower portion of the light gray limestone (Fort Thomson Formation). The caliper log shows the zone which includes the cemented sand, the coralline Key Largo Limestone, and the upper portion of the light gray limestone with no apparent large cavities or washouts.

Gamma ray logs measure the natural radioactivity in formations and can be used to identify formation or correlate zones. Sandstones and carbonates typically have low concentrations of radioactive material and give low gamma signals. The presence of fine grain clastics would increase the gamma response. The gamma log overall shows low American Petroleum Institute (API) units, varying from approximately 8 to 24 API units. The fill material and the cemented sand show the lowest API units, and the upper portion of the gray sandy limestone (Miami limestone) shows the highest, indicating some silty material may be present in the interval. The upper part of the Miami Limestone was interpreted as less permeable than the lower portion during drilling due to the occurrence of mud losses in the lower part.

3.0 MONITORING WELLS AND SURFACE WATER MONITORING POINTS

The test production well and a series of monitoring/observation wells were installed at the Point for the APT. Two surface water monitoring points were also installed at the site, one in the Industrial Wastewater Facility and one near the mouth of the barge slip. Monitoring wells are completed within the surficial aquifer at various depth intervals, including the production zone, and above and below the production zone. Each monitoring well was given an identification number following installation with the prefix "MW". All of the wells are constructed of either 6-inch diameter schedule 40 PVC pipe and open hole, or 2-inch diameter PVC and 0.010 inch slotted screen. Construction details for the wells are shown in Table 3.1. Well construction logs are included in Appendix B.

3.1 Pilot Hole MW-1/ Dual Zone Monitoring Well

Based on the data obtained during the drilling of pilot hole MW-1, the depths of the production and monitoring wells were selected. During drilling at the Point with mud rotary techniques, a "mud loss" zone was encountered at approximately 25 to 26 feet bls in the gray sandy limestone (Miami Limestone). The mud loss zone indicates a region of potentially high permeability, so the target casing depth for the wells was determined to be 22 to 24 feet bls. The target production zone was selected to include what appeared to be not only the permeable portion of the Miami Limestone, but also the cemented sand and the upper portion of the Key Largo Limestone to a depth of 46 feet. Further logging and video survey indicated the entire section of borehole from approximately 24-feet bls to 57 feet bls consisted of highly permeable limestone, cemented sand (discontinuous unit), and coralline limestone that was likely in hydraulic connection. The rationale for selecting this production interval was that it would potentially encompass the potential depth interval of RCW laterals. The potential well yield of this shallow portion of the section was determined to be of primary importance in assessing the feasibility of the radial well system. The partial penetration test would also allow the calculation of the equivalent transmissivity of the entire thickness of the aquifer at the Point. Although the cemented sand unit may be less permeable than the limestone, since this unit is discontinuous, the Miami and Key Largo limestones are likely in direct communication in most areas of Turkey Point.

The pilot hole was completed as dual zone well MW-1, and includes completion intervals in and below the production zone (Appendix B). The interval identified as MW1-DZ-PI is the production interval of the dual zone well, and is open to a depth range of 24 to 60 feet bls. The deep interval is designated as MW1-DZ-Deep, and is open to a depth range of 65 to 75 feet bls, which is below a relatively dense light gray limestone encountered at approximately 57 to 66 feet bls..

3.2 Surfical Aquifer Monitoring Wells

Monitoring wells were used to observe the groundwater fluctuations at various distances from the production well as shown on Figure 3.1. In addition to the dual zone well, additional surficial aquifer monitoring wells/observation wells were installed at the Point. Completion details are included in Table 3.1, and well completion diagrams are included in Appendix B. Each well was drilled utilizing mud rotary and reverse air drilling techniques. A 5-inch hole was drilled to obtain rock cuttings and determine the casing depths. Once the casing depth was selected, the hole was reamed to 12-inch diameter and a 6-inch surface casing was installed. The casing was grouted in place and allowed to set at least 12 hours prior to drilling the open hole interval on the well. A 5-inch diameter open hole was drilled using reverse air drilling techniques to the total depth of each well. Monitoring well MW-1 SS was completed using a 2-inch diameter PVC well casing and screen. The screened interval is open to a depth range of 12 to 17 feet bls.

The wells were developed by pumping during the reverse air drilling process after the total depth was reached until conductivity had stabilized. All wells were surveyed by a registered surveyor for location and top of casing elevation. A copy of the survey is included in Appendix C.

3.3 Production Well

The test production well (PW-1) is located on the Point as shown on Figure 3.1. The following summarizes the sequence of the production well permitting and installation activities.

1. Obtained SFWMD well construction permit for the test production well, and monitoring wells prior to initiation of drilling activities.
2. Completed the test production well (PW-1) with 30-inch diameter steel casing set to 22 feet bls, and an open hole interval to 46 feet bls. Lithologic samples were collected during the construction to validate the casing setting depths and to confirm that the selected production interval lithology was similar to that observed at pilot hole MW-1 at the test well location. The pumped interval encompasses the gray sandy limestone facies, the sandstone/sand facies (Miami Limestone), and the upper portion of the coralline facies (Key Largo Limestone). As discussed, the potential well yield of this shallow portion of the section was determined to be of primary importance in assessing the feasibility of the radial well system. The partial penetration test would then allow calculation of the equivalent transmissivity of the entire thickness of aquifer at the Point.

Well development was performed on March 26, 2009 by inserting a 24-inch suction pipe down the well and pumping with an air compressor. The well was pumped at five-foot depth intervals beginning at the bottom of the well. Approximately 63,000 gallons was removed from the well (equivalent to approximately 60 well volumes). The volume pumped was estimated by the number of frac tanks filled during development. Turbidity, conductivity, and temperature were recorded during development and are summarized on Table 3.2. All development water was contained at the site and transported to the Land Use area of the Turkey Point property for disposal at a location selected by FPL and subsequently reviewed by Miami-Dade County Department of Environmental Resources Management (DERM).

3.4 Surface Water Monitoring Stations

Surface water monitoring stations were installed in the Industrial Wastewater Facility and at the barge slip in Biscayne Bay. The Industrial Wastewater Facility monitoring station consists of a 2”x6” treated wood plank bolted to an existing concrete pad on the canal bank. A 2-inch diameter well screen was bolted to the wood plank so that instrumentation could be installed. At the barge slip, a 2-inch diameter PVC well screen and casing was bolted to an existing piling.

The surface water monitoring points were surveyed by a registered surveyor for location and top of casing elevation. A copy of the survey is included in Appendix C.

3.5 Well and Surface Water Monitoring Instrumentation

Water level data collection methods included water level readings utilizing a pressure transducer (In-Situ Level Troll^{TM} 700), and water level/water quality monitoring using an In-Situ Aqua Troll™ 200 capable of monitoring and recording water level, temperature, plus conductivity/salinity.

The Level Troll^{TM} 700 transducers contain a level and temperature sensor, a data logger, and internal power in a 18.3 mm titanium housing. The transducer collects data on a user-specified interval. The readings are relative to a reference level specified by the user; in this case the reference was the pre-pumping depth to water measured manually when the instruments were set in the wells.

In-Situ water level sensors measure the sum of all pressures (atmospheric and hydrostatic) exerted on a pressure transducer and use that data to calculate water levels. Water density contributes to the total hydrostatic pressure. Salt water has a higher specific gravity than fresh water. A standard column of salt water exerts more pressure per square inch (psi) on a transducer than the same column of fresh water. Higher pressure levels are typically interpreted as increasing water levels, but many times are simply due to increasing salinity levels.

In environmental monitoring applications, typical water level sensors cannot measure water density variations (due to salinity changes) over the course the monitoring period. The monitoring instruments report all pressure variations as changing water levels. More sophisticated water level sensors can compensate for different water density via input of a fixed, or static, specific gravity value. This compensation method, however, is only effective if the salinity levels do not change during the monitoring period. If not compensated for, changing salinity levels can affect water level accuracy by up to 2%. The Aqua Troll™ 200 automatically and continuously corrects its depth and level parameters for changes in water density due to changes in salinity. This can improve the accuracy of depth and level measurements in estuaries and coastal waters such as Biscayne Bay where tides and rainfall continuously affect the local salinity (www.in-situ.com).

The Level Troll^{TM} and Aqua Troll™ data were downloaded prior, during, and after the APT to a handheld computer in the field. A physical depth to water reading was obtained periodically in the field immediately prior to the downloading to the computer to provide a quality control check of the instrumentation. The Aqua Trolls™ were deployed for background data collection on February 11, 2009 at a logging frequency of one-half hour.

3.6 Seepage Meters

During the review of the APT plan with local and state agencies, the suggestion was made to FPL that the installation of seepage meters might be a possible method to determine the potential effects of the APT on the flow of water between Biscayne Bay and the bay bottom sediments since conventional wells could not be designed, permitted, and installed in the bay within the

APT schedule. Although the technology is largely unproven in tidal and wave dominated environments (Shinn et al, 2002), FPL took the opportunity to install seepage meters near the APT site as a technology that might provide useful results.

Seepage meters are commonly used for the direct measurement of seepage flux. These were initially developed in the 1940s to measure loss of water from irrigation channels and resurrected in the 1970s for use in small lakes and estuaries (McBride and Pfannkuch, 1975; Lee, 1977; Lee and Cherry, 1978). Seepage meters have since been used in numerous studies of seepage fluxes in rivers, the near-shore marine zone, tidal zones (Belanger and Walker, 1990; Robinson et al, 1998), coral reefs, large lakes and water-supply reservoirs (Woessner and Sullivan, 1984). However, it has been reported that seepage meters installed in areas exposed to currents, waves, and ocean swells have not been adequately tested and verified in these environments (Shinn, et al., 2002). Observations and tests indicate that the positive profile of seepage meters, whether conical or constructed of 55-gallon drum ends, create an airfoil (Bernoulli) effect similar to the lift created on an airplane wing. Reversing orbital currents caused by waves can produce even greater advection than unidirectional flow. The Bernoulli effect caused by orbital wave currents passing over the meters every few seconds probably account for most of the water in the collection bags (Shinn, et al, 2002).

Notwithstanding the above limitations, seepage meters were placed in Biscayne Bay near the APT site to attempt to measure any potential effects on the rate of seepage through the bay bottom due to pumping the underlying aquifers. The basic concept of the seepage meter is to cover and isolate part of the sediment-water interface with a chamber open at the base and measure the change in the volume of water contained in a bag attached to the chamber over a measured time interval. The classic design of Lee (1977) consists of a 15-cm end section of a 55-gallon drum, which is inserted into the sediment. A stopper with a tube is inserted into a hole in the top of the drum and a plastic bag is attached to the tube with rubber bands. The time when the bag is connected and when it is subsequently disconnected is recorded, as well as the change in the volume of water in the bag.

The seepage flux (Q) is calculated as:

$Q=(Vf-V_0)/tA$

Where: Vo=the initial volume of water in the bag
Vf= is the final volume of water in the bag,
t=the time elapsed between when the bag was connected and disconnected,
A= the surface area of the chamber.

Additional water in the bag (positive seepage) represents upwards (gaining) seepage and water loss from the bag (negative seepage) represents downward (losing) seepage.

The seepage meters for the Point APT were constructed by cutting a 55-gallon drum to form the seepage chamber. The chamber was fitted with a venting valve at the top, and a port attached to the side. Tubing was attached to the side port and connected to 0.5” diameter PVC, on to which a seepage collection bag was attached with a rubber band. The PVC was fitted with a quick release and a valve so that the bag could be removed for monitoring. A total of 12 seepage meters were installed at the locations shown on Figure 3.2. Ten meters were installed in transects on the north side of the Point near the APT site, and two were installed on the south side of the Point.

4.0 AQUIFER TEST PROTOCOLS

The Point APT consisted of three phases: a background period beginning on February 11 and extending to April 3, 2009 to determine the natural water level fluctuations in the aquifer and surface water bodies, especially tidal influences from Biscayne Bay. The background period was followed by a step-drawdown phase, and a constant rate phase. The test protocols are detailed in the "Biscayne Aquifer Exploratory Drilling and Aquifer Performance Test Plan, March 18, 2009", submitted to FPL by HDR under separate cover. All pump test equipment and discharge pipe was installed by the contractor for the project, Diversified Drilling Corp.

The step drawdown test was performed at the Point on April 4, 2009. The purpose of the step drawdown phase was to evaluate the well performance and to select the optimum pumping rate for the long-term portion (7-day duration) of the APT. The pumping rate was set to variable rates ranging from 4,000 to 7,300 gallons per minute (gpm) as shown on Table 4.1. Observing the change in drawdown and specific capacity with increased discharge provided information required to select the optimum pumping rate for the 7-day test. The specific capacity at the various discharge rates was evaluated to confirm the short-term test data. The drawdown in the pumping well at the various pumping rates was also taken into account when selecting the optimum pumping rate for the long-term test, which was determined to be 7,500 gpm.

The 7-day constant rate test began on April 5, 2009 at 1107 hours at a pumping rate of 7,500 gpm. On April 6 at approximately 1440 hours, the pump shut down and could not be restarted. Maintenance was performed on the pump, and the test was re-started on April 8, 2009 (this part of the APT is referred to as Test 2). Similar pump problems began on April 11 when the contractor was forced to reduce the pumping rate to keep the pump operating. A decision was made to stop the pump on April 13, 2009. A new pump was brought to the site and the test re-started on April 16, 2009 (this part of the APT is referred to as Test 3). On April 18, the pump shut down and could not be restarted. A decision was made to get a smaller pump since the larger pumps appeared to be running at idle speed, which is apparently not an optimum condition for these types of engines. A second, smaller flow pump was brought to the site and the test re-started on April 28, 2009 (this part of the APT is referred to as Test 4) at a rate of 7,100 gpm. Test 4 successfully ran for the 7-day period.

Data collection prior to and during the aquifer test consisted of water levels, well discharge rates, and water quality sampling. Hourly monitoring of the fuel tanks on site, and the discharge pipes for leaks was also performed. All test information was recorded by field personnel. The following describes the data collection protocol for each data type.

4.1 Water Level Measurements

The water levels in each well and surface water monitoring point were measured with two pressure transducers (Aqua Troll^{TM} 200, and Level Troll 700^{TM}, In-Situ Inc.) in the pumped well and in the monitor wells during the APT. During the test, the Level Troll transducers were set to obtain a data point on an interval of 1 second for the first hour, 10 seconds for the second hour, 30 seconds for the third hour, 1 minute for the fourth hour, and 5 minutes thereafter. The Aqua Troll transducers were installed on February 11, 2009, and collected background data on a 30-minute interval to determine stability of the water levels and tidal influences for the duration of the test. The data were monitored by field personnel during the test to ensure that the instrumentation was working properly. Data was downloaded daily to chart the progress of the test. Water levels were recorded at the same frequencies after the pump was shut down following Test 4 to record the recovery in the pumped well and the monitoring wells for a period of 7 days.

4.2 Discharge Rate Measurements

The test well was pumped with a diesel driven surface (suction lift) well pump. The flow rates were controlled by pump speed by adjusting the throttle of the engine and by varying the opening of an in-line valve installed in the discharge pipe. Discharge rates were measured with an inline flow meter and recorded hourly by field personnel. The flow rates recorded during the APT are included in Appendix D. As shown, the flow meter tended to fluctuate during pumping, however the average rate recorded during the APT was 7097 gpm.

4.3 Water Quality Sampling

Water quality sampling through grab sampling was performed during drilling of the boreholes on site, and periodically through the duration of the APT (Table 4.2 and 4.3). Field water quality data was obtained from the monitoring wells, Biscayne Bay and the Industrial Wastewater Facility using Aqua Trolls (In-Situ Corporation) installed in each well and the surface water bodies on a regular frequency of every half hour.

Grab samples of the monitoring wells, Biscayne Bay and the Industrial Wastewater Facility were obtained for analysis of cations, anions and stable isotopes of water one week prior to starting the test, immediately prior to the start of the test, and on the last day of the test so that this data could be compared to the production well data. Monitoring wells MW-1-DZ-PI through MW-5 were sampled one week prior and one week following the start of the APT. The production well was also sampled for cations, anions, and stable isotopes during the test. A sample collection port was installed on the discharge line of the pumped well to allow grab samples to be obtained at the wellhead. The analytes are consistent with those that will be performed for the FPL Uprate Project to characterize the water within the Industrial Wastewater Facility System (CCS) to better understand the isotopic and ionic “fingerprint” of this water source relative to the surrounding water sources.

The Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOPs) for field procedures were followed and are included in DEP-SOP-001/01 (February 1, 2004). The FDEP SOPs comprise minimum requirements under the FDEP Quality Assurance Rule, 62-160, F.A.C. Field procedures for groundwater sampling are included in SOP FS2200. All sample containers were provided by the laboratory. A chain of custody accompanied all samples submitted to the laboratory. Samples were transported on wet ice at 4^o Celsius to the laboratory for analysis. Sample preservation was in accordance with FDEP SOPs. Samples were submitted to the laboratory on the same day as collection or via overnight mail the following day.

4.4 Seepage Meters

Seepage meters were placed in Biscayne Bay in an attempt to measure any potential effects on the rate of seepage through the bay bottom due to pumping the underlying aquifers. The seepage meters were measured during pumping periods and during non-pumping periods so that a comparison of the data could be made. The seepage meters were measured during high tide in an effort to remove the tidal effect on the seepage meter results. Seepage meter monitoring began on March 31, 2009 (four days before the start of the APT phase), and was performed daily during the APT. Following the APT from May 16 to May 23, 2009, seepage monitoring was performed at high tide and low tide to determine the seepage relationships to tide without the influence of pumping.

5.0 AQUIFER PERFORMANCE TEST DATA ANALYSIS

The APT at Turkey Point provided water level, water quality, and seepage meter data that were evaluated to determine aquifer properties, to estimate any potential effects of pumping the subsurface aquifer on water levels and water quality, and to provide data for subsequent numerical modeling of radial wells at the Point. Although four test periods were recorded due to pump failures, only the Test 4 data were analyzed since this test provided a complete 7-day data set. The following sub-sections provide a description of the data analysis and results.

5.1 Water Levels and Groundwater Flow

Background water levels were obtained from February 11, 2009 through April 3, 2009 at the wells and surface water monitoring points. At well MW-4, the instrument was inadvertently stopped by the drilling contractor when the well was re-drilled after some caving occurred, therefore only a three-day background period is available for MW-4. The water level elevations were obtained by subtracting the depth to water reading from the surveyed top of casing elevation. The background water level elevations are shown graphically in Figure 5.1. Water levels in shallow well MW-1 SS were corrected to equivalent saltwater heads to account for density differences between the shallow and deep wells. As shown, all of the wells and the barge slip (Bay) show a similar water level pattern, responding to tidal fluctuations. MW-5 background water levels deviates from the pattern exhibited by the other wells and began a general downward trend in mid-February, which overrides the tidal influence. The Industrial Wastewater Facility responds to the major tidal shifts, but is more strongly influenced by cooling water pumping to the power plant. MW-5 does not appear to be influenced by the canal since the downward trend at MW-5 in mid-February is not matched by the Industrial Wastewater Facility. The cause of the water level decline at MW-5 has not been determined.

The groundwater flow pattern in the pumped zone at the site prior to the APT test was evaluated by plotting the groundwater elevation contours on a base map of the site. The water levels on February 25, 2009, representing a high tide and on March 1, 2009 representing low tide are shown in Figures 5.2 and 5.3, respectively. The contour maps show that groundwater flow is to the west toward the shore and the Industrial Wastewater Facility.

The vertical gradient at the site was assessed using the water level elevation data obtained from the nested wells at MW-1. MW-1-SS is completed to a depth of 17 feet bls, MW-1 DZ-PI is open to an interval from 24 to 60 feet bls (production interval) and MW-1 DZ deep is open to an interval of 65 to 75 feet bls. As discussed, water levels in shallow well MW-1 SS were corrected to equivalent saltwater heads (equivalent to the density of the deeper wells) to account for density differences between the shallow and deep wells. A graph of the water level data from the three wells is included as Figure 5.4, with a detailed view in Figure 5.5. These figures show that groundwater elevations in the nested wells are essentially the same, with the heads in the shallow zone slightly higher than the deeper wells. The average water level elevations at the MW-1 nest are as follows:

Groundwater Elevation Summary- Nest MW-1			
	MW-1 SS	MW-1 DZ PI	MW-1 DZ Deep
Maximum	0.51	0.43	0.39
Minimum	-2.17	-2.27	-2.37
Median	-0.99	-1.10	-1.15
Average	-0.96	-1.06	-1.12

The similarity of the water levels at the MW-1 nest, which have a very slight downward hydraulic gradient, indicates that the vertical facies are likely hydraulically interconnected. The Barge Slip/Bay monitoring point is included on the MW-1 well nest graph, and shows that the water elevation in the Bay is generally higher than the groundwater levels (and shows greater tidal fluctuation as expeted), except for a period from about March 18 to April 2, 2009, when the groundwater elevations at MW-1-SS were slightly higher than the Bay. A review of rainfall data at SFWMD gauge S-20F, located just north of Turkey Point, showed approximately 2.5 inches of rainfall occurred during this monitoring period (SFWMD DBHYDRO database). The rainfall hydrograph is shown on Figure 5.6.

A graph of the water level elevations prior to and during the APT for all of the monitoring points is included as Figure 5.7. As shown, the water levels in the Industrial Wastewater Facility and MW-5 show a downward trend during the APT period. The trend at MW-5 does not appear to be related to the Industrial Wastewater Facility since the early part of the MW-5 hydrograph does not match the trend in the canal. The direct cause of the downward trend at MW-5 is unknown at this time. The other wells show typical fluctuation with visible responses to the APT pumping periods noted.

5.2 Statistical Methods for Estimating Aquifer Drawdown

During the APT, the water levels measured in the monitoring wells provides raw data in which the response to pumping, or drawdown, is embedded. Aquifer drawdown measurements can be obscured by a number of factors—particularly tides, regional pumping, recharge events, and barometric pressure. These influences introduce water level fluctuations that may mask any changes in water level brought about through aquifer pumping tests. To estimate drawdown, these compounding influences must first be removed. Simple statistical models, such as the Excel spreadsheet based program developed by the U.S. Geological Survey (USGS) (Halford 2006), have proved to be useful for this purpose. The program utilizes a Time Series approach to extracting the drawdown data from the background "noise". Time series measures, typically referred to as synthetic water levels, are created by summing multiple series resulting from tidal potential and background water levels. The phase and amplitude of these individual series are then adjusted so that the synthetic water levels match the measured water levels during periods unaffected by an aquifer test. Differences between the synthetic and measured water levels are minimized, frequently using a sum-of-squares objective function. The approach and application of the USGS model to the Turkey Point APT are described in detail below.

5.2.1 Barometric Effects

Atmospherically induced fluctuations can cause water-level changes up to about 0.2 feet on a daily basis while regional storms can cause water-level changes of up to approximately 1 foot or more during a week. Barometric effects may be included in the USGS model by including a time series of atmospheric pressure readings. For the Turkey Point analysis, direct measures of barometric pressure were not included as model fits were generally excellent without including this factor (see below). Additionally, barometric pressure changes should be reflected indirectly in the background water levels since vented instruments were used.

5.2.2 Tidal Effects

Gravitational forces arising from the changing relative positions of the sun, moon, and earth produce tides. The most familiar of these, ocean tides, affect groundwater levels through direct head changes in the aquifer or through loads on the confining unit. For the most part, ocean tides are rhythmic and predictable. Local conditions such as basin morphology and prevailing winds, however, may alter this predictability. Therefore, the most effective way of including the ocean tidal effect is through the inclusion of readings from a nearby tidal gage. For this purpose, data from an Aqua Troll™ (In-Situ Corp) gage mounted at the barge slip was used as an input variable.

Less familiar tidal forces, termed earth tides and gravitational tides, results from the gravitational distortion of the earth's crust. These tides regularly dilate and compress the aquifers surrounding bedrock thereby changing the porosity and causing water-level fluctuations of as much as 0.1 foot or more in certain aquifers. Earth and gravitational tides were included in the Turkey Point analysis by including the two theoretical models as internal functions within the USGS model. Calculation of these tides requires only the latitude, longitude, and elevation of the well location.

5.2.3 Background Water Levels

Recharge events and regional pumping induce aquifer stresses that may affect water elevations over large areas. Such influences are typically non-cyclic and are difficult to predict on a deterministic basis. Water level changes, however, may be modeled using water elevation readings from a location sufficiently outside the region affected by the pump test. In the case of the Turkey Point study, pumping of cooling water for the Turkey Point Units 1-4 results in the intake canal being lower in elevation than the groundwater levels, which would have an influence on nearby groundwater levels. For that reason, water level readings from a gage installed in the Industrial Wastewater Facility were included in the calculation of the synthetic time series.

5.2.4 Estimation of Synthetic Water Levels

Drawdown is represented as the differences between the measured water level in the monitoring/observation well and the synthetic water level derived by the model. The USGS model (Halford, 2006) uses the multiple time series described above to compute the synthetic water levels (SWL) using the following equation:

Eq. 1
$$SWL(t) = C_0 + C_1(t - t_0) + \sum_{i=1}^{n} a_i \; V_i(t + \varphi_i)$$

where:

C_0	offset, L
C_1	slope of water-level change, in LT^{-1}
a_i^n	amplitude multiplier of the *i*th component of *n* time-series elements
φ_i	phase-shift of the *i*th component
$V_i(t+\varphi_i)$	value of the *i*th component at time $t+\varphi_i$ in units of the *i*th component

Solutions for the various coefficients are found by using the Excel SOLVER add-in to minimize the squared difference between the measured and synthetic water levels over the background period. The coefficients are then used to estimate the synthetic water level series during the APT period. The results of the APT are then obtained from the differences between the measured and synthetic series during the APT period. The USGS spreadsheet model includes additional tools for selecting the background period and analyzing the APT period.

5.2.5 Data Treatment

Data collected for the Turkey Point aquifer performance test was collected in two modes. Prior to the APT, background data were collected using Aqua Troll™ 200 gages recording at 30-minute intervals. During the APT, Level Troll™ 700 gages were used, sometimes recording at intervals as small as 1 per second. In all cases, there was a period of overlap when both gages were employed at each location. For analytical purposes, it was necessary to combine the background and APT data sets. Since the Aqua Trolls correct for density as discussed in Section 3.3, it was decided that the water level readings obtained with the Aqua Trolls were the correct data set. Prior to combining the two data sets, they were checked for comparability by computing the difference in gage readings during the overlap period. In several cases, a slight discrepancy was discovered. In those cases, the average difference was added to or subtracted from the APT readings. These adjustment factors were as follows:

Adjustment Factors for Background Monitoring Gage Data

Well	**Adjustment Factor**
MW-1-DZ-Deep	-0.40 feet
MW-4	+0.10 feet
MW-5	+0.08 feet

The adjusted data were used in the USGS model to estimate drawdown at each monitoring well.

5.2.6 Model Fitting

Estimation of drawdown first requires the computation of the model coefficients in Equation 1. These coefficients are computed for the background period only. The background period is not subjected to the influence of pumping. Once the coefficients are obtained, they are used to compute the synthetic time series for the APT period. The background period selected for each well is presented in Table 5.1. Typically, the period from 2/11/2009 13:00 to 4/4/2009 09:00 was selected (period prior to pumping). Background data collection did not begin at MW-4 until

4/1/2009 due to problems with the instrumentation. Based on visual inspection, the period 4/19/2009 2300 hrs to 4/28/2009 0600 hrs was selected for model fitting purposes.

For all eight well locations, four independent variables (barge water level, canal water level, earth tide, and gravity tide) were required to obtain the accurate model fit as judged by the root mean square error (RMSE). The sequential improvement with each added variable can be seen in Table 5.1. In general, the full four-parameter model explained approximately 90% or more of the observed variability in observed water elevations. The only exception was MW-5, where unaccounted for influences affected much of the early background period. The overall model fit and model residuals are shown in Appendix E.

5.3 Analysis of Drawdown Data

Drawdown data extracted from the time series model were analyzed for hydraulic properties with well hydraulic equations. The analyses were performed with the AquiferWin32® software package prepared by Environmental Simulations, Inc., AQTESOLV® software package developed by Hydrosolve Inc., and programs developed in Excel (Microsoft Corp). AquiferWin32 allows the analysis of pumping tests by incorporating a wide variety of well hydraulic equations, and optimization and manual curve matching techniques. For the analysis of the data from the APT, well hydraulic equations for unconfined aquifers, confined aquifer with leaky conditions and partial penetration, and recovery data were applied.

As discussed, the drawdown in each well was calculated by subtracting the measured water levels from the synthetic water levels generated with the time series methods discussed above. The difference in the measured and synthetic water levels during the APT test represents the drawdown (Appendix E). Drawdown stabilized at approximately 11 feet bls in the pumped well PW-1 at a pumping rate of 7100 GPM. Once the pumping portion of the test was completed, the rise in the water levels (residual drawdown) to pre-test conditions was also recorded.

The aquifer transmissivity and storage coefficient between the pumped well and the monitoring wells was calculated for the pumping and recovery cycle of the test. The calculated hydraulic parameters would be reflective of the combined thickness of the aquifer at Turkey Point. For a pumping well, the drawdown is affected by well bore storage and head losses; therefore appropriate methods must be applied. In addition, pumping well data do not provide reliable storage coefficient results, so the monitoring/observation wells were relied upon to provide a calculated storage coefficient.

A study of the drawdown pattern in the monitoring wells showed that the pattern deviated from (fell below) the Theis curve and generally formed a straight horizontal line, indicating a leaky or bounded aquifer condition. Time-drawdown data were compared to type curves generated by several analytical models (Hantush (1960), Hantush (1964), Walton (1962), Neuman (1972)). Based on this analysis, the analytical models that appeared to best fit the observed time-drawdown data were Hantush (1964) and Walton (1962). The Hantush (1964) and Walton (1962) solutions simulate the response to pumping an aquifer overlain by a leaky confining unit which is in turn overlain by a constant head source bed. In the case of Turkey Point, the constant head source would be Biscayne Bay. The model also incorporates the effect of partially penetrating wells and various vertical to horizontal anisotropy ratios (Kz/Kr). In addition, the model assumes:

- well discharge is constant
- well is of infinitesimal diameter
- no release of water from storage in the confining bed
- flow of water through the confining unit is vertical
- the initial potentiometric surface of the aquifer and the water table are horizontal and extend infinitely in the radial direction

The Hantush (1964) analytical model is consistent with the conceptualization of the shallow permeable units as a leaky semi-confined aquifer. Due to the relatively large radial distance of most of the observation wells as compared to the thickness and anisotropy of the aquifer, the type curve was insensitive to the affect of partial penetration. For a two aquitard system, AQTESOLV® was used to determine the leakage values B' (for an aquitard above) and B" (for an aquitard below) if this is the case at the site. AQTESOLV® was also used to perform a distance-drawdown analysis. The analysis of recovery data utilized the Theis (1946) recovery method.

For the pumped well PW-1, the Cooper-Jacob (1946) straight line method was selected because it utilizes the slope of the drawdown curve instead of the magnitude of the drawdown in the calculation of the aquifer properties. The relatively high head losses in the well and partial penetration have little or no effect on the application of this method. Well losses and partial penetration affect drawdown by a fixed amount that changes very little after a well has been pumping for a sufficient time, as drawdown at later times is controlled mostly by the transmissivity of the aquifer. Therefore the late-time data was utilized for the straight line method for the PW-1 pumping data. The analysis of the recovery data collected from thePW-1 pumping well utilized the Theis recovery method.

The type curve matches for wells MW-1-DZ-PI through MW-4 are presented in Appendix F. Well MW-5 could not be analyzed since the drawdown data could not be extracted due to anomalous water levels in the well. The results are summarized in Table 5.2. A review of the test results indicates the following:

- Calculated transmissivity (T) values using drawdown data range from approximately 368,000 feet^2/day to 1,000,000 feet^2/day. The mean for the calculated T values using drawdown data is approximately 700,000 feet^2/day. The lowest T value was calculated at MW-1 DZ PI near the pumping well, and the higher T values were calculated at far-field wells MW-3 and MW-4 (The mean T value using wells MW-3 and MW-4 is approximately 960,000 feet^2/day). The noted increase in hydraulic conductivity with scale is likely a natural consequence of the aquifer heterogeneity (Rovey, 1998). Over short distances, water converging toward a borehole must generally flow across heterogeneities. Therefore, small-scale tests tend to measure a weighted harmonic mean of the hydraulic-conductivity field. Over a larger area as performed at Turkey Point, however, flow is primarily along high-conductivity heterogeneities. Therefore, large-scale tests approach a weighted arithmetic mean where high-conductivity heterogeneities have a greater influence (Rovey, 1998). In a hydrogeological environment characterized by inhomogeneity elements of a certain size (vugs, cavities, burrows, etc as observed in the Biscayne aquifer) hydraulic conductivity and transmissivity mean values each converge with increasing scale of measurement. Ultimately, as scale of measurement increases, measured values attain essentially the same value irrespective of the location of the test volume (Howard, et al, 2002). As such, the T values obtained at the far-field wells can likely be considered more reliable estimates of T than the values obtained using the closer wells for this test.

- The calculated T value using a distance-drawdown method is 800,000 feet^2/day.
- Calculated T values are higher when using recovery data as compared to drawdown data. The calculated T values using recovery data range from approximately 500,000 to over three million feet^2/day, with a mean of approximately 2,000,000 feet^2/day.
- Storage Coefficient (S) values range from 1×10^{-6} to 0.004, with a mean of 0.0014.
- The Hantush (1960) analysis performed in AQTESOLV® indicates a 1/B' value (leakage factor) of 0.01833 ft^{-1} for the upper aquitard, and a 1/B'' of zero for the lower aquitard, possibly indicating lack of confinement immediately below the pumped zone (Appendix F). Therefore in this case, leakage would occur predominantly from the upper portion of the section, which is the combined muck/upper Miami limestone. The analysis may also be affected by partial penetration, which is not accounted for in the Hantush (1960) method.
- Calculated vertical K (K') values ranged from 980 to 4 feet/day. Scale affects appear to impact these calculations, with the highest value in well MW1 DZ PI closest to the pumped well. The average K' without including the highest value is 6 feet/day. The calculated K' is based on a saturated thickness of 17 feet of material from the water table to the bottom of the well casing, which includes the muck layer and the upper portion of the Miami limestone. If only the muck layer is considered to be the leaky "confining" unit (average thickness of 2-feet), then the average calculated K' value is 0.7 feet/day.

The calculated T values using drawdown data from the site are within the range of, with some slightly lower, values reported for this area of Miami-Dade County. Results of aquifer tests in the Biscayne aquifer in southeastern Dade County yielded transmissivity values ranging from 600,000 to over 1,000,000 feet^2/day (Fish and Stewart, 1991).

As discussed, there are inconsistencies in the calculated T values for the pumped and recovery cycles for the wells. The analysis of recovery data involves the measurement of the rise in water levels, also referred to as residual drawdowns, following the cessation of a period of pumping at a constant rate. This analytical method is based on the Theis theory and applies to confined aquifers with fully-penetrating wells. The inconsistencies could also be a result of the Theis recovery method being applied to leaky aquifer data and a partially-penetrating well.

5.4 Seepage Meter Data Evaluation

Seepage meter data was recorded during the APT as described in Section 4.0. The measured seepage was recorded as positive (more volume in the bladder as opposed to the start of the monitoring interval), or negative (less volume in the bladder as compared to the volume at the start of the monitoring period). Positive seepage would be indicative of water flowing into the Bay from the Bay bottom sediments, and negative seepage would indicate water leaving the Bay through the Bay bottom sediments.

A summary of the seepage meter operations and data collection is included in Table 5.3. The seepage meter data collected during the pumping test phase are summarized in Table 5.4, and the high tide-low tide comparisons are summarized in Table 5.5. As shown on Table 5.4, the seepage meter data indicate that for most of the meters, a net positive seepage was measured both with no pumping and during the APT pumping periods. The data show that on average, less positive seepage was noted when the pump was on as compared to days when the pump was not operating; Two of the 12 meters (meters 4 and 5) show the average positive seepage to be less when the pump was off than when the pump was operating.

The average positive seepage from all meters for the pump on period was measured at approximately 0.0114 ml/cm^2/hour (39 inches per year), and the average positive seepage during pumping was measured at 0.0102 ml/cm^2/hr (35 inches per year), with a difference of four inches per year. A Mann-Whitney nonparametric statistical analysis of the average seepage data indicate that the differences in non-pumping and pumping positive seepage is not statistically significant (p value= 0.7074).

The source of this apparent positive seepage to Biscayne Bay is not evident from water level data at well nest MW-1, as shown on Figure 5.4. The water level data show no apparent upward vertical gradient in the area of the Point that would provide a source of water to the Bay from the subsurface formations. The horizontal flow of water in the area of the point is from the Bay toward shore as shown on Figures 5.2 and 5.3. In addition, previous studies have shown a similar "positive seepage effect" in similar environments in Florida Bay. Shinn, et.al (2002) determined through flume experiments that advection (i.e., the Bernoulli Effect) was the likely cause of the artificial pumping observed and measured in Florida Bay. The data and the observations and tests indicated that the positive profile of seepage meters, whether conical or constructed of 55-gallon drum ends, created an airfoil (Bernoulli) effect similar to the lift created by an airplane wing. Shinn et al (2002) attributed the Bernoulli Effect caused by orbital wave currents passing over the meters every few seconds as accounting for most of the water in the collection bags. A similar situation could have caused the positive seepage noted at Turkey Point.

The high-tide/low-tide comparisons are summarized in Table 5.5. The data indicate that low tide positive seepage was greater at three of the five meters as compared to high tide (meters pairs 2, 4, and 5). Two of the meters show greater high tide positive seepage than low tide, and one meter pair (meter pair 3) shows fluctuations in high and low tide seepage measurements. Negative seepage was observed at high tide meter 5-G for five of the six days measured. The data do not show a definitive correlation between high and low tide with regards to seepage.

In summary, the seepage meter data indicate that seepage measurements were predominantly net positive and varied considerably from location to location. The seepage data reliability is in question due to the following:

- Water level data in the area of the Point do not indicate an upward hydraulic gradient that would contribute water from the deeper formations to the Bay.
- The horizontal gradient is toward the shore and the Industrial Wastewater Facility, indicating that water would be flowing from the Bay, not toward the Bay from onshore in this area.
- Previous studies in similar environments in Florida Bay show the same “positive net seepage” affect. The studies indicate that wave currents passing over the meters could create a “Bernoulli Effect” and account for most of the water collected in the collection bag. A similar situation could have occurred at the Point.
- Tidal “pumping” could also provide a mechanism for water to be introduced to the collection bags.

Due to the questions regarding the validity of the seepage meter data collected at the Point, the absolute values of the data will not be considered in further studies of radial collector well performance and/or impact to the area. The difference in the seepage values between pumping and non-pumping conditions may still have some validity because the measurements were collected daily at high tide. Therefore, a constant bias (i.e., a constant inflow to the seepage bag over time caused by the Bernoulli Effect) would cancel when the values are subtracted, if wave and current conditions were reasonably constant. Based on these results, alternative methods may be necessary to determine the hydraulic conditions between the bay and the subsurface in this area.

6.0 WATER QUALITY RESULTS

Water quality samples were obtained during drilling, and during the Point APT as described in Section 4.0. Samples were obtained from the test production well (PW-1), Biscayne Bay, the Industrial Wastewater Facility, and the monitoring wells on site. Field measurements of conductivity were also obtained with Aqua Trolls installed at each monitoring point. Laboratory test results are included in Appendix G, and summarized in Table 6.1. The sampling parameters are representative of the major constituents that occur naturally in surface and groundwater. The major and minor constituents in water occur mainly in ionic form and are commonly referred to as ions. Major ions in water include positively charged cations and negatively charged anions. Cations analyzed for the APT include calcium, sodium, magnesium, potassium, and strontium. Anions included chloride, bromide, sulfate, bicarbonate, and boric acid. Stable isotopes of oxygen and hydrogen were also analyzed during the APT test period.

6.1 Borehole Sampling Results

During drilling, water quality samples were obtained at various depth intervals for chloride, TDS, and sulfate. Figure 6.1 shows the analytical results for chloride and TDS. As shown on the figure, both chloride and TDS generally increase with depth at the boring/well locations. The samples at depth were not discreet but a mix of all of the water in the borehole.

Chloride concentrations in the borehole samples ranged from a maximum of 21,400 mg/l at MW-3 (44’) to 17,100 mg/l at MW-1(24’). The average chloride value for all of the borehole samples is 19,563 mg/l. Chloride at depths greater than 40 feet bls exceeded 19,000 mg/l in 85% of the samples obtained (11 of 13 samples). TDS concentrations in the borehole samples range from 37,300 mg/l at MW-3 (44’) to 28,100 mg/l at MW-2 (47’). The average TDS concentration for all of the borehole samples is 33,020 mg/l. Sulfate concentrations also show a slight increase with depth and range from 2,830 mg/l at MW-1(72’) to 2,510 mg/l at MW-4 (30’).

6.2 APT Test Period Laboratory Results

Sampling was performed prior to, during, and after the APT and included monitoring wells (prior and after APT), the test production well (PW-1), Biscayne Bay, and the Industrial Wastewater Facility. The sampling program and sample collection summary are included in Tables 4.3 and 4.4, respectively. Aqua Troll data allowed the collection of field data including conductivity, salinity, TDS, and temperature on a 30-minute time interval. Laboratory analyses were performed to provide additional water quality data. Laboratory results are summarized in Table 6.1, and all laboratory results are included in the tables in Appendix G.

AquaTroll^{TM} Field Water Quality Data

The Aqua Troll results for conductivity and salinity are included graphically as Figure 6.2 and 6.3, respectively. The data show the highest conductivity and salinity at the Industrial Wastewater Facility, and the lowest at monitoring well MW-1-SS (shallow well at nest MW-1). Salinity in the Industrial Wastewater Facility fluctuated between 60 and 70 PSU, which is approximately twice that of seawater. Salinity at well MW-1-SS fluctuated around 20 PSU. Well MW-1SS is set at a depth of 17 feet bls, and represents shallow groundwater at the Point.

The lower salinity water at this depth is likely a result of infiltration of less dense water during rainfall events on the Point landmass. Salinity in the remaining monitoring wells is within the range of approximately 35 to 38 PSU, or roughly that of seawater. The deep well (MW-1 DZ Deep) had the highest measured salinity, while well MW-5 had the lowest measured salinity. In addition, the measured salinity in the bay during the monitoring period shows an increase, which is also noted in well MW-1SS and the Industrial Wastewater Facility. Salinity in the bay and Industrial Wastewater Facility show a drop around March 17 to March 23, 2009. A review of rainfall data at SFWMD gauge S-20F, located just north of Turkey Point, showed near 2.5 inches of rainfall during this period (SFWMD DBHYDRO database, Figure 2.2). The deeper wells do not follow this same increasing trend in salinity but remain fairly constant over the monitoring period. The salinity does show slight drops in concentration at MW-1 SS and MW-1 DZ PI during pumping periods, possibly indicating that the shallower, less saline water from the shallow interval on the Point landmass is being pulled in to the pumping interval (Figure 6.2). Pumping does not appear to have an effect on salinity in the Bay or the Industrial Wastewater Facility.

Laboratory Data

Table 6.1 is a summary of the laboratory data obtained during the APT. Data are also represented graphically in Figure 6.4. The data indicate that concentrations of the constituents measured are generally highest in the Industrial Wastewater Facility as expected, followed by Biscayne Bay, and the groundwater beneath the Point. The concentrations of most of the cations and anions measured in the Industrial Wastewater Facility are observed to be as much as twice that of the Bay and the groundwater beneath the Point. Due to the short time period over which the data were collected and the limited number of data points, evaluating potential trends in the data is likely unreliable, however, linear regression trend lines were plotted on the graphs to provide an indication of possible short-term linear trends in the data during the test period. The R^{-}squared value on the trend line (coefficient of determination) indicates the fit of the trend line, or linear trend model, through the analytical data. The closer its R-squared value is to one, the greater the ability of that model to predict a trend. As values of R-squared depart from 1.0, the fit of the trend model would potentially be less reliable Values of R^{-}squared were used along with visual observations to evaluate short term changes in the parameter concentrations during the APT. Only trendlines with an R-squared of 0.5 or greater are shown on Figure 6.4.

Chloride

The average chloride concentration in the Industrial Wastewater Facility during the test period was 37,400 mg/l, as compared to 22,475 mg/l in the Bay, and 19,407 mg/l at test production well PW-1. Chloride concentrations at PW-1 and the Bay during the APT period are shown graphically in Figure 6.4. As shown on Figure 6.4, the chloride data for PW-1 and the Bay show no indication of a discernible trend in chloride concentrations during the test period. The data do indicate that chloride concentrations in the Bay are generally higher than PW-1 during the latter part of the test period (during Test 4 in late April). Chloride concentration shows a slight decrease in the Industrial Wastewater Facility over the test period.

Total Dissolved Solids

The average Total Dissolved Solids (TDS) in the Bay and at PW-1 during the test period was 41,600 mg/l and 33,931 mg/l, respectively, which is typical of seawater. The average TDS in the

Industrial Wastewater Facility during the test period was 66,167 mg/l. As shown on Figure 6.4, TDS increased in the Industrial Wastewater Facility and the Bay, and showed only a slight increase at PW-1 during the test period.

Sulfate

Sulfate concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 6,200 mg/l. The average sulfate concentration in the Bay and PW-1 during the test period was 3,288 mg/l and 2,724 mg/l, respectively, which is typical of seawater. As shown on Figure 6.4, sulfate increased during the APT period in the Bay, but remained consistent in PW-1. Sulfate decreased in the Industrial Wastewater Facility over the test period.

Bromide

Bromide concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 150 mg/l. The average bromide concentration in the Bay and PW-1 during the test period was 102 mg/l and 99 mg/l, respectively, which is typical of seawater. As shown on Figure 6.4, bromide decreased in the Industrial Wastewater Facility and test production well PW-1 during the APT period, and generally shows fluctuating concentrations in the Bay.

Bicarbonate Alkalinity

Bicarbonate alkalinity concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 184 mg/l. The average bicarbonate alkalinity concentrations in the Bay and PW-1 during the test period were 124 mg/l and 167 mg/l, respectively. As shown on Figure 6.4, bicarbonate alkalinity is higher in the groundwater than in the Bay, and shows decrease in concentration in the Industrial Wastewater Facility, Bay, and PW-1 over the test period. Bicarbonate alkalinity is commonly a dominant anion in shallow groundwater.

Boric Acid

Boric acid concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 42 mg/l. The average boric acid concentrations in the Bay and PW-1 during the test period were 29 mg/l and 24 mg/l, respectively. As shown on Figure 6.4, boric acid is higher in the Bay than in the groundwater. An increase in concentration over the test is noted during the in the Bay and at PW-1. No discernable trend in boric acid concentrations is indicated in the Industrial Wastewater Facility data during the test period.

Calcium

Calcium concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 780 mg/l. The average calcium concentrations in the Bay and PW-1 during the test period were 476 mg/l and 427 mg/l, respectively. As shown on Figure 6.4, no linear increases or decreases in calcium concentrations are indicated during the APT period for the Bay, PW-1, or the Industrial Wastewater Facility.

Magnesium

Magnesium concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 2,367 mg/l. The average magnesium concentrations in the Bay and PW-1 during the test period were 1,790 mg/l and 1,289 mg/l, respectively. As shown on

Figure 6.4, magnesium shows a decrease in the Industrial Wastewater Facility, and no discernable trend at PW-1 or in the Bay during the test period.

Potassium

Potassium concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 2,367 mg/l. The average magnesium concentrations in the Bay and PW-1 during the test period were 1,790 mg/l and 1,289 mg/l, respectively. As shown on Figure 6.4, potassium increased slightly in the Industrial Wastewater Facility during the APT period. No linear increases or decreases in potassium are indicated during the test period for the Bay or PW-1.

Sodium

Sodium concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 18,800 mg/l. The average sodium concentrations in the Bay and PW-1 during the test period were 12,275 mg/l and 10,284 mg/l, respectively. As shown on Figure 6.4, sodium increased slightly in the Industrial Wastewater Facility during the APT period. No linear increases or decreases in sodium are indicated during the test period for the Bay or PW-1.

Strontium

Strontium concentrations during the APT were highest in the Industrial Wastewater Facility, with an average concentration of 15.7 mg/l. The average strontium concentrations in the Bay and PW-1 during the test period were 9.3 mg/l and 7.9 mg/l, respectively. As shown on Figure 6.4, a slight decreasing trend is noted in the Industrial Wastewater Facility, with no linear increases or decreases indicated in the Bay or at PW-1.

Monitoring Well Sample Results

The monitoring wells at the Point were sampled prior to and after the APT. The results of the well sampling are included in Figure 6.5. A non-parametric Mann-Whitney test of pre and post-APT samples from MW-1, MW-2, MW-4, MW-5, was performed for some parameters, including TDS, chloride, bicarbonate alkalinity, calcium, strontium and potassium. The test indicates there is no statistical difference in the concentrations of these parameters before and after the APT (i.e. $p > 0.05$). The test statistic p-value indicates the results. If the p-value is less than 0.05 or 5%, then there is significant difference. If the p-value is more than 0.05 or 5%, then there is no significant difference between the pre- and post-APT samples. The Mann-Whitney p-value was above 0.05 for all parameters. Potassium was tested without the outlier value of 825 mg/l on 5/12/09. Other outliers were noted, such as strontium in MW-4 and MW-5, boric acid in MW-4 (values of 46 mg/l, double what was previously detected), and calcium at MW-4 (value of 788 mg/l on 5/12/09).

Stable Isotopes (O18 and Deuterium)

The oxygen and hydrogen that make up water molecules contain a mixture of isotopes of both elements, including the stable isotopes oxygen-18 and deuterium. These isotopes can be fractionated by hydrologic processes such as evaporation. The abundance of these isotopes can help to provide an understanding of the movement or evolution of ground water, including

processes such as recharge and mixing. The objective of the isotope analysis during the APT was to provide data that might help to determine the source of water to the pumping well during the APT (i.e. groundwater, surface water, or Industrial Wastewater Facility water).
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Stable isotopes of oxygen and hydrogen were analyzed during the APT by the University of Miami. The isotope analysis results are shown graphically in Figure 6.6, and are summarized in Appendix G. Oxygen18 (δ18O) shows an increasing concentration in the Industrial Wastewater Facility during the test period. No linear trend in δ18O is indicated in the bay or at PW-1. Hydrogen (deuterium, δD) shows an increase in the Industrial Wastewater Facility and in test production well PW-1, and a decrease in concentration in the Bay.

The monitoring wells were sampled for stable isotopes prior to and following the APT. The results of the monitoring well sampling are shown on Figure 6.7. Based on a paired t-test of samples pre and post-APT from MW-1, MW-3, MW-4, MW-5, there is no statistical difference in the isotopic signature of the water (i.e. $p > 0.05$). A Mann-Whitney non-parametric statistical analysis of δ18O and deuterium isotopes prior to and after pumping also indicate that the differences are not statistically significant (p values of 0.1437 and 0.2963, respectively)

The following additional observations are made with respect to the isotope analysis (personal communication, Sharon Ewe, ENE Inc, July 1, 2009.).

1) PW-1: there is no significant change in water quality based on the δ18O data (δ18O is a more conservative indicator relative to δD);

2) Industrial Wastewater Facility samples on 3/18 /09 and 4/5/09 appear to have some Bay water influence;

3) MW-3 values on 3/18/09 are most likely an error since the salinity is low but the isotopic signature exceeds that even of the Industrial Wastewater Facility.

The water quality results show that during pumping, the concentrations of the cations and anions in the pumping well remained consistent throughout the pumping period, indicating that no apparent changes or degradation of groundwater quality occurred during the APT period at the Point. The isotopic data do not indicate any obvious water quality degradation because of pumping during the APT period. Monitoring well sample results indicate no statistically significant differences from pre to post APT concentrations in the measured parameters.

Long-List Sampling

Sampling was performed for an expanded list of parameters as part of the plant design. The parameters selected were to aid in the design of the cooling water system for the plant expansion. Samples were obtained from well MW-1 DZ PI, pumping well PW-1, and from Biscayne Bay. The analytical reports are included in Appendix H.

7.0 SUMMARY

In order to further evaluate a sub-stratum system under Biscayne Bay, an exploratory drilling and aquifer testing program was performed on Turkey Point. The drilling program performed on the Point began on January 5, 2009, and concluded on February 11, 2009. The program consisted of soil borings, rock/soil classification, water quality sampling, and monitoring well and test production well installation for the APT, seepage meter installation and monitoring, and water quality sampling and analysis. The following is a summary of the findings of the APT program at the Point.

- Subsurface materials encountered during drilling at Turkey Point include fill material underlain by peat or muck. The muck indicates native material and was encountered at all borings to approximately 10 feet bls. Beneath the peat/muck layer is a gray sandy limestone facies. Beneath the sandy limestone is calcareous cemented sand. The sand is fine grained with some shell material; however, the sand pinches out to the northwest. Below the sand layer is a coralline limestone with some gray limestone and shell. Below the coralline limestone is a light gray to white limestone with some shell. The facies encountered all show varying degrees of cavities, channels, tubes, and diverse irregular passageways indicating a high degree of secondary porosity.

- The horizontal groundwater flow pattern at the site prior to the APT was evaluated by plotting the groundwater elevation contours on a base map of the site. The water levels on February 25, 2009, representing a high tide, and on March 1, 2009 representing low tide, show that groundwater flow is generally to the west toward the Industrial Wastewater Facility.

- Vertical gradients at the Point were evaluated by reviewing the water level elevations at the MW-1 well nest. The similarity of the water levels at the MW-1 nest, which have a very slight downward gradient, indicates that the vertical facies are hydraulically interconnected. Less saline water in noted in the shallower portion of the aquifer, and salinity appears to increase slightly with depth.

- Aquifer drawdown measurements can be obscured by a number of factors—particularly tides, regional pumping, and recharge events. These influences introduce water level fluctuations that may mask any changes in water level brought about through aquifer pumping tests. To estimate drawdown, these compounding influences must first be removed. An Excel spreadsheet based program developed by U.S. Geological Survey (USGS) (Halford, 2006), was used to correct the Point APT data. Time series measures, typically referred to as synthetic water levels, are created by summing multiple series resulting from tidal potential, and background water levels. The phase and amplitude of these individual series are then adjusted so that the synthetic water levels match the measured water levels during periods unaffected by an aquifer test (Background Period). Once a fit is obtained, the model is then used to estimate the synthetic water level series during the APT period. The results of the APT (drawdown data) are then obtained from the differences between the measured and synthetic series during the APT period in each monitoring/observation well. Drawdown ranged from approximately 0.7 feet in the MW-

1 nest (80 feet from the pumped well) wells to 0.15 feet at MW-4 (approximately 2,060 feet from the pumped well).

- The APT drawdown data were analyzed with well hydraulic equations. The data analysis employed various methods to determine the transmissivity and storage coefficient for the Biscayne aquifer. The results of the APT indicate a leaky aquifer with mean T-values in the range of 700,000 to 1,200,000 feet^2/day, and a mean storage coefficient of 0.0014. Scale effects are evident in the test results, with the lowest T values in the wells in close proximity to the production well, and the highest T values at the far-field wells. The noted increase in hydraulic conductivity with scale is likely a natural consequence of aquifer heterogeneity, making the far-field well T estimates likely more reliable for this test.

- The seepage meter data indicate that seepage measurements were predominantly net positive and varied considerably from location to location. The seepage data reliability is in question due to the following:

    - Water level data in the area of the Point do not indicate an upward hydraulic gradient that would contribute water from the deeper formations to the Bay.
    - The horizontal gradient is toward the shore and the Industrial Wastewater Facility, indicating that water would be flowing from the Bay, not toward the Bay from onshore in this area.
    - Previous studies in similar environments in Florida Bay show the same “positive net seepage” affect. The studies indicate that wave currents passing over the meters could create a “Bernoulli effect” and account for most of the water collected in the bag. A similar situation could have occurred at the Point.
    - Tidal “pumping” could also provide a mechanism for water to be introduced to the seepage collection bags on the seepage meters.

    Due to the questions regarding the validity of the seepage meter data collect at the Point, the data will not be considered in further studies of radial collector well performance and/or impact to the area.

- The water quality results show that the concentrations of the cations and anions in the pumping well remained consistent throughout the pumping period, indicating that no apparent changes or degradation of groundwater quality occurred because of pumping during the APT period at the Point. The isotopic data do not indicate any obvious water quality degradation as a result of pumping during the APT period. Monitoring well sample results indicate no statistically significant differences from pre-to post-APT concentrations in the measured parameters.

Based on the data obtained during the Point exploratory drilling and aquifer testing program, the site appears to have subsurface characteristics that would be suitable for radial wells. High yields can be obtained from highly transmissive, relatively shallow formations beneath the site. Potential subsurface target zones for the radial wells are the Miami Limestone at depths of approximately 25 to 30 feet bls, and the upper portion of the Key Largo limestone at depths of approximately 39 to 42 feet bls. The highly transmissive Key Largo is presumed to extend regionally beneath Biscayne Bay, where it ultimately forms the base of the upper Keys (Hoffmeister, 1974). Further analysis consisting of numerical modeling will assist in assessing the most effective depth intervals for the radial collector wells.

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TABLES

Table 2.1
Florida Power & Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Lithologic Summary

Location	LAT	LONG	Ground Surface Elevation (NAVD 88)	Depth to Bottom of Fill (ft)	Depth to Top of Peat (ft)	Depth to Bottom of Peat (ft)	Elevation Top of Peat (ft NAVD 88)	Thickness of Peat (ft)	Depth to Top of Sandy Limestone(ft)	Depth to Bottom of Sandy Limestone(ft)	Elevation Top of Sandy Limestone (NAVD 88)	Thickness of Sandy Limestone (ft)	Depth to Top of Cemented Sand (ft)	Depth to Bottom of Cemented Sand (ft)	Elevation Top of Cemented Sand (NAVD 88)	Thickness of Cemented Sand (ft)	Depth to Top Coraline LS (Key Largo (ft))	Depth to Bottom Coraline LS (Key Largo (ft))	Elevation Top of Coraline LS (NAVD 88)	Thickness of Coraline Limestone (ft)	Depth to Top Lt Gray Limestone (ft)	Elevation Top of Lt Gray Limestone	Comments
PW-1	25^{o}26’12.7306”	80^{o}19’16.6207”	3.51	9.0	9.0	10.0	-5.5	1.0	10.0	32.0	-6.5	22.0	32.0	43.0	-28.5	11.0	43.0		-39.5				Total Depth 46 feet BLS
MW-1	25^{o}26’12.2359”	80"19’17.3150”	3.00	9.0	9.0	10.0	-6.0	1.0	10.0	32.0	-7.0	22.0	32.0	42.0	-29.0	10.0	42.0	58.0	-39.0	16.0	58.0	-55.0	Total Depth 75 feet BLS
MW-2	25^{o}26’16.9299”	80^{o}19’07.6459”	4.41	9.0	9.0	11.0	-4.6	2.0	11.0	35.0	-6.6	24.0	35.0	44.0	-30.6	9.0	44.0		-39.6				Total Depth 47 feet BLS
MW-3	25^{o}26’10.2903”	80^{o}19’36.8590”	2.87	8.0	8.0	10.0	-5.1	2.0	10.0	34.0	-7.1	24.0	34.0	36.0	-31.1	2.0	36.0		-33.1				Total Depth 44 feet BLS
MW-4	25^{o}26’03.0608	80^{o}19’36.4789”	4.43	8.0	8.0	11.5	-3.6	3.5	11.5	34.0	-7.1	22.5	34.0	43.0	-29.6	9.0	43.0		-38.6				Total Depth 47 feet BLS
MW-5	25^{o}26’22.7708”	80^{o}19’43.9645”	2.86	3.0	3.0	6.5	-0.1	3.5	6.5	32.0	-3.6	25.5	not present	not present	not present	not present	32.0		-29.1				Total Depth 40 feet

Table 3.1
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
APT Monitoring Well and Surface Water Monitoring Details

Monitoring Point ID	Location *	Lat	Long	Casing Depth (feet bls)	Casing Dia (in)	Open Hole Interval (feet bls)	Screened Interval (feet bls)
PW-1	Test production well	25^{o}26’12.7306”	80^{o}19’16.6207”	22	30	22- 46	-
MW-1 DZ-deep	80’ west	25^{o}26’12.2359”	80^{o}19’17.3150”	-	2	-	65-75
MW-1 DZ-PI	80’ west	25^{o}26’12.2359”	80^{o}19’17.3150”	24	6	24-60	-
MW-1-IS	72’ west	25^{o}26’12.3058”	80^{o}19’17.2599”	24	6	24-35	-
MW-1 SS	80’ west	25^{o}26’12.2972”	80^{o}19’17.4014”	12.7	2	-	12.7-17.7
MW-2	925 feet E	25^{o}26’16.9299”	80^{o}19’07.6459”	22	6	22-47	-
MW-3	1876 feet W	25^{o}26’10.2903”	80^{o}19’36.8590”	22	6	22-44	-
MW-4	2065 feet SW	25^{o}26’03.0608	80^{o}19’36.4789”	22	6	22-47	-
MW-5	2704 feet NW	25^{o}26’22.7708”	80^{o}19’43.9645”	22	6	22-41	-
Barge Slip	1748 feet NW	25^{o}26’15.2132”	80^{o}19’35.6518”	-	-	-	-
IWF	2036 feet SW	25^{o}26’05.3186”	80^{o}19’37.3337”	-	-	-	-

*Relative to PW-1

Note: the dual zone monitoring well was the original exploratory hole, and was converted to a well designed to monitor the both the interval below the production interval (65-75’) and the production interval.

Note: Barge Slip and Industrial Wastewater Facility (IWF) are surface water monitoring points

Table 3.2
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Field Parameters Recorded During Production Well (PW-1) Development
March 26, 2009

Time	Conductivity (mS/cm)	Salinity (ppt)	Turbidity (NTU)	Temperature (DegC)	pH	Approx Gallons Pumped
1052	53.6	35.4	32	26.4	7.51	14,000
1106	53.3	35.2	33	27.1	7.53	21,000
1350	52.9	34.9	15	27.0	7.6	28,000
1410	53.0	35	11	26.9	7.55	35,000
1425	52.9	33.5	6.1	26.5	7.64	49,000
1650	53.1	33.7	7.1	26.6	7.56	56,000
1715	53.3	33.8	6.6	26.4	7.62	63,000

Table 4.1
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Schedule and Pumping Rates for Turkey Point APT

Test	Start Date	Start Time	Stop Date	Stop Time	Pumping Rate
Step	4/4/09	0930			4,000 gpm
	4/4/09	1200			6,000 gpm
	4/4/09	1350	4/4/09	1530	7,300 gpm
Test 1	4/5/09	1107	4/6/09	1440	7,500 gpm
Test2	4/8/09	1208			7,500 gpm
	4/11/09	0800	rate reduced*		5,500 gpm
			4/13/09	1115	
Test 3	4/16/09	1215	4/18/09	1015	8,000 gpm
Test 4	4/28/09	1045	5/5/09	1032	7,100 gpm

Note: Test 1-3 stopped prematurely due to operational problems with the pump

* Rate reduced due to operational problems with the pump

Table 4.2
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Analytes

Parameter	PW-1 Test Production Well	MW-1, MW-2, MW-3, MW-4, MW-5	Biscayne Bay & Industrial Wastewater Facility
FIELD			
pH	Daily Grab	1 week prior/1 week following test	1 week prior, Grab Day 1, Day 7
Conductivity	Daily Grab/ Aqua Troll	1 week prior/1 week following test/Aqua Troll	1 week prior ,Grab Day 1, Day 7/ Aqua Troll
Temperature	Daily Grab/ Aqua Troll	1 week prior/1 week following test/Aqua Troll	1 week prior ,Grab Day 1, Day 7/ Aqua Troll
Dissolved oxygen	Daily Grab	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
LABORATORY			
Turbidity	Daily Grab	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Salinity	Daily Grab/ Aqua Troll	1 week prior/1 week following test/Aqua Troll	1 week prior ,Grab Day 1, Day 7
TDS	Daily Grab/ Aqua Troll	1 week prior/1 week following test/Aqua Troll	1 week prior ,Grab Day 1, Day 7
CATIONS			
Calcium (Ca2+)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Sodium (Na+)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Magnesium (Mg2+)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Potassium (K+)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Strontium (Sr2+)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
ANIONS			
Chloride (Cl-)	Daily Grab	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Bromide (Br-)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Sulfate (SO4)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Fluoride (F-)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Bicarbonate (HCO3-)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
Borate B(OH3)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
STABLE ISOTOPES			
hydrogen (δD)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7
oxygen (δ^{18}O)	Grab Day 1, 3, 5 and 7	1 week prior/1 week following test	1 week prior ,Grab Day 1, Day 7

Table 4.3
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Samples Obtained During Drilling and Testing Program

Date	Sample Point	Analytes
1/9/2009	MW-1 (borehole samples)	CL, Sulfate, TDS
1/14/2009	MW-1 (borehole samples)	CL, Sulfate, TDS
1/22/2009	PW-1 (borehole samples)	CL, Sulfate, TDS
	Bay	CL, Sulfate, TDS
1/28/2009	MW-2 (borehole samples)	CL, Sulfate, TDS
1/30/2009	MW-4 (borehole samples)	CL, Sulfate, TDS
2/3/2009	MW-3 (borehole samples)	CL, Sulfate, TDS
2/6/2009	MW-5 (borehole samples)	CL, Sulfate, TDS
3/17/2009	Bay, MW-1 through MW-5	Cations/Anions/Isotopes
	Industrial Wastewater Facility	Cations/Anions/Isotopes
3/18/2009	Industrial Wastewater Facility	Cations/Anions/Isotopes
	MW-3, MW-4, MW-5	Cations/Anions/Isotopes
4/5/2009	PW-1, Bay	Cations/Anions/Isotopes
	Industrial Wastewater Facility	Cations/Anions/Isotopes
4/6/2009	PW-1	CL, SAL, TDS
4/8/2009	PW-1	CL, SAL, TDS
4/9/2009	PW-1	CL, SAL, TDS
		Cations/Anions/Isotopes
4/10/2009	PW-1	CL, SAL, TDS
		Cations/Anions/Isotopes
4/11/2009	PW-1	CL, SAL, TDS
4/12/2009	PW-1	CL, SAL, TDS
4/13/2009	PW-1	Cations/Anions/Isotopes
4/17/2009	PW-1	CL, SAL, TDS
		Cations/Anions/Isotopes
4/29/2009	PW-1	Cations/Anions/Isotopes
4/30/2009	PW-1	CL, SAL, TDS, Cations/Anions/Isotopes
	Bay	CL, SAL, TDS
5/1/2009	PW-1	Cations/Anions/Isotopes
	Bay	CL, SAL, TDS
5/2/2009	PW-1	CL, SAL, TDS,Cations/Anions/Isotopes
	Bay	CL, SAL, TDS
5/3/2009	PW-1	CL, SAL, TDS,Cations/Anions/Isotopes
	Bay	CL, SAL, TDS
5/4/2009	PW-1	CL, SAL, TDS, Cations/Anions/Isotopes
	Bay	CL, SAL, TDS
5/5/2009	Bay, PW-1,Industrial Wastewater Facility	CL, SAL, TDS, Cations/Anions/Isotopes
5/12/2009	Bay, MW-1 DZ-PI, Industrial Wastewater Facility	CL, SAL, TDS, Cations/Anions/Isotopes
	MW-2 through MW-5	CL, SAL, TDS, Cations/Anions/Isotopes

Table 5.1
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Aquifer Performance Test Analysis Results
Root Mean Square Error Values for Background (BG) Fitting Periods
Sequential Entry of Independent Variables: Barge Gage, Canal Gage, Earth Tide, and Gravity Tide

	MW-1 DZ-Deep	**MW-1 DZ-PI**	**MW-1 IS**	**MW-1 SS**	**MW-2**	**MW-3**	**MW-4**	**MW-5**
Period Start	2/11/2009 13:13	2/11/2009 13:13	2/11/2009 13:13	2/11/2009 13:13	2/11/2009 13:13	2/11/2009 13:13	4/19/2009 23:00	2/11/2009 13:13
Period End	4/4/2009 9:00	4/4/2009 9:00	4/4/2009 9:00	4/4/2009 9:00	4/4/2009 9:00	4/4/2009 9:00	4/28/2009 6:00	4/4/2009 9:00
RMSE								
Null Model	0.5025	0.4967	0.4984	0.4975	0.5373	0.4593	0.2244	0.5049
+ Barge	0.1543	0.1500	0.1462	0.1486	0.2162	0.2733	0.1155	0.4483
+ Canal	0.1444	0.1417	0.1401	0.1411	0.1409	0.1459	0.0439	0.3884
+ Earth Tide	0.0954	0.0928	0.0905	0.0915	0.0889	0.0956	0.0304	0.3704
+ Gravity Tide	0.0396	0.0285	0.0202	0.0259	0.0574	0.0344	0.0187	0.3604
Final R^2	0.921	0.943	0.959	0.948	0.893	0.925	0.917	0.286

Table 5.2
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Aquifer Performance Test Analysis Results

Well	Data	Method	T (ft^2/d)	Storage Coefficient	K' (ft/d) (calculated)
PW-1	Drawdown	Cooper-Jacob	450,000		
	Recovery	Theis Recovery	492,623		
MW1 DZ PI	Drawdown	Walton (1962)	368,000	1.00E-06	980
	Recovery	Theis Recovery	998,360		
MW-2	Drawdown	Hantush (1964)	501,548	0.002	10
		Walton (1962)	517,000		
	Recovery	Theis Recovery	1,826,580		
MW-3	Drawdown	Hantush (1964)	907,296	0.0009	5
		Walton (1962)	977,000	0.0007	
	Recovery	Theis Recovery	2,956,330		
MW-4	Drawdown	Hantush (1964)	925,783	0.001	4
		Walton (1962)	1,030,000	0.004	
	Recovery	Theis Recovery	3,650,000		
ALL	Drawdown	Distance-Drawdown	800,000		
Arithmetic Mean ALL			**1,171,466**	**0.0014**	
Arithmetic Mean Drawdown			**719,625**		
Arithmetic Mean Recovery			**1,984,779**		

Table 5.3
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Seepage Meter Monitoring and Results Summary

Criteria	**All**	**Pump Off**	**Pump On**	**High-Low Tide Monitoring**	**High-Low Notes**
Number of Days	26	12	14	7	
Number of Days (-)	10	5	5	5	
Number of Days (+)	16	7	9	2	
Number of Occurrences (-)	12	6	6	6	5 of the 6 occurrences were during high tide monitoring
Number of Occurrences (+)	300	138	162	77	
Total Occurrences	312	144	168	83	
Number of Stations with at least 1 (-)	7	4	5	2	Station 5-High (500' from well head) accounted for 5 of the 6 occurrences of (-) values. Station 6-Low (900' from well head) had the single (-) occurrence
Number of Stations with all (+)	5	8	7	10*	* One meter in the High-Low monitoring had a minimum seepage value of 0.0
Greatest negative seepage value	-0.0063	-0.0018	-0.0063	-0.0076	
Greatest positive seepage value	0.0431	0.0581	0.0374	0.0419	
Average (-) seepage value	-0.002	-0.0009	-0.0031	-0.0047	
Average (+) seepage value	0.0113	0.0119	0.0107	0.0109	
Average of all seepage values	0.0108	0.0114	0.0102	0.0098	

Table 5.4
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Seepage Meter Data-APT Phase

		Meter Number											
		11 (S. Array)	**12 (S. Array)**	**1**	**3**	**7**	**2**	**4**	**8**	**5**	**6**	**9**	**10**
	Distance from Pump	230'	230'	265'	255'	255'	290'	280'	280'	305'	330'	500 '	900'
7 Day APT Test: Pumping (n=7)	Minimum	-0.0063	0.0103	0.0017	-0.0013	0.0066	0.0084	-0.0025	0.0072	0.0002	0.0000	0.0016	-0.0035
	Maximum	0.0124	0.0314	0.0173	0.0169	0.0305	0.0276	0.0176	0.0251	0.0195	0.0052	0.0047	0.0055
	Average	0.0081	0.0163	0.0051	0.0027	0.0236	0.0167	0.0056	0.0170	0.0078	0.0015	0.0029	0.0019
2 Day Post APT Test: Not Pumping (n2)	Minimum	0.0081	0.0131	-0.0002	0.0002	0.0202	0.0220	0.0069	0.0235	0.0181	0.0006	0.0037	-0.0014
	Maximum	0.0143	0.0174	0.0049	0.0009	0.0256	0.0267	0.0090	0.0305	0.0245	0.0055	0.0055	0.0067
	Average	0.0112	0.0153	0.0024	0.0006	0.0229	0.0243	0.0079	0.0270	0.0213	0.0030	0.0046	0.0026
All Days Active Pumping (n=14)	Minimum	-0.0063	0.0095	-0.0017	-0.0013	0.0066	0.0059	-0.0025	0.0072	0.0002	0.0000	0.0016	-0.0035
	Maximum	0.0132	0.0314	0.0173	0.0214	0.0374	0.0276	0.0176	0.0316	0.0195	0.0055	0.0100	0.0115
	Average	0.0085	0.0165	0.0044	0.0093	0.0253	0.0153	0.0060	0.0198	0.0064	0.0023	0.0046	0.0039
All Days No Pumping (n=12)	Minimum	0.0025	0.0087	-0.0015	0.0002	0.0136	0.0069	0.0025	0.0018	-0.0018	-0.0002	0.0019	-0.0014
	Maximum	0.0146	0.0431	0.0182	0.0227	0.0581	0.0267	0.0126	0.0305	0.0245	0.0097	0.0084	0.0104
	Average	0.0086	0.0210	0.0051	0.0105	0.0288	0.0167	0.0055	0.0221	0.0041	0.0041	0.0047	0.0056
Avg seepage difference(Pumping-No Pumping)		-0.0001	-0.0045	-0.0007	-0.0012	-0.0035	-0.0014	0.0004	-0.0023	0.0023	-0.0018	-0.0001	-0.0017

Seepage units: ml/cm^2/hr

Table 5.5
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
High-Tide/Low-Tide Seepage Meter Data

	Meter Number											
	1-G	**2-G***	**3-G***	**4-G***	**5-G**	**6-G**	**1-P***	**2-P**	**3-P**	**4-P**	**5-P***	**6-P***
Distance from well	**250'**	**280'**	**305'**	**330'**	**500'**	**900'**	**250'**	**280'**	**305'**	**330'**	**500'**	**900'**
Tide	**High Tide Stations**						**Low Tide Stations**					
Minimum	0.0143	0.0016	0.0003	0.0003	-0.0076	0.0033	0.0000	0.0155	0.0039	0.0088	0.0003	-0.0010
Maximum	0.0419	0.0088	0.0167	0.0120	0.0021	0.0189	0.0208	0.0321	0.0180	0.0220	0.0031	0.0174
Average	0.0279	0.0048	0.0096	0.0029	-0.0042	0.0121	0.0067	0.0228	0.0107	0.0167	0.0017	0.0035

* Original meter left in place for the High Tide - Low Tide monitoring.

Seepage units: ml/cm^2/hr

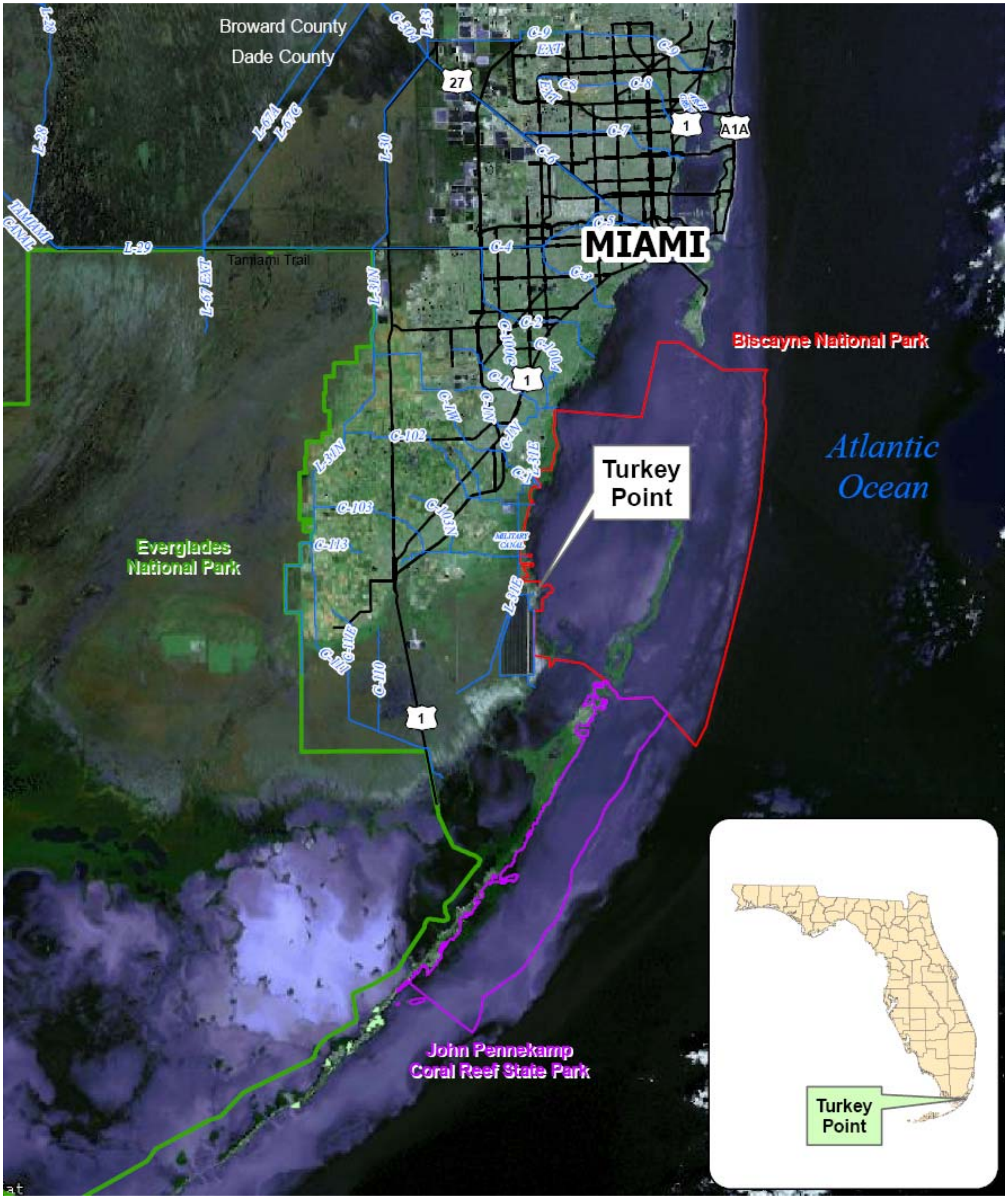
Table 6.1
Florida Power and Light
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Laboratory Analytical Data Summary

Parameter	Sample Point	Units	Average	Maximum	Minimum	Median		Std Deviation
Total Dissolved Solids	PW-1	mg/l	33931	36400	30400	34300		1561
	Bay		41600	45800	30700	42500		4367
	Industrial Wastewater Facility		66167	66600	65600	66300		513
Chloride	PW-1	mg/l	19407	23300	12300	19600		3051
	Bay		22475	25300	17500	22800		2826
	Industrial Wastewater Facility		37400	39900	35400	37150		2249
Sulfate	PW-1	mg/l	2724	3120	2530	2760		171
	Bay		3400	4200	2470	3465		713
	Industrial Wastewater Facility		6200	7570	5330	5700		1201
Bromide	PW-1	mg/l	99	111	56	105		17
	Bay		98	121	63.4	111		31
	Industrial Wastewater Facility		150	204	101	148		48
Bicarbonate Alkalinity	PW-1	mg/l	167	188	156	162		1
	Bay		120	127	113	120		1
	Industrial Wastewater Facility		184	202	174	181		0
Boric Acid	PW-1	mg/l	24	26	23	24		1
	Bay		29	30	27	29		1
	Industrial Wastewater Facility		42	44	40	43		2
Calcium	PW-1	mg/l	427	457	398	418		17
	Bay		476	493	447	488		4
	Industrial Wastewater Facility		780	824	735	781		9

Parameter	Sample Point	Units	Average	Maximum	Minimum	Median		Std Deviation
Magnesium	PW-1	mg/l	1289	1370	1230	1250		59
	Bay		1545	1570	1520	1545		35
	Industrial Wastewater Facility		2367	2440	2260	2400		95
Potassium	PW-1	mg/l	431	467	408	427		20
	Bay		506	539	457	523		43
	Industrial Wastewater Facility		773	808	731	776		32
Sodium	PW-1	mg/l	10284	11200	9870	10200		415
	Bay		12067	12600	11500	12100		551
	Industrial Wastewater Facility		18800	19000	18400	18900		271
Strontium	PW-1	mg/l	7.9	8.5	7.6	7.8		
	Bay		9.1	9.3	8.9	9.2		0.2
	Industrial Wastewater Facility		15.7	16.0	15.5	15.7		

Note: Fluoride results are either non-detect or between MDL and PQL

FIGURES



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Site Location

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
1.1

● Boring Location

Source: Data from site drilling program;

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Soil Boring Locations

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
2.1

System	Series	Stratigraphic Unit		Hydrogeologic Unit
Quaternary	Holocene	Undifferentiated sediments		Surficial Aquifer System
	Pleistocene	Miami Limestone		
		Key Largo Limestone		
		Fort Thompson Formation		
Tertiary	Pliocene	Tamiami Formation		
	Miocene and Late Oligocene	Hawthorn Group	Peace River Formation	Intermediate Confining Unit
			Arcadia Formation	
	Early Oligocene	Basal Hawthorn/SuwanneeUnit	Suwanee Limestone	Floridan Aquifer System
	Eocene	Ocala Limestone		
		Avon Park Limestone		
		Oldsmar Formation		

Source: Resse, 2000
Fish and Stewart, 1991

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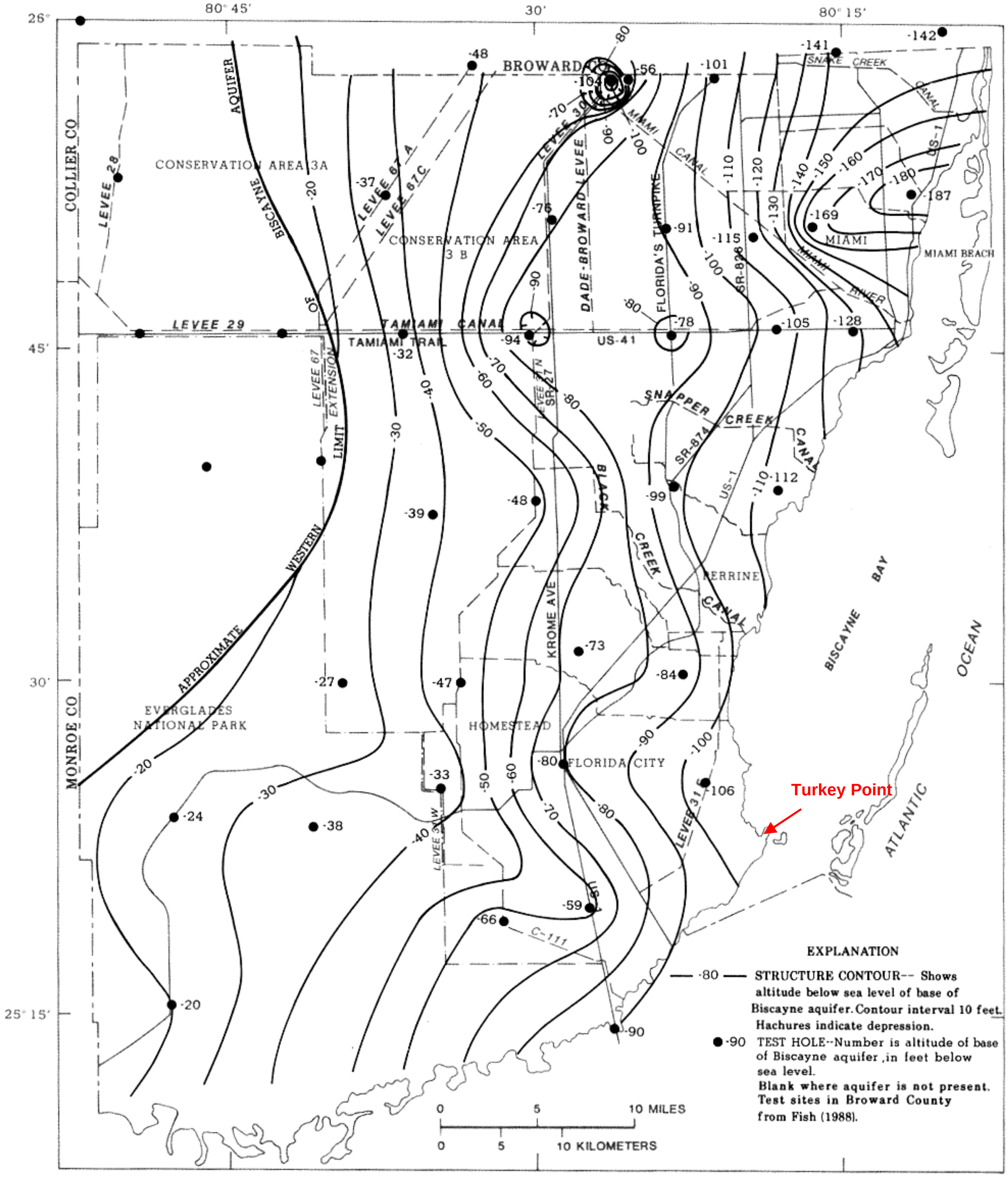
Regional Stratigraphic Section

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
08/19/09

FIGURE
2.2



Source: Fish and Stewart, 1991

FPL

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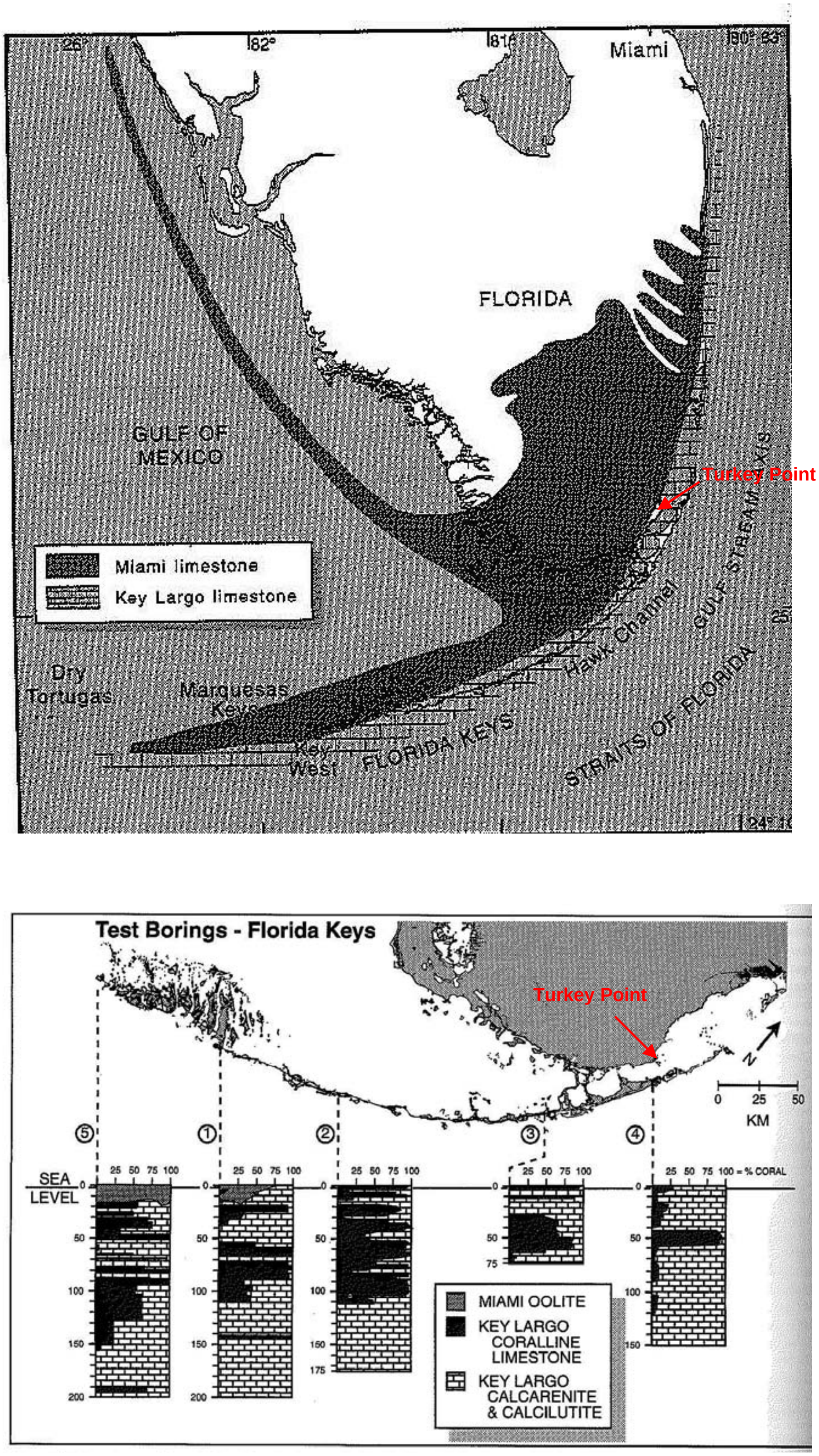
Base Elevation of the Biscayne Aquifer

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
2.3



Source: Randazzo and Jones, 1997

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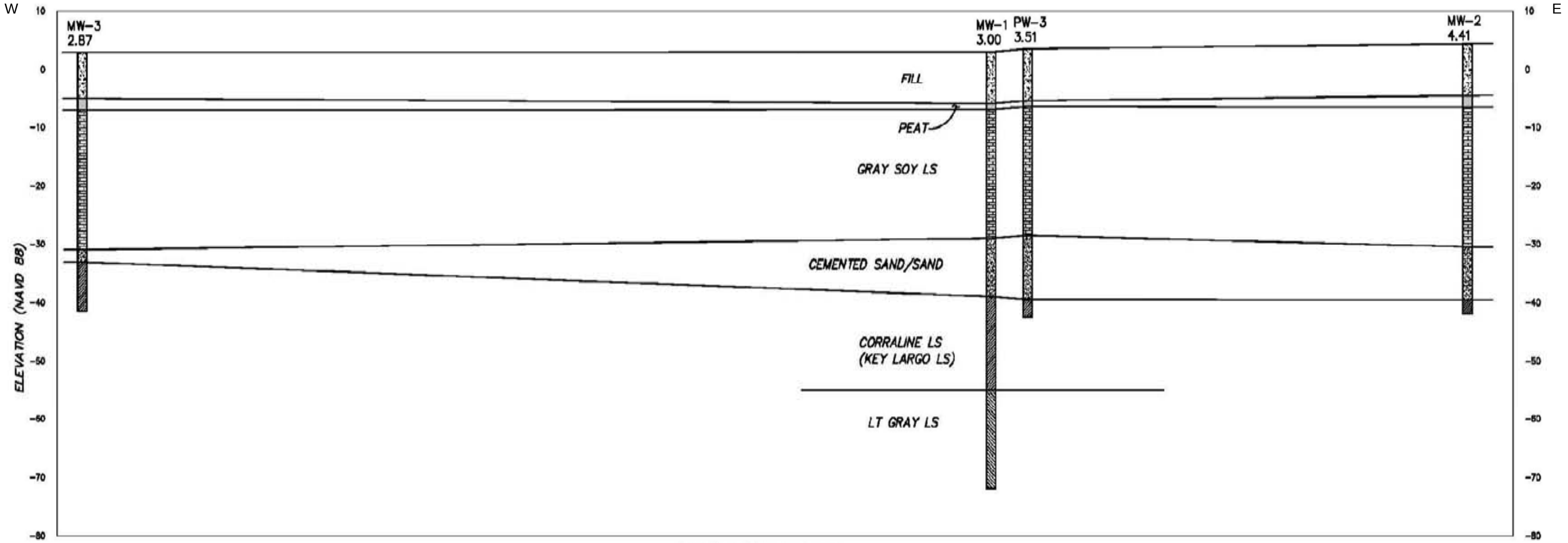
Geologic Map and Boring Data of the Pleistocene Miami and Key Largo Limestones-South Florida

Turkey Point Exploratory Drilling and Aquifer Testing Program

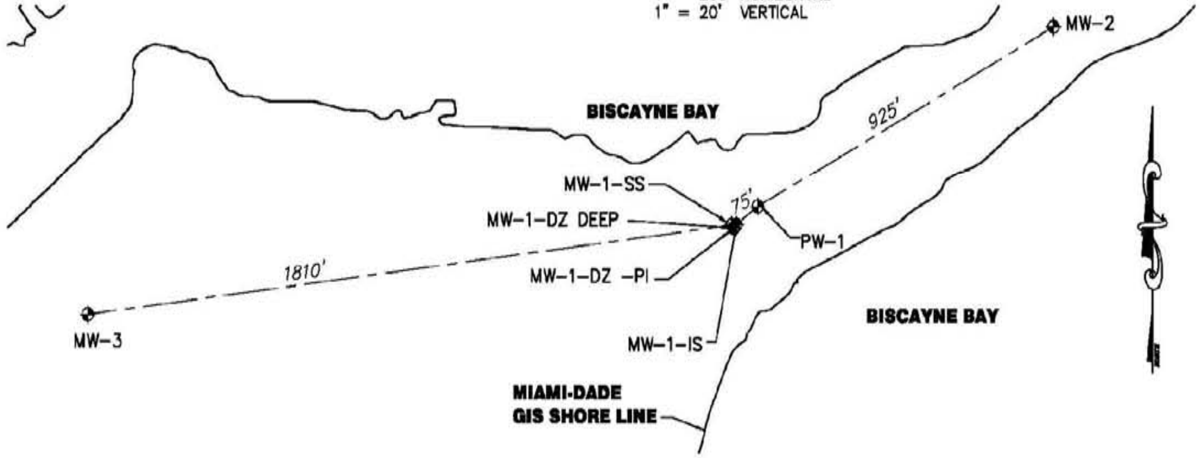
DATE
8/19/09

FIGURE
2.4



SECTION VIEW

1" = 200' HORIZONTAL
1" = 20' VERTICAL



PLAN VIEW

NOT TO SCALE

FPL

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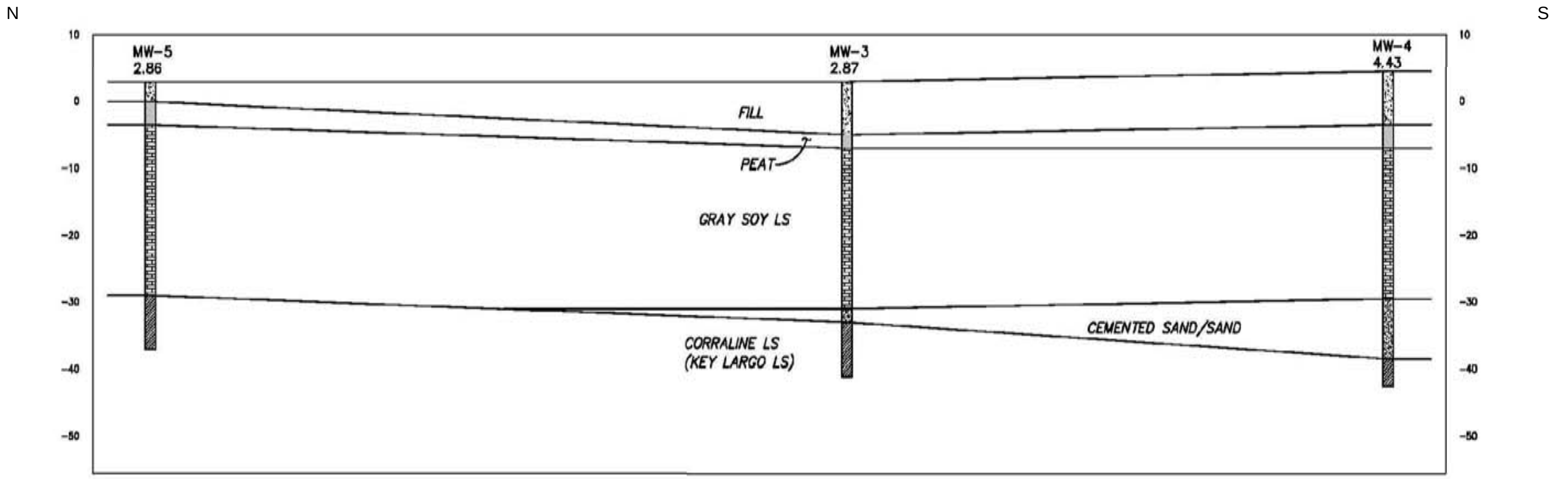
West to East Geologic Cross Section

Turkey Point Exploratory Drilling and Aquifer Testing Program

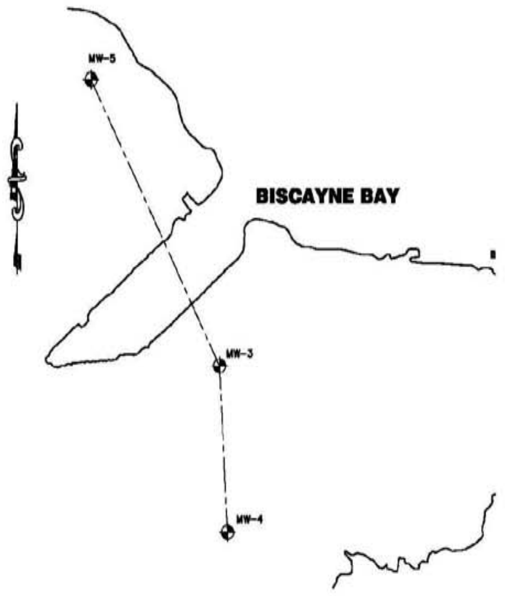
DATE 8/19/09

FIGURE 2.5



SECTION VIEW

1" = 200' HORIZONTAL
1" = 20' VERTICAL



PLAN VIEW

NOT TO SCALE

Source: water levels obtained during APT program

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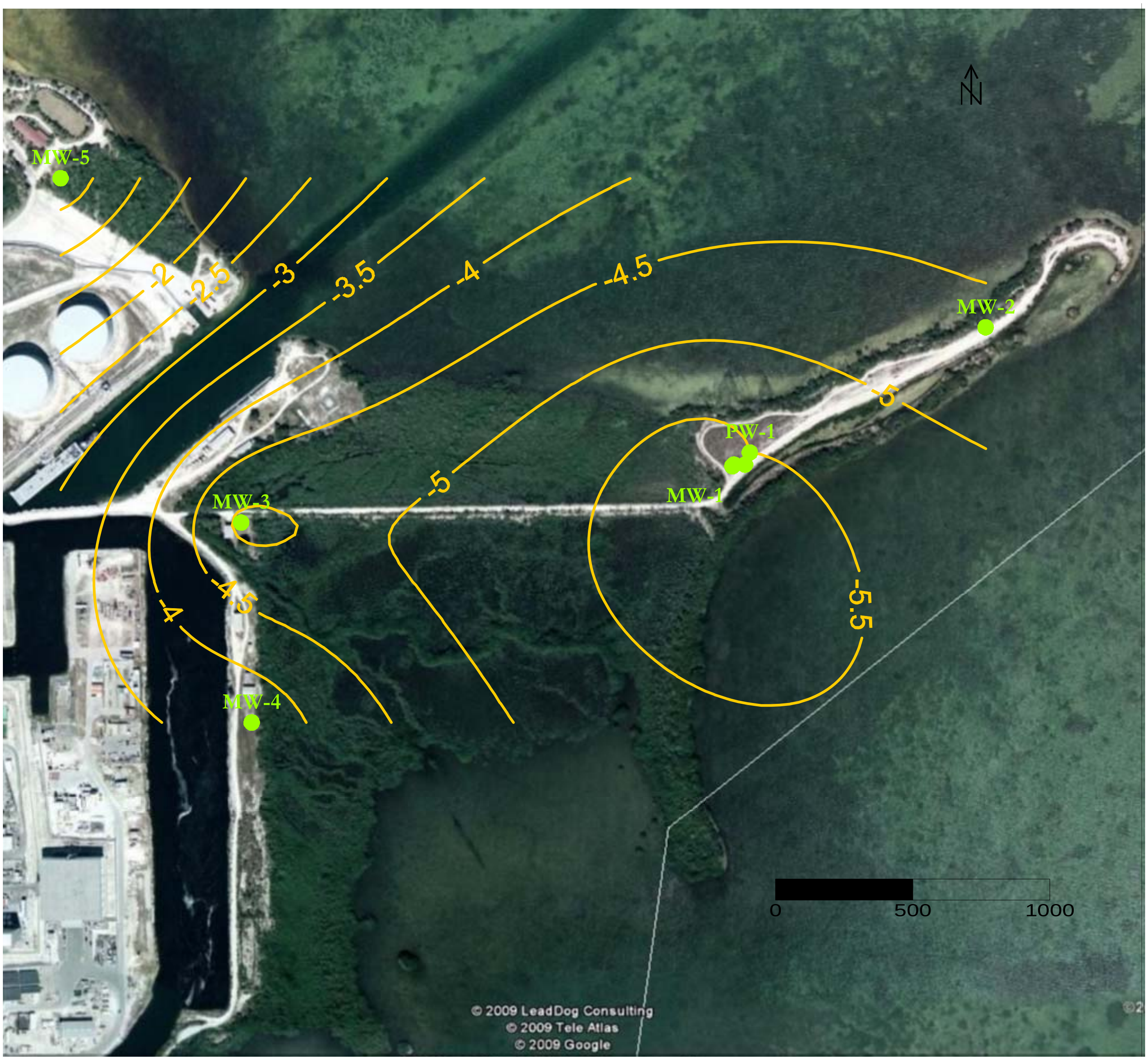
North to South Geologic Cross Section

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
2.6



Source: Lithologic data from site drilling program;

Contour Interval 0.5 Feet

Florida Power and Light

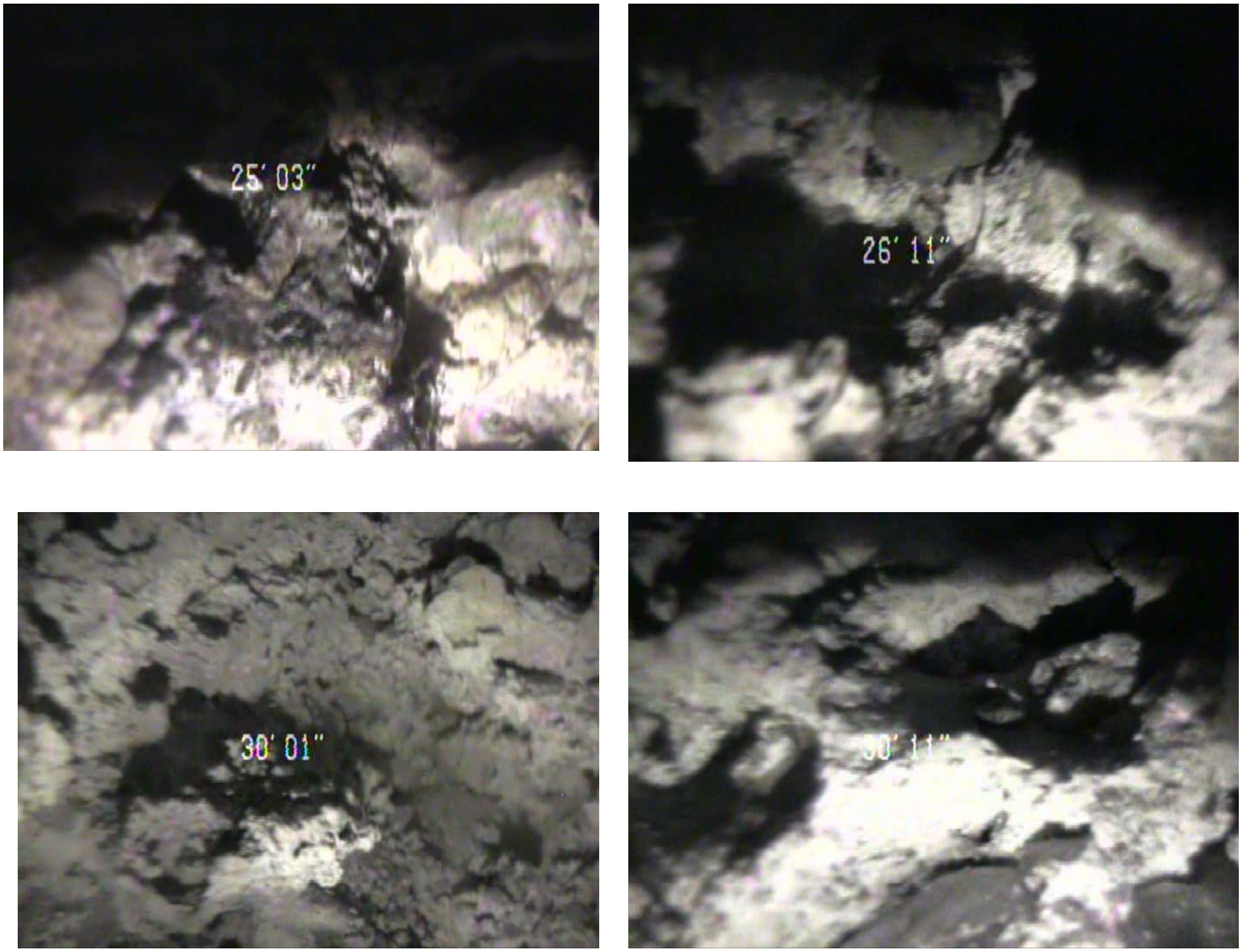
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Top Elevation of the Peat/Muck Layer (Ft NAVD 88)

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

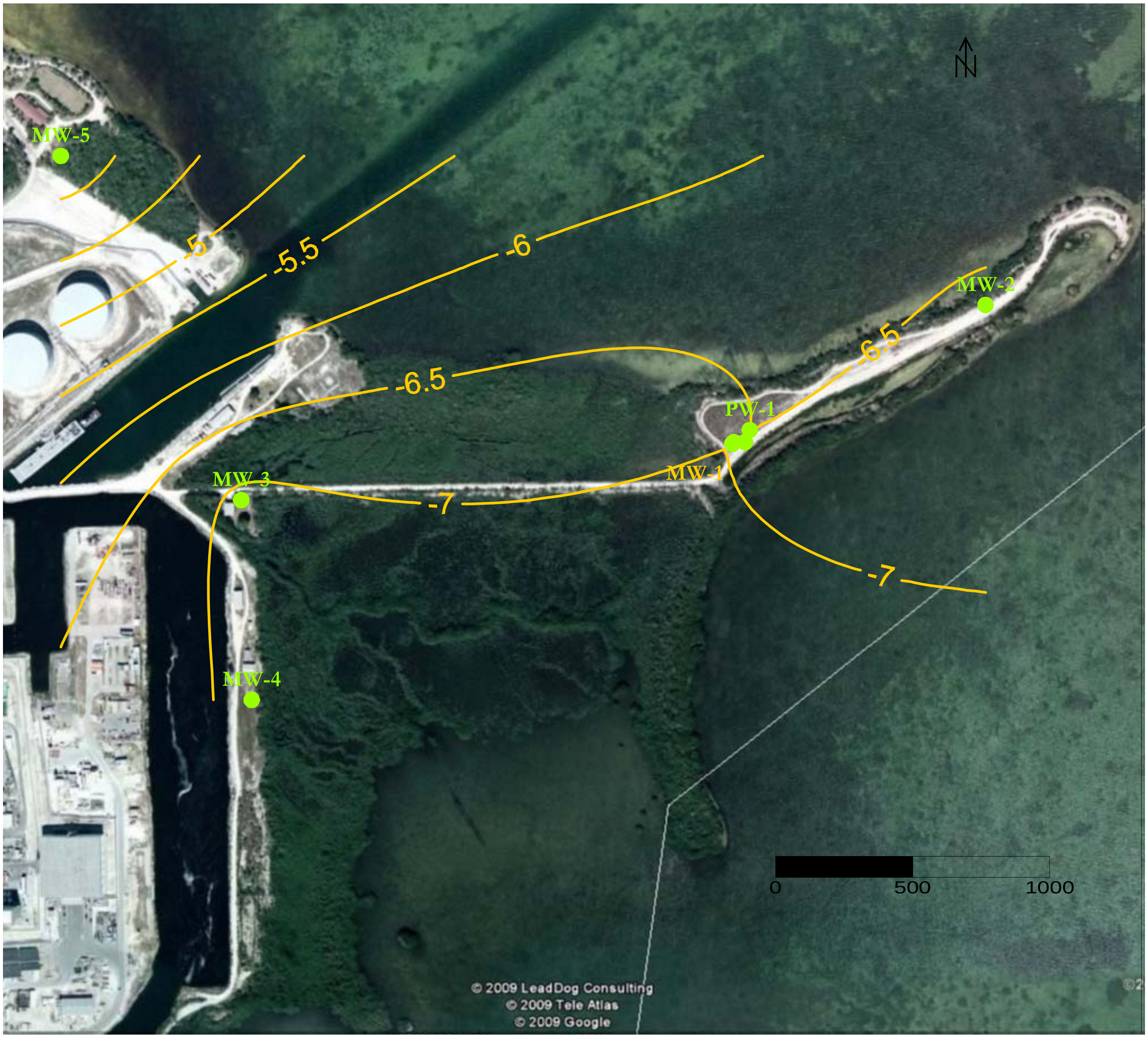
FIGURE
2.7



Source: Video Survey of MW-1 pilot hole at site
(MV Geophysical, Inc.);

Note: Depth approximately 1' less than shown

Florida Power and Light	HDR Engineering, Inc. 5426 Bay Center Drive Suite 400 Tampa, Florida 33609	**Video Still- Gray Sandy Limestone** **(Miami Limestone)** Turkey Point Exploratory Drilling and Aquifer Testing Program	**DATE** 8/19/09 **FIGURE** 2.8



Source: Data from site drilling program

Contour Interval=0.5 Feet

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HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Top Elevation Gray Sandy Limestone (Ft NAVD 88)

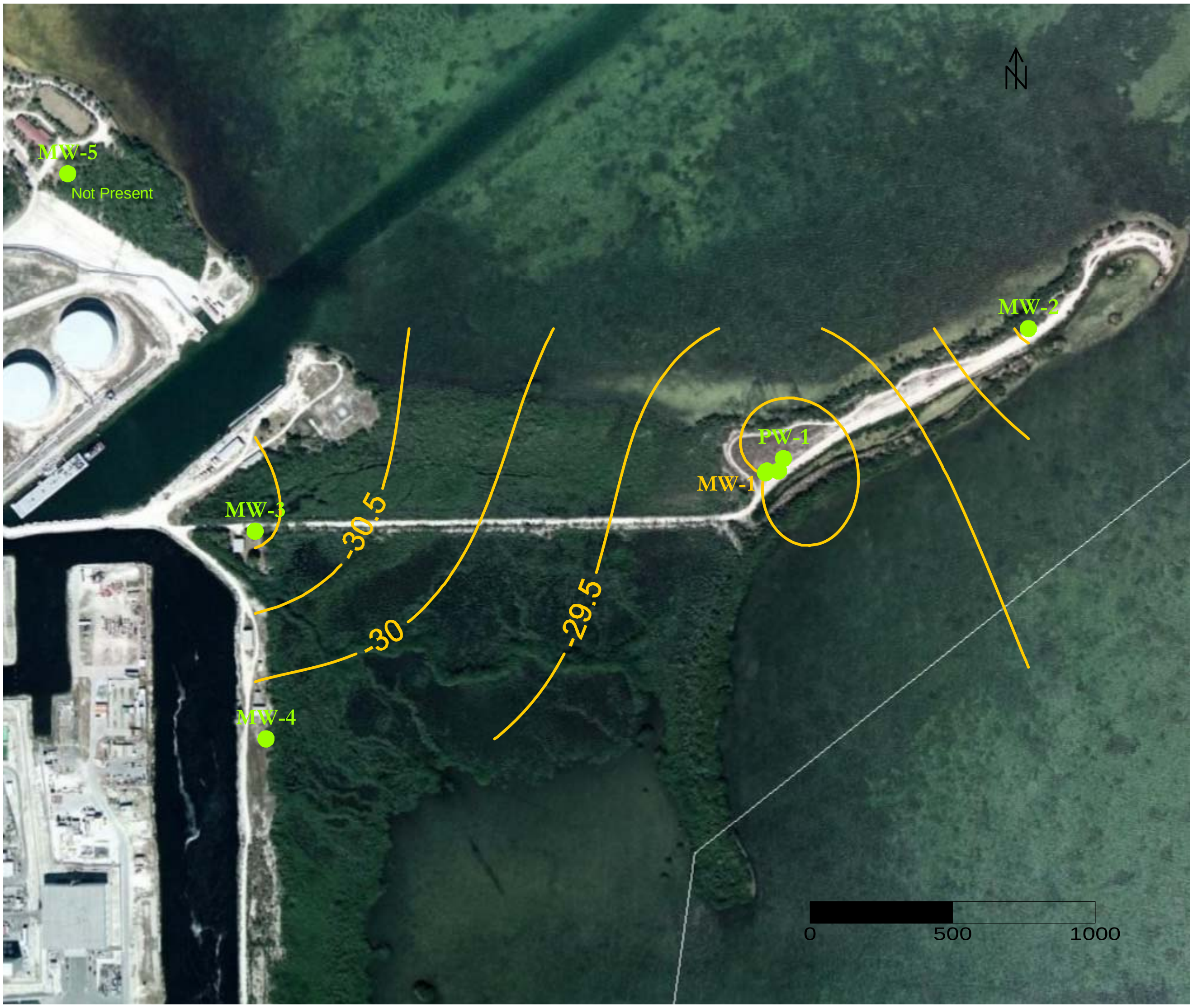
Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE

8/19/09

FIGURE

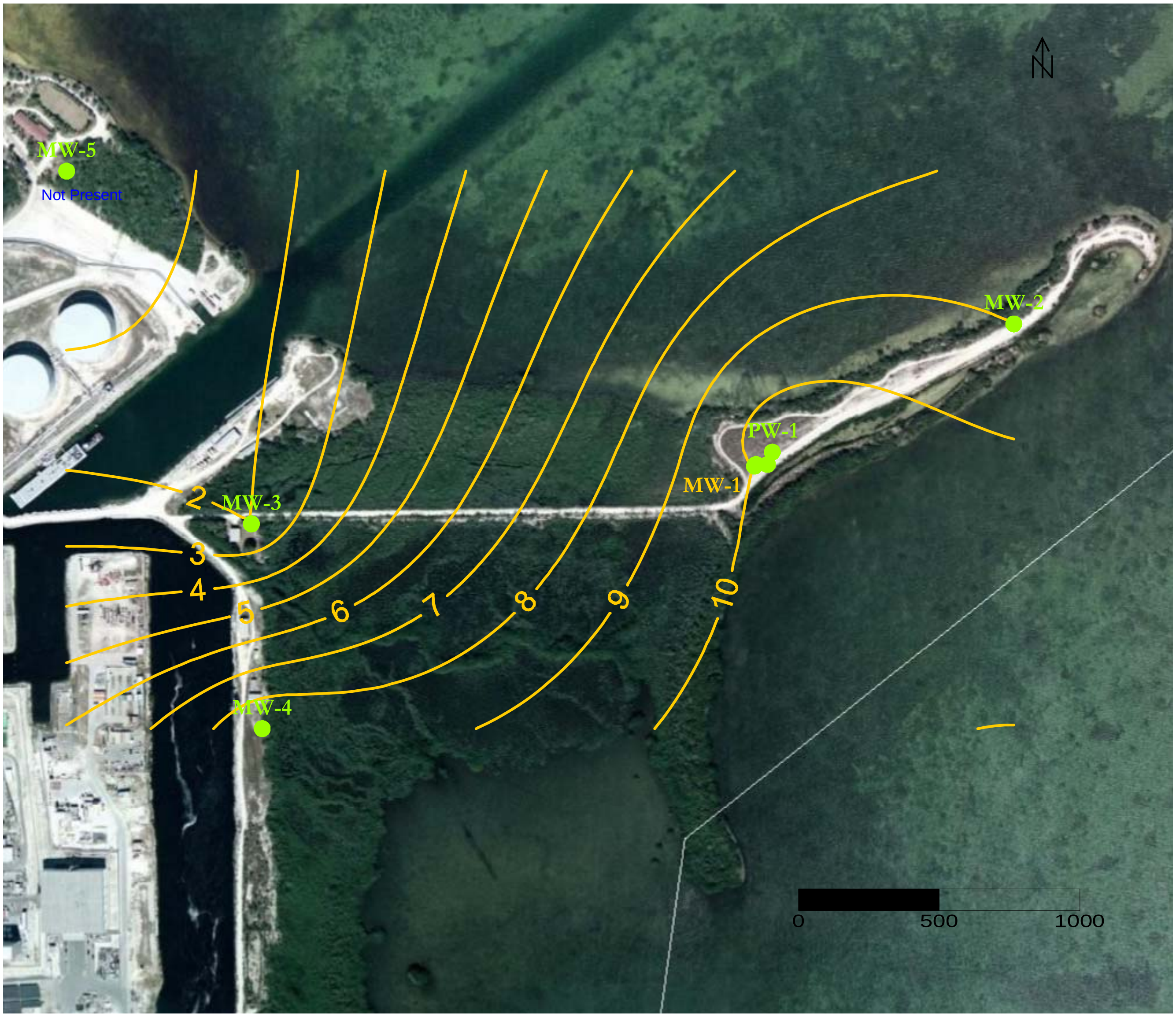
2.9



Source: Data from site drilling program;

Contour Interval 0.5 Feet

FPL Florida Power and Light	HDR HDR Engineering, Inc. 5426 Bay Center Drive Suite 400 Tampa, Florida 33609	**Top Elevation of the Cemented Sand Layer (Ft NAVD 88)** Turkey Point Exploratory Drilling and Aquifer Testing Program	DATE 8/19/09 FIGURE 2.10



Source: Data from site drilling program

Contour Interval=1.0 Feet

Florida Power and Light

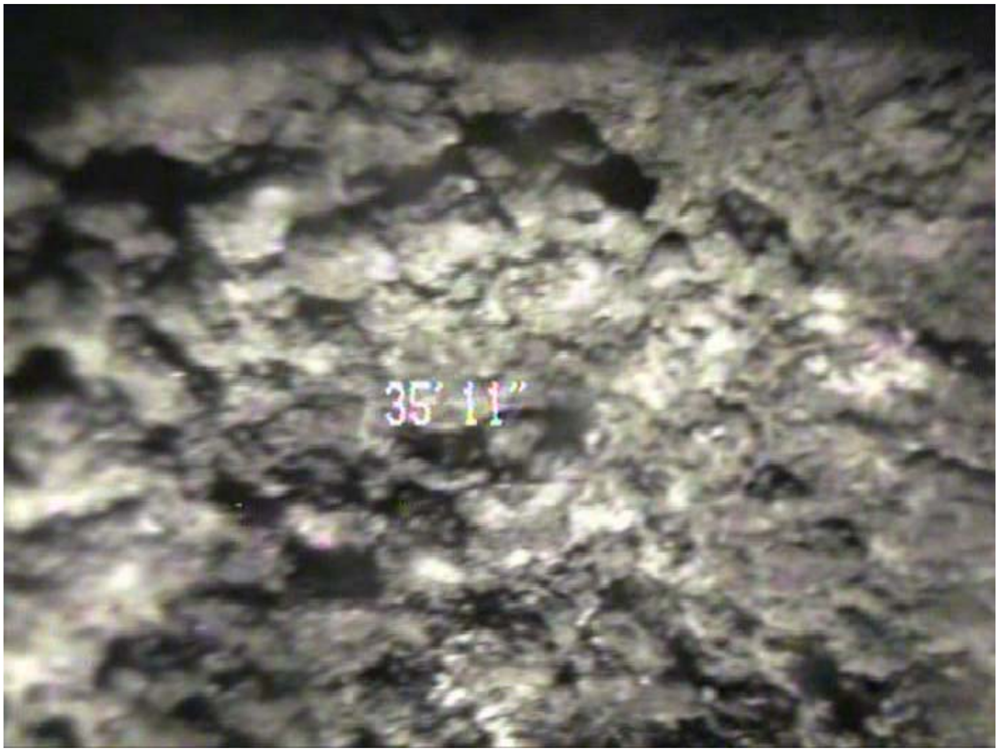
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

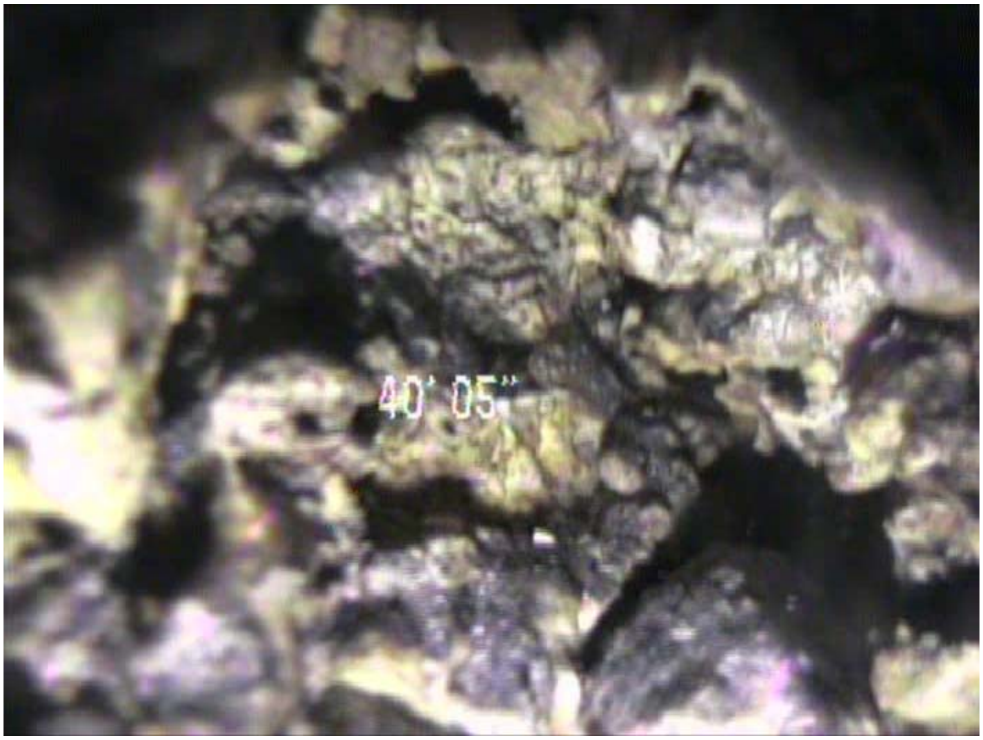
Thickness of the Cemented Sand Layer (ft)

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
2.11





Source: Video Survey of MW-1 pilot hole at site
(MV Geophysical, Inc.);

Note: Depth approximately 1' less than shown

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Florida Power and Light

HDR

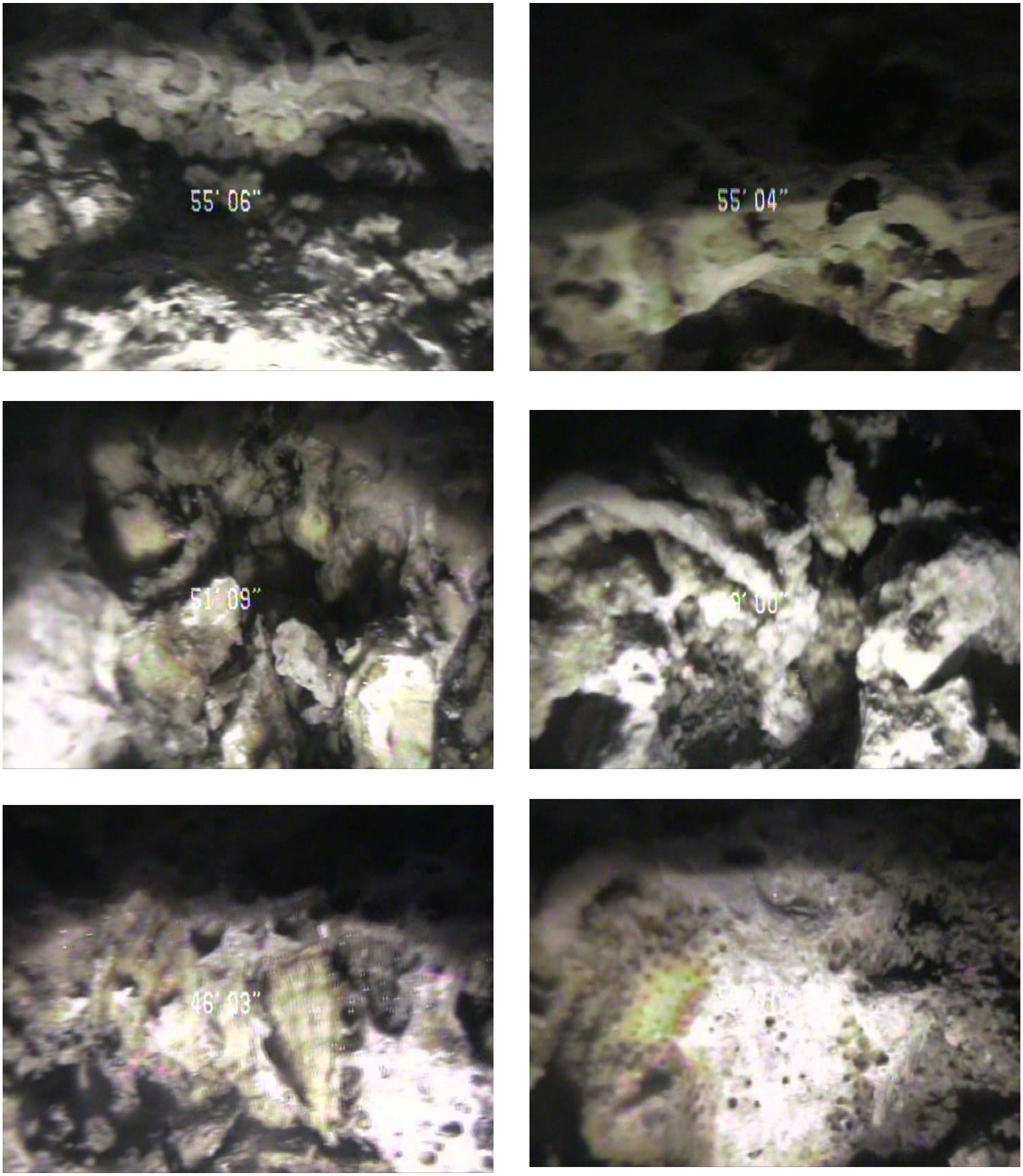
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Video Still- Cemented Calcareous Sand

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
2.12



Coral structure, yellow calcite crystals noted

Source: Video Survey of MW-1 pilot hole at site
(MV Geophysical, Inc.)

Note: Depth approximately 1’ less than shown

Florida Power and Light

HDR Engineering, Inc.
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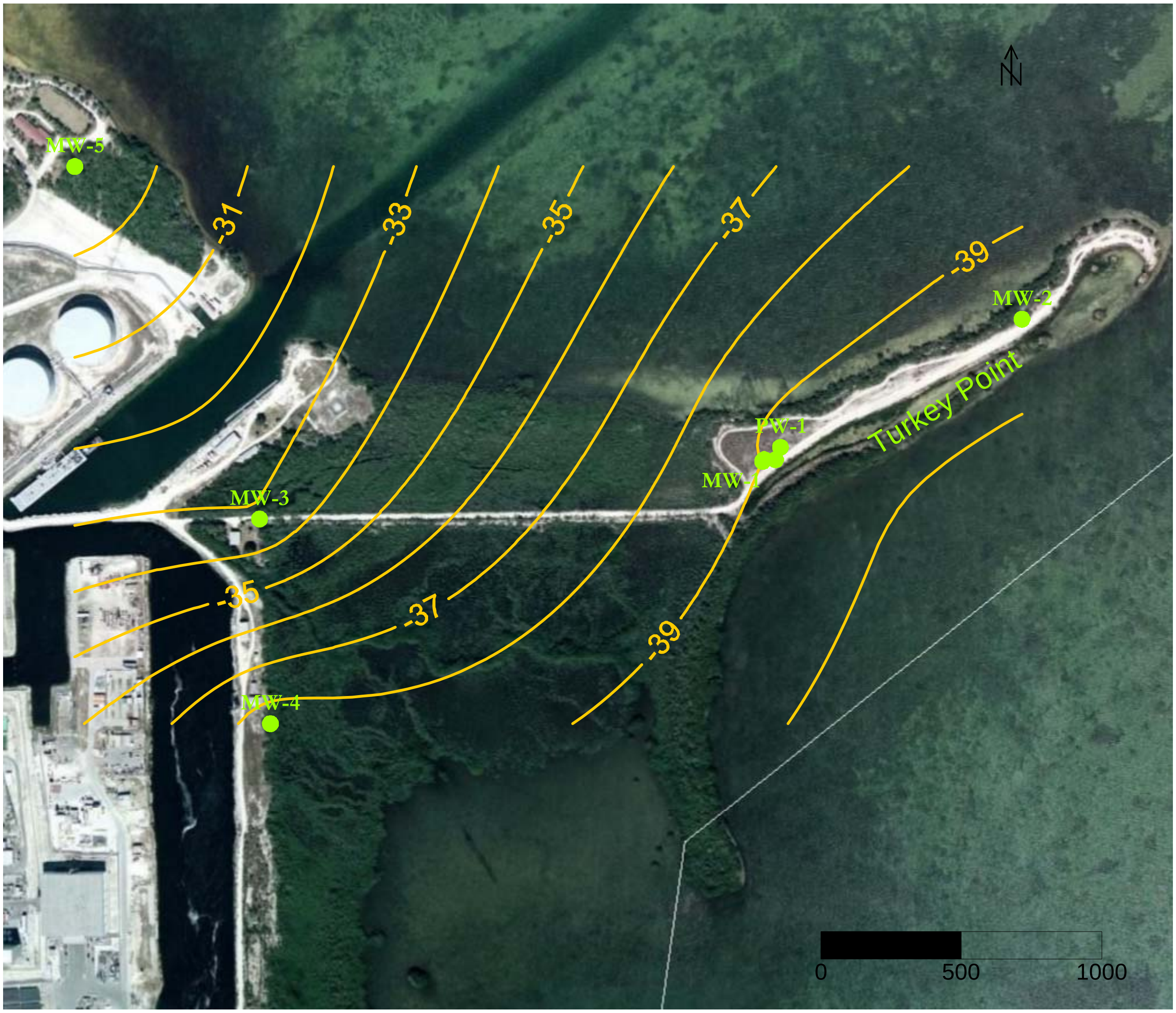
Suite 400
Tampa, Florida 33609

Video Still- Coralline Limestone
(Key Largo Limestone)

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
2.13



Source: Data from site drilling program

Contour Interval=0.5 Feet

Florida Power and Light

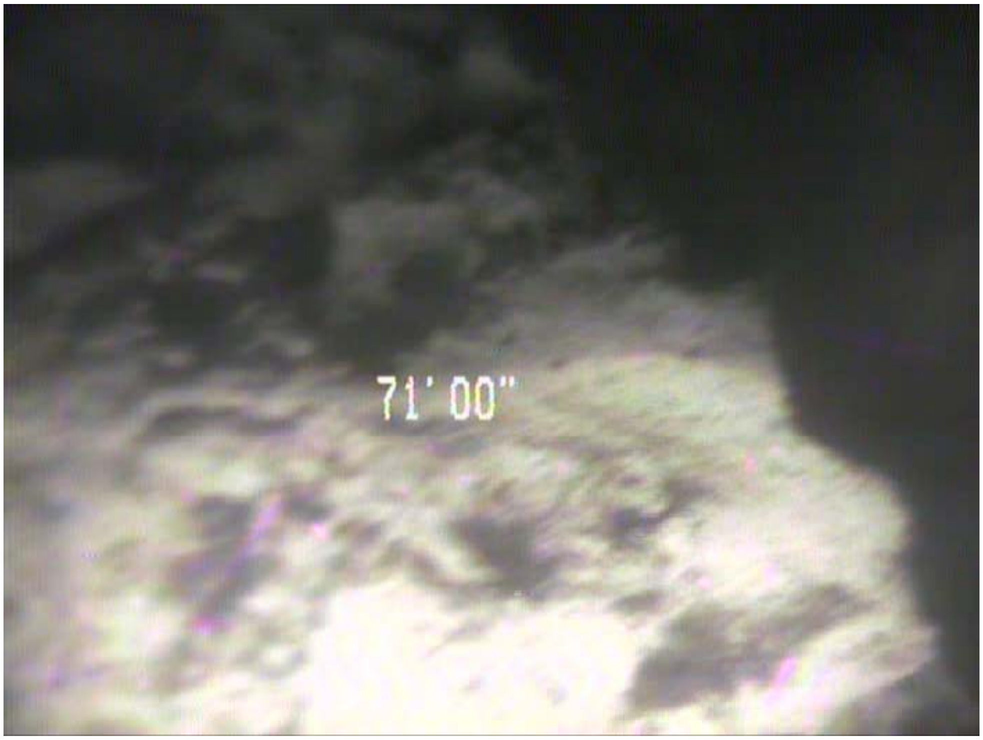
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Top Elevation Key Largo Limestone (Ft NAVD 88)

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
2.14



Lower portion of Light gray to White limestone

Upper portion of Light gray to White limestone

Source: Video Survey of MW-1 pilot hole at site
(MV Geophysical, Inc.);

Note: Depth approximately 1' less than shown

Florida Power and Light

HDR Engineering, Inc.
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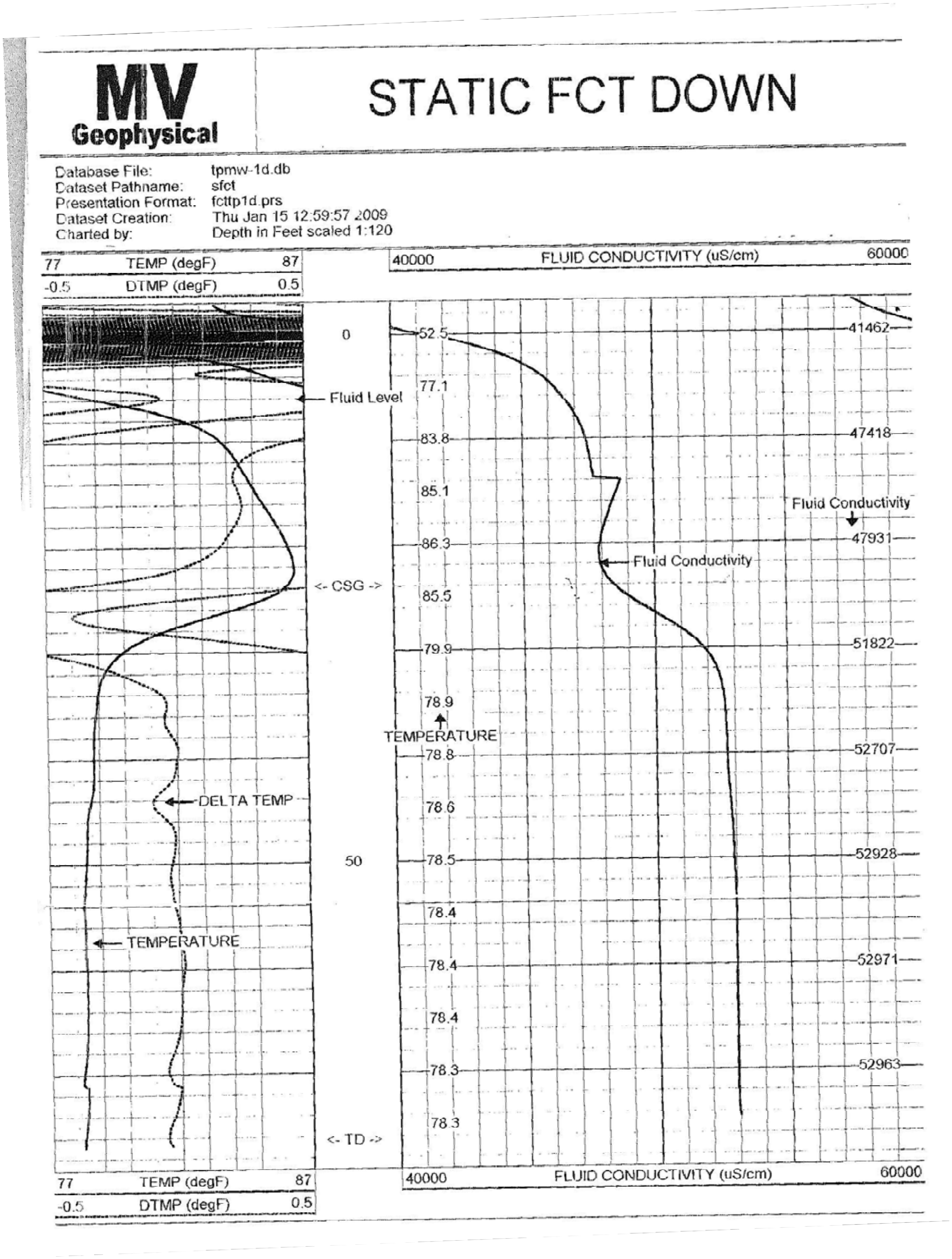
Tampa, Florida 33609

Video Still - Light Gray Limestone

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
2.15



MV Geophysical

STATIC FCT DOWN

Database File: tpmw-1d.db
Dataset Pathname: sfct
Presentation Format: fcttp1d.prs
Dataset Creation: Thu Jan 15 12:59:57 2009
Charted by: Depth in Feet scaled 1:120

Source: Geophysical logging of MW-1 pilot hole at site (MV Geophysical, 2009)

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Suite 400
Tampa, Florida 33609

Fluid Conductivity and Temperature Log

Turkey Point Exploratory Drilling and Aquifer Testing Program

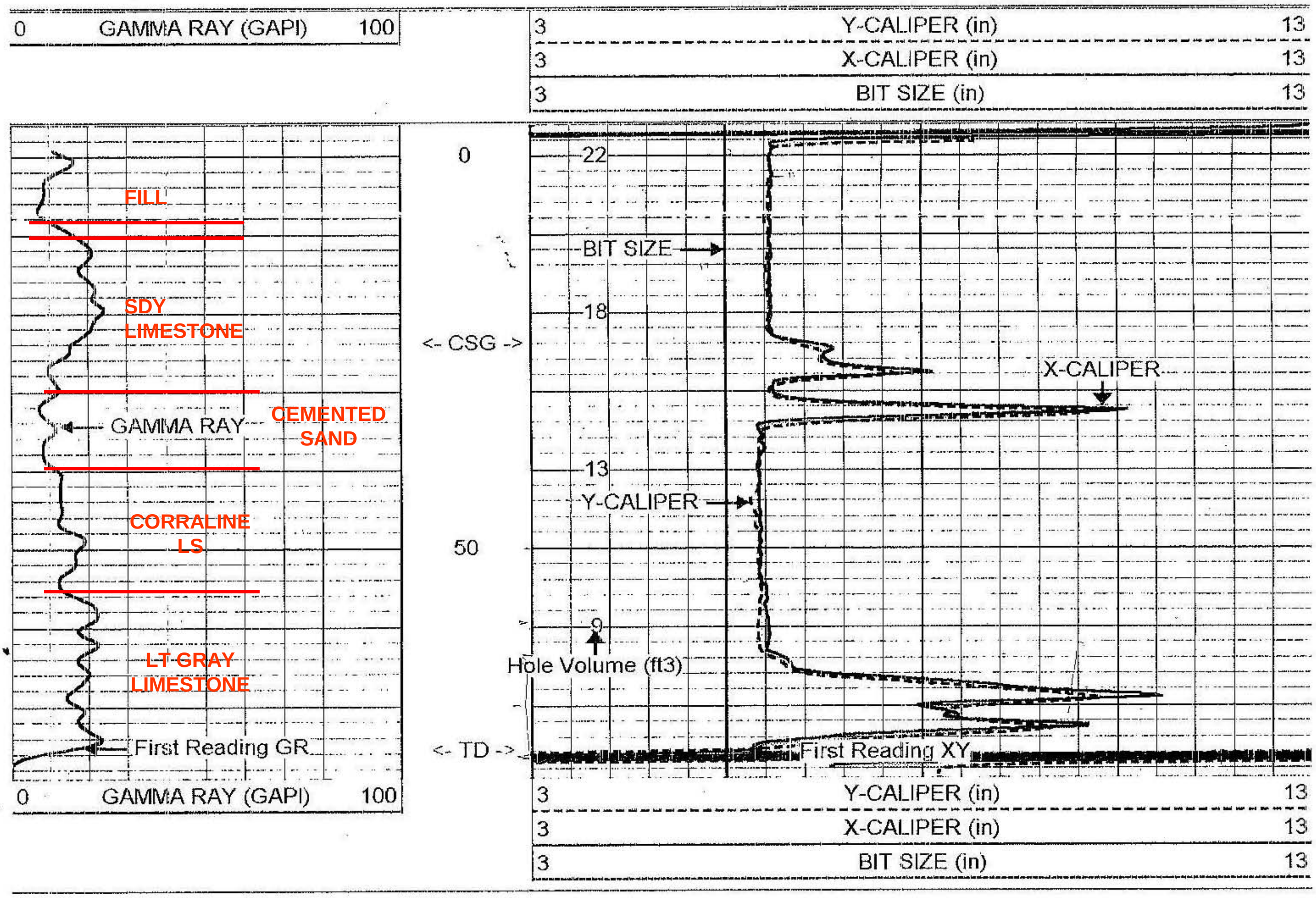
DATE
8/19/09

FIGURE
2.16

MV Geophysical

MAIN PASS

Database File: tpmw-1d.db
Dataset Pathname: main
Presentation Format: xy313-5.prs
Dataset Creation: Thu Jan 15 12:19:11 2009
Charted by: Depth in Feet scaled 1:240



Source: Geophysical logging of Pilot hole
MW-1 at site; MV Geophysical Inc, 2009

FPL

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HDR

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5426 Bay Center Drive
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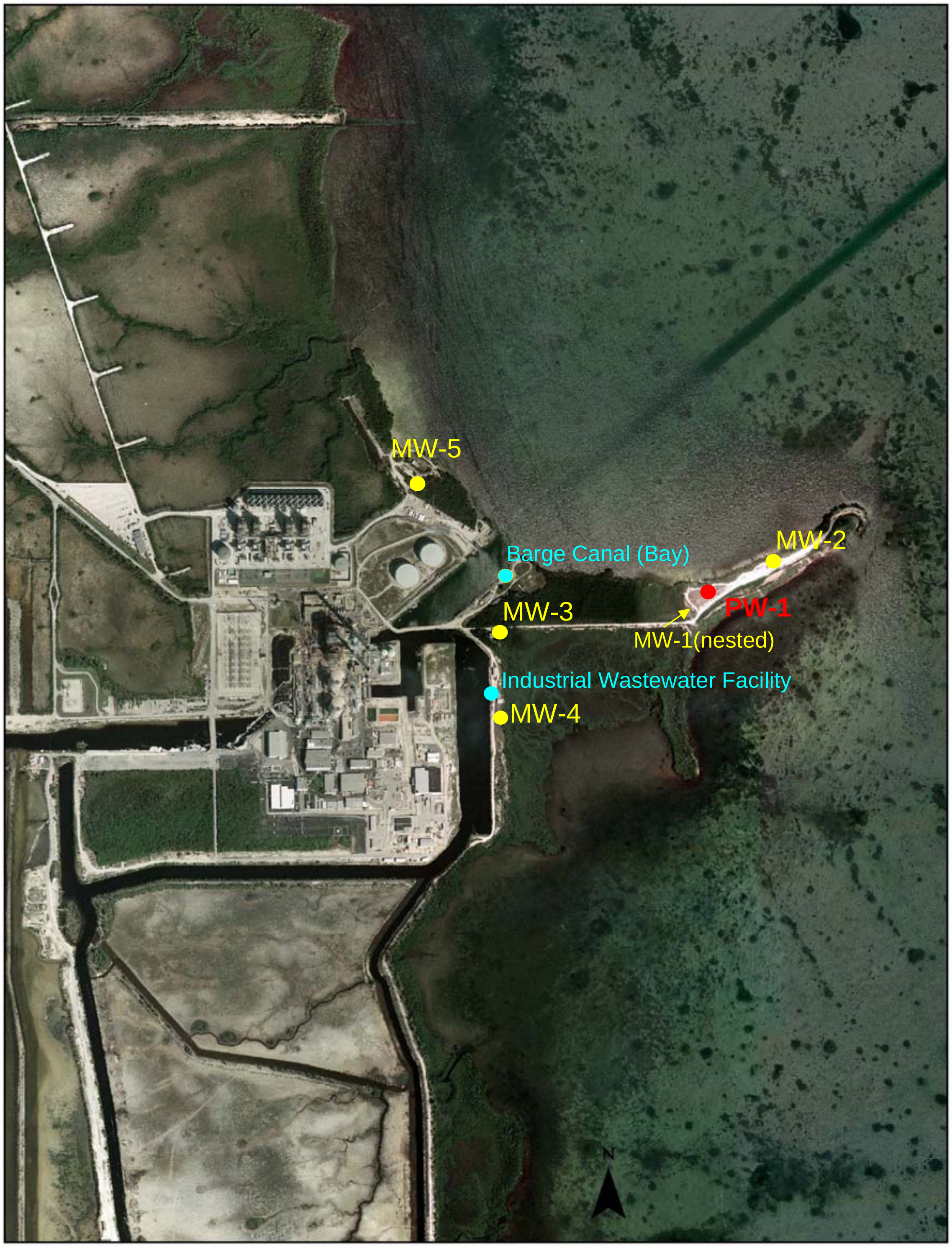
Tampa, Florida 33609

Gamma-Caliper Log
MW-1

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
2.17



FPL

Florida Power and Light

HDR

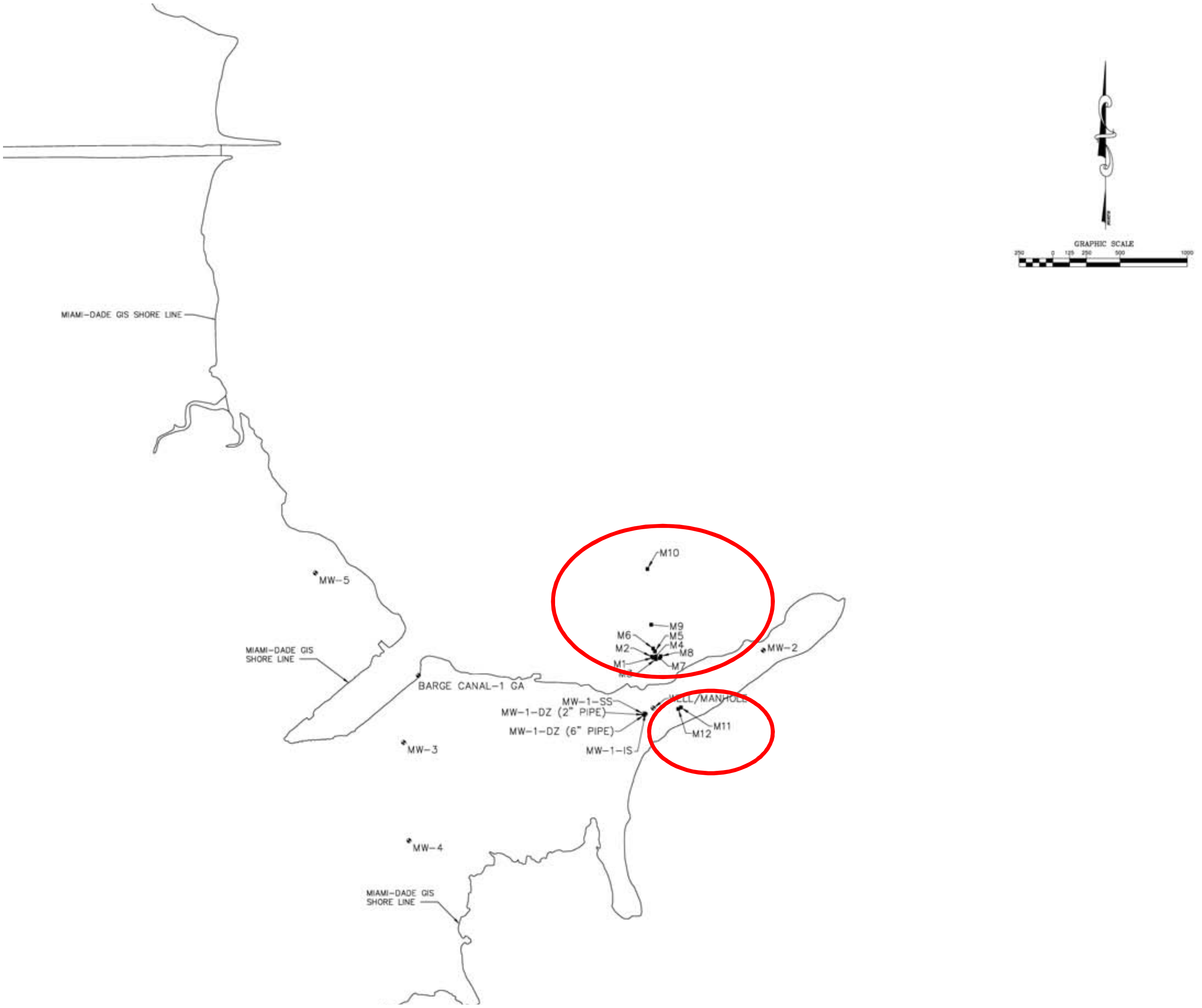
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Location of Wells and Surface Water Monitoring Points

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
3.1



Florida Power and Light

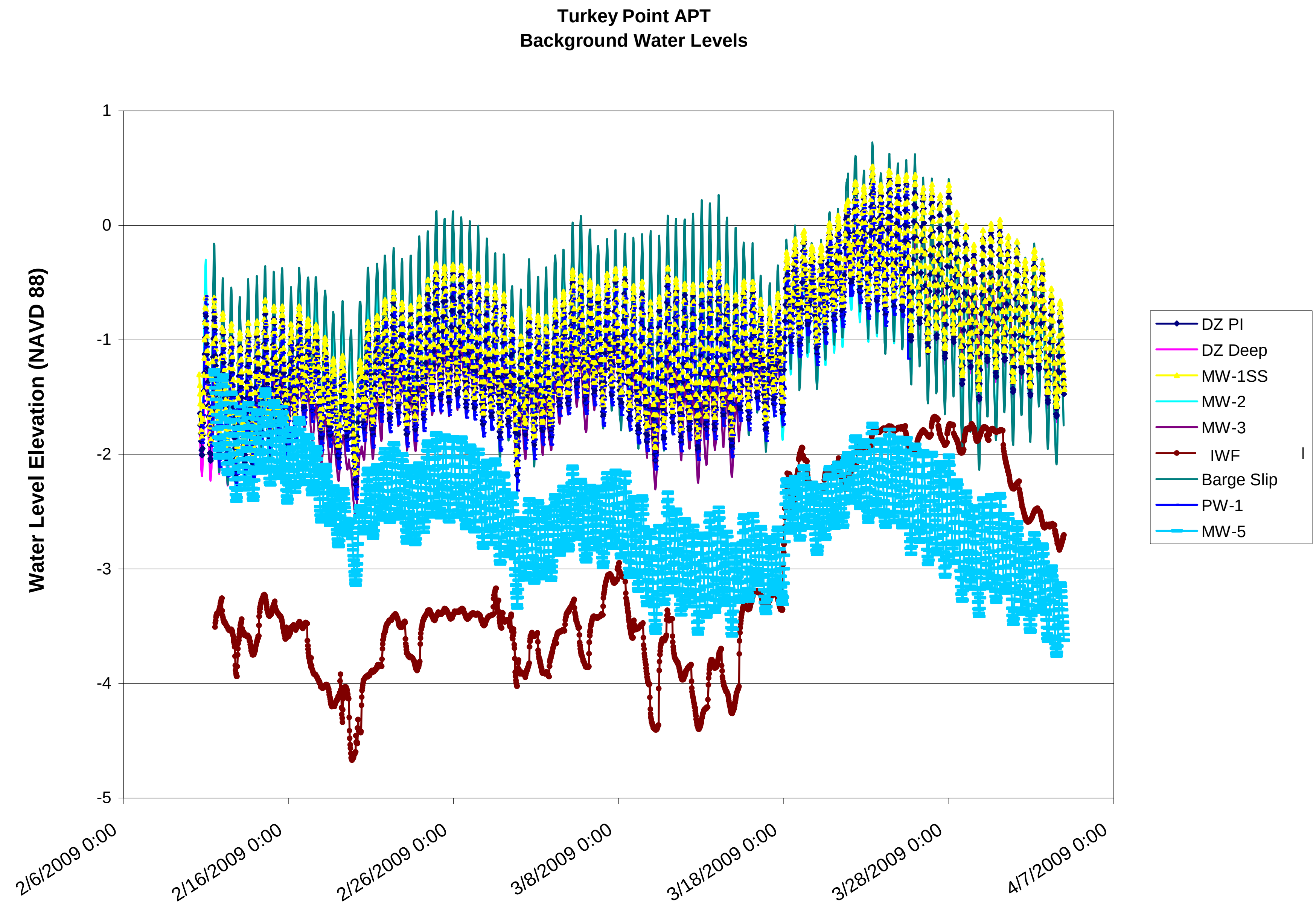
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Seepage Meter Locations

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
3.2



Source: site water levels

Florida Power and Light

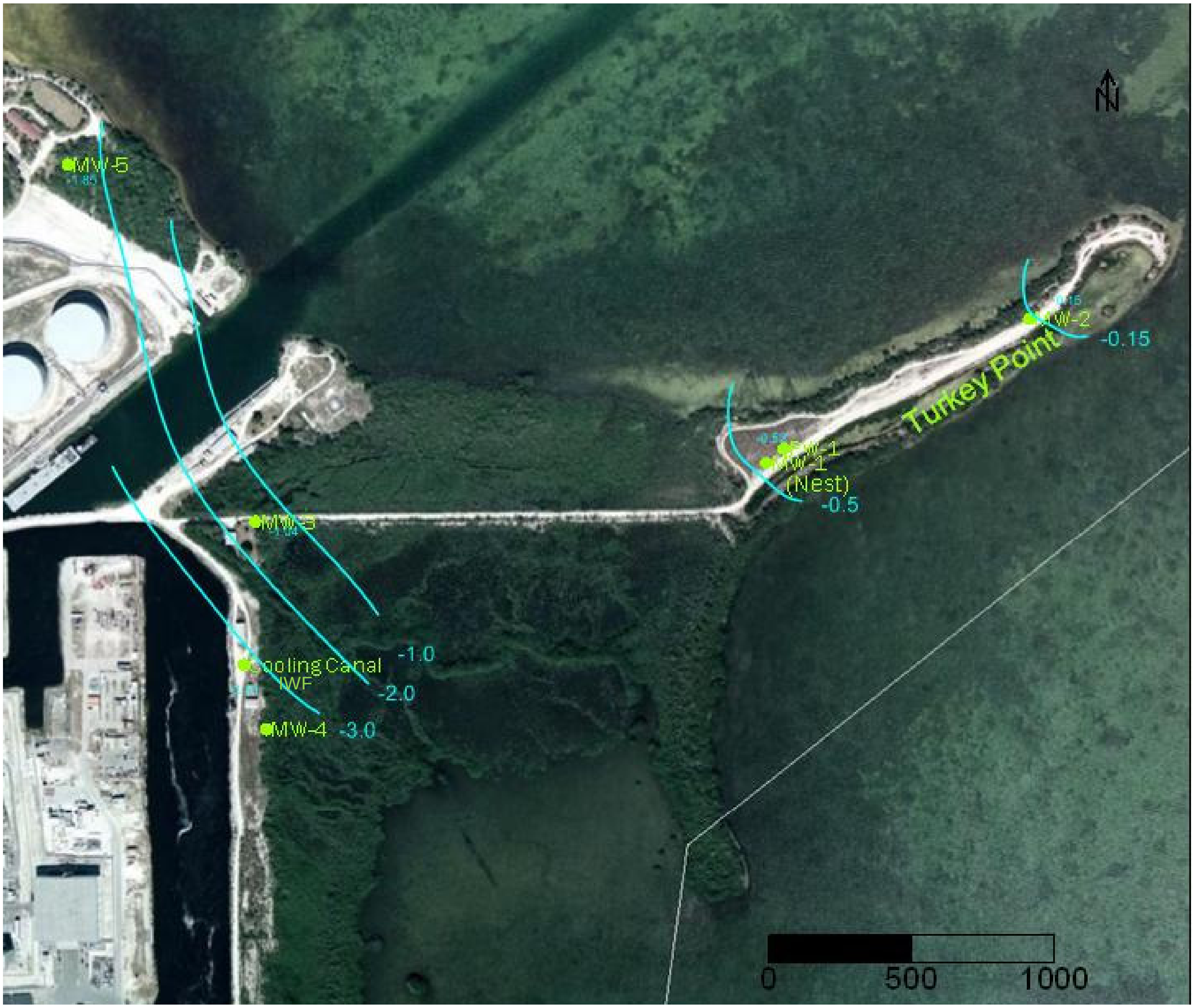
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Background Water Levels

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE 8/19/09

FIGURE 5.1



Source: Groundwater Levels measured at site

Contour Interval= 1.0 feet; supplemental
contours at 0.15 and 0.5 feet

Florida Power and Light

HDR Engineering, Inc.
5426 Bay Center Drive
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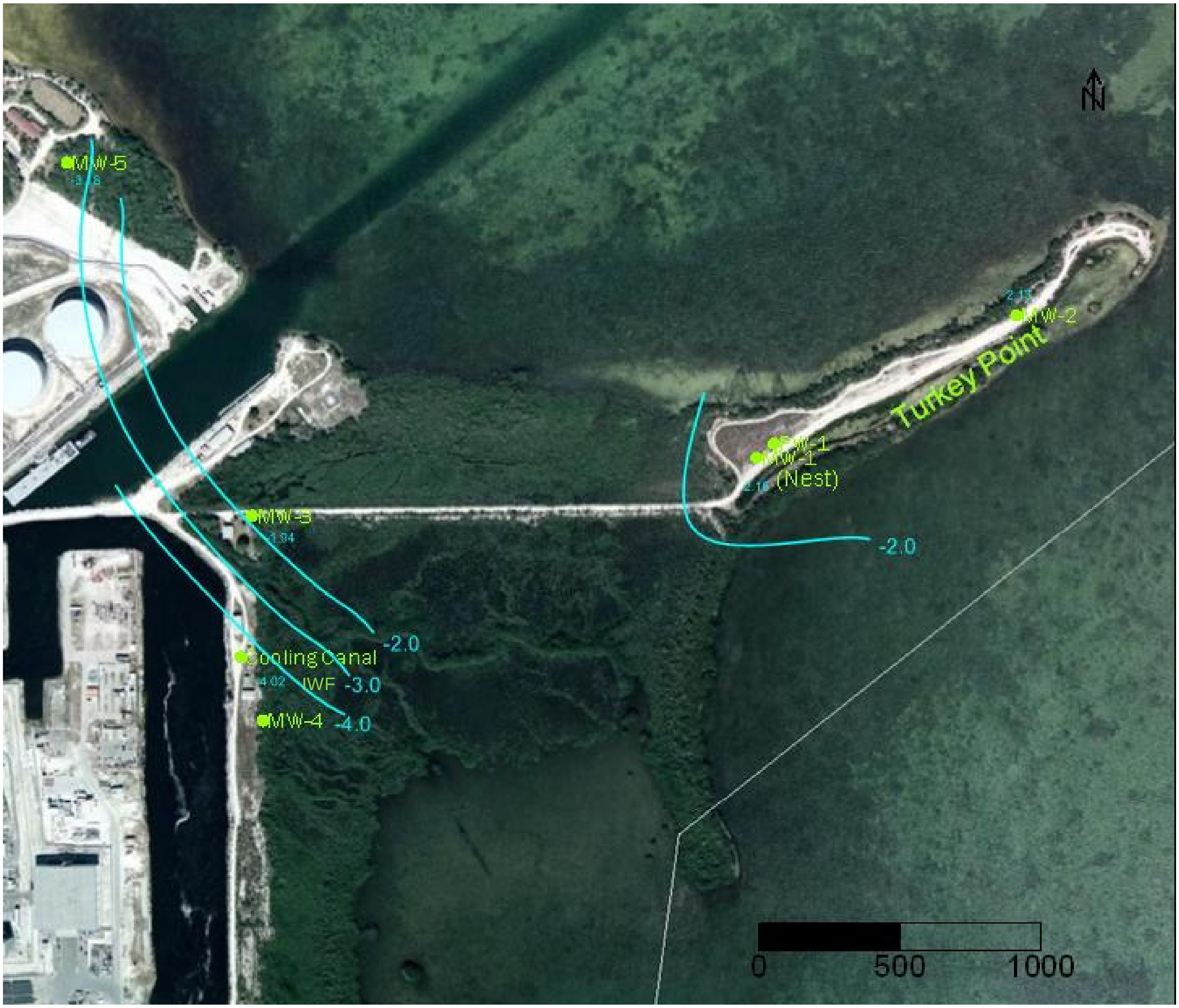
Tampa, Florida 33609

Groundwater Elevation Contours
February 25, 2009 (high tide)

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
5.2



Source: Groundwater Levels measured at site;

Contour Interval 1.0 Feet

FPL

Florida Power and Light

HDR

HDR Engineering, Inc.
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Suite 400
Tampa, Florida 33609

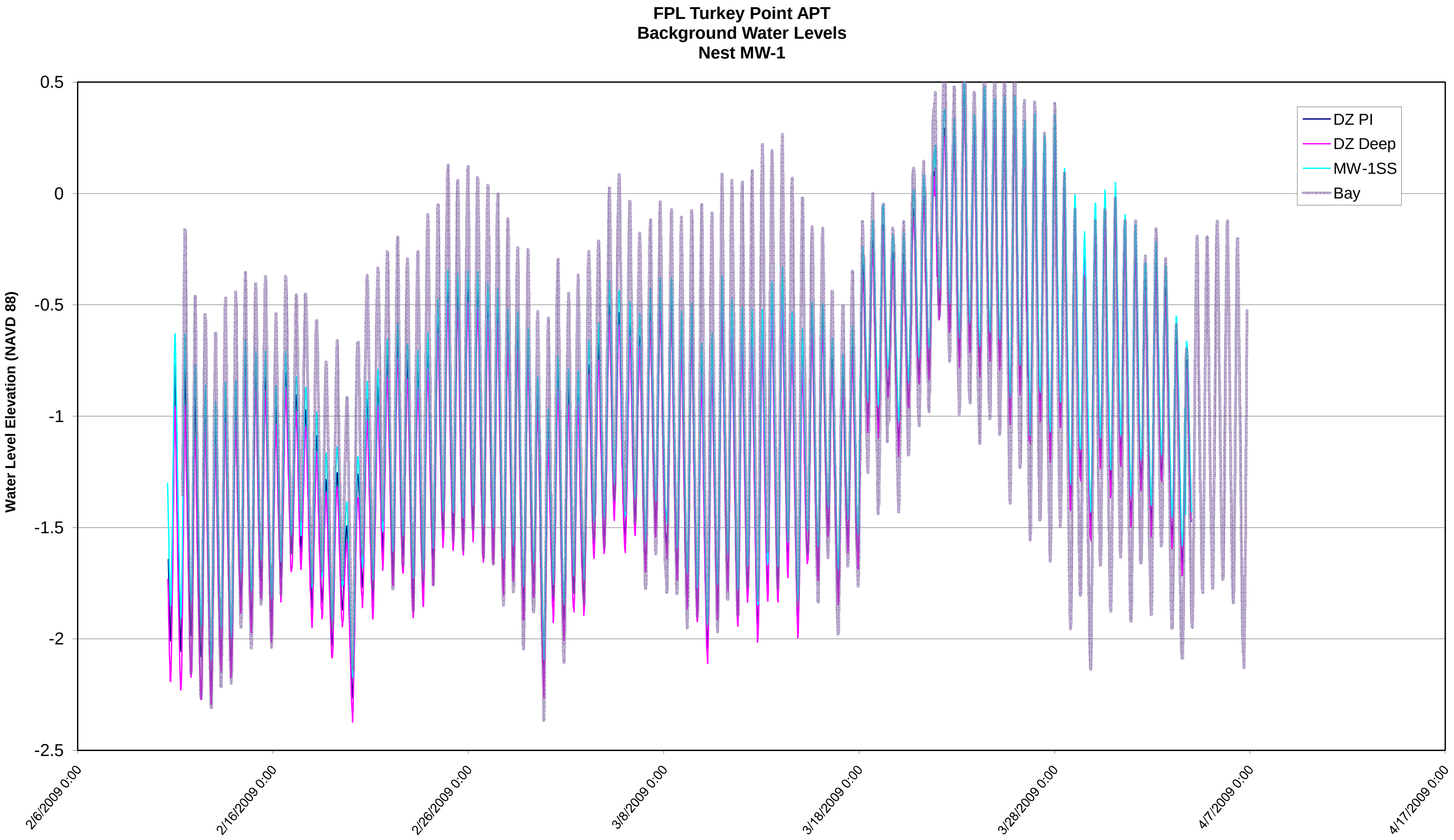
Groundwater Elevation Contours

March 1, 2009 (low tide, NAVD 88)

Turkey Point Exploratory Drilling and
Aquifer Testing Program

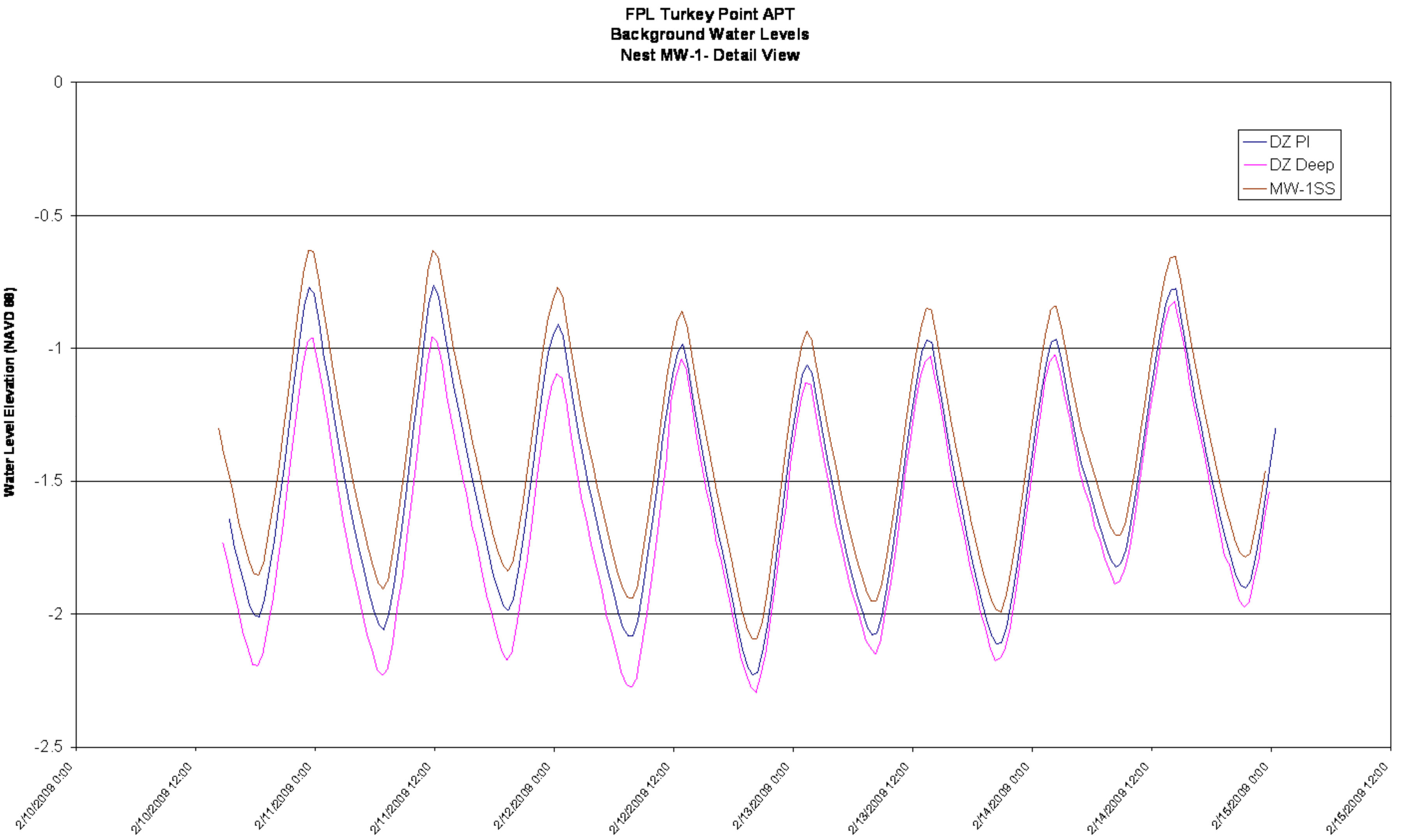
DATE
8/19/09

FIGURE
5.3



Source: water levels obtained during APT program;
Note: MW-1SS corrected to equivalent saltwater heads

Florida Power and Light	HDR Engineering, Inc. 5426 Bay Center Drive Suite 400 Tampa, Florida 33609	**Background (Pre Test) Water Levels at Nest MW-1 Showing Biscayne Bay** Turkey Point Exploratory Drilling and Aquifer Testing Program	DATE 8/19/09 FIGURE 5.4



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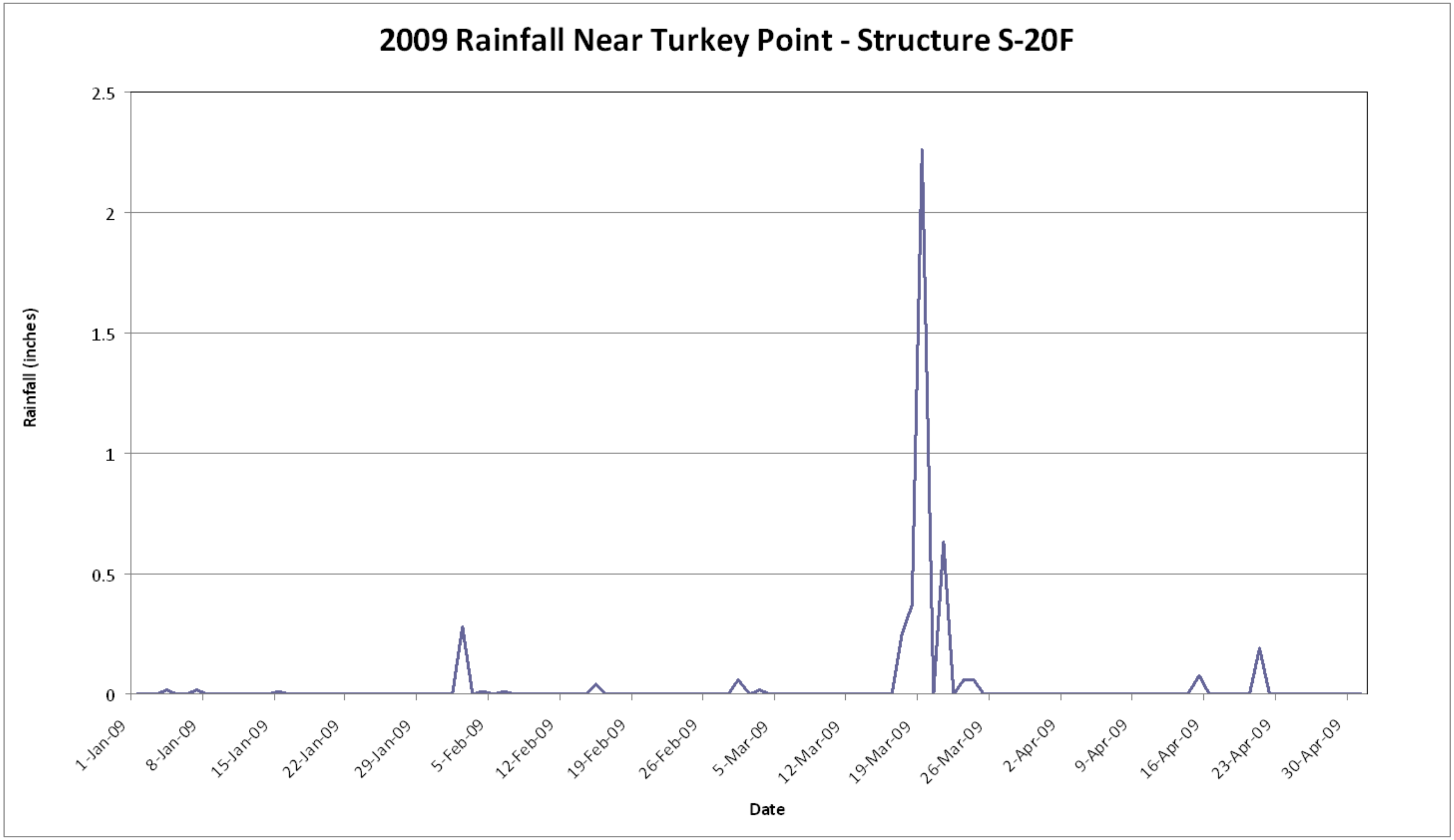
Suite 400
Tampa, Florida 33609

Nest MW-1 Background Groundwater Elevations, Detail View

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE 8/19/09

FIGURE 5.5



Florida Power and Light

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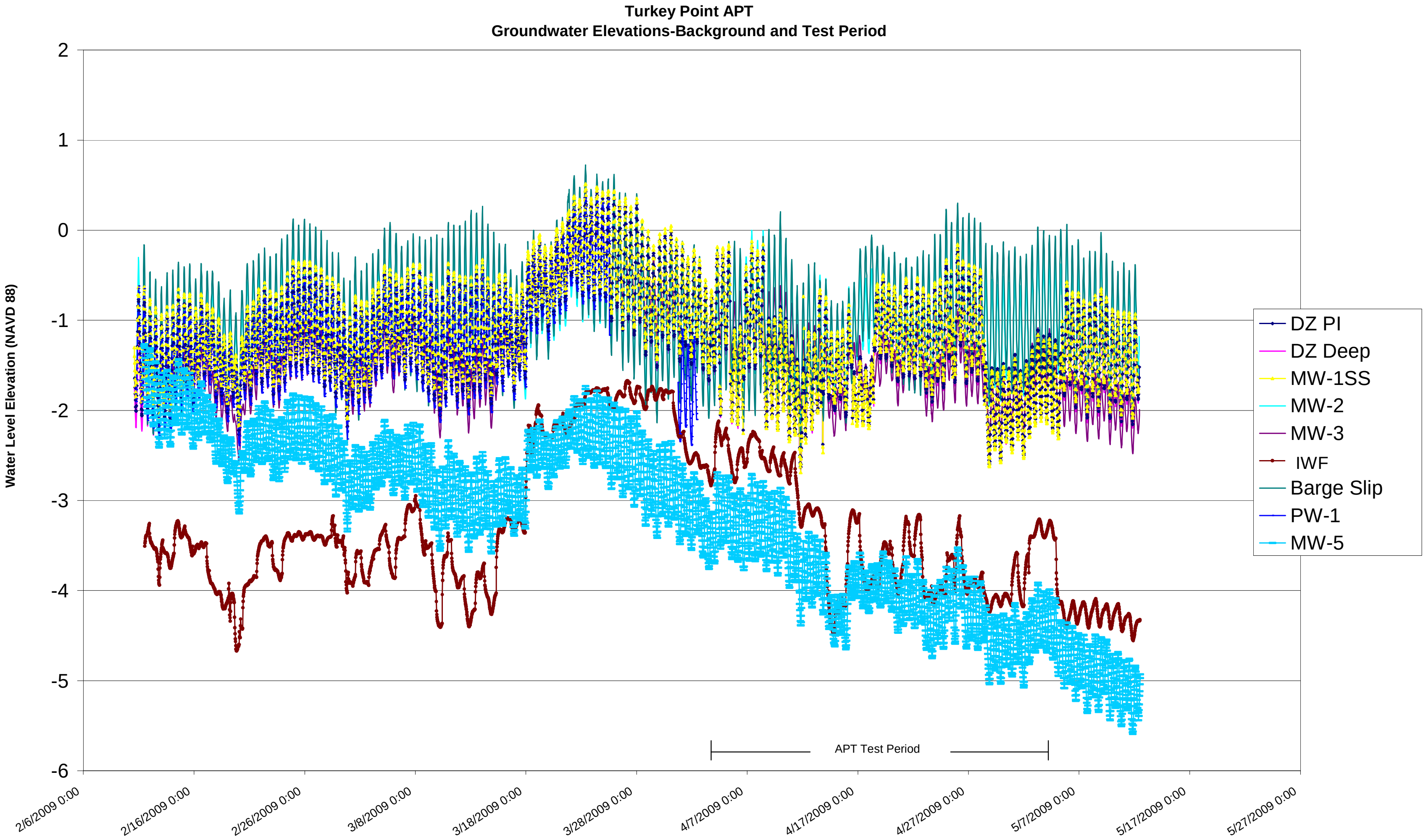
Suite 400
Tampa, Florida 33609

Rainfall- Station S-20F

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE 8/19/09

FIGURE 5.6



Source: Water level data obtained from site monitoring points

Florida Power and Light

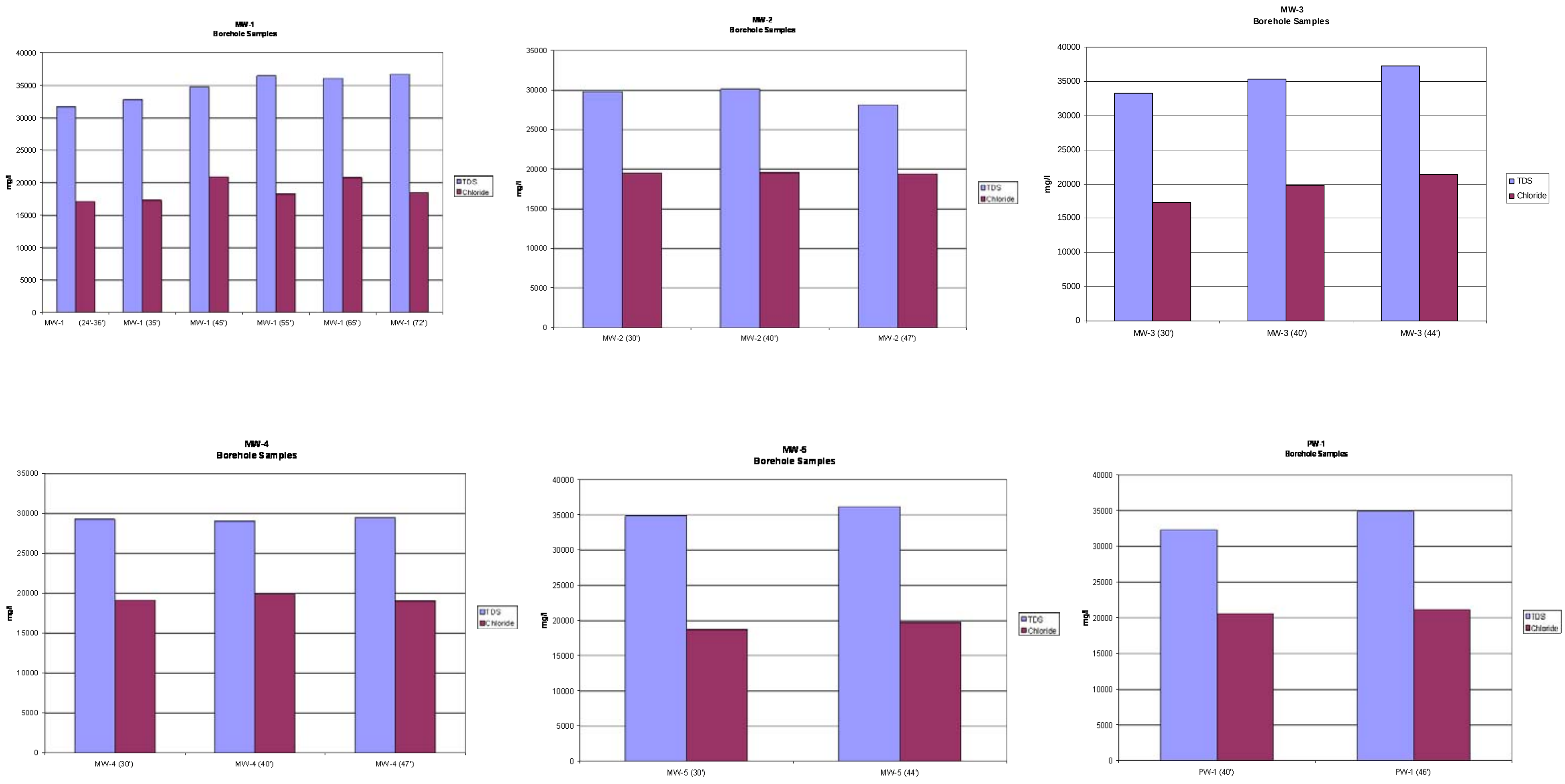
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Background and Test Period Water Levels

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE 8/19/09

FIGURE 5.7



Source: water quality data obtained during APT program

Florida Power and Light

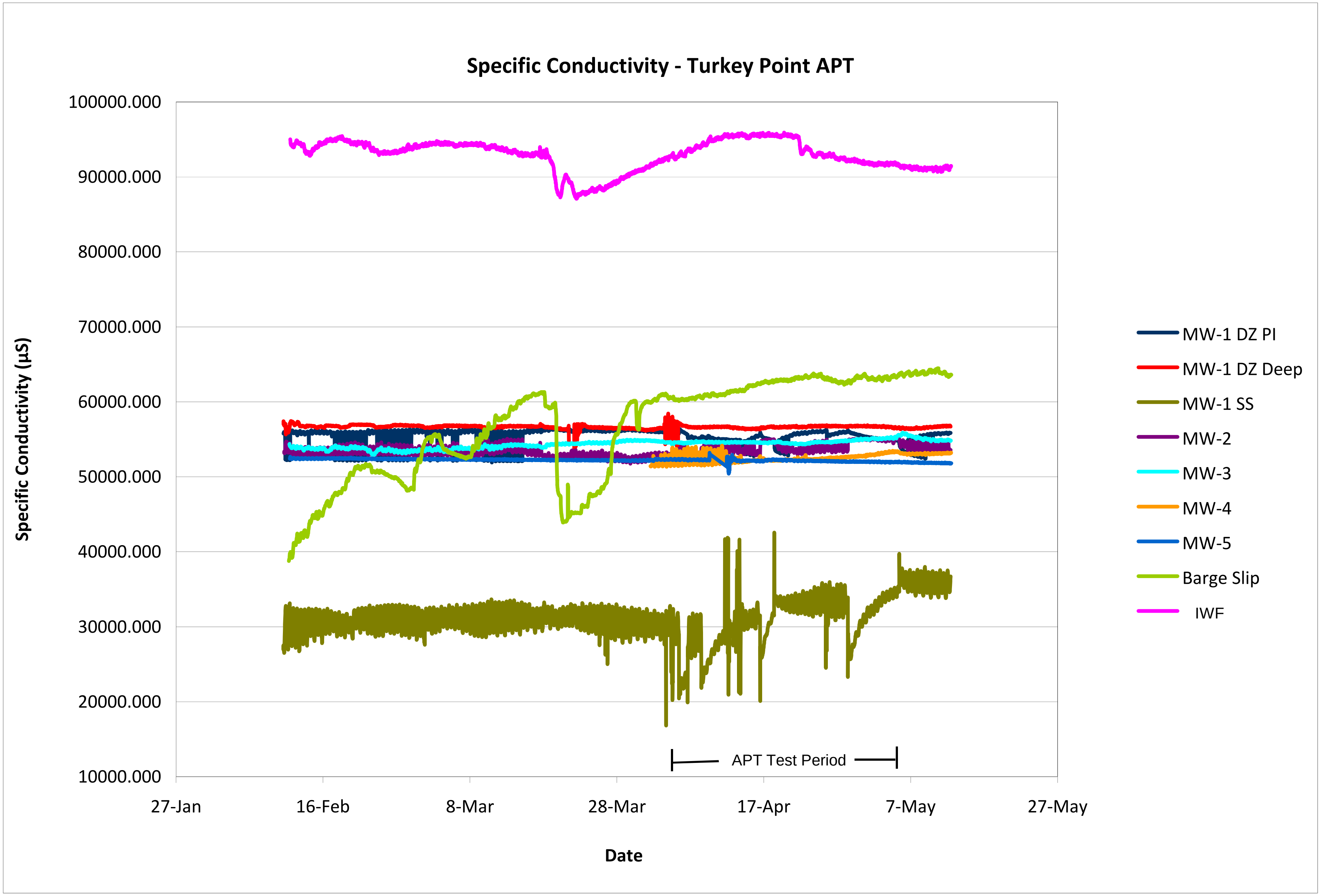
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Water Quality Results- Borehole Samples
TDS and Chloride

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE 8/19/09

FIGURE 6.1



Source: Field water quality data obtained during APT program

FPL

Florida Power and Light

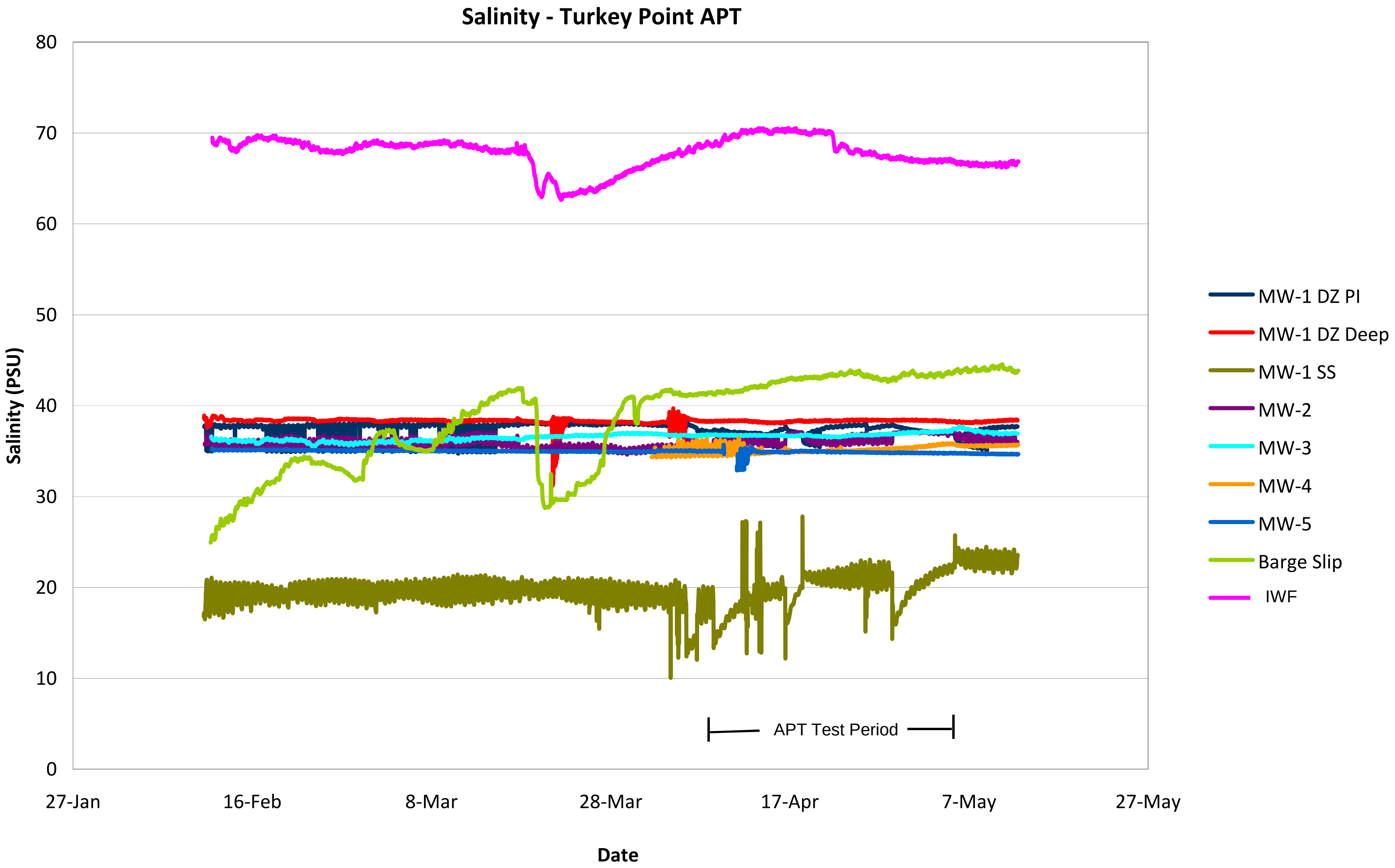
HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Specific Conductivity- Aqua Troll Data
All Monitoring Points
Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE 8/19/09

FIGURE 6.2



Source: Field water quality data obtained during APT program

Florida Power and Light

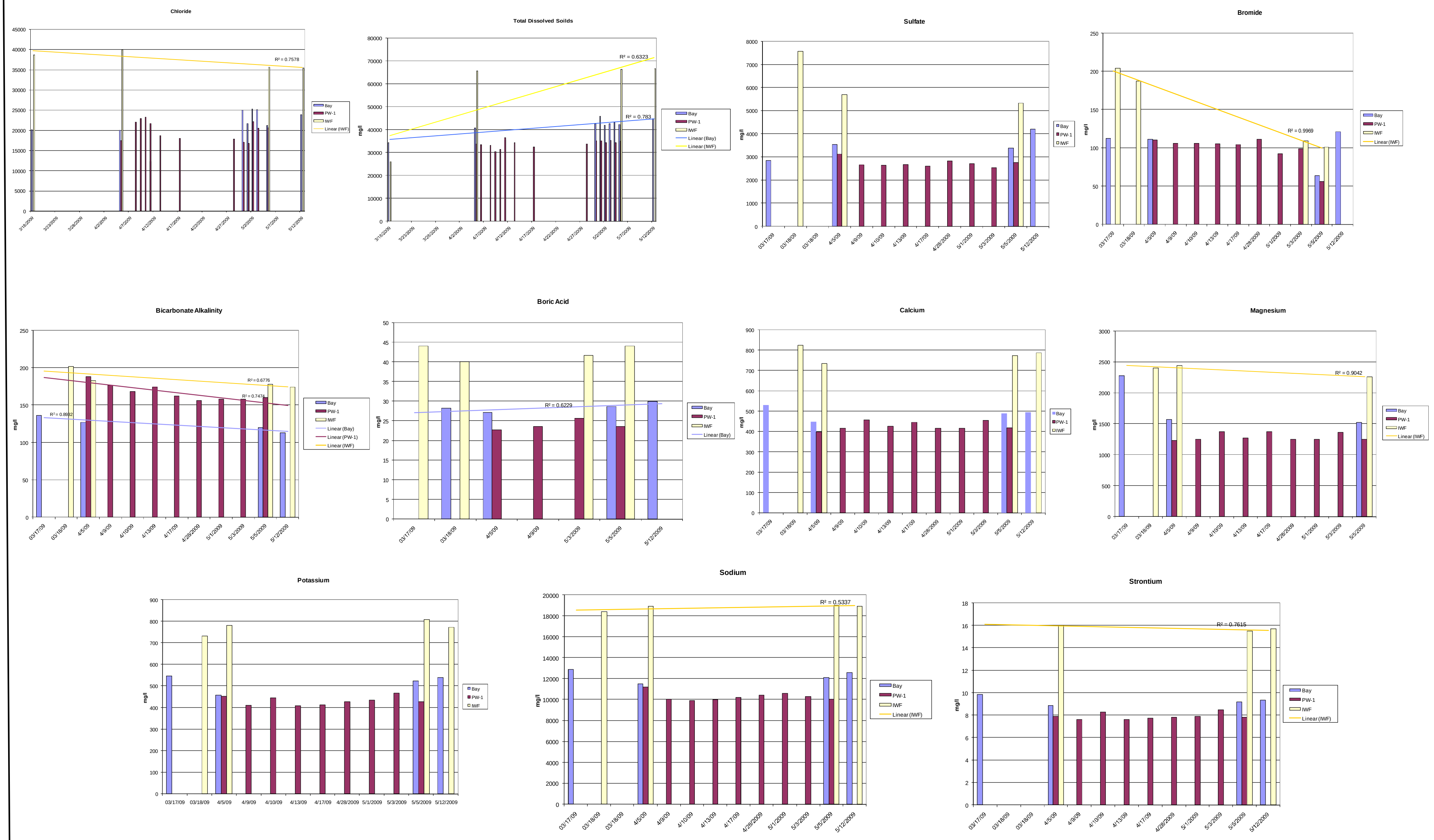
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Salinity- Aqua Troll Data for All Monitoring Points

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE 8/19/09

FIGURE 6.3



Source: water levels obtained during APT program

Florida Power and Light

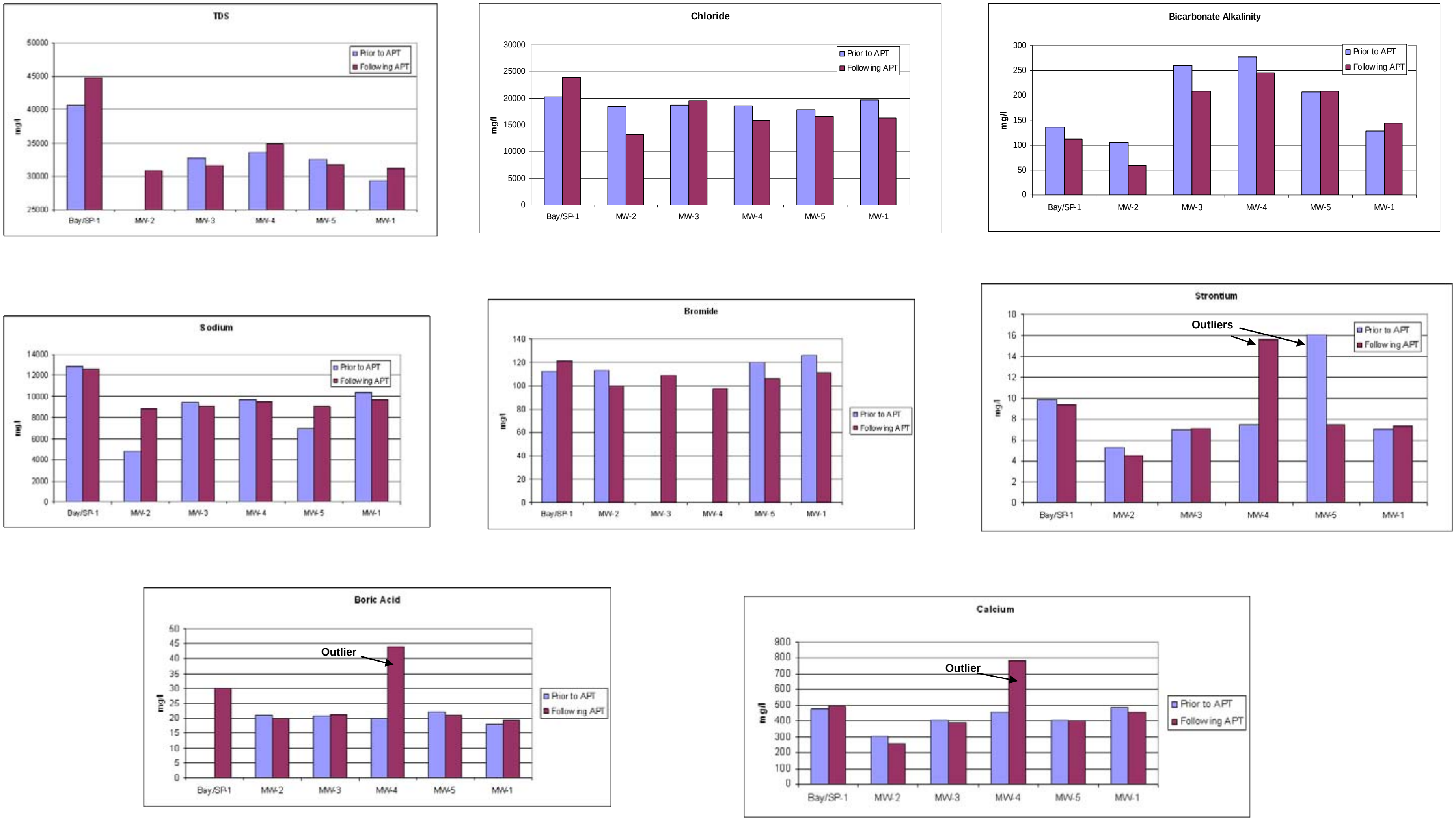
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Water Quality Sample Results- APT Test Period

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
6.4



Source: water levels obtained during APT program

Florida Power and Light

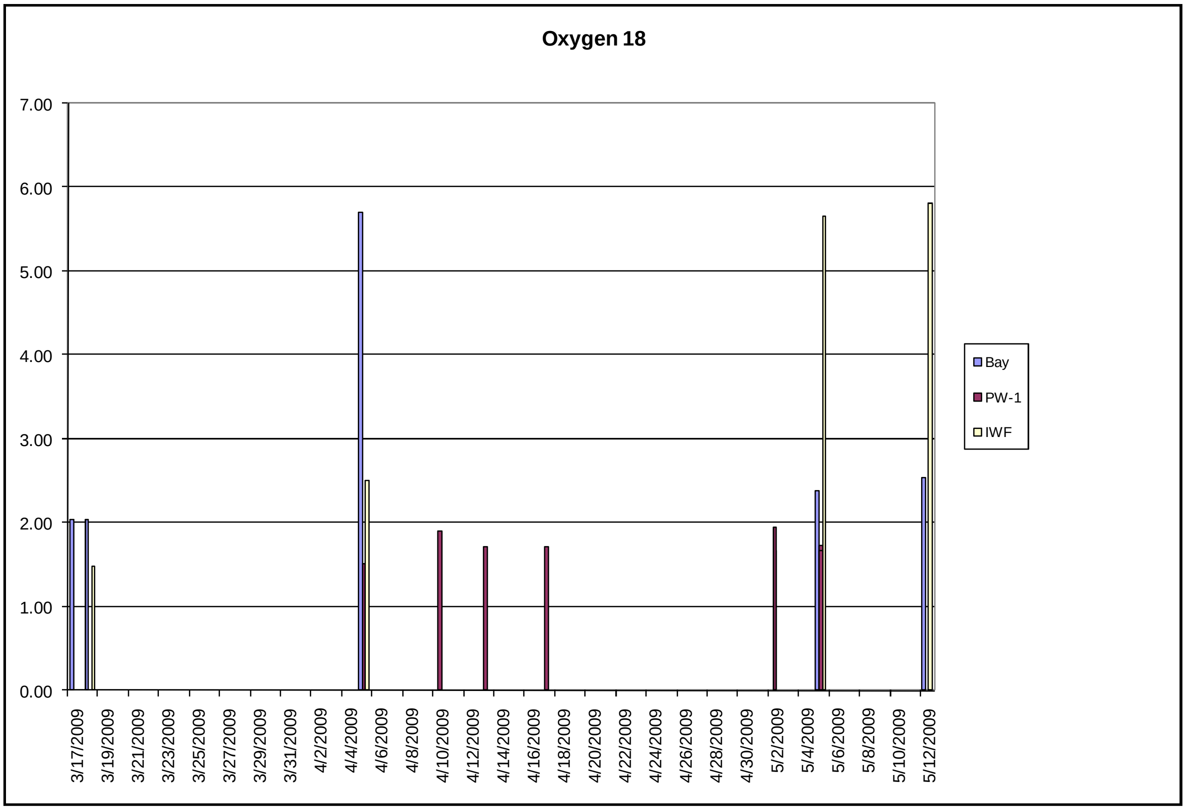
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

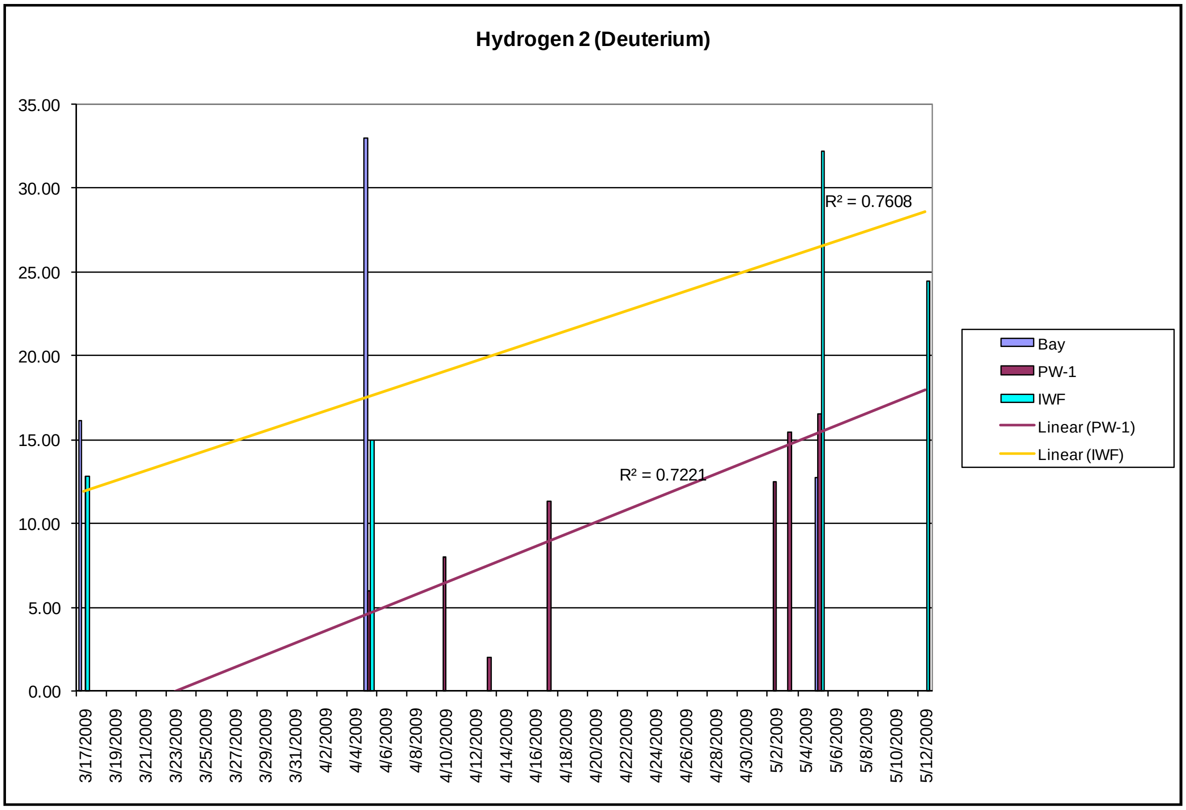
Water Quality Sample Results- Monitoring Wells

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE 8/19/09

FIGURE 6.5





Source: Site water quality data, APT Test period

Florida Power and Light

HDR Engineering, Inc.
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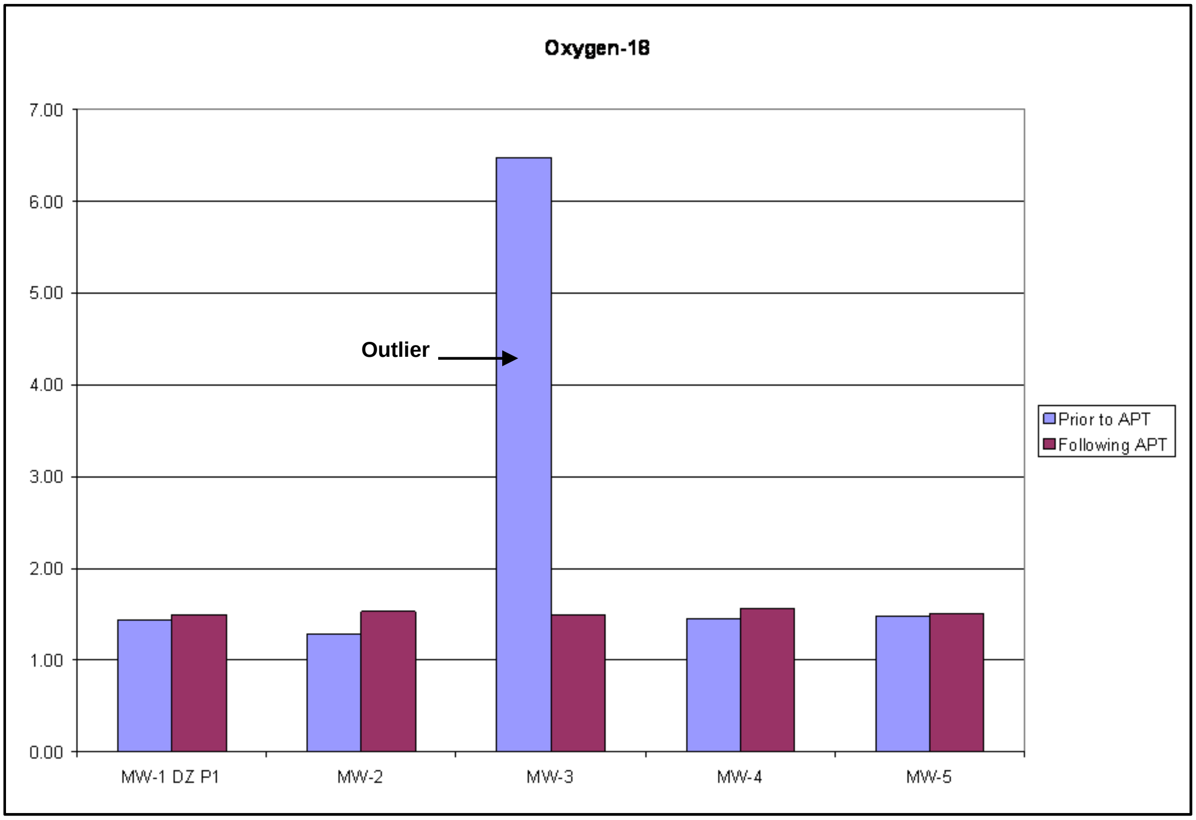
Suite 400
Tampa, Florida 33609

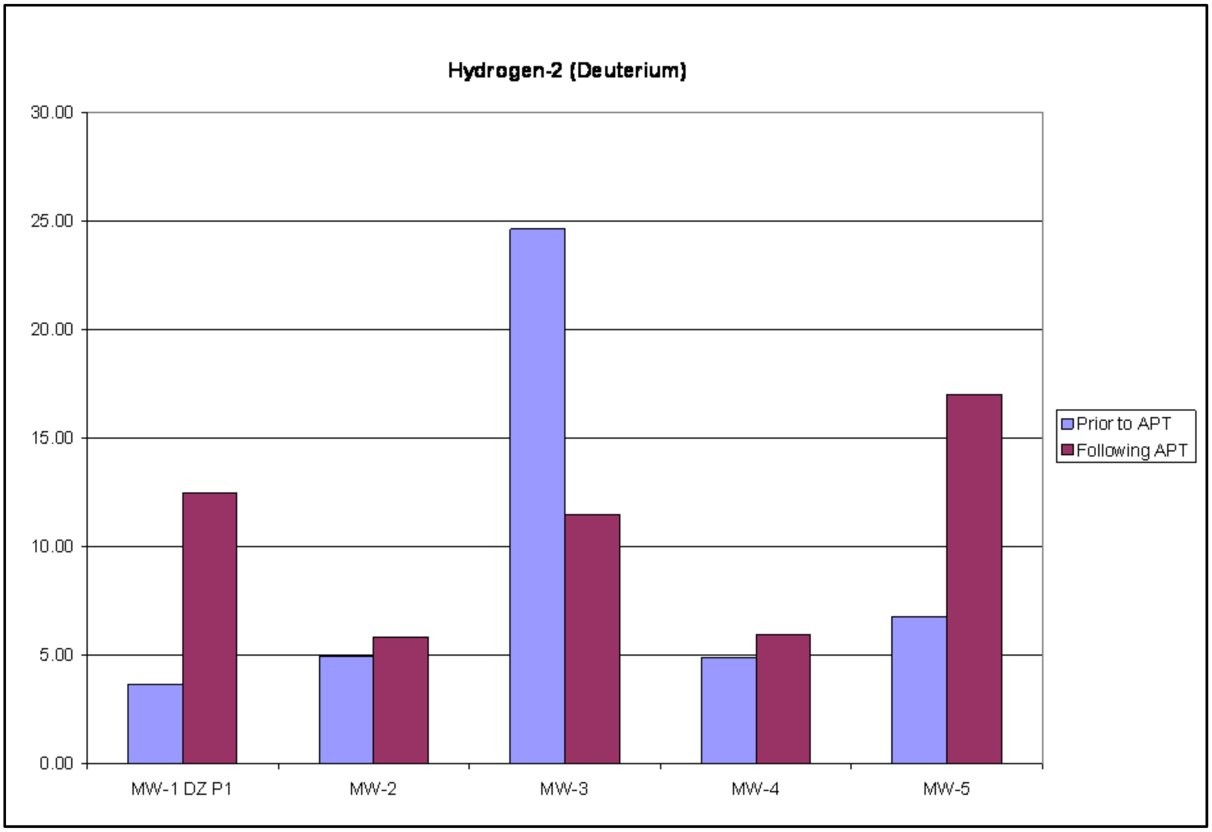
Stable Isotope Results, PW-1 Biscayne Bay, Industrial Wastewater Facility

Turkey Point Exploratory Drilling and Aquifer Testing Program

DATE
8/19/09

FIGURE
6.6





Source: Site water quality data, APT Test period

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Florida Power and Light

HDR

HDR Engineering, Inc.
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Suite 400
Tampa, Florida 33609

Stable Isotope Results, Monitoring Wells

Turkey Point Exploratory Drilling and
Aquifer Testing Program

DATE
8/19/09

FIGURE
6.7

APPENDIX A
SOIL BORING LOGS

SOIL BORING LOG
HDR Engineering, Inc.

Project Number:101650 | Project Name: Forida Power and Light | Date Start:1/16/09
Boring Number: PW-1 | Coordinates:25" 26'12.7306 N; 80"19'16.6207 W | Date End: 1/23/09
Elevation: 3.51' NAVD 88 | Depth GW: 6.27 | Date: 1/21/09 | Sheet 1 of 1
Geologist/Engineer: D.Daigle | Depth GW: 5.45 | Date: 1/26/09
Drilling Method: Reverse Air

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1		drill cuttings		Fill material (rock fragments, gravel, shell)		▩		
2								
3								
4								
5								
6		drill cuttings						
7								
8								
9	-5.49							
10	-6.49			Peat-dark brown, plant material, sl. moist	PT	■		
11		drill cuttings		Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell casts, small voids; wet; (calcarenite)		▦		
12								
13								
14								
15								
16		drill cuttings						
17								
18								
19								
20								
21		drill cuttings						
22								
23								
24								
25								
26		drill cuttings						
27								
28								
29								
30								
31		drill cuttings						
32	-28.49							
33				Lt gray cemented sand and fine sand; cemented sand frags; wet		░		
34								
35								
36		drill cuttings						
37								
38								
39								
40								
41		drill cuttings						
42	-38.49							
43				Lt gray limestone and tan-yellow coral fragments; yellow-brown calcite replaced coral, coral structure still noted;		▩		
44								
45								
46								
47				Total Depth 46'				
48								
49								
50								
51								
52								

BORING LOG

HDR Engineering, Inc.

Project Number:101650 Project Name: Forida Power and Light Date Start:1/07/09

Boring Number: MW-1 IS Coordinates:25"26'12.3058" N; 80 19'17.2599" W Date End: 1/08/09

Elevation: 3.00 'NAVD 88 Depth GW: 5.64 Date: 1/21/09 Sheet 1 of 2

Geologist/Engineer: D.Daigle Depth GW: 5.31 Date: 1/26/09

Drilling Method: Reverse Air

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1		drill cuttings		Fill material (rock fragments, gravel, shell)		▩		
2								
3								
4								
5		SPT	5-4-4-5					
6								
7		drill cuttings						
8	-5.0							
9				Peat-dark brown, plant material, sl. moist	PT	▩		
10	-7.0							
11		SPT	7-16-19-18	Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell molds, small voids; wet; (calcarenite)		▦		
12								
13								
14								
15								
16		SPT	5-7-14-10					
17								
18		drill cuttings						
19								
20								
21								
22								
23								
24				mud loss				
25								
26								
27								
28								
29								
30								
31		SPT	10-18-21-29					
32								
33	-29	SPT	16-15-32-17	Lt gray cemented sand and fine sand; cemented sand frags;		░		
34								
35								
36				Lost drill bit in hole, move to new location				
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								

BORING LOG

HDR Engineering, Inc.

Project Number:101650 Project Name: Forida Power and Light Date Start:1/07/09

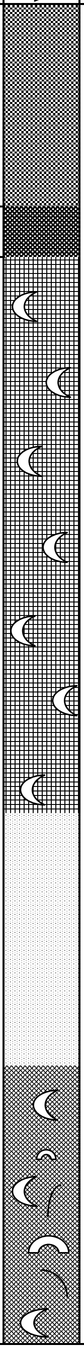
Boring Number: MW-1 Coordinates:25"26'12.2359" N; 80 19'17.3150" W Date End: 1/23/09

Elevation: 3.00 'NAVD 88 Depth GW: 5.64 Date: 1/21/09 Sheet 1 of 2

Geologist/Engineer: D.Daigle Depth GW: 5.31 Date: 1/26/09

Drilling Method: Reverse Air

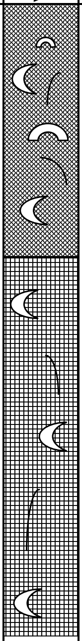
Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1		drill cuttings		Fill material (rock fragments, gravel, shell)				
2								
3								
4								
5		SPT	5-4-4-5					
6								
7		drill cuttings						
8	-5.0							
9				Peat-dark brown, plant material, sl. moist	PT			
10	-7.0							
11		SPT	7-16-19-18	Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell molds, small voids; wet; (calcarenite)				
12								
13								
14								
15								
16		SPT	5-7-14-10					
17								
18		drill cuttings						
19								
20								
21								
22								
23								
24				mud loss				
25								
26								
27								
28								
29								
30								
31		SPT	10-18-21-29					
32								
33	-29	SPT	16-15-32-17	Lt gray cemented sand and fine sand; cemented sand frags;				
34								
35		drill cuttings						
36								
37								
38								
39								
40								
41		drill cuttings						
42								
43				Lt gray limestone and tan-yellow coral fragments; yellow-brown calcite replaced coral, coral structure still noted;				
44	-41							
45								
46								
47								
48								
49								
50								



SOIL BORING LOG
HDR Engineering, Inc.

Project Number:101650 | Project Name: Forida Power and Light | Date Start:1/07/09
Boring Number: MW-1 | Coordinates:25"26'12.2359" N; 80 19'17.3150" W | Date End: 1/23/09
Elevation: 3.00 'NAVD 88 | Depth GW: 6.27 | Date: 1/21/09 | Sheet 2 of 2
Geologist/Engineer: D.Daigle | Depth GW: 5.45 | Date: 1/26/09
Drilling Method: Reverse Air

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
51								
52		drill cuttings						
53								
54								
55				Light gray sandy, fossiliferous limestone, fossil molds and shells; gastropods and pelcypods present; some yellow-brown calcite-replaced coral fragments;				
56								
57		drill cuttings						
58								
59								
60								
61				light gray to white sandy limestone, some fossil shells,trace burrows;				
62		drill cuttings						
63								
64								
65								
66				more vugs and burows noted				based on video log
67		drill cuttings						
68								
69								
70								
71								
72		drill cuttings						
73								
74								
75								
76								
77				Total Depth 75 feet				
78								
79								
80								
81								
82								
83								
84								
85								
86								
87								
88								
89								
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								
100								



SOIL BORING LOG
HDR Engineering, Inc.

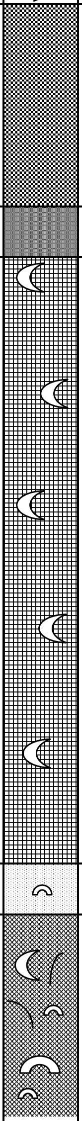
Project Number:101650 | Project Name: Forida Power and Light | Date Start:1/7/09
Boring Number: MW-2 | Coordinates:25" 26'16.9299 N; 80"19' 07.6459 W | Date End: 1/28/09
Elevation: 4.41' NAVD 88 | Depth GW: 9.36 Date: 2/10/09 | Sheet 1 of 1
Geologist/Engineer: D.Daigle | Depth GW: 9.61 Date: 2/20/09
Drilling Method: Reverse Air

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1				Fill material (rock fragments, gravel, shell)		▨		
2								
3		drill cuttings						
4								
5								
6								
7								
8								
9	-4.6							
10		SPT	4-5-5-8	Peat-dark brown, plant material, sl. moist	PT	▨		
11								
12		drill cuttings		Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell casts, small voids; wet; (calcarenite); thin dolomite stringer at about 17;'		▨		
13								
14								
15								
16		SPT	55-35-50/5					
17								
18								
19								
20								
21		drill cuttings						
22								
23								
24								
25								
26				mud loss at 26' bls				
27		SPT	8-4-4-13					
28								
29		drill cuttings						
30								
31								
32								
33								
34								
35	-30.6							
36		drill cuttings		Lt gray calcareous cemented sand and fine sand; cemented sand frags; few shell frags; wet		░		
37								
38								
39								
40								
41		drill cuttings						
42								
43								
44	-39.9							
45				Lt gray sandy limestone and tan-yellow coral fragments; yellow-brown calcite replaced coral, coral structure noted;		▨		
46								
47								
48								
49				Total Depth 47'				
50								
51								
52								

SOIL BORING LOG

HDR Engineering, Inc.

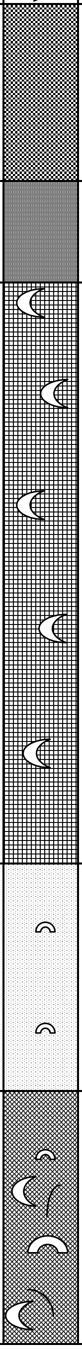
Project Number:101650	Project Name: Forida Power and Light	Date Start:1/8/09
Boring Number: MW-3	Coordinates:25" 26'10.2903 N; 80"19' 36.8590 W	Date End: 2/3/09
Elevation: 2.87' NAVD 88	Depth GW: 7.67 Date: 2/11/09	Sheet 1 of 1
Geologist/Engineer: D.Daigle	Depth GW: 8.27 Date: 2/20/09	
Drilling Method: Reverse Air		

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1				Fill material (rock fragments, gravel, shell)				
2								
3		drill cuttings						
4								
5								
6								
7								
8								
9				Peat-dark brown, plant material, sl. moist				
10		SPT			PT			
11								
12		drill cuttings						
13								
14				Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell casts, small voids; wet; (calcarenite); thin dolomite stringer at about 15;'				
15								
16		SPT						
17								
18								
19								
20		drill cuttings		mud loss 27'				
21								
22								
23		SPT						
24								
25								
26								
27								
28		drill cuttings						
29								
30								
31								
32		drill cuttings						
33								
34								
35				Lt gray calcareous cemented sand and fine sand; cemented sand frags; few shell frags; wet				
36								
37		drill cuttings						
38				Lt gray sandy limestone and tan-yellow coral fragments; yellow-brown calcite replaced coral, coral structure noted;				
39								
40								
41								
42		drill cuttings						
43								
44								
45				Total Depth 44'				
46								
47								
48								
49								
50								
51								
52								

SOIL BORING LOG

HDR Engineering, Inc.

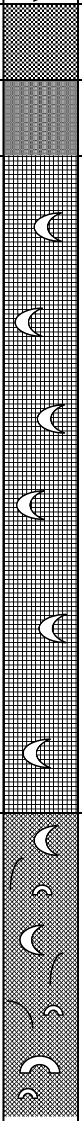
Project Number:101650	Project Name: Forida Power and Light	Date Start:2/2/09
Boring Number: MW-4	Coordinates:25" 26'03.0608 N; 80"19' 36.4789 W	Date End: 1/28/09
Elevation: 4.43' NAVD 88	Depth GW: 8.20 Date: 4/1/09	Sheet 1 of 1
Geologist/Engineer: D.Daigle	Depth GW: 8.14 Date: 4/10/09	
Drilling Method: Reverse Air		

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1				Fill material (rock fragments, gravel, shell)				
2								
3		drill cuttings						
4								
5								
6								
7	-4.6							
8								
9				Peat-dark brown, plant material, sl. moist				
10		SPT	7-12-14-14		PT			
11	-7.1							
12		drill cuttings						
13								
14				Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell casts, small voids; wet; (calcarenite); thin dolomite stringer at about 17;'				
15								
16		SPT	17-14-8-8					
17								
18								
19								
20		drill cuttings		mud loss 20'				
21								
22								
23		SPT	8-4-4-13					
24								
25								
26								
27								
28		drill cuttings						
29								
30								
31								
32		drill cuttings						
33								
34	-29.6							
35								
36								
37		drill cuttings		Lt gray calcareous cemented sand and fine sand; cemented sand frags; few shell frags; wet				
38								
39								
40								
41								
42		drill cuttings						
43	-38.6							
44								
45				Lt gray sandy limestone and tan-yellow coral fragments; yellow-brown calcite replaced coral, coral structure noted;				
46								
47								
48								
49				Total Depth 47'				
50								
51								
52								

SOIL BORING LOG

HDR Engineering, Inc.

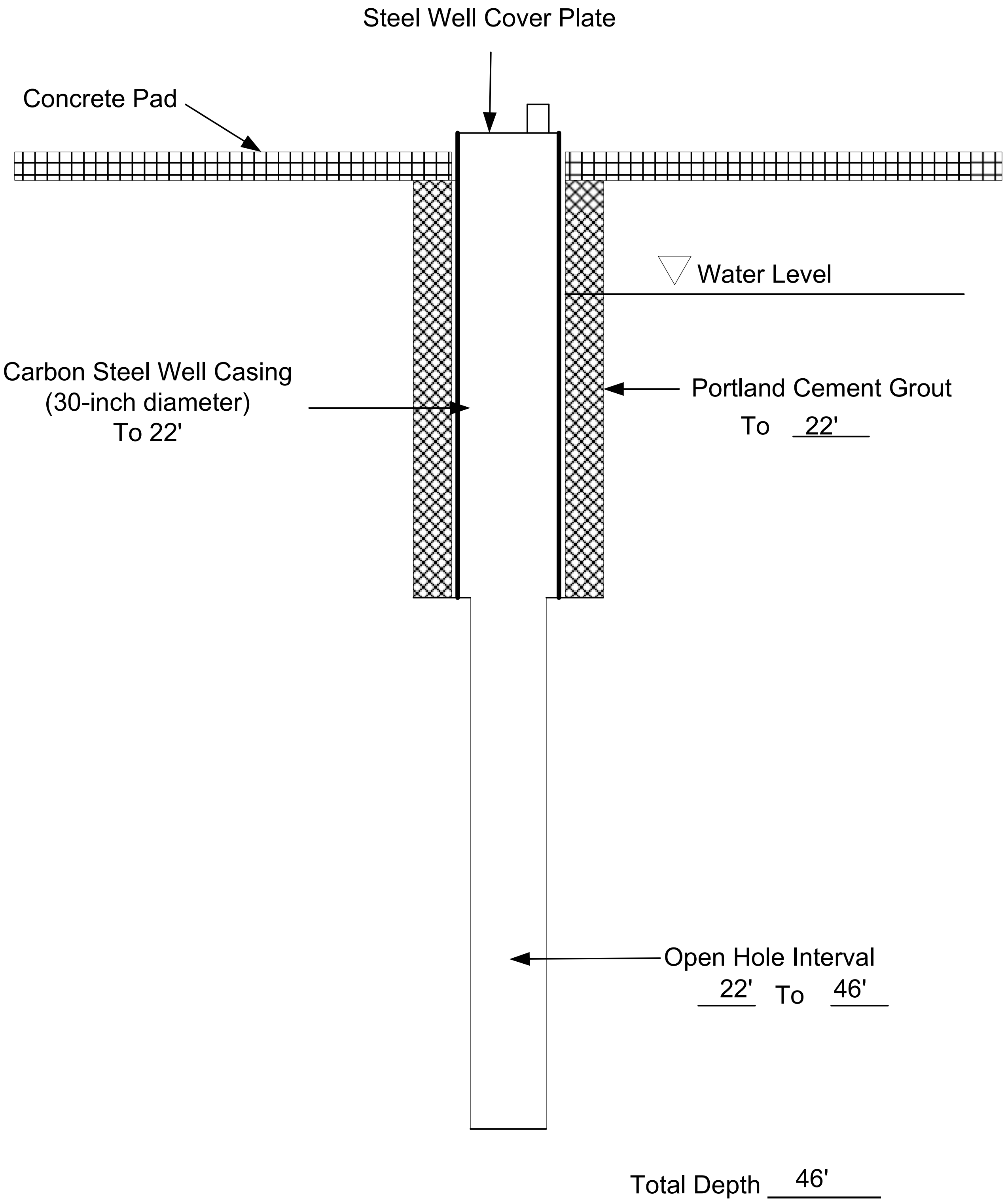
Project Number:101650	Project Name: Forida Power and Light	Date Start:1/8/09
Boring Number: MW-5	Coordinates:25" 26'22.7708 N; 80"19' 43.9645 W	Date End: 2/4/09
Elevation: 2.86' NAVD 88	Depth GW: 5.03 Date: 2/11/09	Sheet 1 of 1
Geologist/Engineer: D.Daigle	Depth GW: 6.42 Date: 2/20/09	
Drilling Method: Reverse Air		

Depth (FT)	Elevation (FT NAVD 88)	Sample Type	Blows/6 inch	DESCRIPTION	USCS	Visual Log		Remarks
1				Fill material (rock fragments, gravel, shell)				
2								
3								
4		SPT						
5				Peat-dark brown, plant material, sl. moist	PT			
6		drill cuttings						
7								
8								
9		SPT						
10								
11		drill cuttings						
12								
13								
14		SPT		Lt gray limestone, friable, sdy, few mollusk shells; some fossil shell casts, small voids; wet; (calcarenite); thin dolomite stringer at about 13;'				
15								
16		drill cuttings						
17								
18								
19		SPT						
20				mud loss 26'				
21								
22								
23		SPT						
24								
25								
26								
27		SPT						
28								
29								
30								
31								
32		drill cuttings						
33								
34								
35								
36								
37		drill cuttings						
38				Lt gray sandy limestone and tan-yellow coral fragments; yellow-brown calcite replaced coral, coral structure noted;				
39								
40								
41								
42				Total Depth 40'				
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								

APPENDIX B
WELL COMPLETION DIAGRAMS

Well ID PW-1

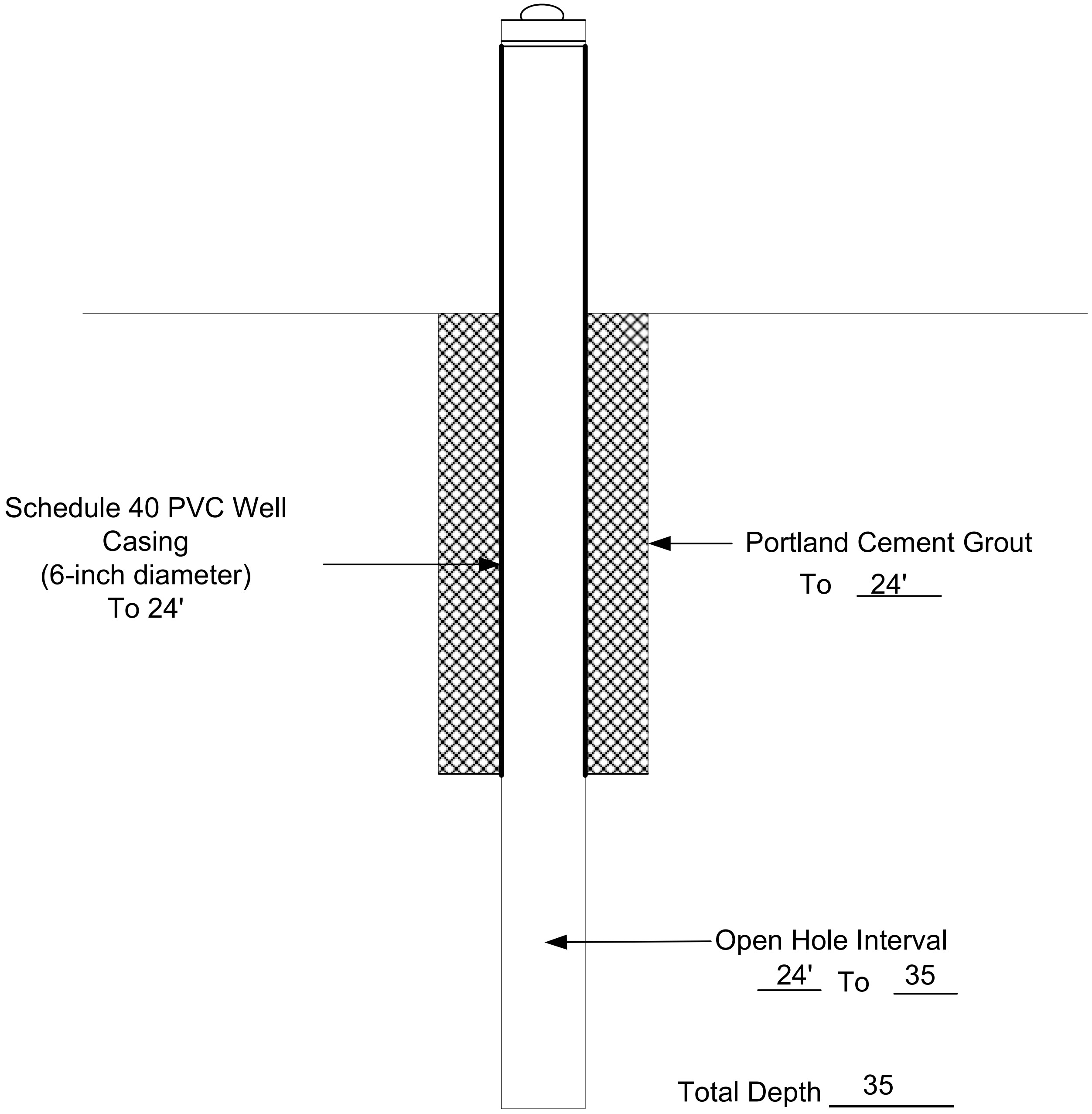
Steel Plate El=4.58' NAVD 88



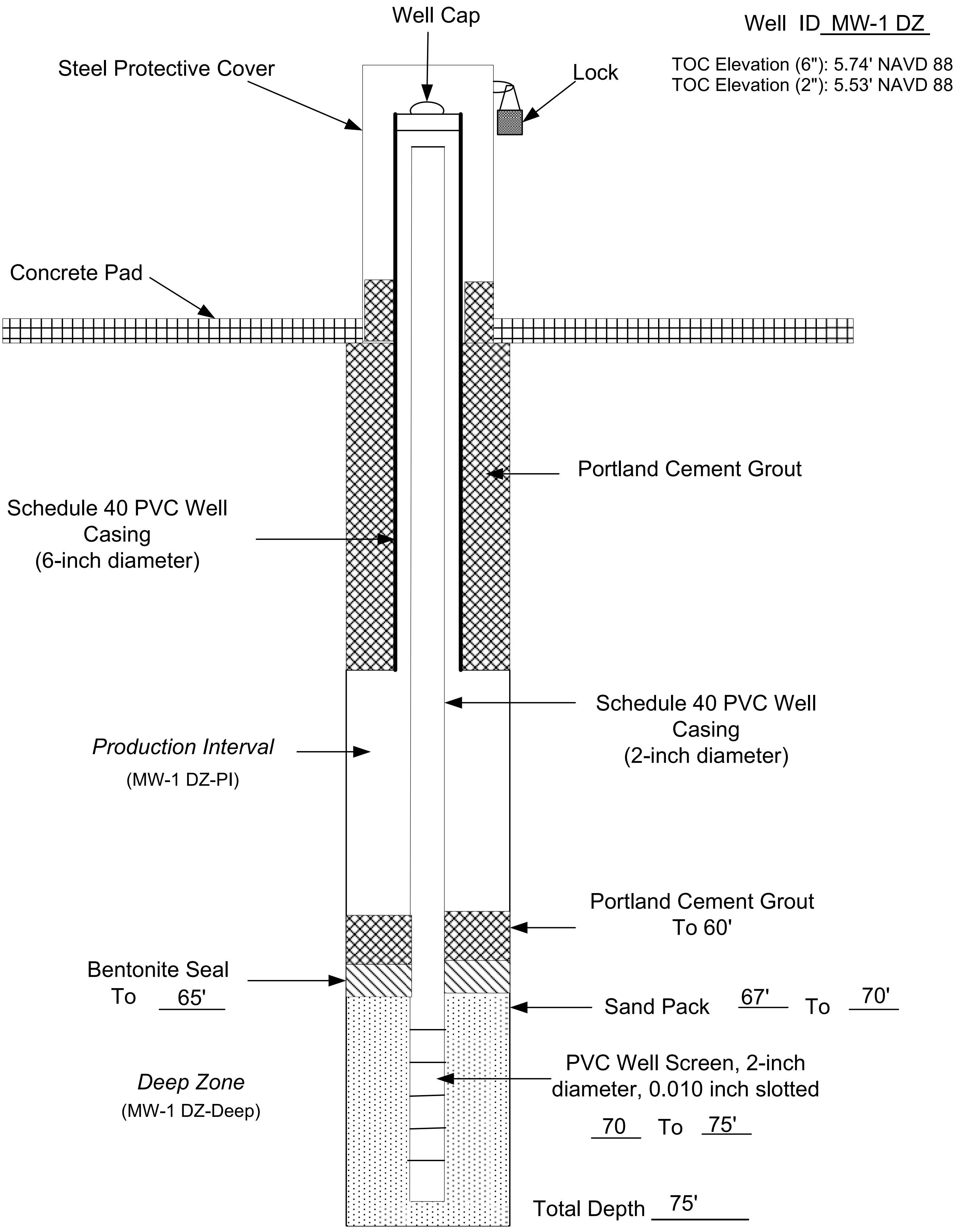
FPL Turkey Point APT
Test Production Well Detail

Well ID MW-1-IS

TOC Elevation: 5.99



FPL Turkey Point APT Monitoring Well Detail

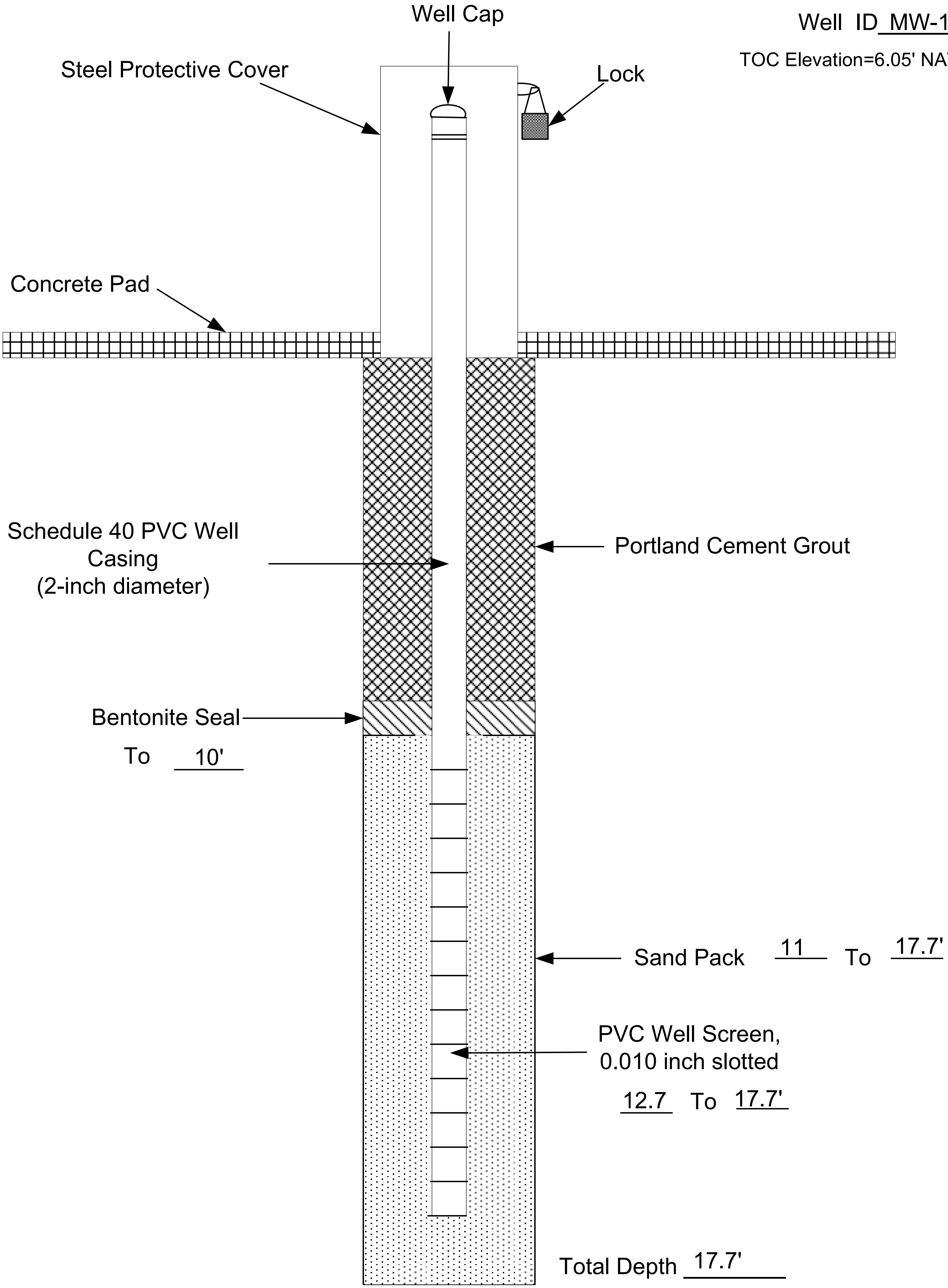


Florida Power and Light
Turkey Point APT
Dual Zone Monitoring Well Detail

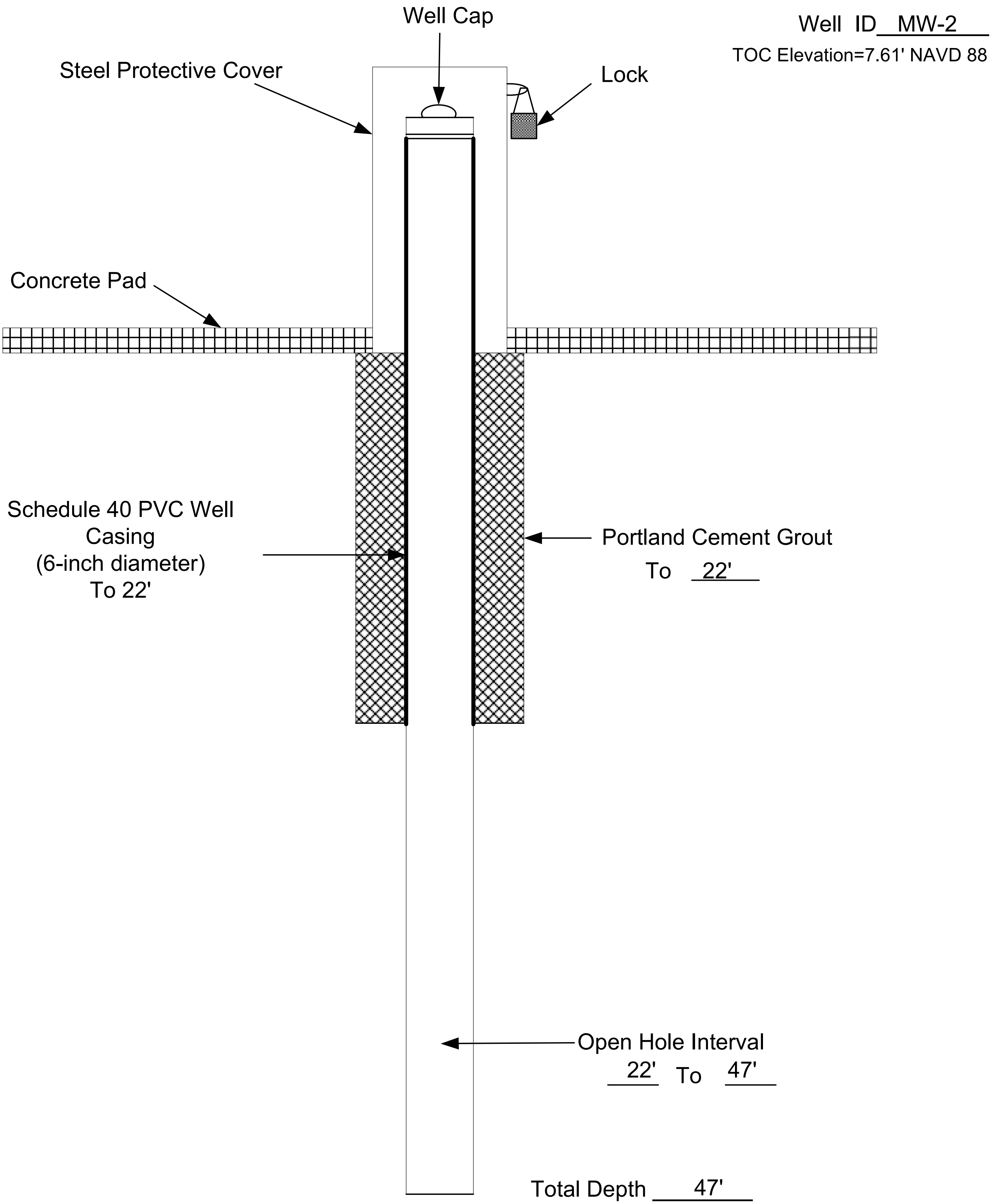
HDR | ONE COMPANY *Many Solutions*

Well ID MW-1 SS

TOC Elevation=6.05' NAVD 88



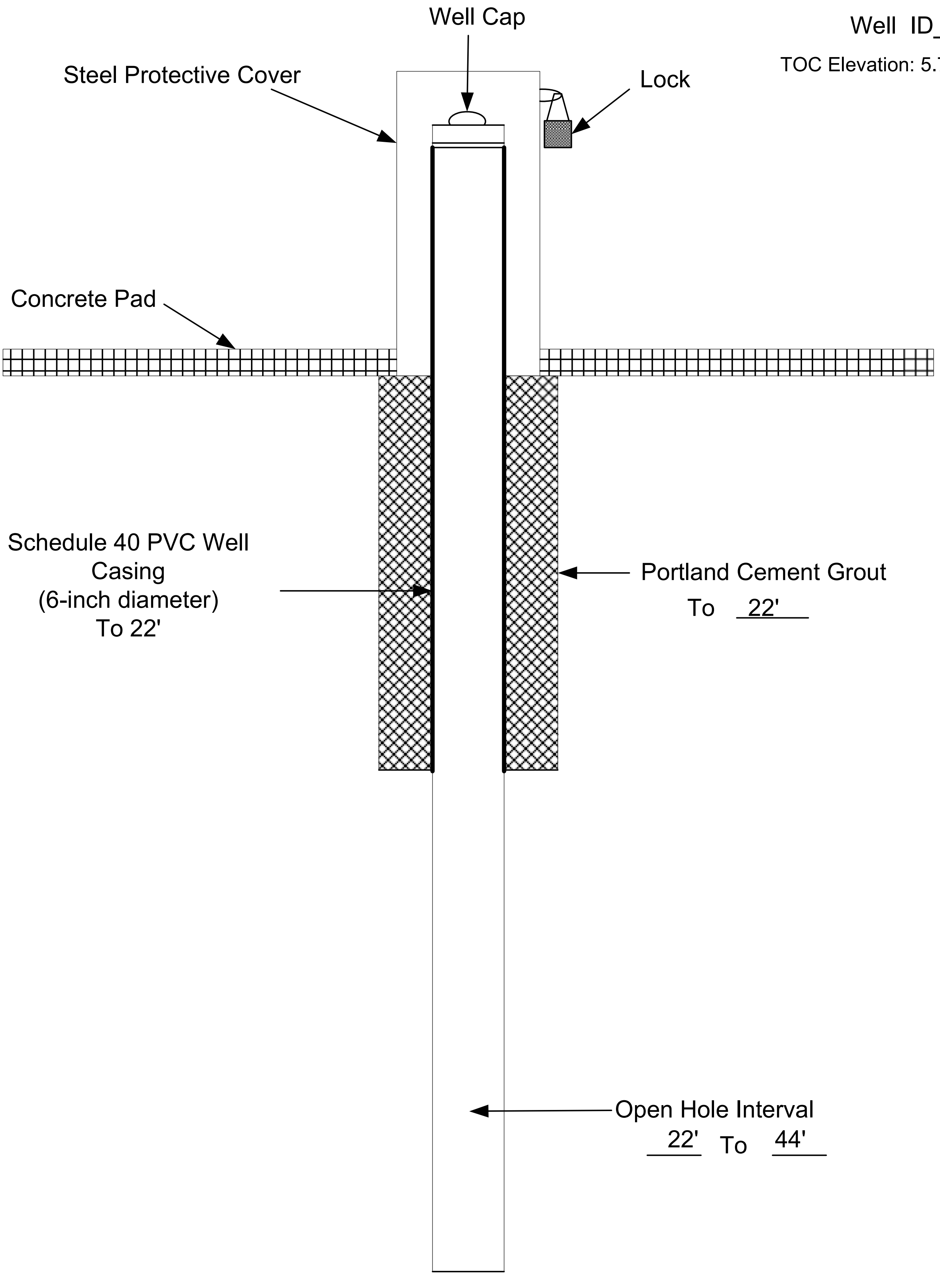
Florida Power and Light
Turkey Point APT
Monitoring Well Detail



FPL Turkey Point APT
Monitoring Well Detail

Well ID MW-3

TOC Elevation: 5.78' NAVD 88

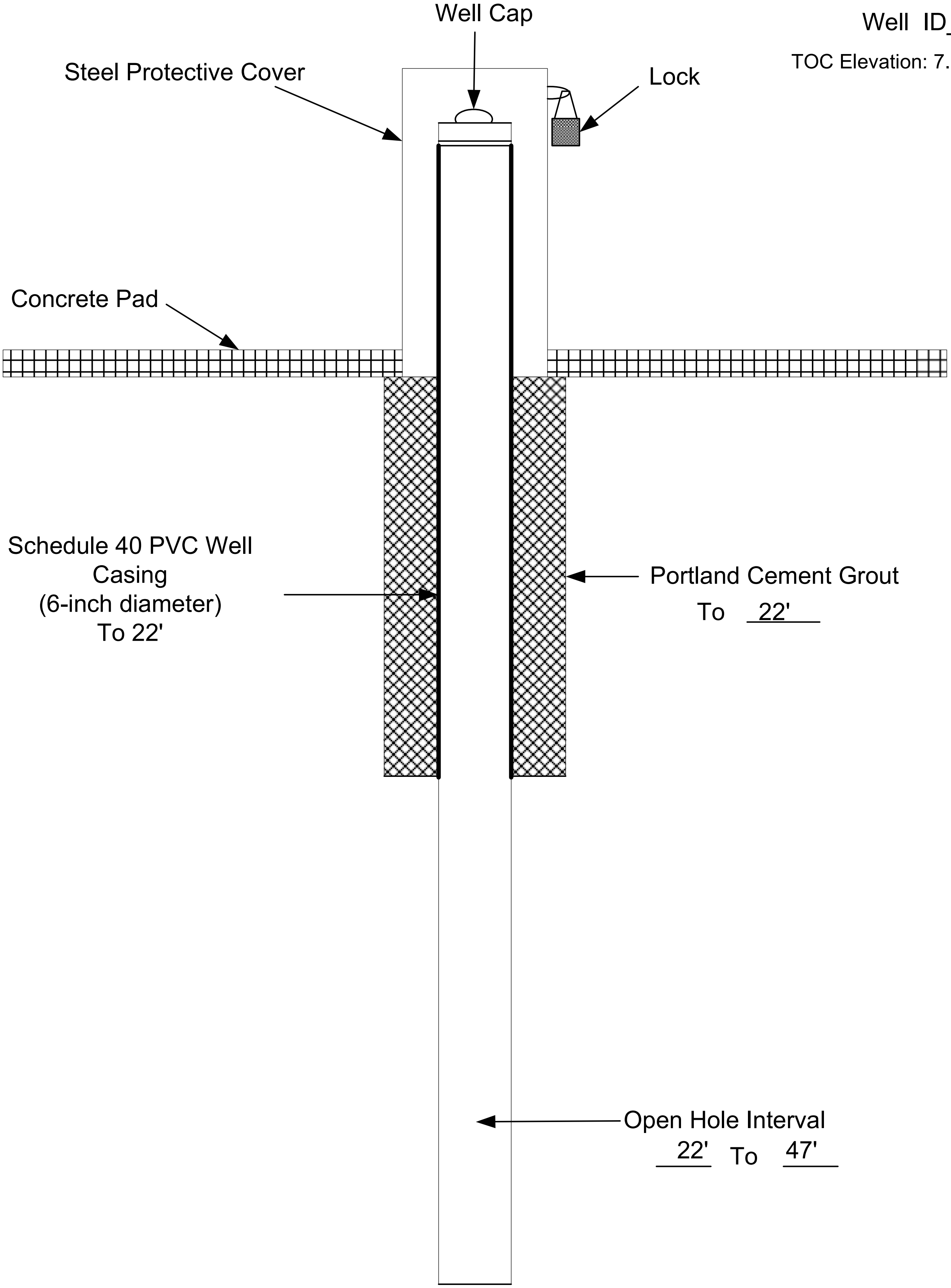


Total Depth 44'

FPL Turkey Point APT Monitoring Well Detail

Well ID MW-4

TOC Elevation: 7.32' NAVD 88



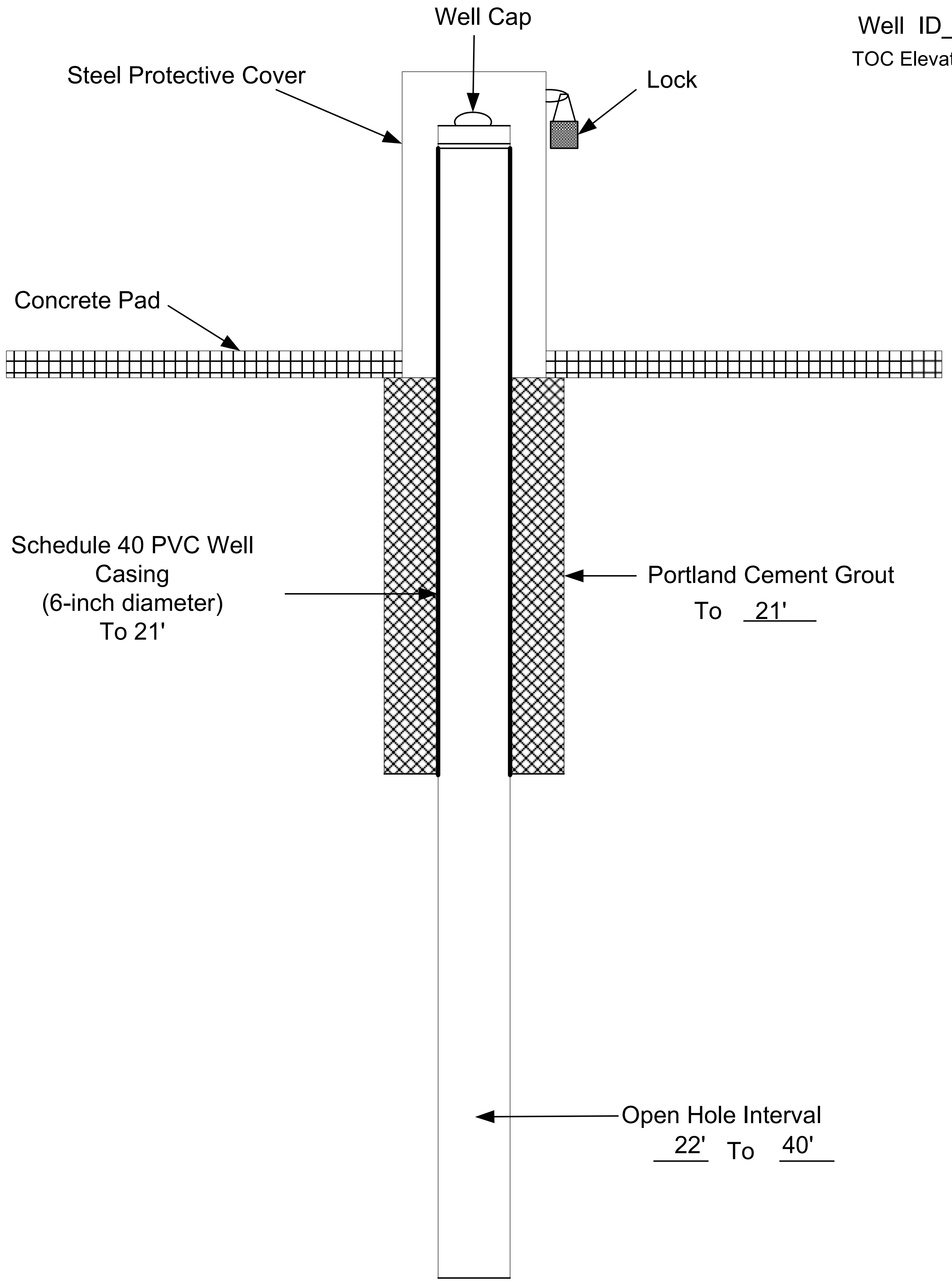
Total Depth 47'

FPL Turkey Point APT
Monitoring Well Detail

HDR ONE COMPANY *Many Solutions*

Well ID MW-5

TOC Elevation: 3.74



Total Depth 40'

FPL Turkey Point APT Monitoring Well Detail

APPENDIX C
SURVEY REPORT

MAKOWSKI & WRIGHT, INC.
LAND SURVEYORS - ENGINEERS - PLANNERS - GPS

Member
Florida Society of Professional Land Surveyors
American Congress on Surveying and Mapping
Florida Engineering Society

27 N.W. 13 STREET HOMESTEAD, FLORIDA 33030 - PHONE (305) 247-1356 - FAX (305) 247-1378
e-mail: makowskisurv@aol.com

Frank Makowski, P.E., P.L.S.

February 13, 2009

Andrea Jennings, Project Administrator
Diversified Drilling Corporation
5620 Lee Street
Lehigh Acres, Fl 33971

Re: Turkey Point Power Plant, Homestead, Fl, wellhead elevations and locations

Dear Ms. Jennings,

As a result of our on site measurements taken on February 11 and 12, 2009 we have compiled the following information;

Well #	**Elevation**	**Latitude (N)**	**Longitude (W)**
MW-1-DZ (2" pipe)	5.53'	25°26'12.2359"	80°19'17.3150"
MW-1-DZ (6" pipe)	5.74'	"	"
MW-1-IS	5.99'	25°26'12.3058"	80°19'17.2599"
MW-1-SS	6.05'	25°26'12.2972"	80°19'17.4014"
MW-2	7.61'	25°26'16.9299"	80°19'07.6459"
MW-3	5.78'	25°26'10.2903"	80°19'36.8590"
MW-4	7.32'	25°26'03.0608"	80°19'36.4789"
MW-5	3.74'	25°26'22.7708"	80°19'43.9645"
Well/Manhole	4.58'	25°26'12.7306"	80°19'16.6207"
Barge Canal-1 Gauge	4.76'	25°26'15.2132"	80°19'35.6518"
Cooling Canal Gauge	5.04'	25°26'05.3186"	80°19'37.3337"

Elevations are referenced to NAVD 88 . The benchmarks used were NGS, PID# AC1171, designation Y 314, elevation 14.14' , and NGS PID# AC1175, designation Z 314, elevation 0.76' .

Latitudes and longitudes were referenced from NGS, PID #AC4816, designation Turkey Point 3 RM 3, NAD 83 (1990) geographical coordinates. Azimuth reference points used were NGS PID# AC4242, designation Turkey Point FLP Co. N Stack and NGS PID# AC4241, designation Turkey Point FLP Co. S Stack , both referenced to NAD 83 (1990) geographical coordinates.

I hereby certify that this survey work meets the minimum technical standards in Chapter 61G17-6 Florida Administrative Code, pursuant to Section 472.027 Florida Statutes.

By____________________________________
Frank Makowski
Professional Land Surveyor # 2614
State of Florida

09-6819

APPENDIX D
PUMP RATE LOG

Appendix D
Pump Rate Log- Aquifer Performance Test 4

Date	Time	Pumping Rate (gpm)	Depth to Water (ft below TOC)
4/28/2009	1036	7171	16.87
4/28/2009	1100	7169	16.99
4/28/2009	1200	7204	17.01
4/28/2009	1300	7222	16.90
4/28/2009	1400	7217	16.99
4/28/2009	1500	7190	16.98
4/28/2009	1600	7151	17.15
4/28/2009	1700	7111	17.21
4/28/2009	1800	7106	17.23
4/28/2009	1900	7059	17.37
4/28/2009	2000	7043	17.40
4/28/2009	2100	7018	17.50
4/28/2009	2200	7044	17.51
4/28/2009	2300	7055	17.40
4/29/2009	0000	7103	17.30
4/29/2009	0100	7134	17.10
4/29/2009	0200	7189	17.00
4/29/2009	0300	7189	16.85
4/29/2009	0400	7161	17.00
4/29/2009	0500	7130	17.00
4/29/2009	0600	7104	17.13
4/29/2009	0700	7087	17.24
4/29/2009	0800	7114	17.39
4/29/2009	0900	7049	17.43
4/29/2009	1000	7052	17.43
4/29/2009	1100	7086	17.40
4/29/2009	1200	7108	17.23
4/29/2009	1300	7130	17.05
4/29/2009	1400	7176	16.90
4/29/2009	1500	7176	16.85
4/29/2009	1600	7144	16.95
4/29/2009	1700	7122	17.10
4/29/2009	1800	7096	17.20
4/29/2009	1900	7064	17.20
4/29/2009	2000	7031	17.35
4/29/2009	2100	6601	17.45
4/29/2009	2200	7007	17.50

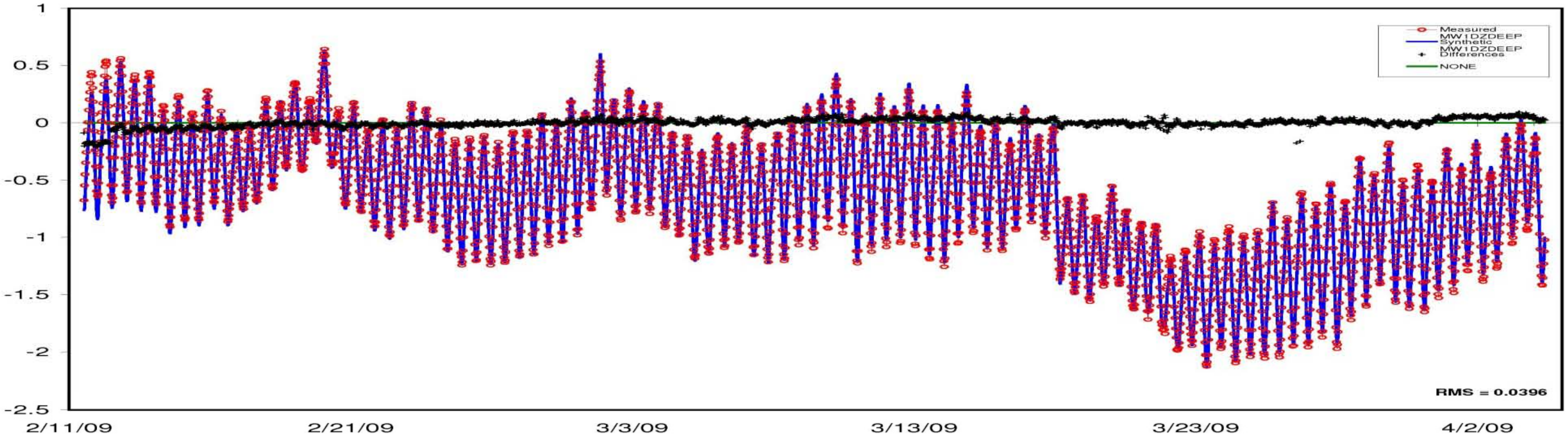
Date	Time	Pumping Rate (gpm)	Depth to Water (ft below TOC)
4/29/2009	2300	7022	17.48
4/30/2009	0000	7052	17.39
4/30/2009	0100	7096	17.18
4/30/2009	0200	7148	16.90
4/30/2009	0300	7173	16.93
4/30/2009	0400	7179	16.83
4/30/2009	0500	7148	16.91
4/30/2009	0600	7127	16.81
4/30/2009	0700	7100	17.11
4/30/2009	0800	7077	17.25
4/30/2009	0900	7060	17.30
4/30/2009	1000	7054	17.40
4/30/2009	1100	7059	17.40
4/30/2009	1200	7081	17.20
4/30/2009	1300	7108	17.15
4/30/2009	1400	7141	17.05
4/30/2009	1500	7160	16.95
4/30/2009	1600	7177	16.90
4/30/2009	1700	7149	17.00
4/30/2009	1800	7126	17.10
4/30/2009	1900	7051	17.20
4/30/2009	2000	7056	16.80
4/30/2009	2100	7041	17.44
4/30/2009	2200	7031	17.45
4/30/2009	2300	7025	17.45
5/1/2009	0000	7040	17.41
5/1/2009	0100	7075	17.18
5/1/2009	0200	7139	17.08
5/1/2009	0300	7150	16.90
5/1/2009	0400	7184	16.81
5/1/2009	0500	7178	16.90
5/1/2009	0600	7142	16.87
5/1/2009	0700	7136	16.85
5/1/2009	0800	7109	17.15
5/1/2009	0900	7099	17.15
5/1/2009	1000	7059	17.20
5/1/2009	1100	7038	17.40
5/1/2009	1200	7042	17.35
5/1/2009	1300	7055	17.25
5/1/2009	1400	7091	17.20

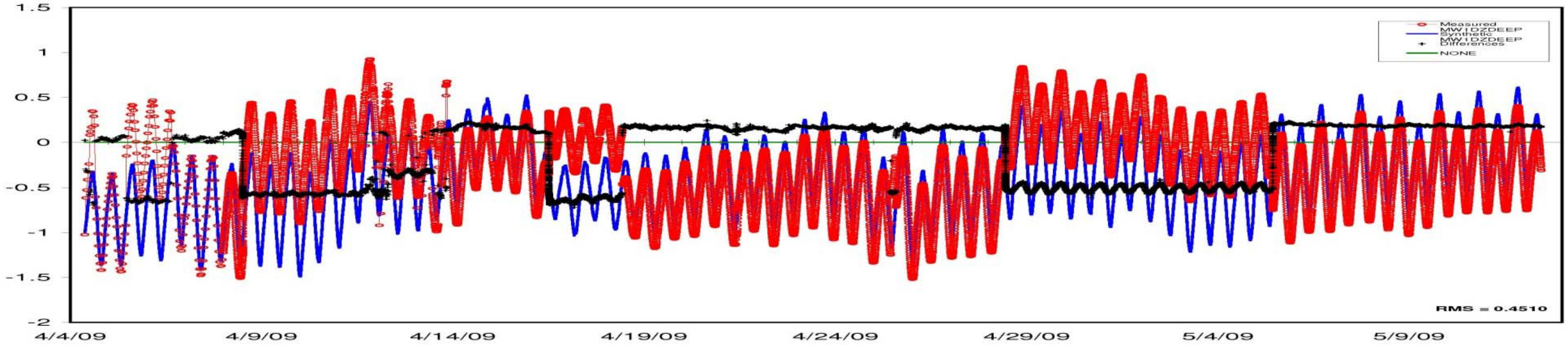
Date	Time	Pumping Rate (gpm)	Depth to Water (ft below TOC)
5/1/2009	1500	7113	17.05
5/1/2009	1600	7159	16.95
5/1/2009	1700	7164	16.90
5/1/2009	1800	7136	16.95
5/1/2009	1900	7113	17.05
5/1/2009	2000	7073	17.20
5/1/2009	2100	7057	16.98
5/1/2009	2200	7036	17.22
5/1/2009	2300	7005	17.47
5/2/2009	0000	7002	17.45
5/2/2009	0100	7009	17.45
5/2/2009	0200	7033	17.10
5/2/2009	0300	7065	17.10
5/2/2009	0400	7108	16.93
5/2/2009	0500	7156	16.47
5/2/2009	0600	7153	16.77
5/2/2009	0700	7148	16.86
5/2/2009	0800	7120	17.00
5/2/2009	0900	7090	17.10
5/2/2009	1000	7081	17.20
5/2/2009	1100	7037	17.35
5/2/2009	1200	7021	17.35
5/2/2009	1300	7023	17.30
5/2/2009	1400	7042	17.20
5/2/2009	1500	7085	17.10
5/2/2009	1600	7114	16.95
5/2/2009	1700	7145	16.80
5/2/2009	1800	7171	16.65
5/2/2009	1900	7166	16.70
5/2/2009	2000	7121	16.80
5/2/2009	2100	7106	16.89
5/2/2009	2200	7076	16.98
5/2/2009	2300	7074	17.10
5/3/2009	0000	7044	17.24
5/3/2009	0100	7020	17.32
5/3/2009	0200	7043	17.13
5/3/2009	300	7085	17.00
5/3/2009	0400	7133	16.90
5/3/2009	0500	7161	16.69
5/3/2009	0600	7187	16.95

Date	Time	Pumping Rate (gpm)	Depth to Water (ft below TOC)
5/3/2009	0700	7200	16.58
5/3/2009	0800	7169	16.70
5/3/2009	0900	7144	16.75
5/3/2009	1000	7134	16.90
5/3/2009	1100	7088	17.05
5/3/2009	1200	7074	17.15
5/3/2009	1300	7046	17.15
5/3/2009	1400	7045	17.20
5/3/2009	1500	7050	17.10
5/3/2009	1600	7097	17.00
5/3/2009	1700	7117	16.80
5/3/2009	1800	7154	16.70
5/3/2009	1900	7175	16.62
5/3/2009	2000	7160	16.58
5/3/2009	2100	7138	16.73
5/3/2009	2200	7111	16.87
5/3/2009	2300	7096	16.93
5/4/2009	0000	7058	17.20
5/4/2009	0100	7037	17.09
5/4/2009	0200	7024	17.32
5/4/2009	0300	7034	17.19
5/4/2009	0400	7060	17.00
5/4/2009	0500	7112	16.83
5/4/2009	0600	7139	16.70
5/4/2009	0700	7144	16.64
5/4/2009	0800	7186	16.50
5/4/2009	0900	7148	16.70
5/4/2009	1000	7136	16.90
5/4/2009	1100	7105	17.00
5/4/2009	1200	7084	17.10
5/4/2009	1300	7054	17.20
5/4/2009	1400	7023	17.25
5/4/2009	1500	7014	17.30
5/4/2009	1600	7024	17.20
5/4/2009	1700	7060	17.15
5/4/2009	1800	7103	16.95
5/4/2009	1900	7128	16.80
5/4/2009	2000	7156	16.59
5/4/2009	2100	7164	16.69
5/4/2009	2200	7138	16.73

Date	Time	Pumping Rate (gpm)	Depth to Water (ft below TOC)
5/4/2009	2300	7102	17.00
5/5/2009	0000	7060	17.10
5/5/2009	0100	7041	17.29
5/5/2009	0200	7014	17.38
5/5/2009	0300	7000	17.29
5/5/2009	0400	7015	17.30
5/5/2009	0500	7047	17.15
5/5/2009	0600	7080	17.14
5/5/2009	0700	7123	16.91
5/5/2009	0800	7146	16.81
5/5/2009	0900	7159	16.71
5/5/2009	1000	7135	16.90
Average		**7097**	**17**

APPENDIX E
TIME SERIES MODEL GRAPHS





FPL

Florida Power and Light

HDR

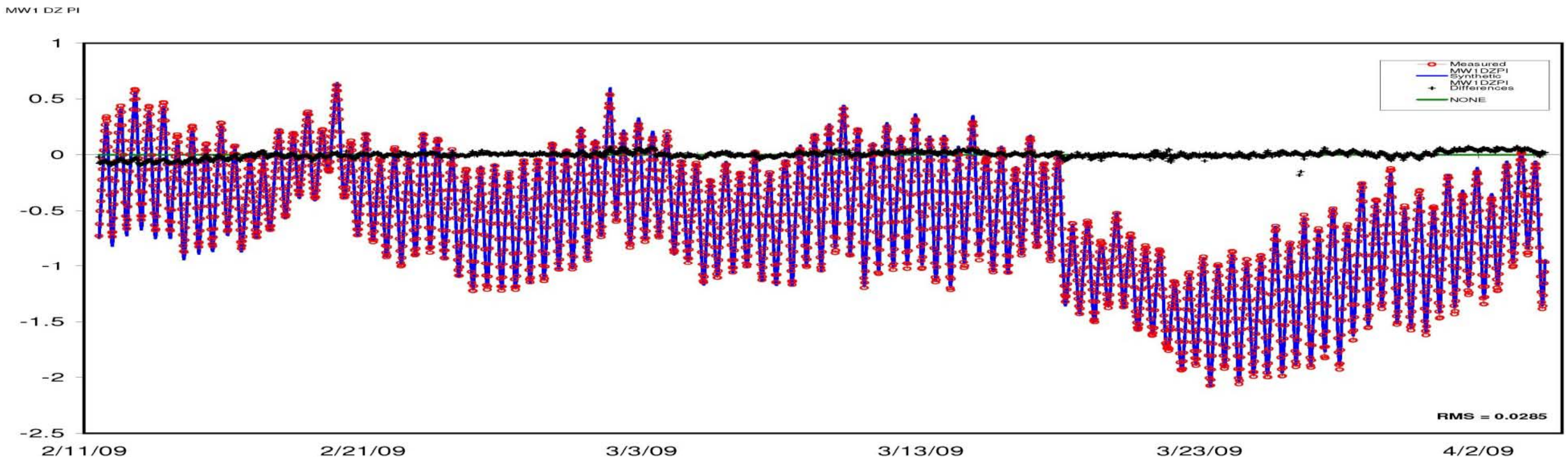
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

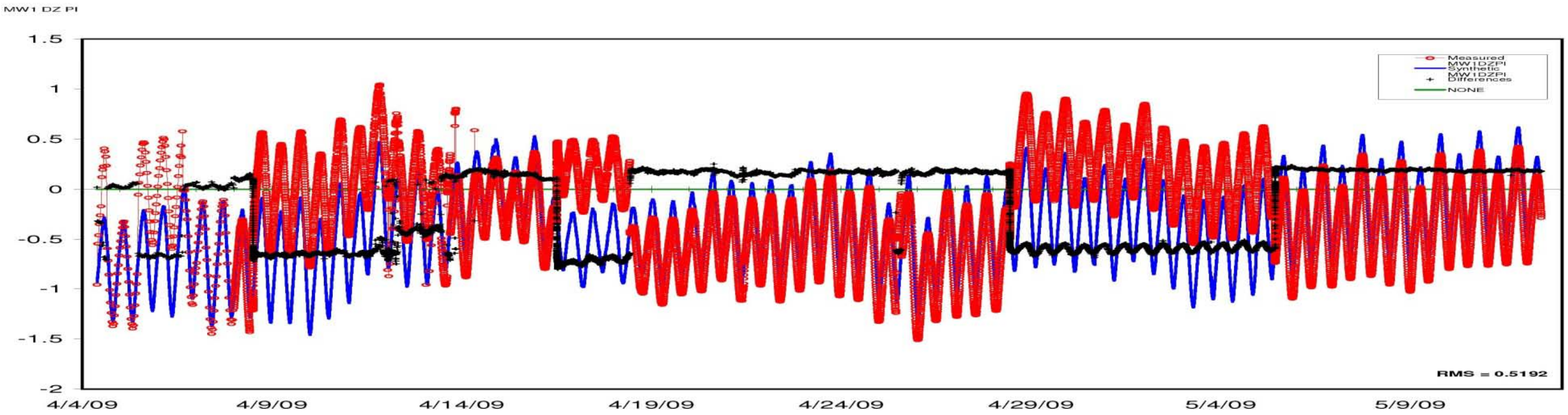
MW1 DZ Deep

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE





Florida Power and Light

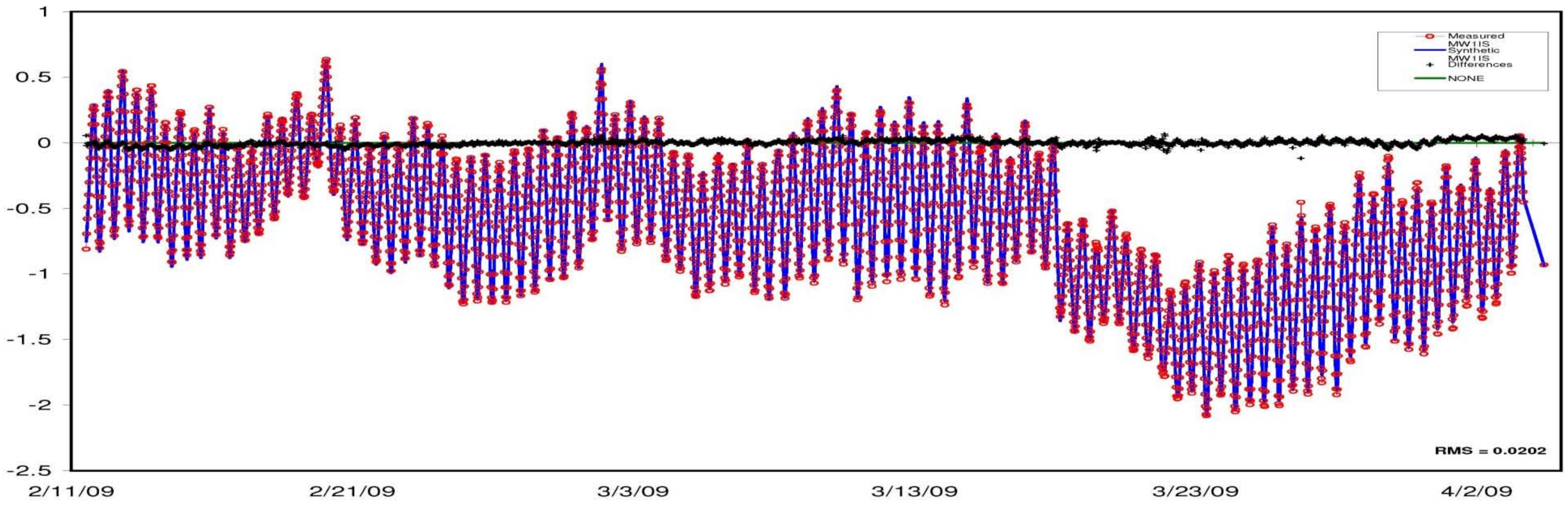
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

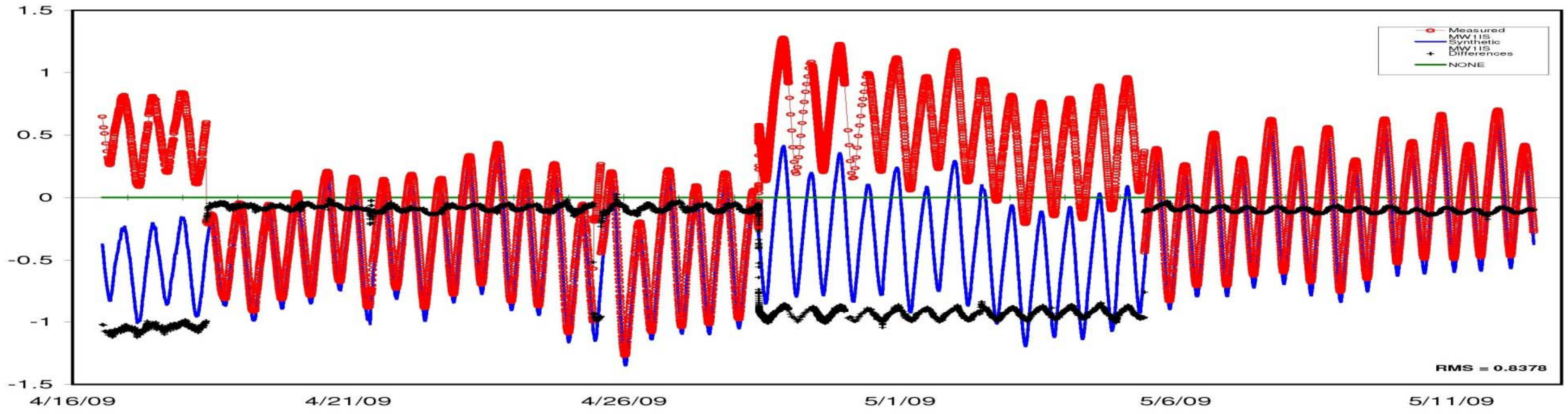
MW1 DZ PI

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE





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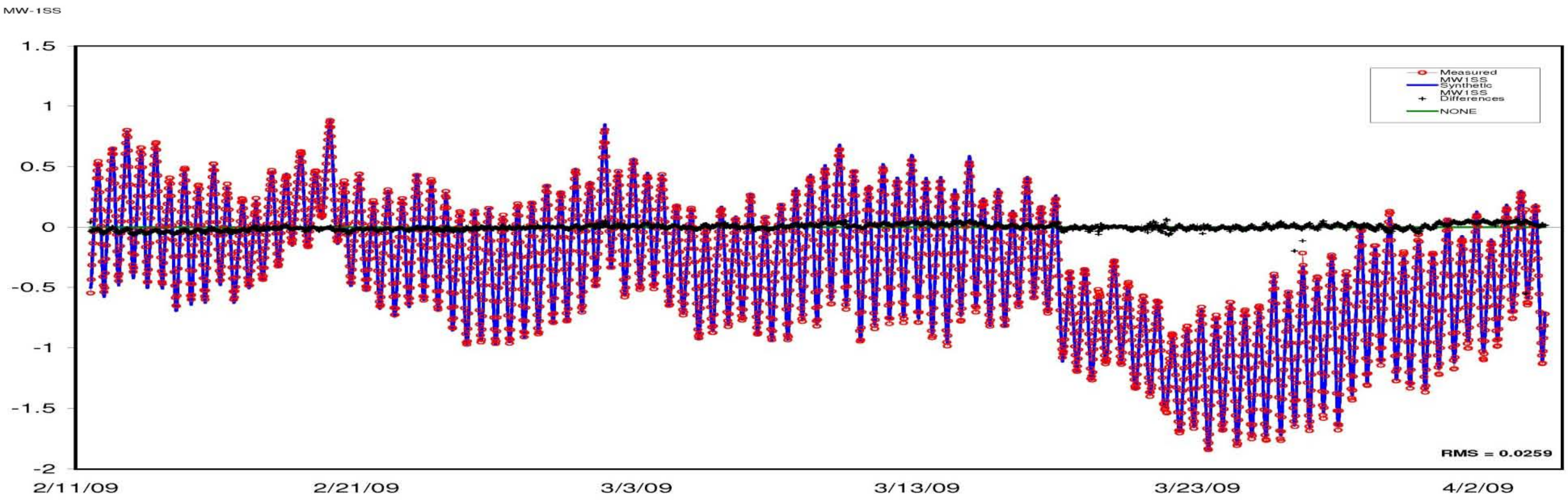
Tampa, Florida 33609

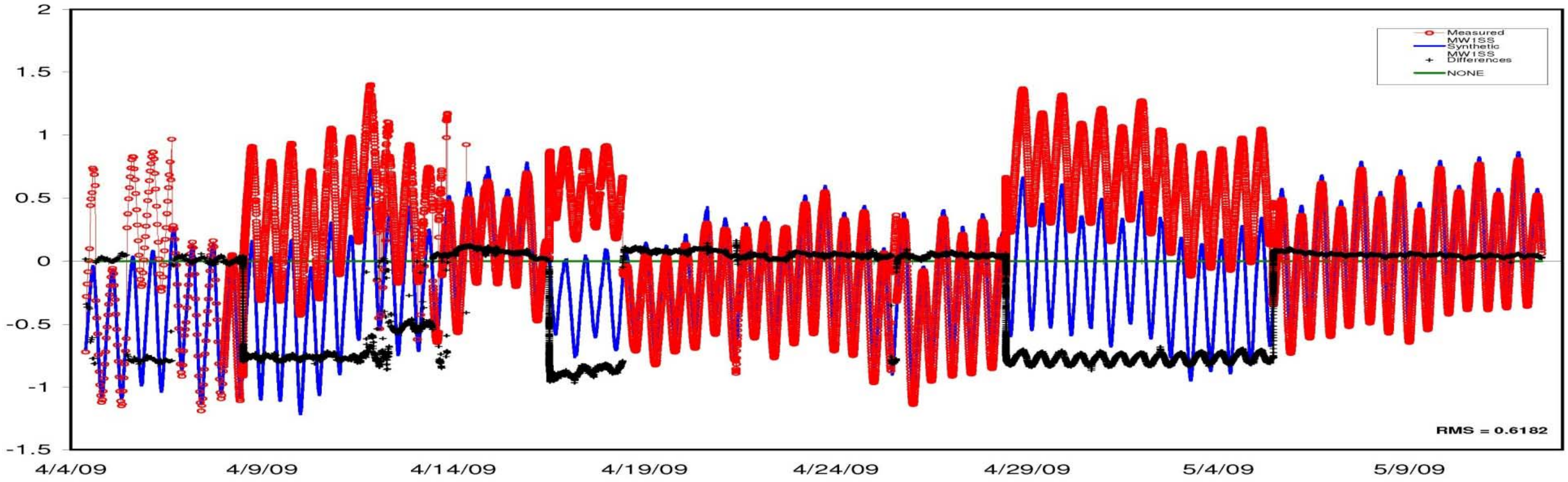
MW1 IS

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE





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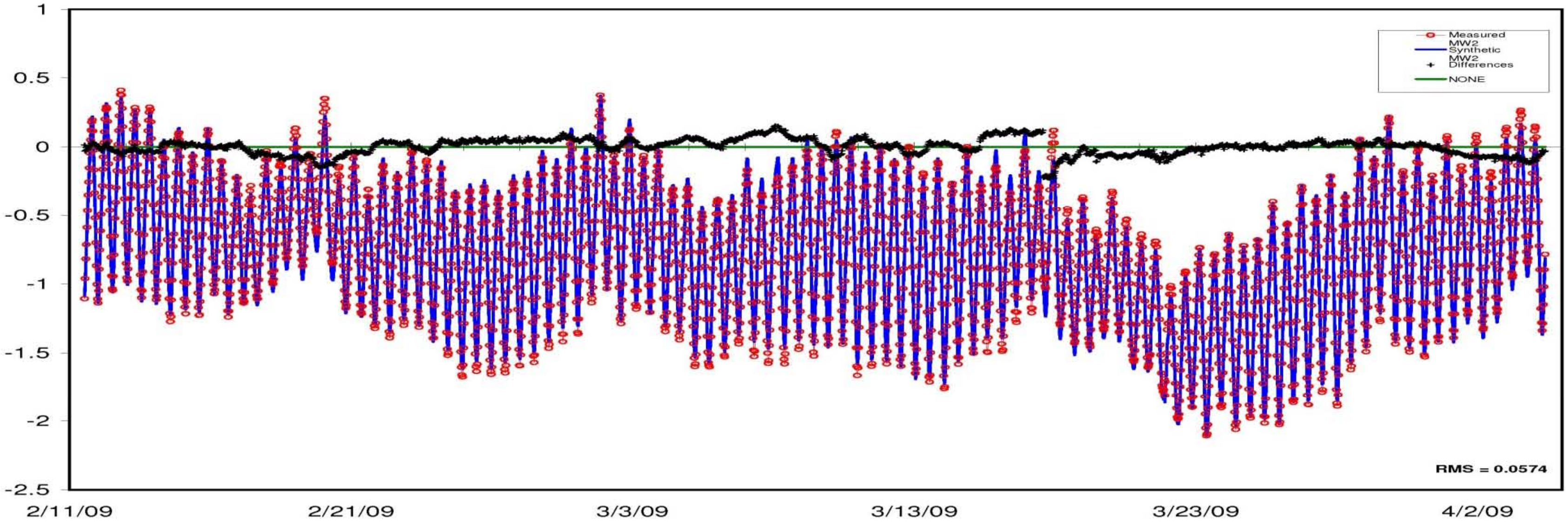
Tampa, Florida 33609

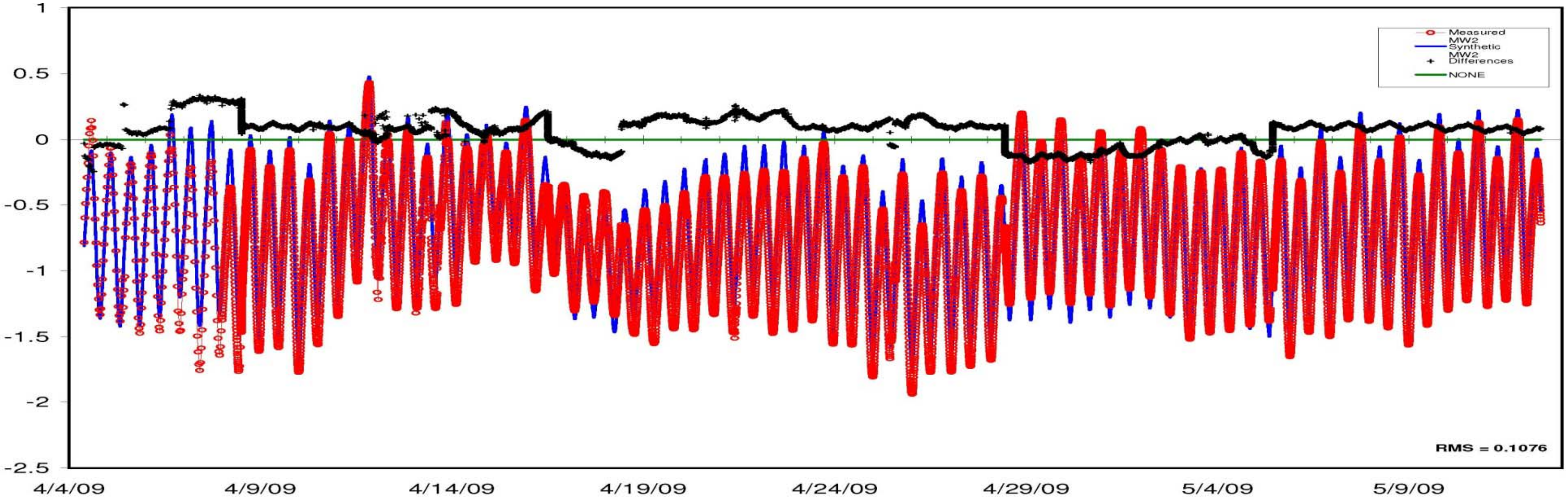
MW1SS

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE





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HDR Engineering, Inc.
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Suite 400
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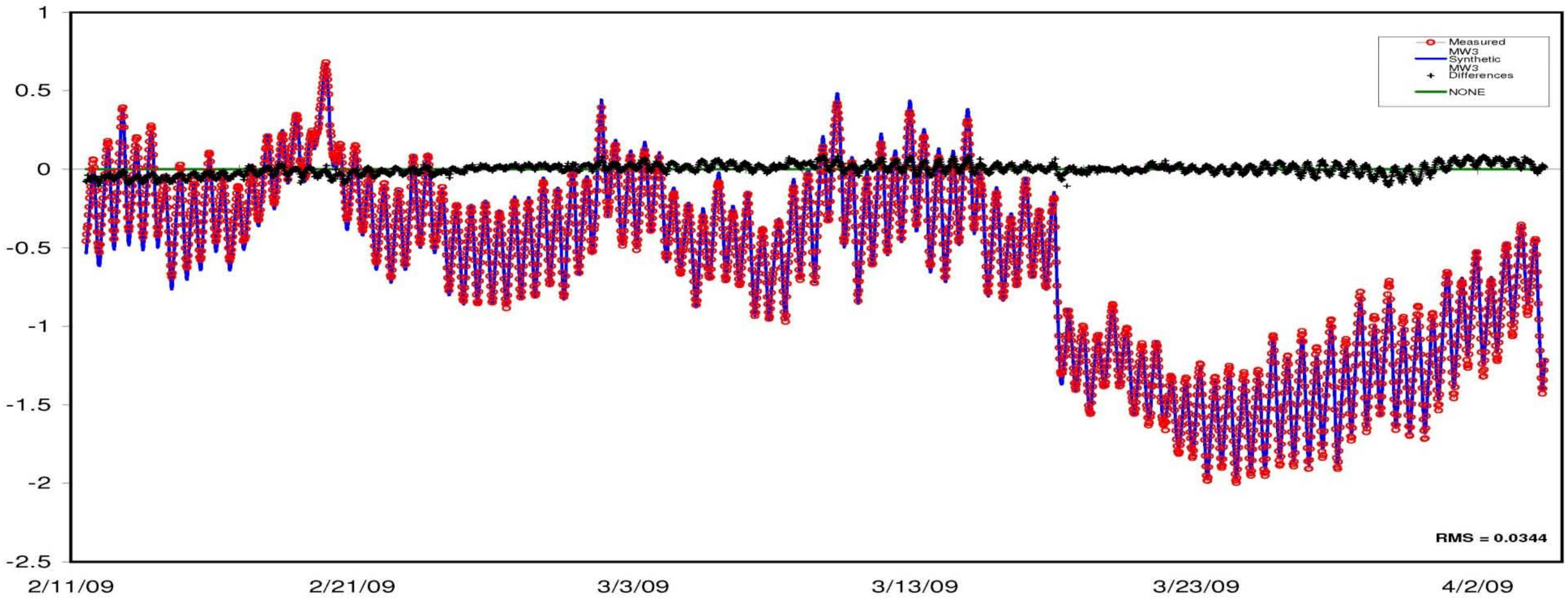
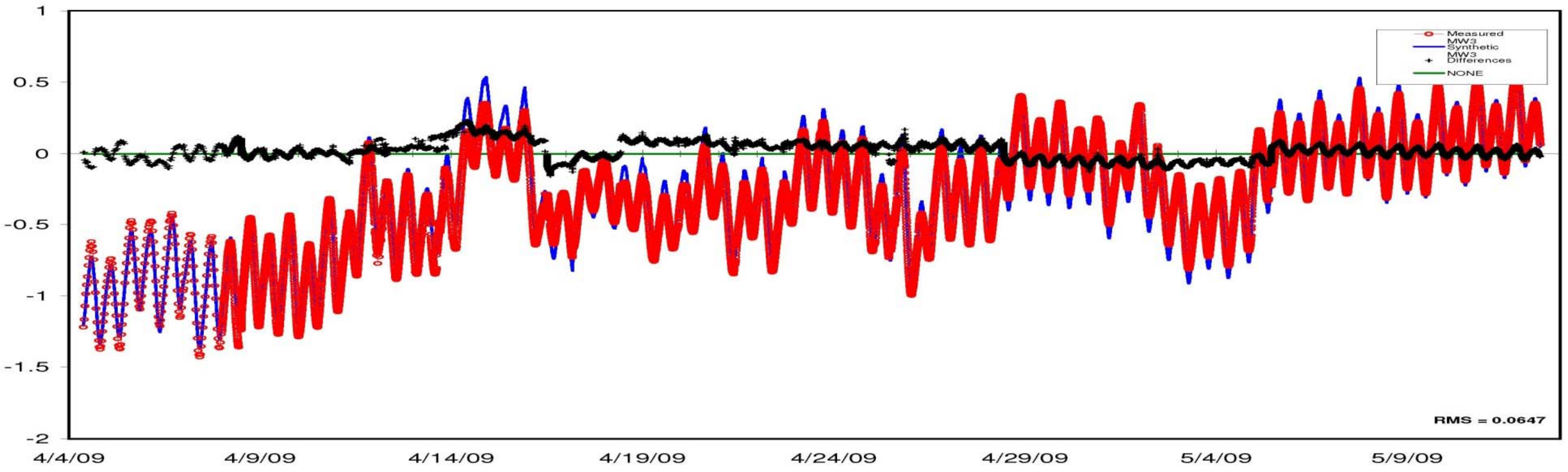
MW2

Turkey Point Exploratory Drilling and Testing Program

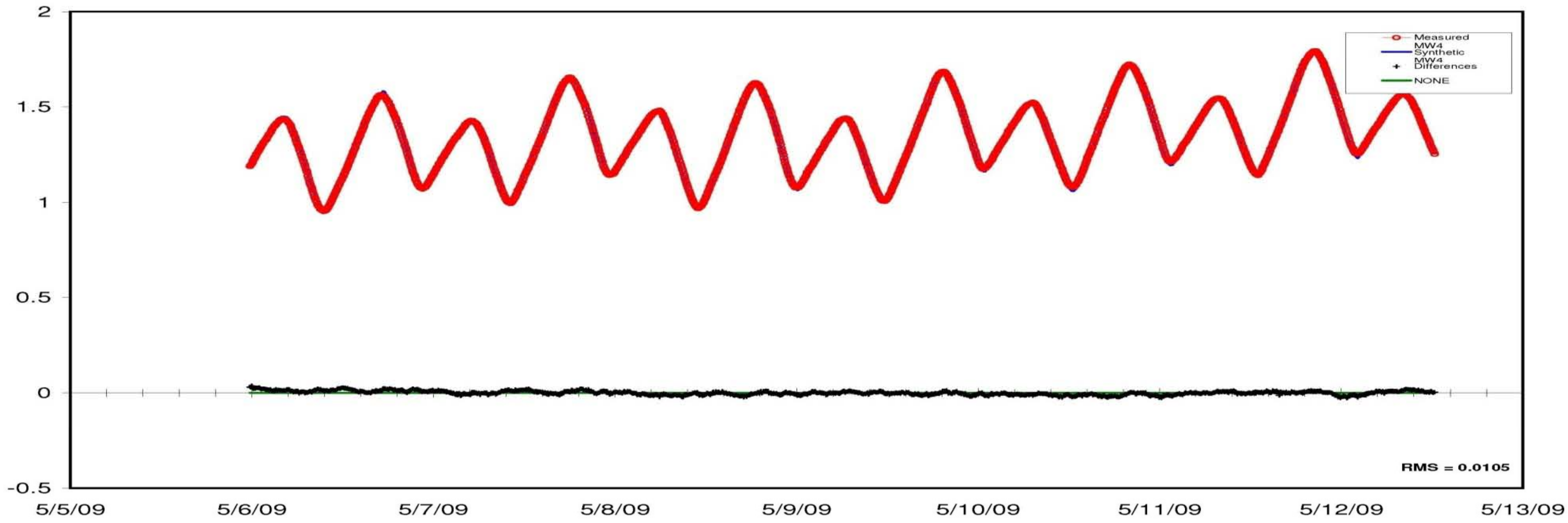
DATE

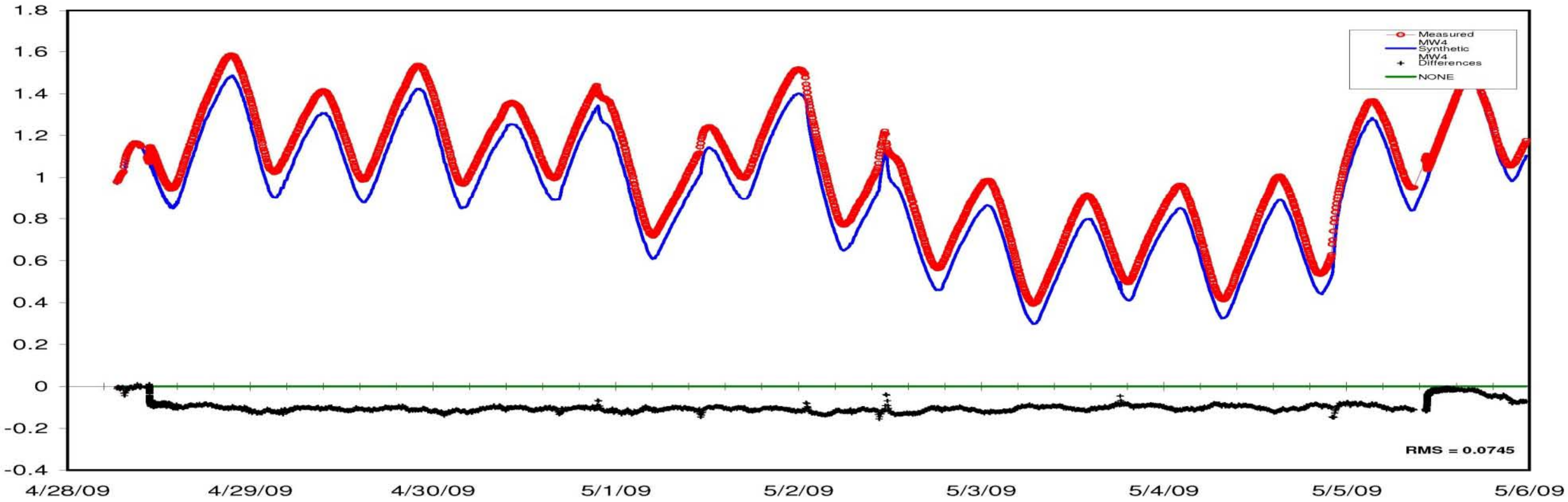
FIGURE





Florida Power and Light	HDR Engineering, Inc. 5426 Bay Center Drive Suite 400 Tampa, Florida 33609	MW3 Turkey Point Exploratory Drilling and Testing Program	DATE FIGURE





FPL

Florida Power and Light

HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW4

Turkey Point Exploratory Drilling and Testing Program

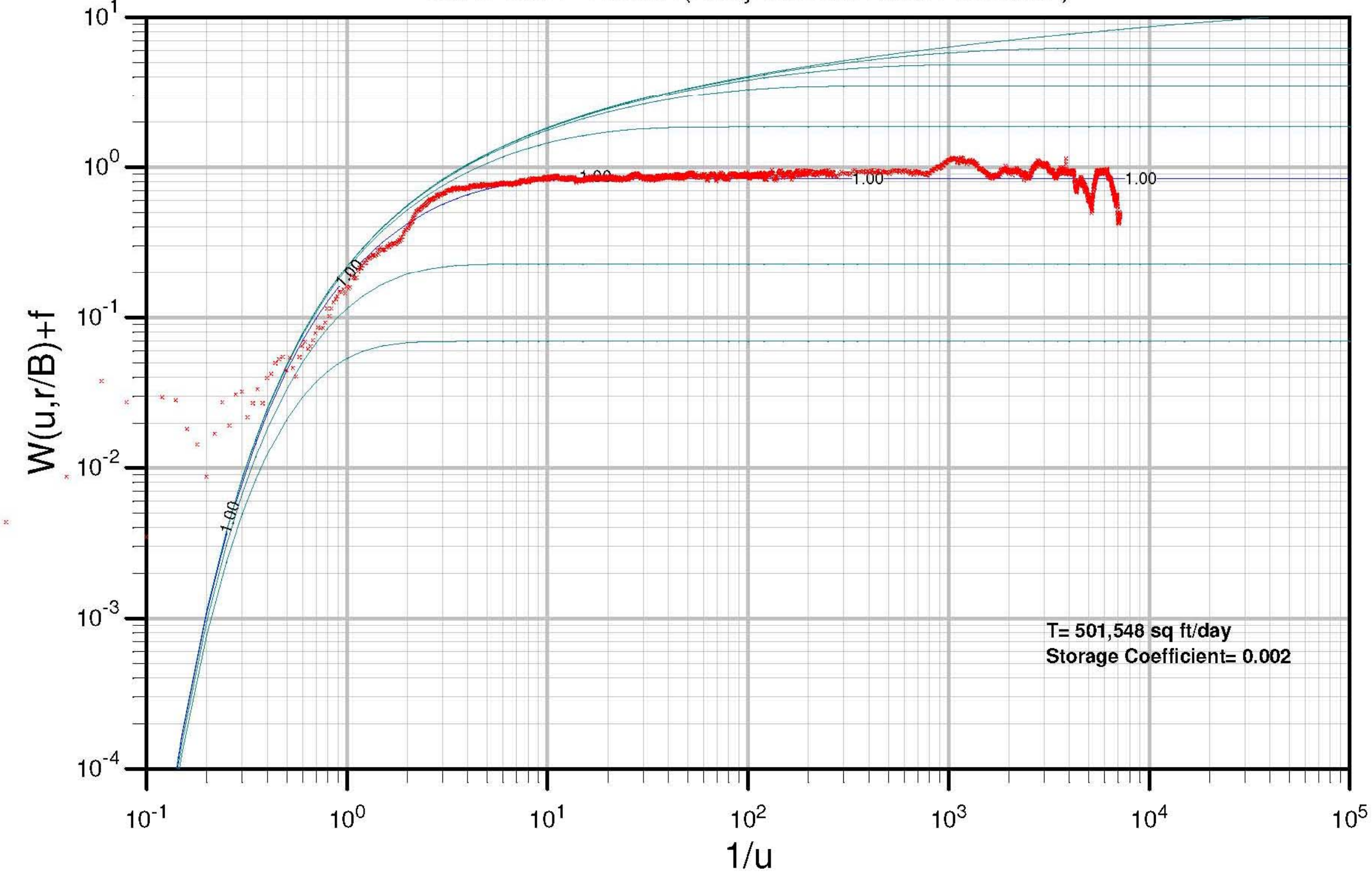
DATE

FIGURE

APPENDIX F
TYPE CURVE MATCHES

Turkey Point APT

MW-2 Test 4 - Hantush (Leaky Confined Partial Penetration)



AquiferWin, Environmental Simulations, Inc.

Florida Power and Light

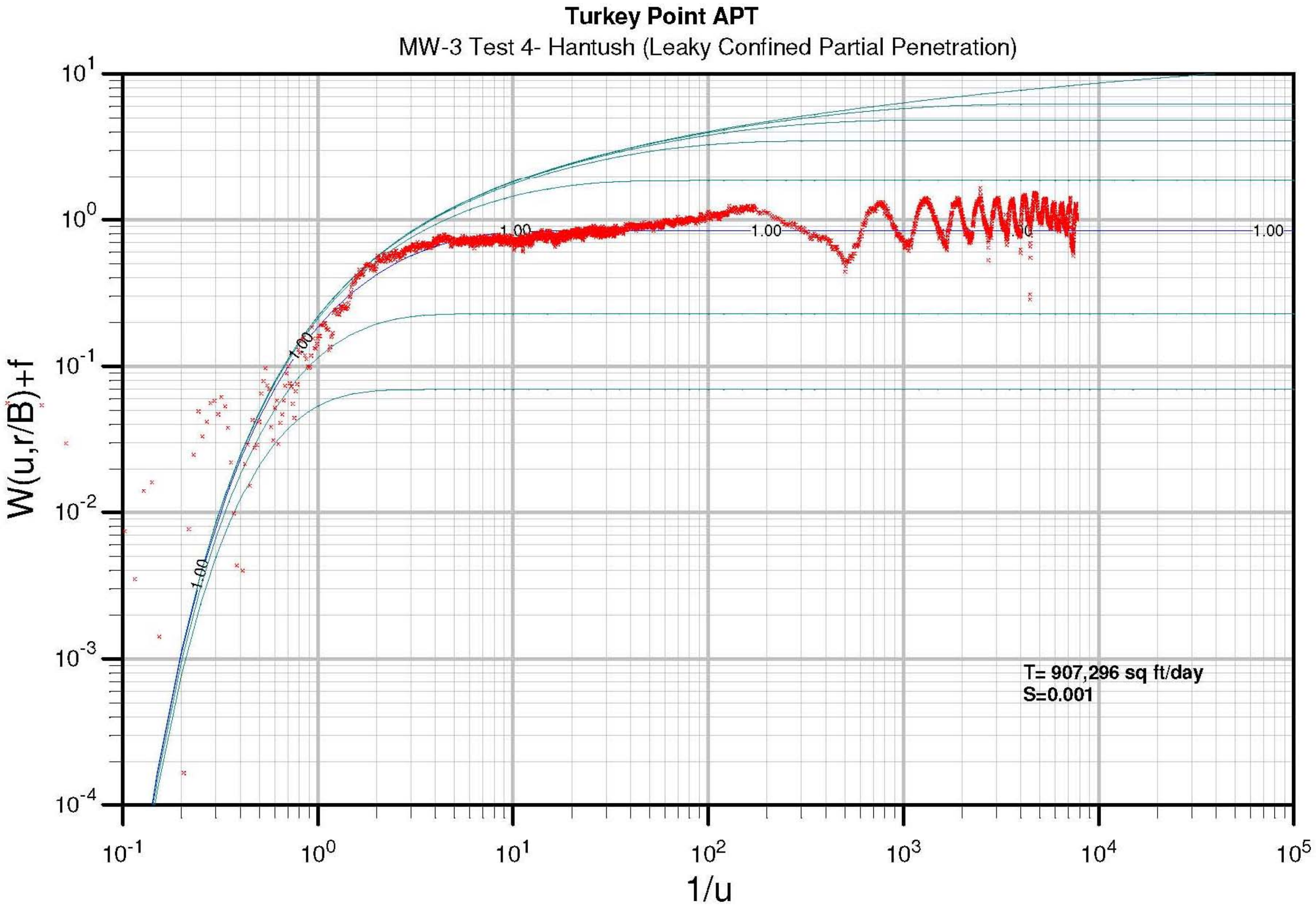
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW2 Test 4 Hantush

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



AquiferWin, Environmental Simulations, Inc.

Florida Power and Light

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW3 Test 4 Hantush

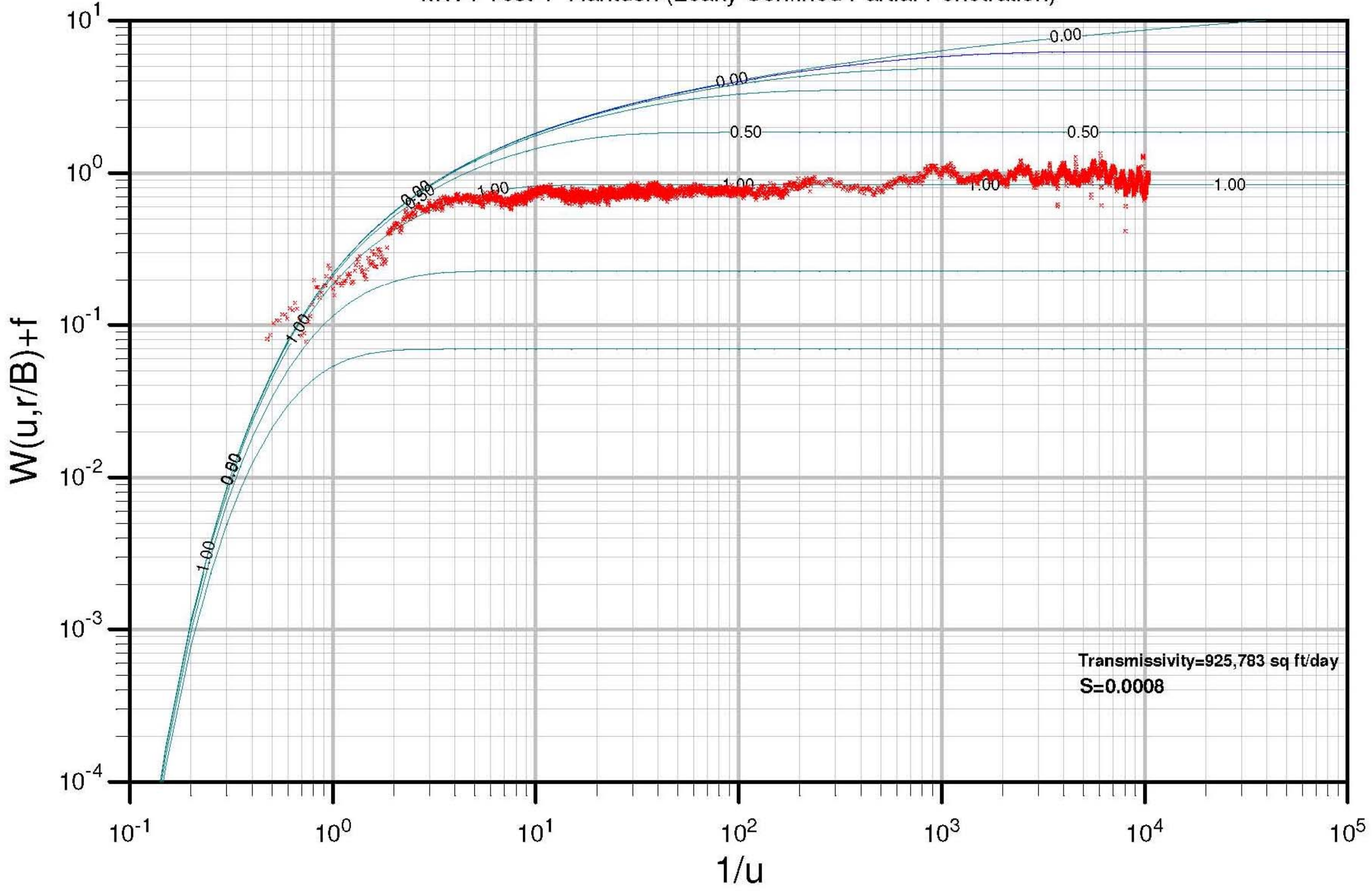
Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE

Turkey Point APT

MW4 Test 4- Hantush (Leaky Confined Partial Penetration)



Transmissivity=925,783 sq ft/day

S=0.0008

AquiferWin, Environmental Simulations, Inc.

Florida Power and Light

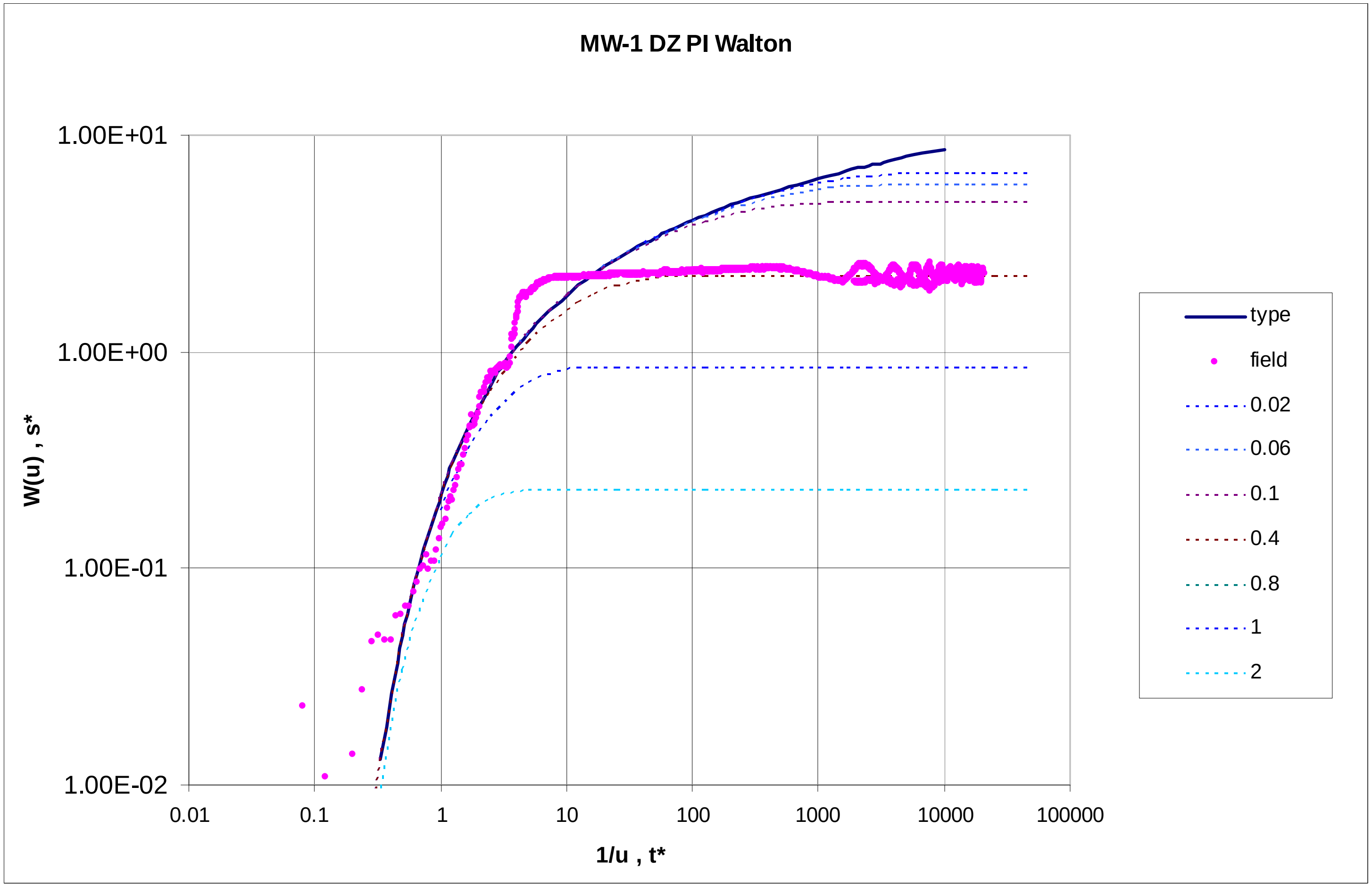
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW4 Test 4 - Hantush

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



Q (ft^3/d)	r (ft)	T (ft^2/d)	S
1443850	80	3.68E+05	1.2E-06

r/B	K'/b'
0.4	9.2E+00

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HDR Engineering, Inc.
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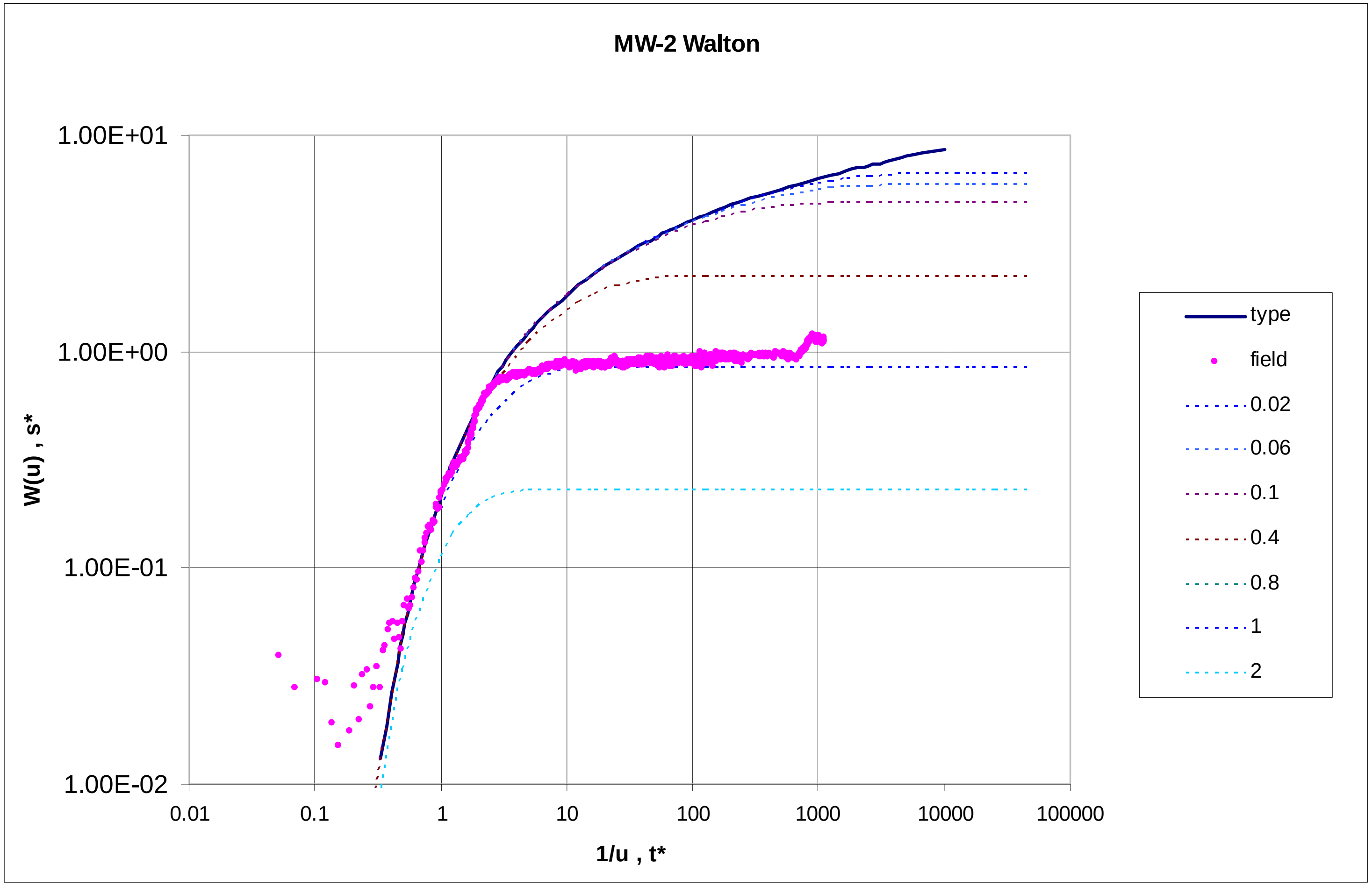
Suite 400
Tampa, Florida 33609

MW-1 DZ PI Walton

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



Q (ft^3/d)	r (ft)	T (ft^2/d)	S
1443850	925	5.17E+05	2.8E-04

r/B	K'/b'
0.4	9.7E-02

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Florida Power and Light

HDR

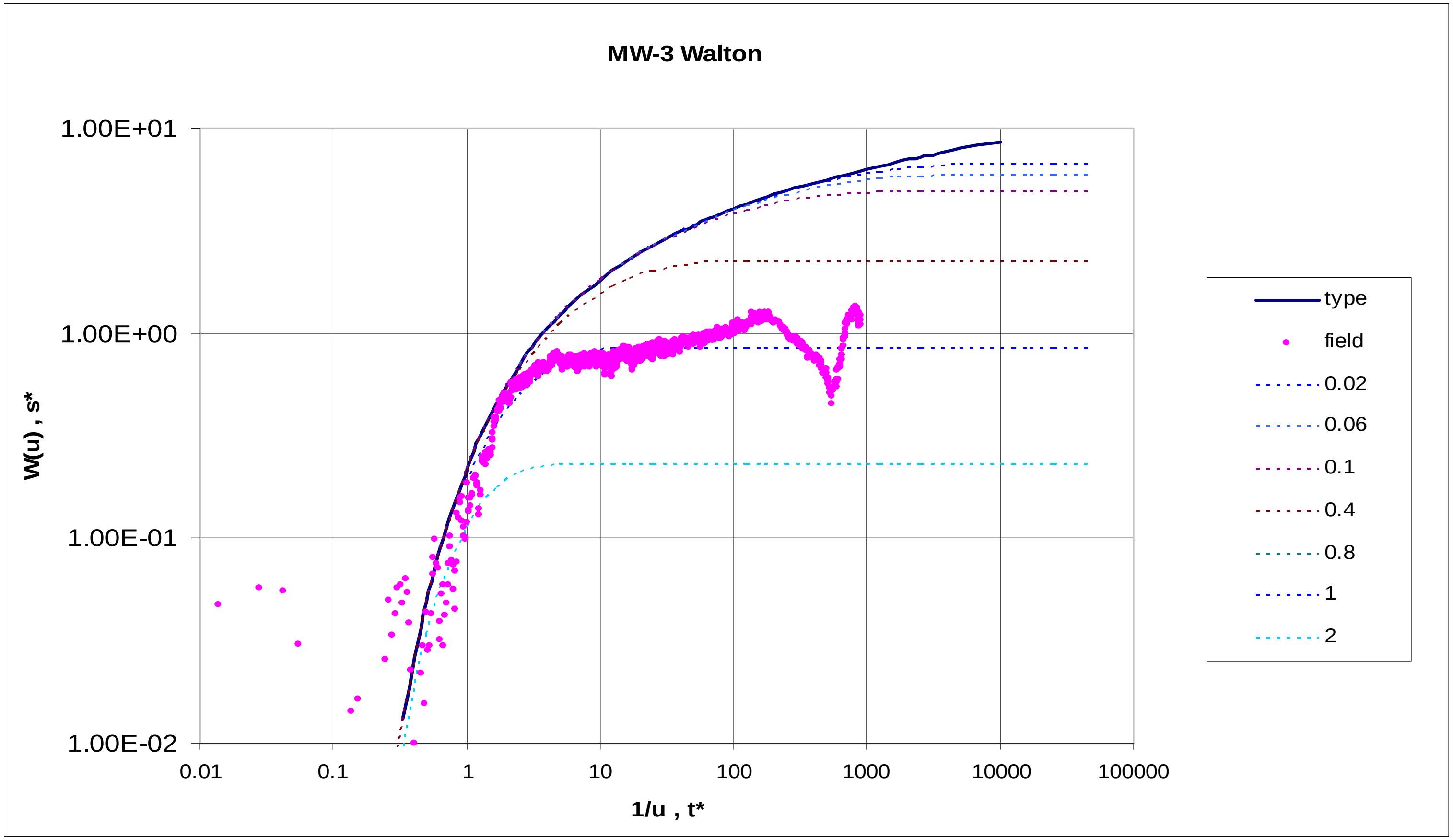
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW-2 Walton

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



Q (ft^3/d)	r (ft)	T (ft^2/d)	S
1443850	1810	9.77E+05	7.0E-04

r/B	K'/b'
0.4	4.8E-02

Florida Power and Light

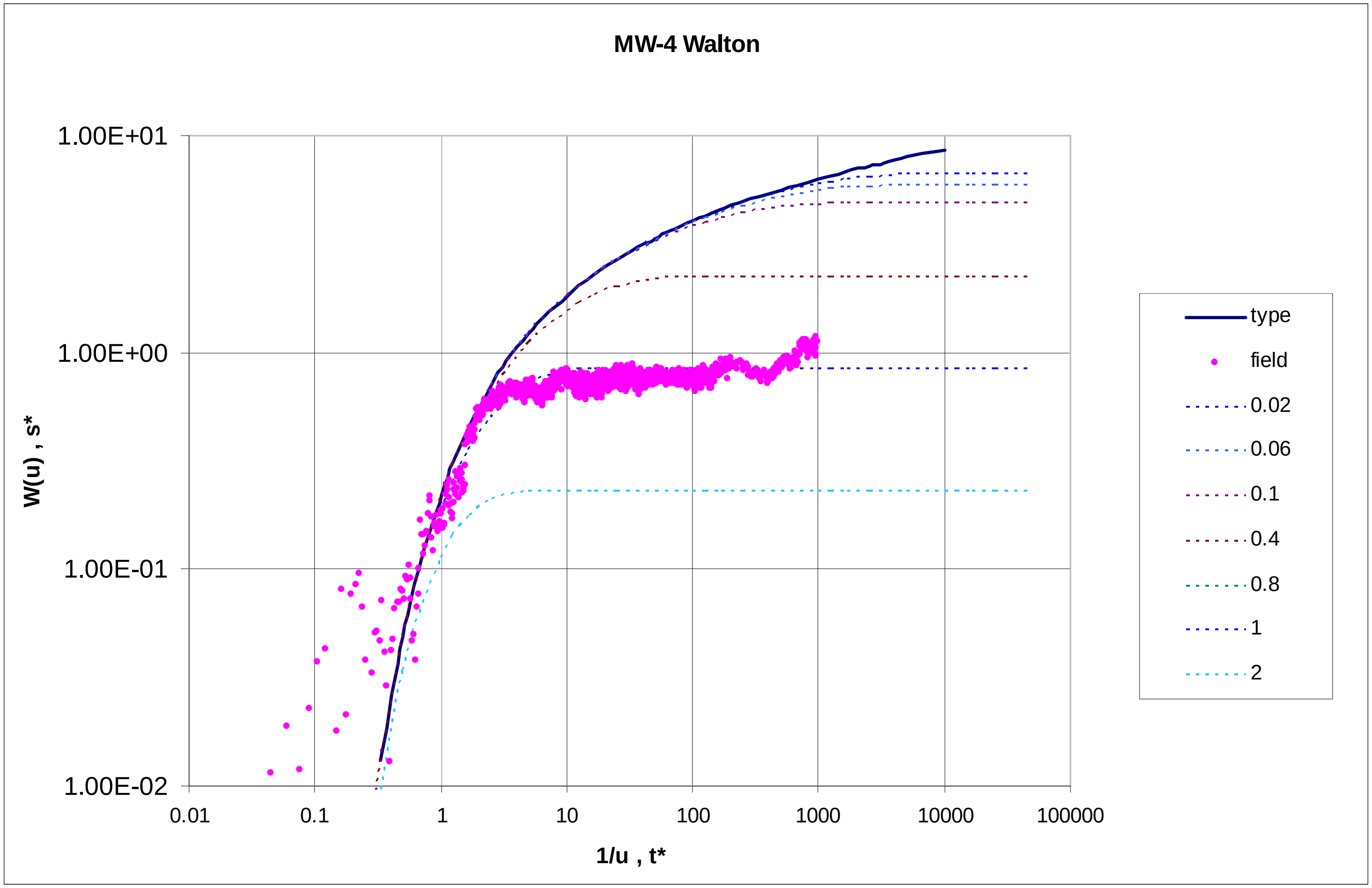
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW-3 Walton

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



Q (ft^3/d)	r (ft)	T (ft^2/d)	S
1443850	2000	1.03E+06	7.4E-04

r/B	K'/b'
0.4	4.1E-02

Florida Power and Light

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW-4 Walton

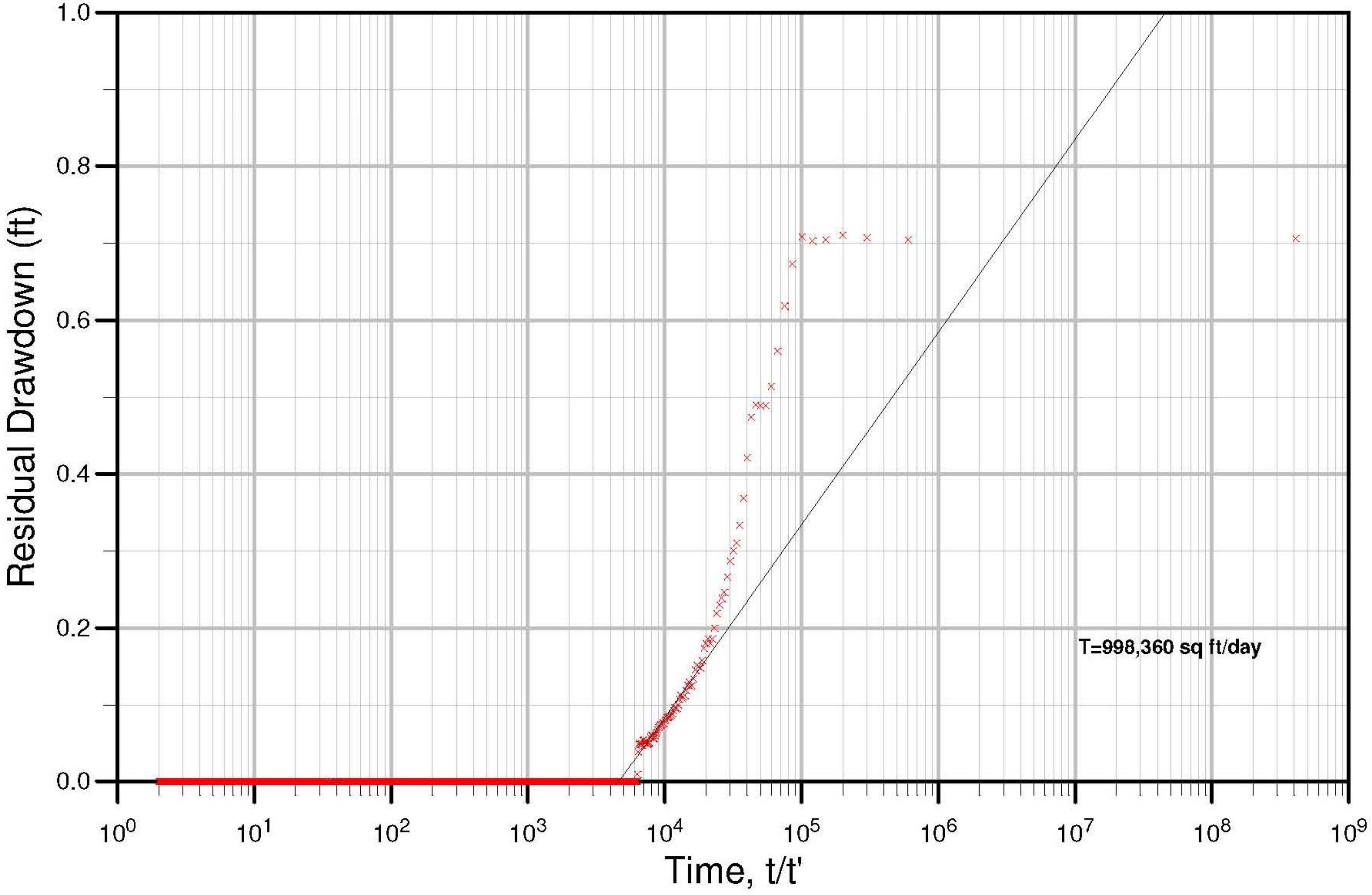
Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE

Turkey Point APT

MW1-DZ-PI Test 4- Theis Recovery



AquiferWin, Environmental Simulations, Inc.

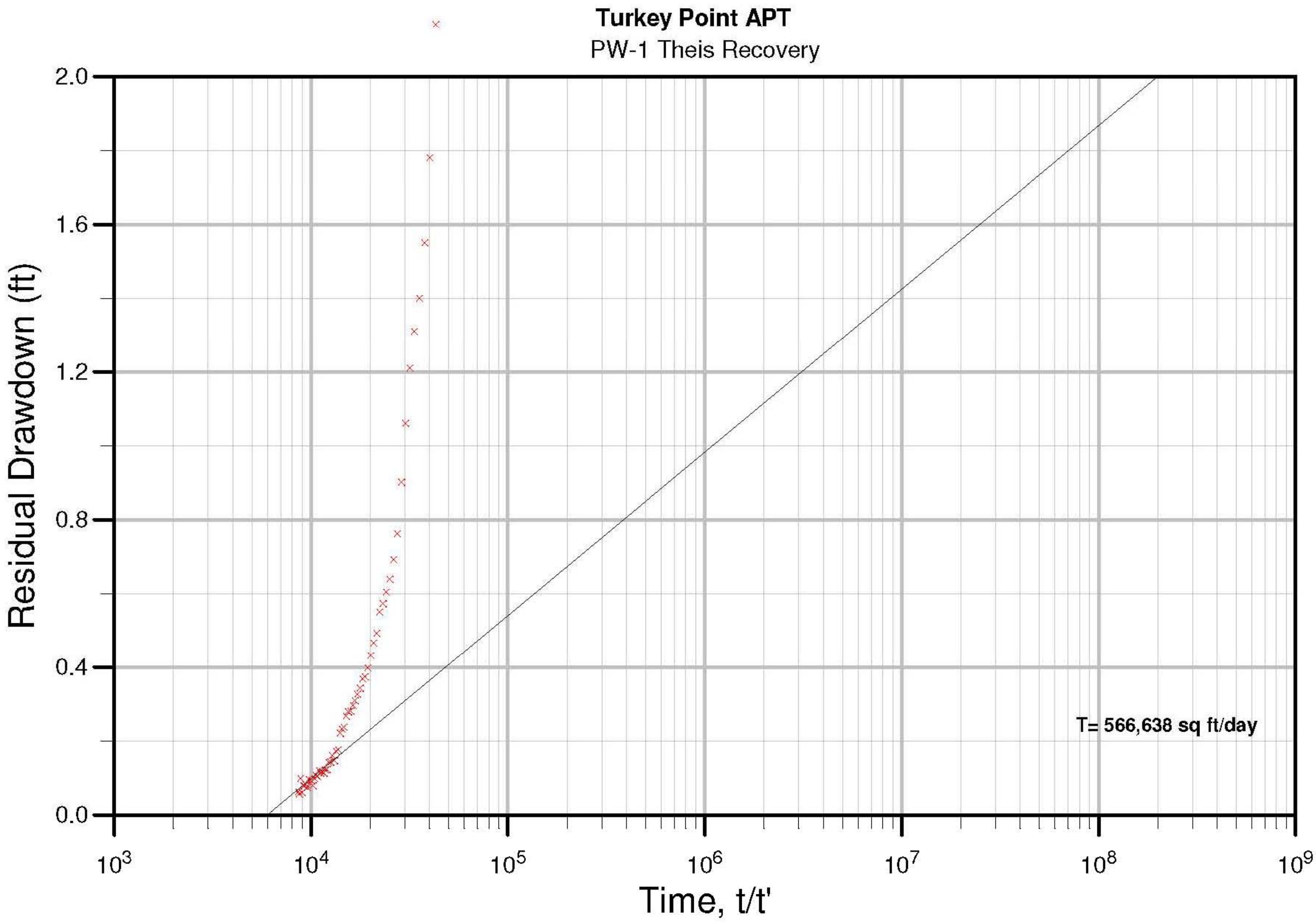
Florida Power and Light

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW1 DZPI Theis Recovery

Turkey Point Exploratory Drilling and Testing Program

DATE	
FIGURE	



AquiferWin, Environmental Simulations, Inc.

Florida Power and Light

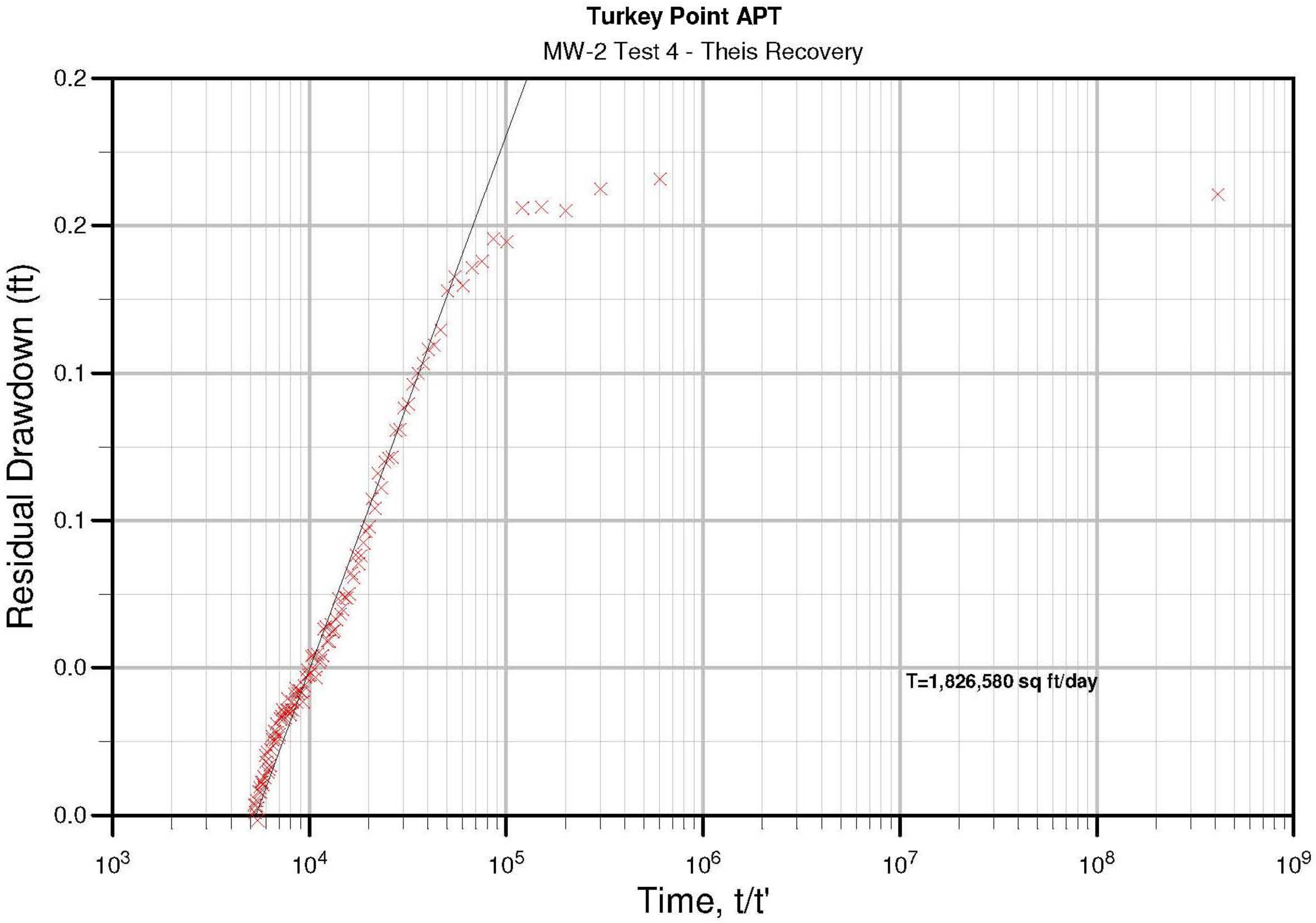
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

PW-1 Theis REC

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



AquiferWin, Environmental Simulations, Inc.

Florida Power and Light

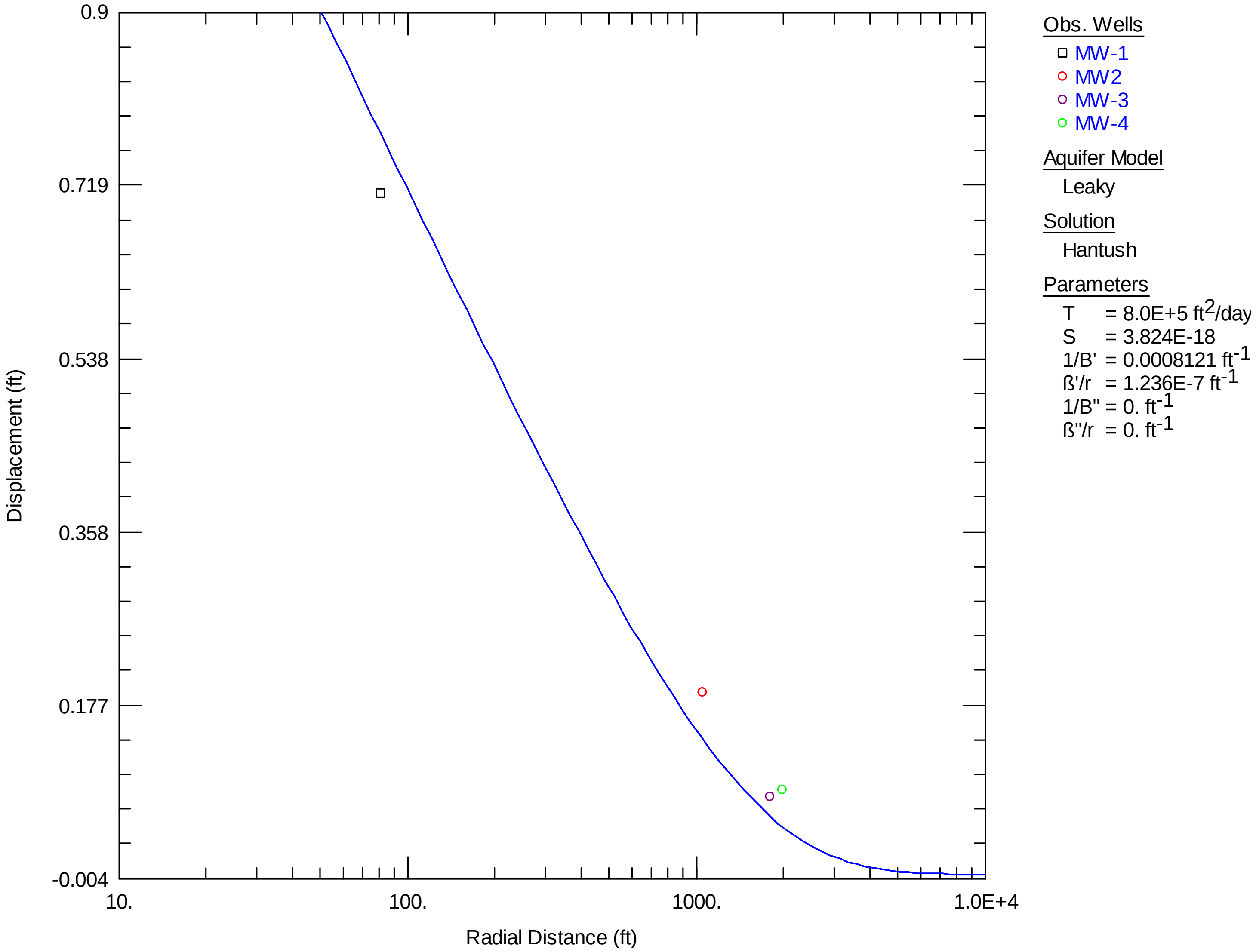
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

MW2 Theis Recovery

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



AQTESOLV, Hydrosolve, Inc.

FPL

Florida Power and Light

HDR

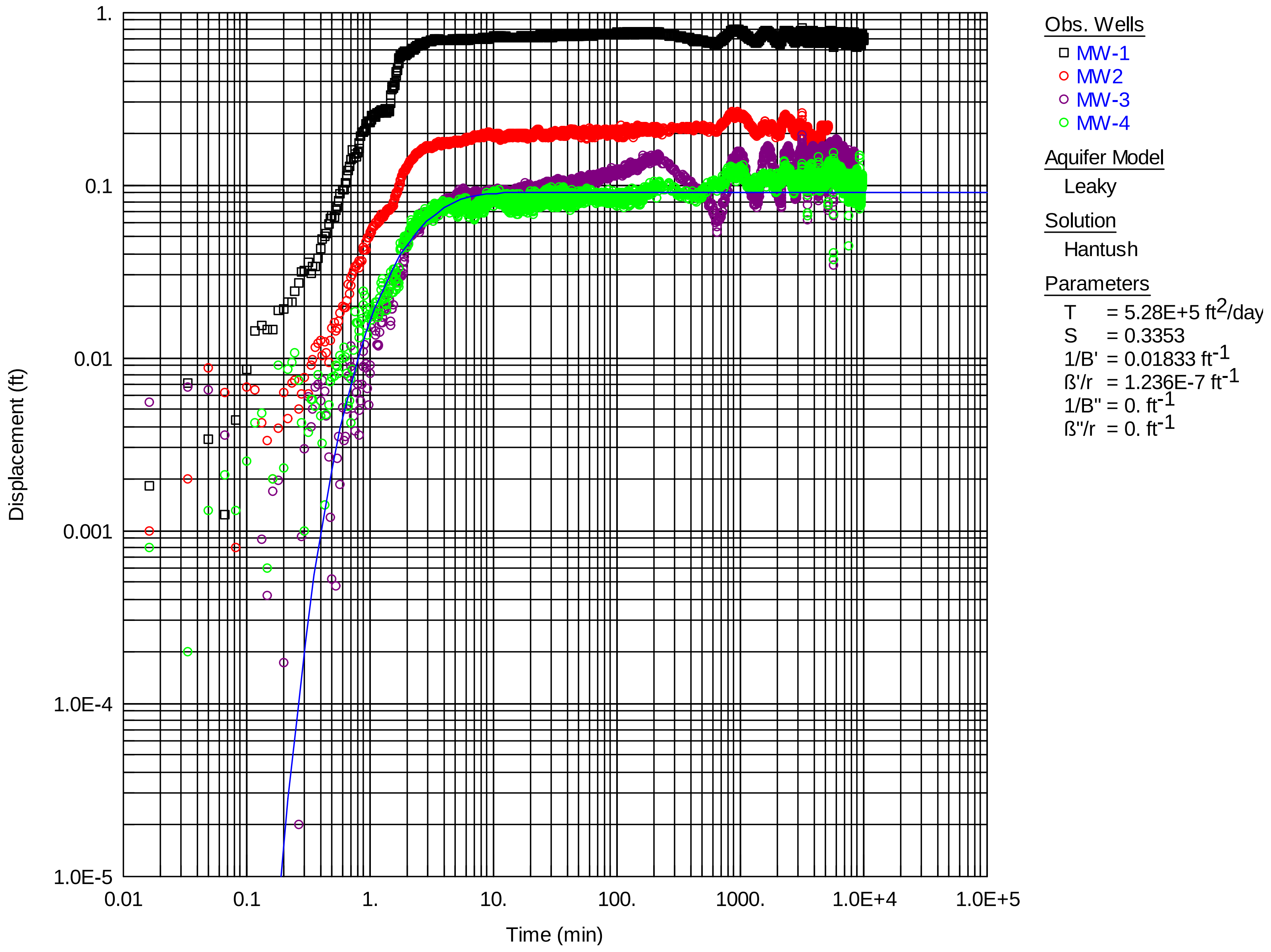
HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Distance-Drawdown Analysis

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE



AQTESOLV, Hydrosolve, Inc.

FPL

Florida Power and Light

HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, Florida 33609

Hantush, 1960

Turkey Point Exploratory Drilling and Testing Program

DATE

FIGURE

APPENDIX G
WATER QUALITY SUMMARY TABLES

Appendix G-1
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Monitoring Well and Bay Water Quality Sampling
Pre and Post APT

	MDL	Date	Report ID	UNITS	Sample Point					
					Bay/SP-1	MW-2	MW-3	MW-4	MW-5	MW-1
Total Dissolved Solids	140	03/18/09	902964	mg/l	40700		32700	33600	32500	29300
		5/12/2009	905147		44800	30800	31700	34900	31800	31200
Sulfate	15.10	1/9/09	900346	mg/l						2350
		5/12/2009	905147		4200	8850	3100	2480	10200	3450
Chloride	250.00	1/9/09	900346	mg/l						
		03/18/09	902964		20200	18400	18700	18600	17800	19600
		5/5/09	904918		21200					
		5/12/2009	905147		23900	13200	19500	15900	16600	16300
Color (True/Apparent)		03/17/09	902963			CLEAR				CLEAR
		03/18/09	902964				CLEAR	CLEAR	CLEAR	
Bromide	0.52	03/17/09	902963	mg/l						
	52.2	03/18/09	902964		112	113	52.2	52.2	120	126
		4/5/09	903730		111					
		5/12/2009	905147		121	99.9	109	97.4	106	111
Fluoride	3	03/17/09	902963	mg/L		3				
	3 and 30	03/18/09	902964				30	30	3	
		5/5/2009	904918		0.815					
		5/12/2009	905147		1.07	0.3	0.914	0.796	0.658	0.675
Bicarbonate Alkalinity	2	03/17/09	902963	mg/l						
		03/18/09	902964		136	106	260	278	207	129
		5/12/2009	905147		113	60	209	246	209	145
Boric Acid	0.9724			mg/l						
		03/18/09	902964			21.09	20.81	20.15	22.19	18.07
		5/12/2009	905147		29.9	20	21.4	43.9	21	19
Calcium	0.3	03/17/09	902963	mg/l						
	3	03/18/09	902964		473	304	406	457	405	490
		5/12/2009	905147		493	259	391	**788**	399	461
Magnesium	0.23			mg/l						
	2.3	03/18/09	902964		2280	1030	1110	1160	1290	1640
	0.45	4/5/09	903730		1570					1110
Potassium	18	03/18/09	902964	mg/l	489	381	347	355	381	401
		5/12/2009	905147		539	420	385	825	405	430

Appendix G-1
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Monitoring Well and Bay Water Quality Sampling
Pre and Post APT

					Sample Point					
	MDL	**Date**	**Report ID**	**UNITS**	**Bay/SP-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-1**
Sodium				mg/l						
	25	03/18/09	902964		12900	4810	9480	9730	6990	10400
		5/12/2009	905147		12600	8810	9040	9540	9100	9760
Strontium	0.075	03/18/09	902964	mg/l	9.84	5.26	6.97	7.5	**16.1**	7.03
		5/12/2009	905147		9.34	4.51	7.09	**15.6**	7.51	7.34
Dissolved Oxygen		03/17/09	902963	mg/l		0.65				
		03/18/09	902964				1.19	0.58	1.2	0.76
FIELD TEMP		03/17/09	902963	Deg C	3.88	27.1				26.7
		03/18/09	902964				25.4	25.8	25.8	
Odor		03/17/09	902963		NONE	NONE				NONE
		03/18/09	902964				NONE	NONE	NONE	
pH	0.1	03/17/09	902963	pH unit	8.03	8.6				8.6
		03/18/09	902964				7.59	7.43	8.32	
Specific Conductance Field		03/17/09	902963	umhos/cm	86.1	46				47.8
		03/18/09	902964	umhos/cm			47.5	48.8	48.9	
Turbidity		03/17/09	902963	NTU	8.5000	0.6800				0.5000
		03/18/09	902964	NTU			4.160	12.220	8.5000	

Data Qualifiers

Q	🟨
U	🟦
V	🟥
I	🟪
2	🟩
3	🟧

Q=sample held outside the required holding time

I=Result between MDL and PQL

V=Present in blank

U=undetected

2=Boric acid based on calculation from boron assuming all boron in the sample is due to boric acid.

3=NCR-Detection limit has been elevated due to ICSA and/or ICSAB recovering outside control limits

Appendx G-2
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Sampling Results

	MDL	Date	Report ID	UNITS	Sample Point Bay/SP-1	MW-2	MW-3	MW-4	MW-5	PW-1	IWF
Total Dissolved Solids		1/9/09	900346	mg/l							
	350.00	1/14/09	900346								
		1/22/09	900731		30700						
		1/28/09	901055								
		1/30/09	901055								
		2/3/09	901313								
		2/6/09	901313								
	140	03/18/09	902964				32700	33600	32500		26000
		4/5/09	903730		40700					33700	65600
		4/6/09	904005							33400	
		4/8/09	904005							33100	
		4/9/09	904005							30400	
		4/10/09	904005							31300	
		4/11/09	904040							35400	
		4/11/09	904040							36400	
		4/13/09	904040							34300	
		4/17/09	904223							32400	
		4/28/09	904760							33700	
		4/30/09	904760		42600					35100	
		5/1/09	904760		45800					35000	
		5/2/09	904918		41800					34300	
		5/3/09	904918		42500					35200	
		5/4/09	904918		43300					34300	
		5/5/09	904918		42200					34900	66300
		5/12/2009	905147		44800	30800	31700	34900	31800		66600
Sulfate	15.10	1/9/09	900346	mg/l							
		1/14/09	900346								
		1/22/09	900731		2470						
		1/28/09	901055								
		1/30/09	901055								
		2/3/09	901313								
		2/6/09	901313								
	7.55	03/17/09	902963			2210					
	75.5	03/18/09	902964				3300	2710			7570
	7.55	03/18/09	902964						2220		
		4/5/09	903730		3540					3120	5700
		4/9/09	904005							2650	
		4/10/09	904005							2640	

Appendx G-2
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Sampling Results

					Sample Point						
	MDL	**Date**	**Report ID**	**UNITS**	**Bay/SP-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**PW-1**	**IWF**
		4/13/09	904040							2680	
		4/17/09	904223							2610	
		4/28/2009	904760							2830	
		5/1/2009	904760							2700	
		5/3/2009	904918							2530	
		5/5/2009	904918		3390					2760	5330
		5/12/2009	905147		4200	8850	3100	2480	10200		1460
Chloride	250.00	1/9/09	900346	mg/l							
		1/14/09	900346								
		1/22/09	900731		17500						
		1/28/09	901055								
		1/30/09	901055								
		2/3/09	901313								
		2/6/09	901313								
		03/17/09	902963			18400					
		03/18/09	902964			18400	18700	18600	17800		38700
		4/5/09	903730		20100					17500	39900
		4/6/09	904005								
		4/8/09	904005							22100	
		4/9/09	904005							22900	
		4/10/09	904005							23300	
		4/11/09	904040							12300	
		4/11/09	904040							21700	
		4/13/09	904040							18700	
		4/17/09	904223							18100	
		4/28/09	904760							17900	
		4/30/09	904760		25000					17100	
		5/1/09	904760		21700					16800	
		5/2/09	904918		25300					22200	
		5/3/09	904918		25100					20500	
		5/4/09	904918		Not reported					not reported	
		5/5/09	904918		21200					20600	35600
		5/12/2009	905147		23900	13200	19500	15900	16600		35400
Color (True/Apparent)		03/17/09	902963			CLEAR					
		03/18/09	902964				CLEAR	CLEAR	CLEAR		CLEAR
Bromide	0.52	03/17/09	902963	mg/l		113					
	52.2	03/18/09	902964				52.2U	52.2U	120		204

Appendx G-2
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Sampling Results

					Sample Point						
	MDL	Date	Report ID	UNITS	Bay/SP-1	MW-2	MW-3	MW-4	MW-5	PW-1	IWF
		4/5/09	903730		111					110	187
		4/9/09	904005							106	
		4/10/09	904005							106	
		4/13/09	904040							105	
		4/17/09	904223							104	
		4/28/2009	904760							111	
		5/1/2009	904760							92.1	
		5/3/2009	904918							98.7	
		5/5/2009	904918		63.4					55.8	109
		5/12/2009	905147		121	99.9	109	97.4	106		101
Fluoride	3	03/17/09	902963	mg/L		3U					
	3 and 30	03/18/09	902964				30U	30U	3U		30U
	0.30	4/5/09	903730		0.3U					0.3U	0.3U
		4/9/09	904005							0.3U	
		4/10/09	904005							0.3U	
		4/13/09	904040							0.3U	
		4/17/09	904223							0.3U	
		4/28/2009	904760							0.517	
		5/1/2009	904760							0.561	
		5/3/2009	904918							0.691	
		5/5/2009	904918		0.815					0.624	0.406
		5/12/2009	905147		1.07	0.3U	0.914	0.796	0.658		0.363
Bicarbonate Alkalinity	2	03/17/09	902963	mg/l		106					
		03/18/09	902964				260	278	207		202
		4/5/09	903730		127					188	183
		4/9/09	904005							176	
		4/10/09	904005							168	
		4/13/09	904040							174	
		4/17/09	904223							162	
		4/28/2009	904760							156	
		5/1/2009	904760							158	
		5/3/2009	904918							158	
		5/5/2009	904918		120					160	178
		5/12/2009	905147		113	60	209	246	209		174
Boric Acid	0.9724	03/17/09	902963	mg/l		21.0852					
		03/18/09	902964				20.812	20.1544	22.19		43.99
	n/a	4/5/09	903730		27					23	40

Appendx G-2
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Sampling Results

					Sample Point						
	MDL	Date	Report ID	UNITS	Bay/SP-1	MW-2	MW-3	MW-4	MW-5	PW-1	IWF
		4/9/09	904005							24	
		5/3/2009	904918							25.62	
		5/5/2009	904918		28.63					23.52	41.62
		5/12/2009	905147		29.9	20	21.4	43.9	21		44
Calcium	0.3	03/17/09	902963	mg/l		304					
	3	03/18/09	902964				406	457	405		824
		4/5/09	903730		447					398	735
		4/9/09	904005							416	
		4/10/09	904005							457	
		4/13/09	904040							425	
		4/17/09	904223							445	
		4/28/2009	904760							415	
		5/1/2009	904760							416	
		5/3/2009	904918							455	
		5/5/2009	904918		488					418	774
		5/12/2009	905147		493	259	391	788	399		787
Magnesium	0.23	03/17/09	902963	mg/l		1030					
	2.3	03/18/09	902964				1110	1160	1290		2400
	0.45	4/5/09	903730		1570					1230	2440
		4/9/09	904005							1250	
		4/10/09	904005							1370	
		4/13/09	904040							1270	
		4/17/09	904223							1370	
		4/28/2009	904760							1250	
		5/1/2009	904760							1250	
		5/3/2009	904918							1360	
		5/5/2009	904918		1520					1250	2260
Potassium	1.8	03/17/09	902963	mg/l		381					
	18	03/18/09	902964				347	355	381		731
	18.00	4/5/09	903730		457					451	781
		4/9/09	904005							410	
		4/10/09	904005							444	
		4/13/09	904040							408	
		4/17/09	904223							412	
		4/28/2009	904760							426	
		5/1/2009	904760							434	
		5/3/2009	904918							467	

Appendx G-2
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Sampling Results

					Sample Point						
	MDL	**Date**	**Report ID**	**UNITS**	**Bay/SP-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**PW-1**	**IWF**
		5/5/2009	904918		523					427	808
		5/12/2009	905147		539	420	385	825	405		771
Sodium	0.37	03/17/09	902963	mg/l		4810					
	25	03/18/09	902964				9480	9730			18400
	5	03/18/09	902964						6990		
	3.70	4/5/09	903730		11500					11200	18900
		4/9/09	904005							10000	
		4/10/09	904005							9870	
		4/13/09	904040							9990	
		4/17/09	904223							10200	
		4/28/2009	904760							10400	
		5/1/2009	904760							10600	
		5/3/2009	904918							10300	
		5/5/2009	904918		12100					10000	19000
		5/12/2009	905147		12600	8810	9040	9540	9100		18900
Strontium	0.0075	03/17/09	902963	mg/l		5.26					
	0.075	03/18/09	902964				6.97	7.5	16.1		
	0.015	03/18/09	902964						7.23		
	0.015	4/5/09	903730		9					7.88	16
		4/9/09	904005							7.60	
		4/10/09	904005							8.28	
		4/13/09	904040							7.62	
		4/17/09	904223							7.74	
		4/28/2009	904760							7.79	
		5/1/2009	904760							7.89	
		5/3/2009	904918							8.48	
		5/5/2009	904918		9.18					7.82	15.5
		5/12/2009	905147		9.34	4.51	7.09	15.6	7.51		15.7
Bromate	83.00	4/10/09	904005	ug/L						83U	
		4/13/09	904040							100U	
		4/17/09	904223							100U	
		4/28/2009	904760							83U	
		5/1/2009	904760							83U	
Dissolved Oxygen		03/17/09	902963	mg/l		0.65					
		03/18/09	902964				1.19	0.58	3.88		3.88
		03/18/09	902964						1.2		

Appendx G-2
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Sampling Results

					Sample Point						
	MDL	**Date**	**Report ID**	**UNITS**	**Bay/SP-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**PW-1**	**IWF**
FIELD TEMP		03/17/09	902963	Deg C		27.1					
		03/18/09	902964				25.4	25.8	25.8		28
Odor		03/17/09	902963			NONE					
		03/18/09	902964				NONE	NONE	NONE		NONE
pH	0.1	03/17/09	902963	pH unit		8.6				8.6	
		03/18/09	902964				7.59	7.43	8.32		8.03
Specific Conductance Field		03/17/09	902963	umhos/cm		46					
		03/18/09	902964	umhos/cm			47.5	48.8	48.9		86.1
Turbidity		03/17/09	902963	NTU		0.6800					
		03/18/09	902964	NTU			4.160	12.220	8.5000		
		03/18/09	902964	NTU					8.870		

Data Qualifiers

Q	🟨	SUSPECT
U	🟦	
V	🟥	
I	🟪	
2	🟩	
3	🟧	

Q=sample held outside the required holding time

I=Result between MDL and PQL

V=Present in blank

U=undetected

2=Boric acid based on calculation from boron assuming all boron in the sample is due to boric acid.

3=NCR-Detection limit has been elevated due to ICSA and/or ICSAB recovering outside control limits

IWF= Industrial Wastewater Facility

Appendix G-3
Turkey Point Exploratory Drilling and Aquifer Performance Test Program
Water Quality Monitoring Summary
Isotopes

	MDL	Date	Report ID	UNITS	Bay/SP-1	PW-1	MW-1 DZ P1	IWF	MW-2	MW-3	MW-4	MW-5
Oxygen-18		3/17/09	902963001		2.04		1.44		1.29			
		3/18/09	902964001					1.47		6.48	1.45	1.48
		4/5/09	903730001		5.70	1.50		2.50				
		4/10/09	904005003			1.90						
		4/13/09	904040003			1.70						
		4/17/09	904223001			1.71						
		5/2/09	904760001			1.66						
		5/3/09	904760003			1.95						
		5/5/09	904918001			1.73						
		5/5/09	904918002		2.38							
		5/5/09	904918003					5.65				
		5/5/09	904918006			1.67						
		5/12/09	905147001									1.51
		5/12/09	905147002						1.53			
		5/12/09	905147003		2.53							
		5/12/09	905147004				1.50					
		5/12/09	905147005							1.50		
		5/12/09	905147006					5.80				
		5/12/09	905147007								1.56	
Hydrogen-2 (Deuterium)		3/17/09	902963001		16.11		3.64		4.97			
		3/18/09	902964001					12.84		24.62	4.89	6.77
		04/05/09	903730001		33.00	6.00		15.00				
		4/10/09	904005003			8.00						
		4/13/09	904040003			2.00						
		4/17/09	904223001			11.33						
		5/2/09	904760001			12.50						
		5/3/09	904760003			15.44						
		5/5/09	904918001									
		5/5/09	904918002		12.76							
		5/5/09	904918003					32.19				
		5/5/09	904918006			16.56						
		5/12/09	905147001									17.01
		5/12/09	905147002						5.84			
		5/12/09	905147003		9.66							
		5/12/09	905147004				12.48					
		5/12/09	905147005							11.471		
		5/12/09	905147006					24.41				
		5/12/09	905147007								5.96	

anomalously high, likely error

IWF= Industrial Wastewater Facility

APPENDIX H
LONG-LIST SAMPLES
LABORATORY ANALYTICAL REPORTS

Genapure Analytical Services, Inc.
3231 NW 7th Avenue
Boca Raton, FL 33431

Phone: (561) 447-7373
Fax: (561) 447-7374

April 22, 2009

DEBORAH DAIGLE
HDR ENGINEERING
5426 BAY CENTER DR.
SUITE 400
Tampa, FL 33609

RE:
Workorder: 902901
Project: TURKEY POINTE

Dear DEBORAH DAIGLE:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, March 17, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Neshmah Castaneda
ncastaneda@genapure.com
Project Manager

FL-NELAC E86240

Statement of uncertainty is available upon request.
FL Qualifiers: I=value between MDL and PQL; V=value was positive in Blank; J=estimated value.See comment;
U=undetected; Q=out of hold
EPA Qualifiers: B=value was positive in Blank; J=estimated value. May be between MDL and PQL;
U=undetected; Q=out of hold
Enclosures

CERTIFICATE OF ANALYSIS

SAMPLE SUMMARY

Lab ID	Sample ID	Collector	Matrix	Date Collected	Date Received
902901001	MW1-D2 PI	EC	Groundwater	3/17/2009 14:20	3/17/2009
902901002	SP1	EC	Surface Water	3/17/2009 09:45	3/17/2009
902901003	SP1	EC	Surface Water	3/17/2009 14:55	3/17/2009
902901004	TRIP BLANK	EC	DI Water	3/16/2009 17:00	3/17/2009

ANALYTICAL RESULTS

Lab ID: **902901001**
Sample ID: **MW1-D2 PI/**

Date Received: 3/17/2009 Matrix: Groundwater
Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Wet Chemistry									
Analytical Method: SM 2540 C									
Total Dissolved Solids(TDS)	26600		mg/L	350	500	50		3/23/2009 15:54	AR
Preparation Method: EPA 351.2	Analytical Method: EPA 351.2								
Total Kjeldahl Nitrogen	1.20		mg/L	0.22	0.40	1	3/25/2009 16:00	3/27/2009 16:09	RB
Analytical Method: SM 9222 B									
Total Coliform	1U		cfu/100mL	1	1	1		3/17/2009 17:35	RB
Analytical Method: EPA 350.1									
Ammonia	0.825	V	mg/L	0.017	0.050	1		3/18/2009 16:54	IG
Analytical Method: EPA 300.0									
Bromide	79.1		mg/L	0.522	5.00	10		3/18/2009 15:14	AD
Chloride	16500		mg/L	0.664	5.00	10		3/18/2009 15:14	AD
Fluoride	0.300U		mg/L	0.300	2.00	10		3/18/2009 15:14	AD
Nitrate	2.80		mg/L	0.074	0.500	10		3/18/2009 15:14	AD
Nitrite	0.053U		mg/L	0.053	0.500	10		3/18/2009 15:14	AD
Sulfate	2290		mg/L	0.755	5.00	10		3/18/2009 15:14	AD
Analytical Method: EPA 410.4									
COD	1680		mg/L	26.8	40.0	4		3/25/2009 17:30	AR
Analytical Method: SM 2320 B									
Total Alkalinity	128		mg/L	0.02	0.05	1		3/23/2009 13:00	JC
Preparation Method: BOD PREP	Analytical Method: SM 5210B BOD								
BOD	100U	10	mg/L	100	100	50	3/18/2009 21:00	3/23/2009 12:15	RB
Analytical Method: SM 5310B									
Total Organic Carbon	4.7		mg/L	0.60	1.0	1		3/20/2009 03:31	LP
Analytical Method: EPA 1664A									
Oil and Grease	1.8I		mg/L	1.4	4.0	1		3/19/2009 15:00	JS
Preparation Method: SW-846 9012A	Analytical Method: SW-846 9012A								
Total Cyanide	0.0032U		mg/L	0.0032	0.0050	1	3/19/2009 15:25	3/19/2009 17:32	TA
Analytical Method: SM 9222 D									
Fecal Coliform	1.0U		cfu/100mL	1.0	1.0	1		3/17/2009 17:35	RB
Preparation Method: SM 5540 C	Analytical Method: SM 5540 C								
Surfactants	0.040U		mg/L-LAS	0.040	0.200	1	3/18/2009 15:24	3/18/2009 15:00	AR
Analytical Method: SM 2130 B									
Turbidity	0.37		NTU			1		3/18/910 20:00	ZE
Analytical Method: SM 4500-S F(20th Ed.)									

ANALYTICAL RESULTS

Lab ID: **902901001**
Sample ID: **MW1-D2 PI/**
Date Received: 3/17/2009 Matrix: Groundwater
Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Sulfide	2.96		mg/L	0.800	1.00	1		3/17/2009 19:00	AR
Analytical Method: EPA 365.1									
Ortho Phosphate - P	0.197		mg/L-P	0.005	0.015	1		3/18/2009 07:50	ZE
Total Phosphorus	0.956		mg/L	0.004	0.015	1	3/18/2009 08:00	3/18/2009 11:36	ZE
Analytical Method: SM 2540 D									
Total Suspended Solids	23.1		mg/L	2.0	4.0	1		3/18/2009 09:15	MF
Analytical Method: EPA 120.1									
Conductivity	17300		umhos/cm			1		3/19/2009 15:30	AD
Subcontract Analysis									
Analytical Method: EPA 906									
See Attached	Attached	2				1		4/6/2009 12:00	SU
Radiological Analysis									
Analytical Method: 903.1									
Radium 226	2.5+/-0.3	3	pCi/l	0.10	0.10	1		3/30/2009 11:45	SU
Analytical Method: RA-05									
Radium 228	1.6+/-0.7	3	pCi/l	0.90	0.90	1		3/31/2009 12:15	SU
Analytical Method: 900.0									
Gross Alpha (Incl Uranium)	3.1+/-1.2	3	pCi/l	0.80	0.80	1		4/12/2009 08:35	SU
Gross Beta	359+/-41		pCi/l	59	59	1		4/12/2009 08:35	SU
Metals Analysis - Dissolved									
Preparation Method: SW-846 3010A Analytical Method: SW-846 6010									
Iron	0.045U		mg/L	0.045	0.10	1	3/19/2009 13:00	3/20/2009 01:33	TB
Manganese	0.0137I		mg/L	0.0088	0.030	2	3/19/2009 13:00	3/20/2009 16:09	TB
Silica	1.09I		mg/L	1.1	3.0	10	3/19/2009 13:00	3/24/2009 00:00	TB
Wet Chemistry - Subcontract									
Analytical Method: EPA 300.1									
Bromate	130U	1	ug/L	130	1000	400		3/27/2009 22:30	SU
Herbicides									
Preparation Method: 3510C Analytical Method: SW-846 8151A									
2,4,5-T	0.345U		ug/L	0.345	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
2,4,5-TP (Silvex)	0.492U		ug/L	0.492	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
2,4-D	0.406U		ug/L	0.406	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
2,4-DB	0.547U		ug/L	0.547	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
Dalapon	0.509U		ug/L	0.509	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
Dicamba	0.369U		ug/L	0.369	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
Dichlorprop	0.399U		ug/L	0.399	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC
Dinoseb	0.509U		ug/L	0.509	2.00	1	3/15/2009 15:15	3/21/2009 03:10	CC

ANALYTICAL RESULTS

Lab ID: **902901001**
Sample ID: **MW1-D2 PI/**

Date Received: 3/17/2009 Matrix: Groundwater
Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
MCPA	47.7U		ug/L	47.7	200	1	3/15/2009 15:15	3/21/2009 03:10	CC
MCPP	98.0U		ug/L	98.0	200	1	3/15/2009 15:15	3/21/2009 03:10	CC
DCAA (S)	95		%	46-142		1	3/15/2009 15:15	3/21/2009 03:10	CC
Analytical Method: EPA 100.2									
Asbestos	0.18U	4	MFL	0.18	0.18	1		3/20/2009 11:00	SU
Metals Analysis									
Preparation Method: SW-846 7470	Analytical Method: SW-846 7470								
Mercury	0.00013U		mg/L	0.00013	0.00020	1	3/19/2009 10:30	3/19/2009 16:45	IT
Preparation Method: SW-846 3010A	Analytical Method: SW-846 6010								
Aluminum	0.046U		mg/l	0.046	0.20	1	3/19/2009 13:00	3/20/2009 01:27	TB
Antimony	0.0038U		mg/l	0.0038	0.020	1	3/19/2009 13:00	3/20/2009 01:27	TB
Arsenic	0.046U	5	mg/l	0.046	0.10	10	3/19/2009 13:00	3/20/2009 16:29	TB
Barium	0.0816I	5	mg/l	0.020	0.10	10	3/19/2009 13:00	3/20/2009 16:29	TB
Beryllium	0.00067U		mg/l	0.00067	0.0040	1	3/19/2009 13:00	3/20/2009 01:27	TB
Boron	3.45		mg/l	0.034	0.25	10	3/19/2009 13:00	3/20/2009 16:29	TB
Cadmium	0.000720I		mg/l	0.00057	0.0050	1	3/19/2009 13:00	3/20/2009 01:27	TB
Calcium	496		mg/l	0.59	2.0	10	3/19/2009 13:00	3/20/2009 16:29	TB
Chromium	0.00297I		mg/l	0.0011	0.0050	1	3/19/2009 13:00	3/20/2009 01:27	TB
Cobalt	0.00072U		mg/l	0.00072	0.010	1	3/19/2009 13:00	3/20/2009 01:27	TB
Copper	0.0096U		mg/l	0.0096	0.020	1	3/19/2009 13:00	3/20/2009 01:27	TB
Iron	0.045U		mg/l	0.045	0.10	1	3/19/2009 13:00	3/20/2009 01:27	TB
Lead	0.0031U		mg/l	0.0031	0.010	1	3/19/2009 13:00	3/20/2009 01:27	TB
Magnesium	1150		mg/l	0.45	2.0	10	3/19/2009 13:00	3/20/2009 16:29	TB
Manganese	0.0269I		mg/l	0.0088	0.030	2	3/19/2009 13:00	3/20/2009 16:02	TB
Molybdenum	0.0060U		mg/l	0.0060	0.010	2	3/19/2009 13:00	3/20/2009 16:02	TB
Nickel	0.0052U		mg/l	0.0052	0.010	1	3/19/2009 13:00	3/20/2009 01:27	TB
Potassium	416		mg/l	3.50	10	10	3/19/2009 13:00	3/20/2009 16:29	TB
Selenium	0.0054U		mg/l	0.0054	0.030	1	3/19/2009 13:00	3/20/2009 01:27	TB
Silica	10.3		mg/l		3.0	10	3/19/2009 13:00	3/20/2009 16:29	TB
Silver	0.012U	6	mg/l	0.012	0.040	2	3/19/2009 13:00	3/20/2009 16:02	TB
Sodium	10200	V,7	mg/l	50.0	50	100	3/19/2009 13:00	3/25/2009 00:42	TB
Strontium	7.60		mg/l	0.015	0.15	10	3/19/2009 13:00	3/20/2009 16:29	TB
Tin	0.0042U		mg/l	0.0042	0.025	1	3/19/2009 13:00	3/20/2009 01:27	TB
Titanium	0.0061U		mg/l	0.0061	0.050	1	3/19/2009 13:00	3/20/2009 01:27	TB
Vanadium	0.0056U		mg/l	0.0056	0.020	1	3/19/2009 13:00	3/20/2009 01:27	TB
Zinc	0.00570I		mg/l	0.0053	0.025	1	3/19/2009 13:00	3/20/2009 01:27	TB
Volatiles - Subcontract									
Analytical Method: RSK 175									
Dissolved Ethane	0.024U		ug/L	0.024	1.00	1		3/26/2009 15:18	SU
Dissolved Ethene	0.030U		ug/L	0.030	1.00	1		3/26/2009 15:18	SU
Methane	28.3	11	ug/L	0.116	5.00	1		3/26/2009 15:18	SU
Organophosphorus Pesticides									

ANALYTICAL RESULTS

Lab ID: **902901001** Date Received: 3/17/2009 Matrix: Groundwater
Sample ID: **MW1-D2 PI/** Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Preparation Method: 3510C	Analytical Method: SW-846 8141A								
Aspon	0.185U		ug/L	0.185	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Aspon	0.185U		ug/L	0.185	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Azinphos-ethyl	0.130U		ug/L	0.130	2.00	1	3/18/2009 12:00	3/20/2009 09:46	LR
Bolstar	0.202U		ug/L	0.202	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Bolstar	0.202U		ug/L	0.202	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Carbophenothion	0.063U		ug/L	0.063	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Chlorpyrifos	0.121U		ug/L	0.121	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Chlorpyrifos-methyl	0.137U		ug/L	0.137	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Coumaphos	0.079U		ug/L	0.079	1.50	1	3/18/2009 12:00	3/20/2009 09:46	LR
Crotoxyphos	0.078U		ug/L	0.078	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Demeton-o	0.041U		ug/L	0.041	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Demeton-s	0.062U		ug/L	0.062	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dichlorfenthion	0.190U		ug/L	0.190	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dichlorfenthion	0.190U		ug/L	0.190	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dichlorovos	0.075U		ug/L	0.075	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dicrotophos	0.175U		ug/L	0.175	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dimethoate	0.184U		ug/L	0.184	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dimethoate	0.184U		ug/L	0.184	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dioxathion	0.110U		ug/L	0.110	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Dioxathion	0.110U		ug/L	0.110	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Disulfoton	0.129U		ug/L	0.129	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
EPN	0.132U		ug/L	0.132	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
EPN	0.132U		ug/L	0.132	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Ethion	0.132U		ug/L	0.132	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Ethoprop	0.068U		ug/L	0.068	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Famphur	0.081U		ug/L	0.081	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Fenithrothion	0.198U		ug/L	0.198	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Fensulfothion	0.192U		ug/L	0.192	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Fensulfothion	0.192U		ug/L	0.192	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Fenthion	0.074U		ug/L	0.074	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Leptophos	0.046U		ug/L	0.046	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Merphos	0.208U		ug/L	0.208	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Merphos	0.208U		ug/L	0.208	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Mevinphos	0.172U		ug/L	0.172	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Mevinphos	0.172U		ug/L	0.172	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Naled	0.220U		ug/L	0.220	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Naled	0.220U		ug/L	0.220	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Phorate	0.177U		ug/L	0.177	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Phorate	0.177U		ug/L	0.177	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Phosmet	0.102U		ug/L	0.102	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Phosphamidon	0.311U		ug/L	0.311	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Phosphamidon	0.311U		ug/L	0.311	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Ronnel	0.054U		ug/L	0.054	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
TEPP	0.189U		ug/L	0.189	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
TEPP	0.189U		ug/L	0.189	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR

ANALYTICAL RESULTS

Lab ID: **902901001**
Sample ID: **MW1-D2 PI/**
Date Received: 3/17/2009 Matrix: Groundwater
Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Terbufos	0.063U		ug/L	0.063	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Tetrachlorvinphos (Stirofos)	0.107U		ug/L	0.107	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Thionazine	0.179U		ug/L	0.179	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Thionazine	0.179U		ug/L	0.179	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Tokuthion (Prothiophos)	0.106U		ug/L	0.106	0.500	1	3/18/2009 12:00	3/20/2009 09:46	LR
Trichlorfon	1.09U		ug/L	1.09	1.80	1	3/18/2009 12:00	3/20/2009 09:46	LR
Tributyl Phosphate (S)	118		%	44-125		1	3/18/2009 12:00	3/20/2009 09:46	LR
Triphenyl Phosphate (S)	116		%	43-134		1	3/18/2009 12:00	3/20/2009 09:46	LR
Volatiles									
Analytical Method: SW-846 8260B									
1,1,1,2-Tetrachloroethane	0.120U		ug/L	0.120	1.00	1		3/18/2009 15:44	LN
1,1,1-Trichloroethane	0.682U		ug/L	0.682	1.00	1		3/18/2009 15:44	LN
1,1,2,2-Tetrachloroethane	0.572U		ug/L	0.572	1.00	1		3/18/2009 15:44	LN
1,1,2-Trichloroethane	0.841U		ug/L	0.841	1.00	1		3/18/2009 15:44	LN
1,1-Dichloroethane	0.410U		ug/L	0.410	1.00	1		3/18/2009 15:44	LN
1,1-Dichloroethene	0.638U		ug/L	0.638	1.00	1		3/18/2009 15:44	LN
1,1-Dichloropropene	0.632U		ug/L	0.632	1.00	1		3/18/2009 15:44	LN
1,2,3-Trichlorobenzene	0.686U		ug/L	0.686	1.00	1		3/18/2009 15:44	LN
1,2,3-Trichloropropane	0.160U		ug/L	0.160	1.00	1		3/18/2009 15:44	LN
1,2,4-Trichlorobenzene	0.538U		ug/L	0.538	1.00	1		3/18/2009 15:44	LN
1,2,4-Trimethylbenzene	0.508U		ug/L	0.508	1.00	1		3/18/2009 15:44	LN
1,2-Dibromo-3-chloropropane	0.933U		ug/L	0.933	1.00	1		3/18/2009 15:44	LN
1,2-Dibromoethane	0.345U		ug/L	0.345	1.00	1		3/18/2009 15:44	LN
1,2-Dichlorobenzene	0.584U		ug/L	0.584	1.00	1		3/18/2009 15:44	LN
1,2-Dichloroethane	0.897U		ug/L	0.897	1.00	1		3/18/2009 15:44	LN
1,2-Dichloropropane	0.725U		ug/L	0.725	1.00	1		3/18/2009 15:44	LN
1,3,5-Trimethylbenzene	0.477U		ug/L	0.477	1.00	1		3/18/2009 15:44	LN
1,3-Dichlorobenzene	0.558U		ug/L	0.558	1.00	1		3/18/2009 15:44	LN
1,3-Dichloropropane	0.345U		ug/L	0.345	1.00	1		3/18/2009 15:44	LN
1,4-Dichlorobenzene	0.537U		ug/L	0.537	1.00	1		3/18/2009 15:44	LN
2,2-Dichloropropane	0.700U		ug/L	0.700	1.00	1		3/18/2009 15:44	LN
2-Butanone	1210		ug/L	42.8	100	10		3/18/2009 18:22	LN
2-Chloroethylvinyl ether	0.470U		ug/L	0.470	1.00	1		3/18/2009 15:44	LN
2-Chlorotoluene	0.550U		ug/L	0.550	1.00	1		3/18/2009 15:44	LN
2-Hexanone	1.83U		ug/L	1.83	10.0	1		3/18/2009 15:44	LN
4-Chlorotoluene	0.570U		ug/L	0.570	1.00	1		3/18/2009 15:44	LN
4-Isopropyltoluene	0.380U		ug/L	0.380	1.00	1		3/18/2009 15:44	LN
4-Methyl-2-pentanone	0.220U		ug/L	0.220	1.00	1		3/18/2009 15:44	LN
Acetone	804		ug/L	14.3	100	10		3/18/2009 18:22	LN
Acrolein	2.47U		ug/L	2.47	10.0	1		3/18/2009 15:44	LN
Acrylonitrile	0.955U		ug/L	0.955	10.0	1		3/18/2009 15:44	LN
Benzene	0.621U		ug/L	0.621	1.00	1		3/18/2009 15:44	LN
Bromobenzene	0.382U		ug/L	0.382	1.00	1		3/18/2009 15:44	LN
Bromochloromethane	0.637U		ug/L	0.637	1.00	1		3/18/2009 15:44	LN

ANALYTICAL RESULTS

Lab ID: **902901001**
Sample ID: **MW1-D2 PI/**

Date Received: 3/17/2009 Matrix: Groundwater
Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Bromodichloromethane	0.100U		ug/L	0.100	1.00	1		3/18/2009 15:44	LN
Bromoform	0.486U		ug/L	0.486	1.00	1		3/18/2009 15:44	LN
Bromomethane	0.427U		ug/L	0.427	1.00	1		3/18/2009 15:44	LN
n-Butylbenzene	0.564U		ug/L	0.564	1.00	1		3/18/2009 15:44	LN
Carbon disulfide	0.650U		ug/L	0.650	10.0	1		3/18/2009 15:44	LN
Carbon tetrachloride	0.468U		ug/L	0.468	1.00	1		3/18/2009 15:44	LN
Chlorobenzene	0.316U		ug/L	0.316	1.00	1		3/18/2009 15:44	LN
Chloroethane	0.300U		ug/L	0.300	1.00	1		3/18/2009 15:44	LN
Chloroform	0.572U		ug/L	0.572	1.00	1		3/18/2009 15:44	LN
Chloromethane	0.524U		ug/L	0.524	1.00	1		3/18/2009 15:44	LN
Dibromochloromethane	0.378U		ug/L	0.378	1.00	1		3/18/2009 15:44	LN
Dibromomethane	0.739U		ug/L	0.739	1.00	1		3/18/2009 15:44	LN
Dichlorodifluoromethane	0.525U		ug/L	0.525	1.00	1		3/18/2009 15:44	LN
cis-1,3-Dichloropropene	0.664U		ug/L	0.664	1.00	1		3/18/2009 15:44	LN
trans-1,3-Dichloropropene	0.522U		ug/L	0.522	1.00	1		3/18/2009 15:44	LN
Ethylbenzene	0.323U		ug/L	0.323	1.00	1		3/18/2009 15:44	LN
Hexachlorobutadiene	0.763U		ug/L	0.763	1.00	1		3/18/2009 15:44	LN
Isopropylbenzene (Cumene)	0.528U		ug/L	0.528	1.00	1		3/18/2009 15:44	LN
Methyl-t-butyl ether	0.650U		ug/L	0.650	1.00	1		3/18/2009 15:44	LN
Methylene chloride	0.580U		ug/L	0.580	5.00	1		3/18/2009 15:44	LN
Naphthalene	0.417U		ug/L	0.417	1.00	1		3/18/2009 15:44	LN
Styrene	0.458U		ug/L	0.458	1.00	1		3/18/2009 15:44	LN
Tetrachloroethene	0.312U		ug/L	0.312	1.00	1		3/18/2009 15:44	LN
Toluene	0.389U		ug/L	0.389	1.00	1		3/18/2009 15:44	LN
Trichloroethene	0.821U		ug/L	0.821	1.00	1		3/18/2009 15:44	LN
Trichlorofluoromethane	0.493U		ug/L	0.493	1.00	1		3/18/2009 15:44	LN
Vinyl acetate	0.570U		ug/L	0.570	10.0	1		3/18/2009 15:44	LN
Vinyl chloride	0.506U		ug/L	0.506	1.00	1		3/18/2009 15:44	LN
Xylene, m,p-	0.639U		ug/L	0.639	2.00	1		3/18/2009 15:44	LN
Xylene, o-	0.341U		ug/L	0.341	1.00	1		3/18/2009 15:44	LN
Xylenes (total)	0.980U		ug/L	0.980	3.00	1		3/18/2009 15:44	LN
cis-1,2-Dichloroethene	0.442U		ug/L	0.442	1.00	1		3/18/2009 15:44	LN
n-Propylbenzene	0.624U		ug/L	0.624	1.00	1		3/18/2009 15:44	LN
sec-Butylbenzene	0.521U		ug/L	0.521	1.00	1		3/18/2009 15:44	LN
tert-Butylbenzene	0.607U		ug/L	0.607	1.00	1		3/18/2009 15:44	LN
trans-1,2-Dichloroethene	0.410U		ug/L	0.410	1.00	1		3/18/2009 15:44	LN
4-Bromofluorobenzene (S)	83		%	64-130		1		3/18/2009 15:44	LN
Dibromofluoromethane (S)	124		%	69-134		1		3/18/2009 15:44	LN
Toluene d8 (S)	98		%	63-127		1		3/18/2009 15:44	LN

Pesticides

Preparation Method: 3510C Analytical Method: SW-846 8081A

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
4,4'-DDD	0.000993U		ug/L	0.000993	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
4,4'-DDE	0.00148U		ug/L	0.00148	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
4,4'-DDT	0.00120U		ug/L	0.00120	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Aldrin	0.00234U	8	ug/L	0.00234	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC

ANALYTICAL RESULTS

Lab ID: **902901001**
Sample ID: **MW1-D2 PI/**
Date Received: 3/17/2009 Matrix: Groundwater
Date Collected: 3/17/2009 2:20:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Dieldrin	0.00106U		ug/L	0.00106	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
Endosulfan I	0.00312I	8	ug/L	0.00103	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Endosulfan II	0.00103U		ug/L	0.00103	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Endosulfan sulfate	0.00484I		ug/L	0.00279	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Endrin	0.00717U		ug/L	0.00717	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Endrin aldehyde	0.000695U		ug/L	0.000695	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Endrin ketone	0.000969U		ug/L	0.000969	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Heptachlor	0.00152U		ug/L	0.00152	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
Heptachlor epoxide	0.00224U	8,9	ug/L	0.00224	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
Methoxychlor	0.000900U		ug/L	0.000900	0.100	1	2/18/2009 12:00	3/19/2009 03:40	CC
Toxaphene	0.047U		ug/L	0.047	3.00	1	2/18/2009 12:00	3/19/2009 03:40	CC
alpha-BHC	0.000924U		ug/L	0.000924	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
alpha-Chlordane	0.00302I		ug/L	0.00118	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
beta-BHC	0.00123U		ug/L	0.00123	0.020	1	2/18/2009 12:00	3/19/2009 03:40	CC
delta-BHC	0.000904U		ug/L	0.000904	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
gamma-BHC (Lindane)	0.00537I	8	ug/L	0.000563	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
gamma-Chlordane	0.00304U	9	ug/L	0.00304	0.050	1	2/18/2009 12:00	3/19/2009 03:40	CC
Tetrachloro-m-xylene (S)	74		%	32-137		1	2/18/2009 12:00	3/19/2009 03:40	CC
Decachlorobiphenyl (S)	93		%	25-165		1	2/18/2009 12:00	3/19/2009 03:40	CC

PCBs

Preparation Method: 3510C Analytical Method: SW-846 8082

PCB 1016	0.012U		ug/L	0.012	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
PCB 1221	0.014U		ug/L	0.014	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
PCB 1232	0.190U		ug/L	0.190	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
PCB 1242	0.010U		ug/L	0.010	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
PCB 1248	0.00850U		ug/L	0.00850	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
PCB 1254	0.014U		ug/L	0.014	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
PCB 1260	0.015U		ug/L	0.015	0.500	1	3/19/2009 09:00	3/24/2009 04:17	MR
Decachlorobiphenyl (S)	98		%	45-162		1	3/19/2009 09:00	3/24/2009 04:17	MR
Tetrachloro-m-xylene (S)	77		%	50-125		1	3/19/2009 09:00	3/24/2009 04:17	MR

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**

Date Received: 3/17/2009 Matrix: Surface Water
Date Collected: 3/17/2009 9:45:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Wet Chemistry									
Analytical Method: SM 2540 C									
Total Dissolved Solids(TDS)	34300		mg/L	350	500	50		3/23/2009 15:54	AR
Preparation Method: EPA 351.2	Analytical Method: EPA 351.2								
Total Kjeldahl Nitrogen	0.505		mg/L	0.22	0.40	1	3/25/2009 16:00	3/27/2009 16:09	RB
Analytical Method: EPA 350.1									
Ammonia	0.0373I	V	mg/L	0.017	0.050	1		3/18/2009 16:55	IG
Analytical Method: EPA 300.0									
Bromide	112		mg/L	0.522	5.00	10		3/18/2009 15:31	AD
Chloride	20200		mg/L	0.664	5.00	10		3/18/2009 15:31	AD
Fluoride	0.300U		mg/L	0.300	2.00	10		3/18/2009 15:31	AD
Nitrate	0.074U		mg/L	0.074	0.500	10		3/18/2009 15:31	AD
Nitrite	0.053U		mg/L	0.053	0.500	10		3/18/2009 15:31	AD
Sulfate	2840		mg/L	0.755	5.00	10		3/18/2009 15:31	AD
Analytical Method: EPA 410.4									
COD	1970		mg/L	26.8	40.0	4		3/25/2009 17:30	AR
Analytical Method: SM 2320 B									
Total Alkalinity	136		mg/L	0.02	0.05	1		3/23/2009 13:00	JC
Preparation Method: BOD PREP	Analytical Method: SM 5210B BOD								
BOD	100U	10	mg/L	100	100	50	3/18/2009 21:00	3/23/2009 12:15	RB
Analytical Method: SM 5310B									
Total Organic Carbon	2.7		mg/L	0.60	1.0	1		3/20/2009 03:47	LP
Analytical Method: EPA 1664A									
Oil and Grease	1.6I		mg/L	1.4	4.0	1		3/19/2009 15:00	JS
Preparation Method: SW-846 9012A	Analytical Method: SW-846 9012A								
Total Cyanide	0.0032U		mg/L	0.0032	0.0050	1	3/19/2009 15:25	3/19/2009 17:34	TA
Preparation Method: SM 5540 C	Analytical Method: SM 5540 C								
Surfactants	0.040U		mg/L-LAS	0.040	0.200	1	3/18/2009 15:24	3/18/2009 15:00	AR
Analytical Method: SM 2130 B									
Turbidity	0.17		NTU			1		3/18/910 20:00	ZE
Analytical Method: SM 4500-S F(20th Ed.)									
Sulfide	0.800U		mg/L	0.800	1.00	1		3/17/2009 19:00	AR
Analytical Method: EPA 365.1									
Ortho Phosphate - P	0.208		mg/L-P	0.005	0.015	1		3/18/2009 07:51	ZE
Total Phosphorus	0.702		mg/L	0.004	0.015	1	3/18/2009 08:00	3/18/2009 11:37	ZE
Analytical Method: SM 2540 D									

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**

Date Received: 3/17/2009 Matrix: Surface Water
Date Collected: 3/17/2009 9:45:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Total Suspended Solids	8.80		mg/L	1.0	2.0	0.5		3/18/2009 16:40	MF
Analytical Method: EPA 120.1									
Conductivity	17600		umhos/cm			1		3/19/2009 15:30	AD
Subcontract Analysis									
Analytical Method: EPA 906									
See Attached	Attached	2				1		4/6/2009 12:00	SU
Radiological Analysis									
Analytical Method: 903.1									
Radium 226	0.5+/-0.1	3	pCi/l	0.20	0.20	1		3/30/2009 11:45	SU
Analytical Method: RA-05									
Radium 228	<0.9+/-0.6	3	pCi/l	0.90	0.90	1		3/31/2009 12:15	SU
Analytical Method: 900.0									
Gross Alpha (Incl Uranium)	0.9+/-0.8	3	pCi/l	0.90	0.90	1		4/12/2009 08:35	SU
Gross Beta	363+/-43.3		pCi/l	64	64	1		4/12/2009 08:35	SU
PCBs									
Preparation Method: 3510C Analytical Method: SW-846 8082									
PCB 1016	0.012U		ug/L	0.012	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
PCB 1221	0.014U		ug/L	0.014	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
PCB 1232	0.190U		ug/L	0.190	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
PCB 1242	0.010U		ug/L	0.010	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
PCB 1248	0.00850U		ug/L	0.00850	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
PCB 1254	0.014U		ug/L	0.014	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
PCB 1260	0.015U		ug/L	0.015	0.500	1	3/19/2009 09:00	3/24/2009 04:48	MR
Decachlorobiphenyl (S)	76		%	45-162		1	3/19/2009 09:00	3/24/2009 04:48	MR
Tetrachloro-m-xylene (S)	67		%	50-125		1	3/19/2009 09:00	3/24/2009 04:48	MR
Wet Chemistry - Subcontract									
Analytical Method: EPA 300.1									
Bromate	130U	1	ug/L	130	1000	400		3/27/2009 23:08	SU
Metals Analysis - Dissolved									
Preparation Method: SW-846 3010A Analytical Method: SW-846 6010									
Iron	0.045U		mg/L	0.045	0.10	1	3/19/2009 13:00	3/20/2009 01:46	TB
Manganese	0.036U	6	mg/L	0.036	0.036	2	3/19/2009 13:00	3/20/2009 16:22	TB
Silica	0.11U		mg/L	0.11	0.30	1	3/19/2009 13:00	3/20/2009 01:46	TB
Analytical Method: EPA 100.2									
Asbestos	0.18U	4	MFL	0.18	0.18	1		3/20/2009 11:00	SU
Metals Analysis									
Preparation Method: SW-846 7470 Analytical Method: SW-846 7470									

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**

Date Received: 3/17/2009 Matrix: Surface Water
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Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Mercury	0.00013U		mg/L	0.00013	0.00020	1	3/19/2009 10:30	3/19/2009 16:54	IT
Preparation Method: SW-846 3010A	Analytical Method: SW-846 6010								
Aluminum	0.046U		mg/l	0.046	0.20	1	3/19/2009 13:00	3/20/2009 01:40	TB
Antimony	0.0055U	6	mg/l	0.0055	0.020	1	3/19/2009 13:00	3/20/2009 01:40	TB
Arsenic	0.0046U		mg/l	0.0046	0.010	1	3/19/2009 13:00	3/20/2009 01:40	TB
Barium	0.00999I		mg/l	0.0020	0.010	1	3/19/2009 13:00	3/20/2009 01:40	TB
Beryllium	0.00067U		mg/l	0.00067	0.0040	1	3/19/2009 13:00	3/20/2009 01:40	TB
Boron	5.82		mg/l	0.034	0.25	10	3/19/2009 13:00	3/20/2009 16:35	TB
Cadmium	0.00057U		mg/l	0.00057	0.0050	1	3/19/2009 13:00	3/20/2009 01:40	TB
Calcium	529		mg/l	0.59	2.0	10	3/19/2009 13:00	3/20/2009 16:35	TB
Chromium	0.0011U		mg/l	0.0011	0.0050	1	3/19/2009 13:00	3/20/2009 01:40	TB
Cobalt	0.00135I		mg/l	0.00072	0.010	1	3/19/2009 13:00	3/20/2009 01:40	TB
Copper	0.0096U		mg/l	0.0096	0.020	1	3/19/2009 13:00	3/20/2009 01:40	TB
Iron	0.045U		mg/l	0.045	0.10	1	3/19/2009 13:00	3/20/2009 01:40	TB
Lead	0.0062U		mg/l	0.0062	0.020	2	3/19/2009 13:00	3/20/2009 16:16	TB
Magnesium	1760		mg/l	0.45	2.0	10	3/19/2009 13:00	3/20/2009 16:35	TB
Manganese	0.036U	6	mg/l	0.036	0.036	2	3/19/2009 13:00	3/20/2009 16:16	TB
Molybdenum	0.030U		mg/l	0.030	0.050	10	3/19/2009 13:00	3/20/2009 16:35	TB
Nickel	0.0052U		mg/l	0.0052	0.010	1	3/19/2009 13:00	3/20/2009 01:40	TB
Potassium	546		mg/l	3.50	10	10	3/19/2009 13:00	3/20/2009 16:35	TB
Selenium	0.0128I		mg/l	0.011	0.060	2	3/19/2009 13:00	3/20/2009 16:16	TB
Silica	0Y		mg/l		0.30	1	3/19/2009 13:00	3/20/2009 01:40	TB
Silver	0.0032U		mg/l	0.0032	0.040	2	3/19/2009 13:00	3/20/2009 16:16	TB
Sodium	12900	V,7	mg/l	50.0	50	100	3/19/2009 13:00	3/25/2009 00:48	TB
Strontium	9.84		mg/l	0.015	0.15	10	3/19/2009 13:00	3/20/2009 16:35	TB
Tin	0.0185I		mg/l	0.0042	0.025	1	3/19/2009 13:00	3/20/2009 01:40	TB
Titanium	0.00919I		mg/l	0.0061	0.050	1	3/19/2009 13:00	3/20/2009 01:40	TB
Vanadium	0.0065U	6	mg/l	0.0065	0.020	1	3/19/2009 13:00	3/20/2009 01:40	TB
Zinc	0.0141I		mg/l	0.0053	0.025	1	3/19/2009 13:00	3/20/2009 01:40	TB
Volatiles - Subcontract									
Analytical Method: RSK 175									
Dissolved Ethane	0.024U		ug/L	0.024	1.00	1		3/26/2009 15:27	SU
Dissolved Ethene	0.030U		ug/L	0.030	1.00	1		3/26/2009 15:27	SU
Methane	0.116U	11	ug/L	0.116	5.00	1		3/26/2009 15:27	SU
Organophosphorus Pesticides									
Preparation Method: 3510C	Analytical Method: SW-846 8141A								
Aspon	0.185U		ug/L	0.185	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Azinphos-ethyl	0.130U		ug/L	0.130	2.00	1	3/18/2009 12:00	3/20/2009 09:04	LR
Bolstar	0.202U		ug/L	0.202	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Carbophenothion	0.063U		ug/L	0.063	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Chlorpyrifos	0.121U		ug/L	0.121	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Chlorpyrifos-methyl	0.137U		ug/L	0.137	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Coumaphos	0.079U		ug/L	0.079	1.50	1	3/18/2009 12:00	3/20/2009 09:04	LR
Crotoxyphos	0.078U		ug/L	0.078	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**

Date Received: 3/17/2009 Matrix: Surface Water
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Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Demeton-o	0.041U		ug/L	0.041	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Demeton-s	0.062U		ug/L	0.062	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Dichlorfenthion	0.190U		ug/L	0.190	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Dichlorovos	0.075U		ug/L	0.075	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Dicrotophos	0.175U		ug/L	0.175	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Dimethoate	0.184U		ug/L	0.184	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Dioxathion	0.110U		ug/L	0.110	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Disulfoton	0.129U		ug/L	0.129	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
EPN	0.132U		ug/L	0.132	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Ethion	0.132U		ug/L	0.132	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Ethoprop	0.068U		ug/L	0.068	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Famphur	0.081U		ug/L	0.081	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Fenithrothion	0.198U		ug/L	0.198	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Fensulfothion	0.192U		ug/L	0.192	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Fenthion	0.074U		ug/L	0.074	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Leptophos	0.046U		ug/L	0.046	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Merphos	0.208U		ug/L	0.208	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Mevinphos	0.172U		ug/L	0.172	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Naled	0.220U		ug/L	0.220	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Phorate	0.177U		ug/L	0.177	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Phosmet	0.102U		ug/L	0.102	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Phosphamidon	0.311U		ug/L	0.311	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Ronnel	0.054U		ug/L	0.054	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
TEPP	0.189U		ug/L	0.189	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Terbufos	0.063U		ug/L	0.063	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Tetrachlorvinphos (Stirofos)	0.107U		ug/L	0.107	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Thionazine	0.179U		ug/L	0.179	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Tokuthion (Prothiophos)	0.106U		ug/L	0.106	0.500	1	3/18/2009 12:00	3/20/2009 09:04	LR
Trichlorfon	1.09U		ug/L	1.09	1.80	1	3/18/2009 12:00	3/20/2009 09:04	LR
Tributyl Phosphate (S)	85		%	44-125		1	3/18/2009 12:00	3/20/2009 09:04	LR
Triphenyl Phosphate (S)	104		%	43-134		1	3/18/2009 12:00	3/20/2009 09:04	LR
Volatiles									
Analytical Method: SW-846 8260B									
1,1,1,2-Tetrachloroethane	0.120U		ug/L	0.120	1.00	1		3/18/2009 15:19	LN
1,1,1-Trichloroethane	0.682U		ug/L	0.682	1.00	1		3/18/2009 15:19	LN
1,1,2,2-Tetrachloroethane	0.572U		ug/L	0.572	1.00	1		3/18/2009 15:19	LN
1,1,2-Trichloroethane	0.841U		ug/L	0.841	1.00	1		3/18/2009 15:19	LN
1,1-Dichloroethane	0.410U		ug/L	0.410	1.00	1		3/18/2009 15:19	LN
1,1-Dichloroethene	0.638U	12,J	ug/L	0.638	1.00	1		3/18/2009 15:19	LN
1,1-Dichloropropene	0.632U		ug/L	0.632	1.00	1		3/18/2009 15:19	LN
1,2,3-Trichlorobenzene	0.686U		ug/L	0.686	1.00	1		3/18/2009 15:19	LN
1,2,3-Trichloropropane	0.160U		ug/L	0.160	1.00	1		3/18/2009 15:19	LN
1,2,4-Trichlorobenzene	0.538U		ug/L	0.538	1.00	1		3/18/2009 15:19	LN
1,2,4-Trimethylbenzene	0.508U		ug/L	0.508	1.00	1		3/18/2009 15:19	LN

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**

Date Received: 3/17/2009 Matrix: Surface Water
Date Collected: 3/17/2009 9:45:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
1,2-Dibromo-3-chloropropane	0.933U		ug/L	0.933	1.00	1		3/18/2009 15:19	LN
1,2-Dibromoethane	0.345U		ug/L	0.345	1.00	1		3/18/2009 15:19	LN
1,2-Dichlorobenzene	0.584U		ug/L	0.584	1.00	1		3/18/2009 15:19	LN
1,2-Dichloroethane	0.897U		ug/L	0.897	1.00	1		3/18/2009 15:19	LN
1,2-Dichloropropane	0.725U		ug/L	0.725	1.00	1		3/18/2009 15:19	LN
1,3,5-Trimethylbenzene	0.477U		ug/L	0.477	1.00	1		3/18/2009 15:19	LN
1,3-Dichlorobenzene	0.558U		ug/L	0.558	1.00	1		3/18/2009 15:19	LN
1,3-Dichloropropane	0.345U		ug/L	0.345	1.00	1		3/18/2009 15:19	LN
1,4-Dichlorobenzene	0.537U		ug/L	0.537	1.00	1		3/18/2009 15:19	LN
2,2-Dichloropropane	0.700U		ug/L	0.700	1.00	1		3/18/2009 15:19	LN
2-Butanone	4.28U		ug/L	4.28	10.0	1		3/18/2009 15:19	LN
2-Chloroethylvinyl ether	0.470U		ug/L	0.470	1.00	1		3/18/2009 15:19	LN
2-Chlorotoluene	0.550U		ug/L	0.550	1.00	1		3/18/2009 15:19	LN
2-Hexanone	1.83U		ug/L	1.83	10.0	1		3/18/2009 15:19	LN
4-Chlorotoluene	0.570U		ug/L	0.570	1.00	1		3/18/2009 15:19	LN
4-Isopropyltoluene	0.380U		ug/L	0.380	1.00	1		3/18/2009 15:19	LN
4-Methyl-2-pentanone	0.220U		ug/L	0.220	1.00	1		3/18/2009 15:19	LN
Acetone	1.43U		ug/L	1.43	10.0	1		3/18/2009 15:19	LN
Acrolein	2.47U		ug/L	2.47	10.0	1		3/18/2009 15:19	LN
Acrylonitrile	0.955U		ug/L	0.955	10.0	1		3/18/2009 15:19	LN
Benzene	0.621U		ug/L	0.621	1.00	1		3/18/2009 15:19	LN
Bromobenzene	0.382U		ug/L	0.382	1.00	1		3/18/2009 15:19	LN
Bromochloromethane	0.637U		ug/L	0.637	1.00	1		3/18/2009 15:19	LN
Bromodichloromethane	0.100U		ug/L	0.100	1.00	1		3/18/2009 15:19	LN
Bromoform	0.486U		ug/L	0.486	1.00	1		3/18/2009 15:19	LN
Bromomethane	0.427U		ug/L	0.427	1.00	1		3/18/2009 15:19	LN
n-Butylbenzene	0.564U		ug/L	0.564	1.00	1		3/18/2009 15:19	LN
Carbon disulfide	0.650U		ug/L	0.650	10.0	1		3/18/2009 15:19	LN
Carbon tetrachloride	0.468U		ug/L	0.468	1.00	1		3/18/2009 15:19	LN
Chlorobenzene	0.316U		ug/L	0.316	1.00	1		3/18/2009 15:19	LN
Chloroethane	1.00U		ug/L	1.00	1.00	1		3/18/2009 15:19	LN
Chloroform	0.572U		ug/L	0.572	1.00	1		3/18/2009 15:19	LN
Chloromethane	0.524U		ug/L	0.524	1.00	1		3/18/2009 15:19	LN
Dibromochloromethane	0.378U		ug/L	0.378	1.00	1		3/18/2009 15:19	LN
Dibromomethane	0.739U		ug/L	0.739	1.00	1		3/18/2009 15:19	LN
Dichlorodifluoromethane	0.525U		ug/L	0.525	1.00	1		3/18/2009 15:19	LN
cis-1,3-Dichloropropene	0.664U		ug/L	0.664	1.00	1		3/18/2009 15:19	LN
trans-1,3-Dichloropropene	0.522U		ug/L	0.522	1.00	1		3/18/2009 15:19	LN
Ethylbenzene	0.323U		ug/L	0.323	1.00	1		3/18/2009 15:19	LN
Hexachlorobutadiene	0.763U		ug/L	0.763	1.00	1		3/18/2009 15:19	LN
Isopropylbenzene (Cumene)	0.528U		ug/L	0.528	1.00	1		3/18/2009 15:19	LN
Methyl-t-butyl ether	0.650U		ug/L	0.650	1.00	1		3/18/2009 15:19	LN
Methylene chloride	0.580U		ug/L	0.580	5.00	1		3/18/2009 15:19	LN
Naphthalene	0.417U		ug/L	0.417	1.00	1		3/18/2009 15:19	LN
Styrene	0.458U		ug/L	0.458	1.00	1		3/18/2009 15:19	LN

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**
Date Received: 3/17/2009 Matrix: Surface Water
Date Collected: 3/17/2009 9:45:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Tetrachloroethene	0.312U		ug/L	0.312	1.00	1		3/18/2009 15:19	LN
Toluene	0.389U		ug/L	0.389	1.00	1		3/18/2009 15:19	LN
Trichloroethene	0.821U		ug/L	0.821	1.00	1		3/18/2009 15:19	LN
Trichlorofluoromethane	1.00U		ug/L	1.00	1.00	1		3/18/2009 15:19	LN
Vinyl acetate	0.570U		ug/L	0.570	10.0	1		3/18/2009 15:19	LN
Vinyl chloride	0.506U		ug/L	0.506	1.00	1		3/18/2009 15:19	LN
Xylene, m,p-	0.639U		ug/L	0.639	2.00	1		3/18/2009 15:19	LN
Xylene, o-	0.341U		ug/L	0.341	1.00	1		3/18/2009 15:19	LN
Xylenes (total)	0.980U		ug/L	0.980	3.00	1		3/18/2009 15:19	LN
cis-1,2-Dichloroethene	0.442U		ug/L	0.442	1.00	1		3/18/2009 15:19	LN
n-Propylbenzene	0.624U		ug/L	0.624	1.00	1		3/18/2009 15:19	LN
sec-Butylbenzene	0.521U		ug/L	0.521	1.00	1		3/18/2009 15:19	LN
tert-Butylbenzene	0.607U		ug/L	0.607	1.00	1		3/18/2009 15:19	LN
trans-1,2-Dichloroethene	0.410U		ug/L	0.410	1.00	1		3/18/2009 15:19	LN
4-Bromofluorobenzene (S)	87		%	64-130		1		3/18/2009 15:19	LN
Dibromofluoromethane (S)	122		%	69-134		1		3/18/2009 15:19	LN
Toluene d8 (S)	98		%	63-127		1		3/18/2009 15:19	LN

Pesticides

Preparation Method: 3510C Analytical Method: SW-846 8081A

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
4,4'-DDD	0.000993U		ug/L	0.000993	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
4,4'-DDE	0.00148U		ug/L	0.00148	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
4,4'-DDT	0.00120U		ug/L	0.00120	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Aldrin	0.00139U		ug/L	0.00139	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
Dieldrin	0.00106U		ug/L	0.00106	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
Endosulfan I	0.00247I	8	ug/L	0.00103	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Endosulfan II	0.00103U		ug/L	0.00103	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Endosulfan sulfate	0.00279U		ug/L	0.00279	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Endrin	0.00717U		ug/L	0.00717	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Endrin aldehyde	0.000695U		ug/L	0.000695	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Endrin ketone	0.000969U		ug/L	0.000969	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Heptachlor	0.00691I		ug/L	0.00152	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
Heptachlor epoxide	0.00233U	8,9	ug/L	0.00233	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
Methoxychlor	0.000900U		ug/L	0.000900	0.100	1	2/18/2009 12:00	3/19/2009 04:08	CC
Toxaphene	0.047U		ug/L	0.047	3.00	1	2/18/2009 12:00	3/19/2009 04:08	CC
alpha-BHC	0.00436U	8,9	ug/L	0.00436	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
alpha-Chlordane	0.00118U		ug/L	0.00118	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
beta-BHC	0.00123U		ug/L	0.00123	0.020	1	2/18/2009 12:00	3/19/2009 04:08	CC
delta-BHC	0.000904U		ug/L	0.000904	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
gamma-BHC (Lindane)	0.000563U		ug/L	0.000563	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
gamma-Chlordane	0.00130U		ug/L	0.00130	0.050	1	2/18/2009 12:00	3/19/2009 04:08	CC
Tetrachloro-m-xylene (S)	87		%	32-137		1	2/18/2009 12:00	3/19/2009 04:08	CC
Decachlorobiphenyl (S)	101		%	25-165		1	2/18/2009 12:00	3/19/2009 04:08	CC

Herbicides

Preparation Method: 3510C Analytical Method: SW-846 8151A

ANALYTICAL RESULTS

Lab ID: **902901002**
Sample ID: **SP1/**
Date Received: 3/17/2009 Matrix: Surface Water
Date Collected: 3/17/2009 9:45:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
2,4,5-T	0.345U		ug/L	0.345	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
2,4,5-TP (Silvex)	0.492U		ug/L	0.492	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
2,4-D	0.406U		ug/L	0.406	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
2,4-DB	0.547U		ug/L	0.547	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
Dalapon	0.509U		ug/L	0.509	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
Dicamba	0.369U		ug/L	0.369	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
Dichlorprop	0.399U		ug/L	0.399	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
Dinoseb	0.509U		ug/L	0.509	2.00	1	3/15/2009 15:15	3/21/2009 04:15	CC
MCPA	47.7U		ug/L	47.7	200	1	3/15/2009 15:15	3/21/2009 04:15	CC
MCPP	98.0U		ug/L	98.0	200	1	3/15/2009 15:15	3/21/2009 04:15	CC
DCAA (S)	92		%	46-142		1	3/15/2009 15:15	3/21/2009 04:15	CC

ANALYTICAL RESULTS

Lab ID: **902901003**
Sample ID: **SP1/**
Date Received: 3/17/2009 Matrix: Surface Water
Date Collected: 3/17/2009 2:55:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Wet Chemistry									
Analytical Method: SM 9222 B									
Total Coliform	1U		cfu/100mL	1	1	1		3/17/2009 17:35	RB
Analytical Method: SM 9222 D									
Fecal Coliform	1.0U		cfu/100mL	1.0	1.0	1		3/17/2009 17:35	RB

ANALYTICAL RESULTS

Lab ID:	**902901004**	Date Received:	3/17/2009	Matrix:	DI Water
Sample ID:	**TRIP BLANK/**	Date Collected:	3/16/2009 5:00:00 PM		

Volatiles

Analytical Method: SW-846 8260B

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
1,1,1,2-Tetrachloroethane	0.120U		ug/L	0.120	1.00	1		3/18/2009 14:55	LN
1,1,1-Trichloroethane	0.682U		ug/L	0.682	1.00	1		3/18/2009 14:55	LN
1,1,2,2-Tetrachloroethane	0.572U		ug/L	0.572	1.00	1		3/18/2009 14:55	LN
1,1,2-Trichloroethane	0.841U		ug/L	0.841	1.00	1		3/18/2009 14:55	LN
1,1-Dichloroethane	0.410U		ug/L	0.410	1.00	1		3/18/2009 14:55	LN
1,1-Dichloroethene	0.638U		ug/L	0.638	1.00	1		3/18/2009 14:55	LN
1,1-Dichloropropene	0.632U		ug/L	0.632	1.00	1		3/18/2009 14:55	LN
1,2,3-Trichlorobenzene	0.686U		ug/L	0.686	1.00	1		3/18/2009 14:55	LN
1,2,3-Trichloropropane	0.160U		ug/L	0.160	1.00	1		3/18/2009 14:55	LN
1,2,4-Trichlorobenzene	0.538U		ug/L	0.538	1.00	1		3/18/2009 14:55	LN
1,2,4-Trimethylbenzene	0.508U		ug/L	0.508	1.00	1		3/18/2009 14:55	LN
1,2-Dibromo-3-chloropropane	0.933U		ug/L	0.933	1.00	1		3/18/2009 14:55	LN
1,2-Dibromoethane	0.345U		ug/L	0.345	1.00	1		3/18/2009 14:55	LN
1,2-Dichlorobenzene	0.584U		ug/L	0.584	1.00	1		3/18/2009 14:55	LN
1,2-Dichloroethane	0.897U		ug/L	0.897	1.00	1		3/18/2009 14:55	LN
1,2-Dichloropropane	0.725U		ug/L	0.725	1.00	1		3/18/2009 14:55	LN
1,3,5-Trimethylbenzene	0.477U		ug/L	0.477	1.00	1		3/18/2009 14:55	LN
1,3-Dichlorobenzene	0.558U		ug/L	0.558	1.00	1		3/18/2009 14:55	LN
1,3-Dichloropropane	0.345U		ug/L	0.345	1.00	1		3/18/2009 14:55	LN
1,4-Dichlorobenzene	0.537U		ug/L	0.537	1.00	1		3/18/2009 14:55	LN
2,2-Dichloropropane	0.700U		ug/L	0.700	1.00	1		3/18/2009 14:55	LN
2-Butanone	4.28U		ug/L	4.28	10.0	1		3/18/2009 14:55	LN
2-Chloroethylvinyl ether	0.470U		ug/L	0.470	1.00	1		3/18/2009 14:55	LN
2-Chlorotoluene	0.550U		ug/L	0.550	1.00	1		3/18/2009 14:55	LN
2-Hexanone	1.83U		ug/L	1.83	10.0	1		3/18/2009 14:55	LN
4-Chlorotoluene	0.570U		ug/L	0.570	1.00	1		3/18/2009 14:55	LN
4-Isopropyltoluene	0.380U		ug/L	0.380	1.00	1		3/18/2009 14:55	LN
4-Methyl-2-pentanone	0.220U		ug/L	0.220	1.00	1		3/18/2009 14:55	LN
Acetone	18.3		ug/L	1.43	10.0	1		3/18/2009 14:55	LN
Acrolein	2.47U		ug/L	2.47	10.0	1		3/18/2009 14:55	LN
Acrylonitrile	0.955U		ug/L	0.955	10.0	1		3/18/2009 14:55	LN
Benzene	0.621U		ug/L	0.621	1.00	1		3/18/2009 14:55	LN
Bromobenzene	0.382U		ug/L	0.382	1.00	1		3/18/2009 14:55	LN
Bromochloromethane	0.637U		ug/L	0.637	1.00	1		3/18/2009 14:55	LN
Bromodichloromethane	0.100U		ug/L	0.100	1.00	1		3/18/2009 14:55	LN
Bromoform	0.486U		ug/L	0.486	1.00	1		3/18/2009 14:55	LN
Bromomethane	0.427U		ug/L	0.427	1.00	1		3/18/2009 14:55	LN
n-Butylbenzene	0.564U		ug/L	0.564	1.00	1		3/18/2009 14:55	LN
Carbon disulfide	0.650U		ug/L	0.650	10.0	1		3/18/2009 14:55	LN
Carbon tetrachloride	0.468U		ug/L	0.468	1.00	1		3/18/2009 14:55	LN
Chlorobenzene	0.316U		ug/L	0.316	1.00	1		3/18/2009 14:55	LN
Chloroethane	0.300U		ug/L	0.300	1.00	1		3/18/2009 14:55	LN
Chloroform	0.572U		ug/L	0.572	1.00	1		3/18/2009 14:55	LN

ANALYTICAL RESULTS

Lab ID: **902901004**
Sample ID: **TRIP BLANK/**
Date Received: 3/17/2009
Matrix: DI Water
Date Collected: 3/16/2009 5:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Chloromethane	0.524U		ug/L	0.524	1.00	1		3/18/2009 14:55	LN
Dibromochloromethane	0.378U		ug/L	0.378	1.00	1		3/18/2009 14:55	LN
Dibromomethane	0.739U		ug/L	0.739	1.00	1		3/18/2009 14:55	LN
Dichlorodifluoromethane	0.525U		ug/L	0.525	1.00	1		3/18/2009 14:55	LN
cis-1,3-Dichloropropene	0.664U		ug/L	0.664	1.00	1		3/18/2009 14:55	LN
trans-1,3-Dichloropropene	0.522U		ug/L	0.522	1.00	1		3/18/2009 14:55	LN
Ethylbenzene	0.323U		ug/L	0.323	1.00	1		3/18/2009 14:55	LN
Hexachlorobutadiene	0.763U		ug/L	0.763	1.00	1		3/18/2009 14:55	LN
Isopropylbenzene (Cumene)	0.528U		ug/L	0.528	1.00	1		3/18/2009 14:55	LN
Methyl-t-butyl ether	0.650U		ug/L	0.650	1.00	1		3/18/2009 14:55	LN
Methylene chloride	0.580U		ug/L	0.580	5.00	1		3/18/2009 14:55	LN
Naphthalene	0.417U		ug/L	0.417	1.00	1		3/18/2009 14:55	LN
Styrene	0.458U		ug/L	0.458	1.00	1		3/18/2009 14:55	LN
Tetrachloroethene	0.312U		ug/L	0.312	1.00	1		3/18/2009 14:55	LN
Toluene	0.389U		ug/L	0.389	1.00	1		3/18/2009 14:55	LN
Trichloroethene	0.821U		ug/L	0.821	1.00	1		3/18/2009 14:55	LN
Trichlorofluoromethane	0.493U		ug/L	0.493	1.00	1		3/18/2009 14:55	LN
Vinyl acetate	0.570U		ug/L	0.570	10.0	1		3/18/2009 14:55	LN
Vinyl chloride	0.506U		ug/L	0.506	1.00	1		3/18/2009 14:55	LN
Xylene, m,p-	0.639U		ug/L	0.639	2.00	1		3/18/2009 14:55	LN
Xylene, o-	0.341U		ug/L	0.341	1.00	1		3/18/2009 14:55	LN
Xylenes (total)	0.980U		ug/L	0.980	3.00	1		3/18/2009 14:55	LN
cis-1,2-Dichloroethene	0.442U		ug/L	0.442	1.00	1		3/18/2009 14:55	LN
n-Propylbenzene	0.624U		ug/L	0.624	1.00	1		3/18/2009 14:55	LN
sec-Butylbenzene	0.521U		ug/L	0.521	1.00	1		3/18/2009 14:55	LN
tert-Butylbenzene	0.607U		ug/L	0.607	1.00	1		3/18/2009 14:55	LN
trans-1,2-Dichloroethene	0.410U		ug/L	0.410	1.00	1		3/18/2009 14:55	LN
4-Bromofluorobenzene (S)	86		%	64-130		1		3/18/2009 14:55	LN
Dibromofluoromethane (S)	123		%	69-134		1		3/18/2009 14:55	LN
Toluene d8 (S)	98		%	63-127		1		3/18/2009 14:55	LN

ANALYTICAL RESULTS QUALIFIERS

PARAMETER QUALIFIERS

J	Estimated value.
V	Present in blank.
[1]	E83079
[2]	E14157
[3]	E83033
[4]	E86772
[5]	Sample diluted due to matrix interference.
[6]	Detection limit has been elevated due to matrix interference.
[7]	NCR-Detection limit has been elevated due to ICSA and/or ICSAB recovering outside control limits
[8]	NCR-CCV recovery was above the method limit of 15%, but within 25%.
[9]	NCR-% difference of results from primary and secondary columns is >40%, possible due to matrix interference. Detection limit elevated above lowest concentration.
[10]	Sample was diluted based on initial COD check result.
[11]	E87854
[12]	MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.

CASE NARRATIVE

Lab ID	Client ID	Receiving Comments for Lab Sample ID
902902002		Missing auxiliary data

Sample Analysis Comments

Lab ID 902901001 Client ID MW1-D2 PI

Analyte/Aldrin

NCR-CCV recovery was above the method limit of 15%, but within 25%.

Analyte/Arsenic

[5] Sample diluted due to matrix interference.

Analyte/Asbestos

[4] E86772

Analyte/BOD

[10] Sample was diluted based on initial COD check result.

Analyte/Barium

[5] Sample diluted due to matrix interference.

Analyte/Bromate

[1] E83079

Analyte/Endosulfan I

NCR-CCV recovery was above the method limit of 15%, but within 25%.

Analyte/Gross Alpha (Incl Uranium)

[3] E83033

Analyte/Heptachlor epoxide

NCR-% difference of results from primary and secondary columns is >40%, possible due to matrix interference. Detection limit elevated above lowest concentration.
NCR-CCV recovery was above the method limit of 15%, but within 25%.

Analyte/Methane

[11] E87854

Analyte/Radium 226

[3] E83033

Analyte/Radium 228

[3] E83033

Analyte/See Attached

[2] E14157

Analyte/Silver

Detection limit has been elevated due to matrix interference.

CASE NARRATIVE

Sample Analysis Comments

Lab ID 902901001 Client ID MW1-D2 PI

Analyte/Sodium

NCR-Detection limit has been elevated due to ICSA and/or ICSAB recovering outside control limits

Analyte/gamma-BHC (Lindane)

NCR-CCV recovery was above the method limit of 15%, but within 25%.

Analyte/gamma-Chlordane

NCR-% difference of results from primary and secondary columns is >40%, possible due to matrix interference. Detection limit elevated above lowest concentration.

Lab ID 902901002 Client ID SP1

Analyte/1,1-Dichloroethene

J = Estimated value.

MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.

Analyte/Antimony

Detection limit has been elevated due to matrix interference.

Analyte/Asbestos

[4] E86772

Analyte/BOD

[10] Sample was diluted based on initial COD check result.

Analyte/Bromate

[1] E83079

Analyte/Endosulfan I

NCR-CCV recovery was above the method limit of 15%, but within 25%.

Analyte/Gross Alpha (Incl Uranium)

[3] E83033

Analyte/Heptachlor epoxide

NCR-% difference of results from primary and secondary columns is >40%, possible due to matrix interference. Detection limit elevated above lowest concentration.
NCR-CCV recovery was above the method limit of 15%, but within 25%.

Analyte/Manganese

Detection limit has been elevated due to matrix interference.

Detection limit has been elevated due to matrix interference.

Analyte/Methane

[11] E87854

CASE NARRATIVE

Sample Analysis Comments

Lab ID 902901002   Client ID SP1

Analyte/Radium 226

[3] E83033

Analyte/Radium 228

[3] E83033

Analyte/See Attached

[2] E14157

Analyte/Sodium

NCR-Detection limit has been elevated due to ICSA and/or ICSAB recovering outside control limits

Analyte/Vanadium

Detection limit has been elevated due to matrix interference.

Analyte/alpha-BHC

NCR-% difference of results from primary and secondary columns is >40%, possible due to matrix interference. Detection limit elevated above lowest concentration.
NCR-CCV recovery was above the method limit of 15%, but within 25%.

QUALITY CONTROL DATA

QC Batch: EXTO/1870 Analysis Method: SW-846 8141A

QC Batch Method: 3510C

Associated Lab Samples: 902709001 902711004 902732001 902901001 902901002

METHOD BLANK: 20387

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosphamidon	ug/L	0.311U	0.311	
Phorate	ug/L	0.177U	0.177	
Aspon	ug/L	0.185U	0.185	
Bolstar	ug/L	0.202U	0.202	
Dichlorfenthion	ug/L	0.190U	0.190	
Dioxathion	ug/L	0.110U	0.110	
Fensulfothion	ug/L	0.192U	0.192	
Naled	ug/L	0.220U	0.220	
TEPP	ug/L	0.189U	0.189	
Thionazine	ug/L	0.179U	0.179	
EPN	ug/L	0.132U	0.132	
Merphos	ug/L	0.208U	0.208	
Mevinphos	ug/L	0.172U	0.172	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosmet	ug/L	0.102U	0.102	
Disulfoton	ug/L	0.129U	0.129	
Azinphos-ethyl	ug/L	0.130U	0.130	
Coumaphos	ug/L	0.079U	0.079	
Dicrotophos	ug/L	0.175U	0.175	
Ethoprop	ug/L	0.068U	0.068	
Famphur	ug/L	0.081U	0.081	
Ethion	ug/L	0.132U	0.132	
Tetrachlorvinphos (Stirofos)	ug/L	0.107U	0.107	
Trichlorfon	ug/L	1.09U	1.09	
Tokuthion (Prothiophos)	ug/L	0.106U	0.106	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Carbophenothion	ug/L	0.063U	0.063	
Chlorpyrifos	ug/L	0.121U	0.121	
Chlorpyrifos-methyl	ug/L	0.137U	0.137	
Demeton-s	ug/L	0.062U	0.062	
Demeton-o	ug/L	0.041U	0.041	
Crotoxyphos	ug/L	0.078U	0.078	
Dichlorovos	ug/L	0.075U	0.075	
Fenithrothion	ug/L	0.198U	0.198	
Ronnel	ug/L	0.054U	0.054	
Terbufos	ug/L	0.063U	0.063	
Fenthion	ug/L	0.074U	0.074	

QUALITY CONTROL DATA

METHOD BLANK: 20387

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Leptophos	ug/L	0.046U	0.046	
Tributyl Phosphate (S)	%	116	44-125	
Triphenyl Phosphate (S)	%	131	43-134	

METHOD BLANK: 21104

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Carbophenothion	ug/L	0.063U	0.063	
Chlorpyrifos	ug/L	0.121U	0.121	
Chlorpyrifos-methyl	ug/L	0.137U	0.137	
Demeton-s	ug/L	0.062U	0.062	
Demeton-o	ug/L	0.041U	0.041	
Crotoxyphos	ug/L	0.078U	0.078	
Dichlorovos	ug/L	0.075U	0.075	
Fenithrothion	ug/L	0.198U	0.198	
Ronnel	ug/L	0.054U	0.054	
Terbufos	ug/L	0.063U	0.063	
Fenthion	ug/L	0.074U	0.074	
Leptophos	ug/L	0.046U	0.046	
Tributyl Phosphate (S)	%	95	44-125	
Triphenyl Phosphate (S)	%	112	43-134	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosphamidon	ug/L	0.311U	0.311	
Aspon	ug/L	0.185U	0.185	
Phorate	ug/L	0.177U	0.177	
Bolstar	ug/L	0.202U	0.202	
Dichlorfenthion	ug/L	0.190U	0.190	
Dioxathion	ug/L	0.110U	0.110	
Fensulfothion	ug/L	0.192U	0.192	
Naled	ug/L	0.220U	0.220	
Dimethoate	ug/L	0.184U	0.184	
Thionazine	ug/L	0.179U	0.179	
TEPP	ug/L	0.189U	0.189	
EPN	ug/L	0.132U	0.132	
Merphos	ug/L	0.208U	0.208	
Mevinphos	ug/L	0.172U	0.172	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosmet	ug/L	0.102U	0.102	
Disulfoton	ug/L	0.129U	0.129	

QUALITY CONTROL DATA

METHOD BLANK: 21104

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Azinphos-ethyl	ug/L	0.130U	0.130	
Coumaphos	ug/L	0.079U	0.079	
Dicrotophos	ug/L	0.175U	0.175	
Ethoprop	ug/L	0.068U	0.068	
Famphur	ug/L	0.081U	0.081	
Ethion	ug/L	0.132U	0.132	
Tetrachlorvinphos (Stirofos)	ug/L	0.107U	0.107	
Trichlorfon	ug/L	1.09U	1.09	
Tokuthion (Prothiophos)	ug/L	0.106U	0.106	

LABORATORY CONTROL SAMPLE: 20388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Carbophenothion	ug/L	2	2.23	111	21-148	
Chlorpyrifos	ug/L	2	2.41	121	46-133	
Chlorpyrifos-methyl	ug/L	2	2.31	116	44-122	
Demeton-s	ug/L		0.752			
Demeton-o	ug/L		1.44			
Crotoxyphos	ug/L	2	2.13	106		
Dichlorovos	ug/L	2	1.51	76	12-128	
Fenithrothion	ug/L	2	2.46	123		
Ronnel	ug/L	2	2.45	123	35-126	
Terbufos	ug/L	2	2.03	101	48-124	
Fenthion	ug/L	2	2.43	121		
Leptophos	ug/L	2	2.40	120	11-146	
Tributyl Phosphate (S)	%			114	44-125	
Triphenyl Phosphate (S)	%			125	43-134	

LABORATORY CONTROL SAMPLE: 20388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Phosphamidon	ug/L		0.311U			
Phorate	ug/L		0.177U			
Aspon	ug/L		0.185U			
Bolstar	ug/L		0.202U			
Dichlorfenthion	ug/L		0.190U			
Dioxathion	ug/L		0.110U			
Fensulfothion	ug/L		0.192U			
Naled	ug/L		0.220U			

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 20388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TEPP	ug/L		0.189U			
Thionazine	ug/L		0.179U			
EPN	ug/L		0.132U			
Merphos	ug/L		0.208U			
Mevinphos	ug/L		0.172U			

LABORATORY CONTROL SAMPLE: 20388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Phosmet	ug/L		0.102U			
Disulfoton	ug/L		0.129U			
Azinphos-ethyl	ug/L		0.130U			
Coumaphos	ug/L		0.079U			
Dicrotophos	ug/L		0.175U			
Ethoprop	ug/L		0.068U			
Famphur	ug/L		0.081U			
Ethion	ug/L		0.132U			
Tetrachlorvinphos (Stirofos)	ug/L		0.107U			
Trichlorfon	ug/L		1.09U			
Tokuthion (Prothiophos)	ug/L		0.106U			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 20389 20390 Original: 902711004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Carbophenothion	ug/L	0	2	2.48	2.33	124	117	21-148	6	20	
Chlorpyrifos	ug/L	0	2	2.19	1.85	110	93	46-133	17	20	
Chlorpyrifos-methyl	ug/L	0	2	2.40	2.38	120	119	44-122	0.8	20	
Demeton-s	ug/L			0.782	0.678						
Demeton-o	ug/L			1.52	0.437I						
Crotoxyphos	ug/L	0	2	2.03	2.74	102	137		29		
Dichlorovos	ug/L	0	2	2.07	2.09	103	105	12-128	2	20	
Fenithrothion	ug/L	0	2	2.29	2.19	115	109		5		
Ronnel	ug/L	0	2	2.37	2.39	119	119	35-126	0	20	
Terbufos	ug/L	0	2	2.24	2.05	112	103	48-124	8	20	
Fenthion	ug/L	0	2	1.95	2.18	97	109		12		
Leptophos	ug/L	0	2	2.22	2.29	111	114	11-146	3	20	
Tributyl Phosphate (S)	%	117				116	113	44-125	3		
Triphenyl Phosphate (S)	%	109				123	118	43-134	4		

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 20389 20390 Original: 902711004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Phosphamidon	ug/L			0.311U	0.311U						
Phorate	ug/L			0.177U	0.177U						
Aspon	ug/L			0.185U	0.185U						
Bolstar	ug/L			0.202U	0.202U						
Dichlorfenthion	ug/L			0.190U	0.190U						
Dioxathion	ug/L			0.110U	0.110U						
Fensulfothion	ug/L			0.192U	0.192U						
Naled	ug/L			0.220U	0.220U						
TEPP	ug/L			0.189U	0.189U						
Thionazine	ug/L			0.179U	0.179U						
EPN	ug/L			0.132U	0.132U						
Merphos	ug/L			0.208U	0.208U						
Mevinphos	ug/L			0.172U	0.172U						

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 20389 20390 Original: 902711004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Phosmet	ug/L			0.102U	0.102U						
Disulfoton	ug/L			0.129U	0.129U						
Azinphos-ethyl	ug/L			0.130U	0.130U						
Coumaphos	ug/L			0.079U	0.079U						
Dicrotophos	ug/L			0.175U	0.175U						
Ethoprop	ug/L			0.068U	0.068U						
Famphur	ug/L			0.081U	0.081U						
Ethion	ug/L			0.132U	0.132U						
Tetrachlorvinphos (Stirofos)	ug/L			0.107U	0.107U						
Trichlorfon	ug/L			1.09U	1.09U						
Tokuthion (Prothiophos)	ug/L			0.106U	0.106U						

QUALITY CONTROL DATA

QC Batch: HACH/1149 Analysis Method: SM 4500-S F(20th Ed.)

QC Batch Method: SM 4500-S F(20th Ed.)

Associated Lab Samples:						
	902636001	902636002	902700001	902700002	902700003	902754001
	902754002	902754003	902901001	902901002	902902001	902902002
	902902003	902902004	902902005	902902006		

METHOD BLANK: 20969

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Sulfide	mg/L	0.800U	0.800	

LABORATORY CONTROL SAMPLE: 20970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Sulfide	mg/L	10	9.79	98	70-130	

SAMPLE DUPLICATE: 20971 Original: 902636001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Sulfide	mg/L	0.800U	0.800U	0	20	

QUALITY CONTROL DATA

QC Batch: SOLI/1580 Analysis Method: SM 2540 D

QC Batch Method: SM 2540 D

Associated Lab Samples:

902878001	902878002	902879001	902880002	902884002	902884004
902884005	902891001	902895001	902895002	902896001	902896002
902897001	902897002	902898001	902898002	902899001	902899002
902900002	902901001				

METHOD BLANK: 21011

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Suspended Solids	mg/L	1.0U	1.0	

SAMPLE DUPLICATE: 21012 Original: 902900002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Suspended Solids	mg/L	108	104	3.8	20	

QUALITY CONTROL DATA

QC Batch: INPR/1535 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Associated Lab Samples: 902901001 902901002 902902001 902902002 902902003 902902004 902902005 902902006

METHOD BLANK: 21018

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Phosphorus	mg/L	0.004U	0.004	

LABORATORY CONTROL SAMPLE & LCSD: 21019 21020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Phosphorus	mg/L	0.5	0.503	0.494	101	98.9	90-110	2.1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21021 21022 Original: 902902002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Phosphorus	mg/L	0.042	0.5	0.526	0.531	96.8	97.8	90-110	1	20	

QUALITY CONTROL DATA

QC Batch: LACH/1910 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Associated Lab Samples: 902901001 902901002

METHOD BLANK: 21025

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Ortho Phosphate - P	mg/L-P	0.005U	0.005	

LABORATORY CONTROL SAMPLE & LCSD: 21026 21027

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Ortho Phosphate - P	mg/L-P	0.5	0.491	0.494	98	99	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21028 21029 Original: 902901002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Ortho Phosphate - P	mg/L-P	0.208	0.5	0.725	0.733	103	105	90-110	2	20	

QUALITY CONTROL DATA

QC Batch: MSV/1539 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 8260B

Associated Lab Samples:						
	902892001	902892002	902892003	902892004	902892005	902892008
	902892009	902892010	902901001	902901002	902901004	

METHOD BLANK: 21030

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Volatiles				
Acetone	ug/L	1.43U	1.43	
Acrolein	ug/L	2.47U	2.47	
Acrylonitrile	ug/L	0.955U	0.955	
Bromochloromethane	ug/L	0.637U	0.637	
Bromodichloromethane	ug/L	0.100U	0.100	
Bromoform	ug/L	0.486U	0.486	
Bromomethane	ug/L	0.427U	0.427	
Carbon disulfide	ug/L	0.650U	0.650	
Carbon tetrachloride	ug/L	0.468U	0.468	
Chloroethane	ug/L	1.00U	1.00	
Xylene, m,p-	ug/L	0.639U	0.639	
Chloroform	ug/L	0.572U	0.572	
Chloromethane	ug/L	0.524U	0.524	
Dibromochloromethane	ug/L	0.378U	0.378	
Dibromomethane	ug/L	0.739U	0.739	
Dichlorodifluoromethane	ug/L	0.525U	0.525	
1,1-Dichloroethane	ug/L	0.410U	0.410	
1,2-Dichloroethane	ug/L	0.897U	0.897	
cis-1,2-Dichloroethene	ug/L	0.442U	0.442	
trans-1,2-Dichloroethene	ug/L	0.410U	0.410	
Methylene chloride	ug/L	0.580U	0.580	
1,2-Dichloropropane	ug/L	0.725U	0.725	
cis-1,3-Dichloropropene	ug/L	0.664U	0.664	
trans-1,3-Dichloropropene	ug/L	0.522U	0.522	
Ethylbenzene	ug/L	0.323U	0.323	
2-Hexanone	ug/L	1.83U	1.83	
Isopropylbenzene (Cumene)	ug/L	0.528U	0.528	
2-Butanone	ug/L	4.28U	4.28	
4-Methyl-2-pentanone	ug/L	0.220U	0.220	
n-Propylbenzene	ug/L	0.624U	0.624	
Styrene	ug/L	0.458U	0.458	
Tetrachloroethene	ug/L	0.312U	0.312	
1,1,1,2-Tetrachloroethane	ug/L	0.120U	0.120	
1,1,2,2-Tetrachloroethane	ug/L	0.572U	0.572	
1,2,4-Trichlorobenzene	ug/L	0.538U	0.538	
1,1,1-Trichloroethane	ug/L	0.682U	0.682	
1,1,2-Trichloroethane	ug/L	0.841U	0.841	
Trichlorofluoromethane	ug/L	1.00U	1.00	
1,2,3-Trichloropropane	ug/L	0.160U	0.160	
1,2,4-Trimethylbenzene	ug/L	0.508U	0.508	
1,3,5-Trimethylbenzene	ug/L	0.477U	0.477	
Vinyl chloride	ug/L	0.506U	0.506	

QUALITY CONTROL DATA

METHOD BLANK: 21030

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Xylene, o-	ug/L	0.341U	0.341	
1,2-Dibromo-3-chloropropane	ug/L	0.933U	0.933	
1,2-Dibromoethane	ug/L	0.345U	0.345	
Vinyl acetate	ug/L	0.570U	0.570	
Methyl-t-butyl ether	ug/L	0.650U	0.650	
4-Isopropyltoluene	ug/L	0.380U	0.380	
2,2-Dichloropropane	ug/L	0.700U	0.700	
1,1-Dichloropropene	ug/L	0.632U	0.632	
2-Chloroethylvinyl ether	ug/L	0.470U	0.470	
1,3-Dichloropropane	ug/L	0.345U	0.345	
Bromobenzene	ug/L	0.382U	0.382	
2-Chlorotoluene	ug/L	0.550U	0.550	
4-Chlorotoluene	ug/L	0.570U	0.570	
tert-Butylbenzene	ug/L	0.607U	0.607	
sec-Butylbenzene	ug/L	0.521U	0.521	
1,3-Dichlorobenzene	ug/L	0.558U	0.558	
1,4-Dichlorobenzene	ug/L	0.537U	0.537	
n-Butylbenzene	ug/L	0.564U	0.564	
1,2-Dichlorobenzene	ug/L	0.584U	0.584	
Hexachlorobutadiene	ug/L	0.763U	0.763	
Naphthalene	ug/L	0.417U	0.417	
1,2,3-Trichlorobenzene	ug/L	0.686U	0.686	
1,1-Dichloroethene	ug/L	0.638U	0.638	
Benzene	ug/L	0.621U	0.621	
Trichloroethene	ug/L	0.821U	0.821	
Toluene	ug/L	0.389U	0.389	
Chlorobenzene	ug/L	0.316U	0.316	
4-Bromofluorobenzene (S)	%	90	64-130	
Dibromofluoromethane (S)	%	109	69-134	
Toluene d8 (S)	%	97	63-127	
Xylenes (total)	ug/L	0.980U	0.980	

LABORATORY CONTROL SAMPLE: 21031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Volatiles						
Acetone	ug/L	50	109	219		
Acrolein	ug/L	100	58.6	59		
Acrylonitrile	ug/L	100	71.9	72		
Bromochloromethane	ug/L	20	25.2	126		
Bromodichloromethane	ug/L	20	20.4	102		
Bromoform	ug/L	20	19.6	98		
Bromomethane	ug/L	20	18.3	92		
Carbon disulfide	ug/L	20	31.7	158		
Carbon tetrachloride	ug/L	20	23.5	118		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 21031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroethane	ug/L	20	18.9	94		
Xylene, m,p-	ug/L	40	51.1	128		
Chloroform	ug/L	20	21.5	107		
Chloromethane	ug/L	20	22.8	114		
Dibromochloromethane	ug/L	20	23.0	115		
Dibromomethane	ug/L	20	21.4	107		
Dichlorodifluoromethane	ug/L	20	20.9	104		
1,1-Dichloroethane	ug/L	20	23.9	119		
1,2-Dichloroethane	ug/L	20	21.8	109		
cis-1,2-Dichloroethene	ug/L	20	23.9	120		
trans-1,2-Dichloroethene	ug/L	20	30.7	153		
Methylene chloride	ug/L	20	27.6	138		
1,2-Dichloropropane	ug/L	20	22.7	114		
cis-1,3-Dichloropropene	ug/L	20	24.3	121		
trans-1,3-Dichloropropene	ug/L	20	21.8	109		
Ethylbenzene	ug/L	20	24.9	124		
2-Hexanone	ug/L	50	65.0	130		
Isopropylbenzene (Cumene)	ug/L	20	20.4	102		
2-Butanone	ug/L	50	78.5	157		
4-Methyl-2-pentanone	ug/L	50	56.9	114		
n-Propylbenzene	ug/L	20	24.4	122		
Styrene	ug/L	20	22.1	110		
Tetrachloroethene	ug/L	20	24.4	122		
1,1,1,2-Tetrachloroethane	ug/L	20	21.9	109		
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	107		
1,2,4-Trichlorobenzene	ug/L	20	22.0	110		
1,1,1-Trichloroethane	ug/L	20	22.4	112		
1,1,2-Trichloroethane	ug/L	20	24.9	124		
Trichlorofluoromethane	ug/L	20	21.6	108		
1,2,3-Trichloropropane	ug/L	20	22.6	113		
1,2,4-Trimethylbenzene	ug/L	20	23.7	119		
1,3,5-Trimethylbenzene	ug/L	20	23.4	117		
Vinyl chloride	ug/L	20	21.2	106		
Xylene, o-	ug/L	20	23.7	118		
1,2-Dibromo-3-chloropropane	ug/L	20	21.1	105		
1,2-Dibromoethane	ug/L	20	23.5	117		
Vinyl acetate	ug/L	20	19.4	97		
Methyl-t-butyl ether	ug/L	20	21.4	107		
4-Isopropyltoluene	ug/L	20	21.3	107		
2,2-Dichloropropane	ug/L	20	22.5	112		
1,1-Dichloropropene	ug/L	20	24.3	121		
2-Chloroethylvinyl ether	ug/L	20	20.6	103		
1,3-Dichloropropane	ug/L	20	23.1	116		
Bromobenzene	ug/L	20	22.0	110		
2-Chlorotoluene	ug/L	20	24.1	121		
4-Chlorotoluene	ug/L	20	23.7	118		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 21031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butylbenzene	ug/L	20	22.2	111		
sec-Butylbenzene	ug/L	20	22.6	113		
1,3-Dichlorobenzene	ug/L	20	22.9	115		
1,4-Dichlorobenzene	ug/L	20	21.3	107		
n-Butylbenzene	ug/L	20	23.4	117		
1,2-Dichlorobenzene	ug/L	20	22.5	112		
Hexachlorobutadiene	ug/L	20	21.7	109		
Naphthalene	ug/L	20	23.6	118		
1,2,3-Trichlorobenzene	ug/L	20	23.2	116		
1,1-Dichloroethene	ug/L	20	23.5	117	62-141	
Benzene	ug/L	20	23.0	115	65-141	
Trichloroethene	ug/L	20	23.6	118	65-140	
Toluene	ug/L	20	23.5	117	64-139	
Chlorobenzene	ug/L	20	23.3	116	48-146	
4-Bromofluorobenzene (S)	%			102	64-130	
Dibromofluoromethane (S)	%			98	69-134	
Toluene d8 (S)	%			102	63-127	
Xylenes (total)	ug/L		74.8			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21032 21033 Original: 902901002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles											
Dichlorodifluoromethane	ug/L	0	20	19.4	20.5	97	102		5		
Chloromethane	ug/L	0	20	17.5	19.6	87	98		12		
Acrylonitrile	ug/L	0	100	91.5	90.2	91	90		1		
Vinyl chloride	ug/L	0	20	26.4	25.7	132	128		3		
Bromomethane	ug/L	0	20	14.3	17.7	71	88		21		
Chloroethane	ug/L	0	20	22.2	22.8	111	114		3		
Bromochloromethane	ug/L	0	20	29.0	28.6	145	143		1		
Bromodichloromethane	ug/L	0	20	22.7	22.9	113	115		2		
Trichlorofluoromethane	ug/L	0	20	25.9	25.1	130	126		3		
Acrolein	ug/L	0	100	67.6	71.8	68	72		6		
Bromoform	ug/L	0.2	20	21.1	21.0	106	105		0.9		
Acetone	ug/L	0	50	65.7	63.7	131	127		3		
Carbon disulfide	ug/L	0	20	43.1	41.6	216	208		4		
Carbon tetrachloride	ug/L	0	20	26.5	25.6	133	128		4		
Xylene, m,p-	ug/L	0	40	51.4	50.9	128	127		0.8		
Chloroform	ug/L	0	20	24.4	23.9	122	119		2		
Dibromochloromethane	ug/L	0	20	22.1	22.5	110	112		2		
Dibromomethane	ug/L	0	20	24.5	24.4	122	122		0		
1,1-Dichloroethane	ug/L	0	20	28.3	28.1	142	141		0.7		
1,2-Dichloroethane	ug/L	0	20	25.5	25.3	128	127		0.8		
Methylene chloride	ug/L	0	20	36.8	36.9	184	185		0.5		

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21032 21033 Original: 902901002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
1,2-Dichloropropane	ug/L	0	20	25.2	25.5	126	128		2		
cis-1,3-Dichloropropene	ug/L	0	20	20.0	21.3	100	106		6		
1,2,3-Trichlorobenzene	ug/L	0	20	19.0	20.7	95	104		9		
trans-1,3-Dichloropropene	ug/L	0	20	23.8	24.1	119	121		2		
Ethylbenzene	ug/L	0	20	24.6	24.4	123	122		0.8		
2-Hexanone	ug/L	0	50	57.7	58.4	115	117		2		
Isopropylbenzene (Cumene)	ug/L	0	20	17.2	18.2	86	91		6		
2-Butanone	ug/L	0	50	62.3	66.5	125	133		6		
4-Methyl-2-pentanone	ug/L	0	50	63.7	64.1	127	128		0.8		
n-Propylbenzene	ug/L	0	20	23.2	23.6	116	118		2		
Styrene	ug/L	0	20	18.5	16.9	92	85		8		
1,2-Dichlorobenzene	ug/L	0	20	20.5	21.3	103	107		4		
Hexachlorobutadiene	ug/L	0	20	17.6	20.0	88	100		13		
Tetrachloroethene	ug/L	0	20	23.1	23.9	115	120		4		
Naphthalene	ug/L	0	20	20.2	22.0	101	110		9		
1,1,1,2-Tetrachloroethane	ug/L	0	20	22.4	22.1	112	111		0.9		
1,1,2,2-Tetrachloroethane	ug/L	0	20	22.8	23.4	114	117		3		
1,2,4-Trichlorobenzene	ug/L	0	20	17.6	18.8	88	94		7		
1,1,1-Trichloroethane	ug/L	0	20	24.4	24.5	122	122		0		
1,1,2-Trichloroethane	ug/L	0	20	29.7	29.0	149	145		3		
trans-1,2-Dichloroethene	ug/L	0	20	34.1	33.9	170	170		0		
cis-1,2-Dichloroethene	ug/L	0	20	24.8	25.3	124	127		2		
1,1-Dichloropropene	ug/L	0	20	20.0	21.3	100	106		6		
1,2,3-Trichloropropane	ug/L	0	20	25.8	26.3	129	132		2		
1,2,4-Trimethylbenzene	ug/L	0	20	21.4	22.0	107	110		3		
2-Chloroethylvinyl ether	ug/L	0	20	0.470U	0.470U	0.9	0.7		25		
1,3-Dichloropropane	ug/L	0	20	22.4	23.5	112	117		4		
1,3,5-Trimethylbenzene	ug/L	0	20	21.9	22.1	109	110		0.9		
Bromobenzene	ug/L	0	20	20.2	21.6	101	108		7		
Xylene, o-	ug/L	0	20	21.1	22.4	105	112		6		
2-Chlorotoluene	ug/L	0	20	21.6	22.3	108	112		4		
1,2-Dibromo-3-chloropropane	ug/L	0	20	21.2	22.1	106	110		4		
4-Chlorotoluene	ug/L	0	20	21.8	22.4	109	112		3		
tert-Butylbenzene	ug/L	0	20	19.4	20.1	97	101		4		
1,2-Dibromoethane	ug/L	0	20	23.0	23.3	115	116		0.9		
sec-Butylbenzene	ug/L	0	20	21.1	21.7	106	109		3		
Vinyl acetate	ug/L	0	20	22.4	22.8	112	114		2		
1,3-Dichlorobenzene	ug/L	0	20	21.4	21.7	107	108		0.9		
Methyl-t-butyl ether	ug/L	0	20	21.5	22.8	107	114		6		
4-Isopropyltoluene	ug/L	0	20	19.0	19.5	95	97		2		
Xylenes (total)	ug/L			72.4	73.3						
1,4-Dichlorobenzene	ug/L	0	20	20.2	21.3	101	106		5		
n-Butylbenzene	ug/L	0	20	21.6	21.8	108	109		0.9		
2,2-Dichloropropane	ug/L	0	20	23.7	23.8	119	119		0		
1,1-Dichloroethene	ug/L	0	20	28.6	27.7	143	139	62-141	3	20	12,J
Benzene	ug/L	0	20	24.9	25.4	125	127	65-141	2	20	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21032 21033 Original: 902901002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Trichloroethene	ug/L	0	20	24.2	25.1	121	125	65-140	3	20	
Toluene	ug/L	0	20	25.2	25.0	126	125	64-139	0.8	20	
Chlorobenzene	ug/L	0	20	23.1	23.4	115	117	48-146	2	20	
4-Bromofluorobenzene (S)	%	87				88	92	64-130	4		
Dibromofluoromethane (S)	%	122				111	109	69-134	2		
Toluene d8 (S)	%	98				101	100	63-127	1		

QUALITY CONTROL DATA

QC Batch: MISC/1147 Analysis Method: SM 2130 B

QC Batch Method: SM 2130 B

Associated Lab Samples: 902901001 902901002

METHOD BLANK: 21054

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Turbidity	NTU	0Y		

SAMPLE DUPLICATE: 21055 Original: 902901001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Turbidity	NTU	0.37	0.34	8		

QUALITY CONTROL DATA

QC Batch: EXTO/1891 Analysis Method: SW-846 8151A

QC Batch Method: 3510C

Associated Lab Samples: 902901001 902901002

METHOD BLANK: 21087

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Herbicides				
2,4-D	ug/L	0.406U	0.406	
2,4,5-T	ug/L	0.345U	0.345	
2,4,5-TP (Silvex)	ug/L	0.492U	0.492	
2,4-DB	ug/L	0.547U	0.547	
Dalapon	ug/L	0.509U	0.509	
Dicamba	ug/L	0.369U	0.369	
Dichlorprop	ug/L	0.399U	0.399	
Dinoseb	ug/L	0.509U	0.509	
MCPA	ug/L	47.7U	47.7	
MCPP	ug/L	98.0U	98.0	
DCAA (S)	%	76	46-142	

LABORATORY CONTROL SAMPLE: 21088

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Herbicides						
2,4-D	ug/L	5	2.14	43	29-146	
2,4,5-T	ug/L	5	3.67	73	29-156	
Dinoseb	ug/L	5	1.83I	37		
2,4,5-TP (Silvex)	ug/L	5	4.06	81	30-180	
MCPA	ug/L	500	348	70		
Dalapon	ug/L	5	3.48	70		
Dicamba	ug/L	5	3.49	70	35-135	
Dichlorprop	ug/L	5	3.79	76	36-148	
MCPP	ug/L		548			
2,4-DB	ug/L	5	4.81	96	18-195	
DCAA (S)	%			79	46-142	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21089 21090 Original: 902916004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Herbicides											
2,4-D	ug/L	0	5	2.22	3.10	44	62	29-146	34	20	13
2,4,5-T	ug/L	0	5	3.91	5.56	78	111	29-157	35	20	13
Dinoseb	ug/L	0	5	2.48	3.75	50	75		40		

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21089 21090 Original: 902916004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
2,4,5-TP (Silvex)	ug/L	0	5	4.21	5.88	84	118	30-180	34	20	13
MCPA	ug/L	0	500	362	490	72	98		31		
Dalapon	ug/L	0	5	3.34	5.26	67	105		44		
Dicamba	ug/L	0	5	3.56	4.90	71	98	35-135	32	20	13
Dichlorprop	ug/L	0	5	3.82	5.16	76	103	36-148	30	20	13
MCPP	ug/L			575	824						
2,4-DB	ug/L	0	5	5.01	6.97	100	139	18-195	33	20	13
DCAA (S)	%					78	106	46-142	30		

QUALITY CONTROL DATA

QC Batch: EXTO/1892 Analysis Method: SW-846 8082
QC Batch Method: 3510C
Associated Lab Samples: 902901001 902901002

METHOD BLANK: 21091

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
PCBs				
PCB 1221	ug/L	0.014U	0.014	
PCB 1232	ug/L	0.190U	0.190	
PCB 1242	ug/L	0.010U	0.010	
PCB 1248	ug/L	0.00850U	0.00850	
PCB 1254	ug/L	0.014U	0.014	
PCB 1016	ug/L	0.012U	0.012	
PCB 1260	ug/L	0.015U	0.015	
Decachlorobiphenyl (S)	%	83	45-162	
Tetrachloro-m-xylene (S)	%	65	50-125	

LABORATORY CONTROL SAMPLE: 21092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCBs						
PCB 1221	ug/L		0.014U			
PCB 1232	ug/L		0.190U			
PCB 1242	ug/L		0.010U			
PCB 1248	ug/L		0.00850U			
PCB 1254	ug/L		0.014U			
PCB 1016	ug/L	1	0.959	96	12-176	
PCB 1260	ug/L	1	0.917	92	10-180	
Decachlorobiphenyl (S)	%			97	45-162	
Tetrachloro-m-xylene (S)	%			75	50-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21093 21094 Original: 902916005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
PCBs											
PCB 1221	ug/L			0.014U	0.014U						
PCB 1232	ug/L			0.190U	0.190U						
PCB 1242	ug/L			0.010U	0.010U						
PCB 1248	ug/L			0.00850U	0.00850U						
PCB 1254	ug/L			0.014U	0.014U						
PCB 1016	ug/L	0	1	0.938	0.977	94	98	12-176	4	20	
PCB 1260	ug/L	0	1	0.976	1.05	98	105	10-181	7	20	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21093 21094 Original: 902916005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Decachlorobiphenyl (S)	%					94	104	45-162	10		
Tetrachloro-m-xylene (S)	%					71	75	50-125	5		

QUALITY CONTROL DATA

QC Batch: EXTO/1893 Analysis Method: SW-846 8081A
QC Batch Method: 3510C
Associated Lab Samples: 902901001 902901002

METHOD BLANK: 21095

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Pesticides				
alpha-BHC	ug/L	0.000924U	0.000924	
beta-BHC	ug/L	0.00123U	0.00123	
delta-BHC	ug/L	0.000904U	0.000904	
Heptachlor epoxide	ug/L	0.00121U	0.00121	
Endosulfan I	ug/L	0.00103U	0.00103	
4,4'-DDE	ug/L	0.00148U	0.00148	
Endosulfan II	ug/L	0.00103U	0.00103	
4,4'-DDD	ug/L	0.000993U	0.000993	
Endosulfan sulfate	ug/L	0.00279U	0.00279	
Methoxychlor	ug/L	0.000900U	0.000900	
Endrin ketone	ug/L	0.000969U	0.000969	
Endrin aldehyde	ug/L	0.000695U	0.000695	
alpha-Chlordane	ug/L	0.00118U	0.00118	
gamma-Chlordane	ug/L	0.00130U	0.00130	
Toxaphene	ug/L	0.047U	0.047	
gamma-BHC (Lindane)	ug/L	0.000563U	0.000563	
Heptachlor	ug/L	0.00152U	0.00152	
Aldrin	ug/L	0.00139U	0.00139	
Dieldrin	ug/L	0.00106U	0.00106	
Endrin	ug/L	0.00717U	0.00717	
4,4'-DDT	ug/L	0.00120U	0.00120	
Tetrachloro-m-xylene (S)	%	94	32-137	
Decachlorobiphenyl (S)	%	106	25-165	

LABORATORY CONTROL SAMPLE: 21096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pesticides						
alpha-BHC	ug/L	0.1	0.101	101		
beta-BHC	ug/L	0.1	0.113	113		
delta-BHC	ug/L	0.1	0.053	53		
Heptachlor epoxide	ug/L	0.1	0.112	112		
Endosulfan I	ug/L	0.1	0.113	113		
4,4'-DDE	ug/L	0.1	0.133	133		
Endosulfan II	ug/L	0.1	0.116	116		
4,4'-DDD	ug/L	0.1	0.133	133		
Endosulfan sulfate	ug/L	0.1	0.116	116		
Methoxychlor	ug/L	0.1	0.158	158		
Endrin ketone	ug/L	0.1	0.117	117		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 21096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin aldehyde	ug/L	0.1	0.121	121		
alpha-Chlordane	ug/L	0.1	0.111	111		
gamma-Chlordane	ug/L	0.1	0.108	108		
Toxaphene	ug/L		0.047U			
gamma-BHC (Lindane)	ug/L	0.1	0.108	108	33-155	
Heptachlor	ug/L	0.1	0.108	108	47-148	
Aldrin	ug/L	0.1	0.104	104	43-149	
Dieldrin	ug/L	0.1	0.114	114	47-162	
Endrin	ug/L	0.1	0.124	124	41-189	
4,4'-DDT	ug/L	0.1	0.135	135	14-228	
Tetrachloro-m-xylene (S)	%			96	32-137	
Decachlorobiphenyl (S)	%			113	25-165	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21097 21098 Original: 902916006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Pesticides											
alpha-BHC	ug/L	0	0.1	0.116	0.091	116	91		24		
beta-BHC	ug/L	0	0.1	0.125	0.099	125	99		23		
delta-BHC	ug/L	0	0.1	0.059	0.047I	59	47		23		
Heptachlor epoxide	ug/L	0	0.1	0.127	0.102	127	102		22		
Endosulfan I	ug/L	0	0.1	0.124	0.099I	124	99		22		
4,4'-DDE	ug/L	0	0.1	0.145	0.116	145	116		22		
Endosulfan II	ug/L	0	0.1	0.130	0.103	130	103		23		
4,4'-DDD	ug/L	0	0.1	0.136	0.108	136	108		23		
Endosulfan sulfate	ug/L	0	0.1	0.129	0.103	129	103		22		
Methoxychlor	ug/L	0	0.1	0.155	0.123	155	123		23		
Endrin ketone	ug/L	0	0.1	0.131	0.104	131	104		23		
Endrin aldehyde	ug/L	0	0.1	0.132	0.108	132	108		20		
alpha-Chlordane	ug/L	0	0.1	0.124	0.099	124	99		22		
gamma-Chlordane	ug/L	0	0.1	0.124	0.099	124	99		22		
Toxaphene	ug/L			0.047U	0.047U						
gamma-BHC (Lindane)	ug/L	0	0.1	0.115	0.091	115	91	33-155	23	20	
Heptachlor	ug/L	0	0.1	0.130	0.103	130	103	47-148	23	20	
Aldrin	ug/L	0	0.1	0.114	0.090	114	90	43-149	24	20	
Dieldrin	ug/L	0	0.1	0.123	0.099	123	99	47-162	22	20	
Endrin	ug/L	0	0.1	0.137	0.107	137	107	41-189	25	20	
4,4'-DDT	ug/L	0	0.1	0.141	0.112	141	112	14-228	23	20	
Tetrachloro-m-xylene (S)	%					95	80	32-137	17		
Decachlorobiphenyl (S)	%					110	97	25-165	13		

QUALITY CONTROL DATA

QC Batch: EXTO/1894 Analysis Method: EPA 1664A

QC Batch Method: EPA 1664A

Associated Lab Samples:

902853001	902854001	902854002	902895001	902895002	902896001
902896002	902897001	902897002	902898001	902898002	902899001
902899002	902901001	902901002	902955001	902960001	902960002
902960003					

METHOD BLANK: 21099

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Oil and Grease	mg/L	1.4U	1.4	

LABORATORY CONTROL SAMPLE: 21100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Oil and Grease	mg/L	200	199	100	78-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21101 21102 Original: 902916007

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Oil and Grease	mg/L	1	200	196	201	98	100	70-130	2	20	

QUALITY CONTROL DATA

QC Batch: LACH/1914   Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Associated Lab Samples: 902764001 902774001 902813001 902881001 902881002 902891001
902891010 902891011 902901001 902901002 902902001 902902002
902902003 902902004 902902005 902902006 902910001

METHOD BLANK: 21117

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Ammonia	mg/L	0.0245I	0.017	

LABORATORY CONTROL SAMPLE & LCSD: 21118 21119

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Ammonia	mg/L	2.5	2.56	2.59	102	104	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21122 21123 Original: 902881001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Ammonia	mg/L	-0.0363	2.5	2.37	2.35	95	94	90-110	1	20	

QUALITY CONTROL DATA

QC Batch: IC/1227 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: 902877001 902877002 902877003 902877004 902877005 902886005 902886006 902886007 902886008 902886009 902886010 902886011 902891001 902891010 902891011 902901001 902901002 902908001 902911001 902912001

METHOD BLANK: 21124

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Bromide	mg/L	0.052U	0.052	
Chloride	mg/L	0.066U	0.066	
Nitrite	mg/L	0.005U	0.005	
Fluoride	mg/L	0.030U	0.030	
Nitrate	mg/L	0.007U	0.007	
Sulfate	mg/L	0.076U	0.076	

LABORATORY CONTROL SAMPLE & LCSD: 21125 21126

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Bromide	mg/L	2.5	2.58	2.49	103	99	90-110	4	20	
Chloride	mg/L	5	4.87	4.75	97	95	90-110	2	20	
Nitrite	mg/L	2.5	2.52	2.43	101	97	90-110	4	20	
Fluoride	mg/L	2.5	2.33	2.35	93.3	93.9	90-110	0.64	20	
Nitrate	mg/L	2.5	2.44	2.43	98	97	90-110	1	20	
Sulfate	mg/L	7.5	7.32	7.26	98	97	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21127 21128 Original: 902886005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Bromide	mg/L			25.9	23.9						
Chloride	mg/L			92.5	88.7						
Nitrite	mg/L	0	25	25.0	24.3	100	97	90-110	3	20	
Fluoride	mg/L			24.1	23.5						
Nitrate	mg/L	0	25	25.0	24.0	100	96	90-110	4	20	
Sulfate	mg/L			87.4	85.2						

QUALITY CONTROL DATA

QC Batch: INPR/1538 Analysis Method: SM 5540 C

QC Batch Method: SM 5540 C

Associated Lab Samples: 902901001 902901002 902908001

METHOD BLANK: 21161

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Surfactants	mg/L-LAS	0.040U	0.040	

LABORATORY CONTROL SAMPLE & LCSD: 21162 21163

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Surfactants	mg/L-LAS	1	1.02	1.03	102	103	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21164 21165 Original: 902901002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Surfactants	mg/L-LAS	0.008	1	1.16	1.16	116	116	80-120	0	20	

QUALITY CONTROL DATA

QC Batch: SOLI/1584 Analysis Method: SM 2540 D

QC Batch Method: SM 2540 D

Associated Lab Samples:

902901002	902909001	902909002	902911001	902917001	902917002
902917003	902918001	902921001	902921003	902921004	902922001
902923001	902923003	902924001	902925002	902925003	902926001
902926002	902926003				

METHOD BLANK: 21166

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Suspended Solids	mg/L	1.0U	1.0	

SAMPLE DUPLICATE: 21167 Original: 902918001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Suspended Solids	mg/L	23.9	23.6	1.3	20	

QUALITY CONTROL DATA

QC Batch: INPR/1539 Analysis Method: SW-846 9012A

QC Batch Method: EPA 335.2

Associated Lab Samples: 902738003 902738004 902764001 902901001 902901002 902908001 902951001 902959002 902962001

METHOD BLANK: 21230

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Cyanide	mg/L	0.0032U	0.0032	

LABORATORY CONTROL SAMPLE & LCSD: 21231 21232

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Cyanide	mg/L	0.2	0.1965	0.2017	98	101	90-110	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21233 21234 Original: 902738003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Cyanide	mg/L	0.0004	0.2	0.2034	0.1934	102	97	90-110	5	20	

QUALITY CONTROL DATA

QC Batch: DIGM/1718 Analysis Method: SW-846 6010

QC Batch Method: SW-846 3010A

Associated Lab Samples:						
	902901001	902901002	902914001	902914002	902914003	902914004
	902914005	902914006	902914007	902914008	902933001	902933003
	902944001	902944002	902963001	902963002	902963003	

METHOD BLANK: 21239

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Aluminum	mg/l	0.046U	0.046	
Antimony	mg/l	0.0038U	0.0038	
Arsenic	mg/l	0.0046U	0.0046	
Barium	mg/l	0.0020U	0.0020	
Beryllium	mg/l	0.00067U	0.00067	
Boron	mg/l	0.0034U	0.0034	
Cadmium	mg/l	0.00057U	0.00057	
Calcium	mg/l	0.059U	0.059	
Chromium	mg/l	0.0011U	0.0011	
Cobalt	mg/l	0.00072U	0.00072	
Copper	mg/l	0.0096U	0.0096	
Iron	mg/l	0.045U	0.045	
Lead	mg/l	0.0031U	0.0031	
Magnesium	mg/l	0.045U	0.045	
Manganese	mg/l	0.0044U	0.0044	
Molybdenum	mg/l	0.0030U	0.0030	
Nickel	mg/l	0.0052U	0.0052	
Potassium	mg/l	0.35U	0.35	
Selenium	mg/l	0.0054U	0.0054	
Silver	mg/l	0.0016U	0.0016	
Sodium	mg/l	0.0752I	0.074	
Strontium	mg/l	0.0015U	0.0015	
Vanadium	mg/l	0.0056U	0.0056	
Zinc	mg/l	0.0053U	0.0053	

LABORATORY CONTROL SAMPLE: 21240

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Aluminum	mg/l	5	5.03	101	70-130	
Antimony	mg/l	1	0.980	98	70-130	
Arsenic	mg/l	1	0.980	98	70-130	
Barium	mg/l	1	0.998	100	70-130	
Beryllium	mg/l	1	1.01	101	70-130	
Boron	mg/l	1	1.04	104	70-130	
Cadmium	mg/l	1	0.989	99	70-130	
Calcium	mg/l	25	26.4	106	70-130	

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 21240

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	mg/l	1	0.978	98	70-130	
Cobalt	mg/l	1	0.965	96	70-130	
Copper	mg/l	1	0.969	97	70-130	
Iron	mg/l	5	5.22	104	70-130	
Lead	mg/l	1	1.00	100	70-130	
Magnesium	mg/l	25	23.5	94	70-130	
Manganese	mg/l	1	0.993	99	70-130	
Molybdenum	mg/l	1	0.999	100	70-130	
Nickel	mg/l	1	0.989	99	70-130	
Potassium	mg/l	10	9.86	99	70-130	
Selenium	mg/l	1	0.956	96	70-130	
Silver	mg/l	0.5	0.501	100	70-130	
Sodium	mg/l	25	26.3	105	70-130	
Strontium	mg/l	1	1.02	102	70-130	
Vanadium	mg/l	1	1.02	102	70-130	
Zinc	mg/l	1	0.969	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21241 21242 Original: 902963001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Aluminum	mg/l	-0.0335	5	6.42	6.01	128	120	70-130	6	20	
Antimony	mg/l	-0.00802	1	1.16	1.10	116	110	70-130	5	20	
Arsenic	mg/l	0.0234	1	1.17	1.12	115	110	70-130	4	20	
Barium	mg/l	0.023	1	1.05	0.995	102	97	70-130	5	20	
Beryllium	mg/l	-9e-005	1	0.934	0.915	93	92	70-130	1	20	
Boron	mg/l	3.69	1	4.82	4.67	114	98	70-130	15	20	
Cadmium	mg/l	0.00225	1	1.21	1.15	121	115	70-130	5	20	
Calcium	mg/l	304	25	277	282	-111	-91	70-130	-20	20	16,14
Chromium	mg/l	0.00539	1	0.914	0.883	91	88	70-130	3	20	
Cobalt	mg/l	0.00148	1	0.857	0.834	86	83	70-130	4	20	
Copper	mg/l	0.00243	1	0.869	0.845	87	85	70-130	2	20	
Iron	mg/l	0.00715	5	4.83	4.72	97	94	70-130	3	20	
Lead	mg/l	-0.00029	1	0.850	0.831	85	83	70-130	2	20	
Magnesium	mg/l	1030	25	1340	1260	1220	900	70-130	30	20	16,14
Manganese	mg/l	-0.00145	1	0.885	0.876	89	88	70-130	1	20	
Molybdenum	mg/l	0.00471	1	0.961	0.924	96	92	70-130	4	20	
Nickel	mg/l	2.55e-00	1	0.866	0.845	87	84	70-130	4	20	
Potassium	mg/l	381	10	415	401	347	207	70-130	51	20	16,14
Selenium	mg/l	0.00701	1	1.16	1.09	116	109	70-130	6	20	
Silver	mg/l	-0.0104	0.5	0.676	0.622	135	124	70-130	8	20	15
Strontium	mg/l	5.26	1	6.33	6.16	108	91	70-130	17	20	
Vanadium	mg/l	0.00808	1	0.970	0.948	97	95	70-130	2	20	
Zinc	mg/l	0.00217	1	1.17	1.11	117	111	70-130	5	20	

QUALITY CONTROL DATA

QC Batch: DIGM/1720 Analysis Method: SW-846 7470
QC Batch Method: SW-846 7470
Associated Lab Samples: 902901001 902901002

METHOD BLANK: 21266

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Mercury	mg/L	0.00013U	0.00013	

LABORATORY CONTROL SAMPLE: 21267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Mercury	mg/L	0.002	0.00203	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21268 21269 Original: 902901001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Mercury	mg/L	-1.5e-00	0.002	0.00220	0.00223	110	112	80-120	2	20	

QUALITY CONTROL DATA

QC Batch: TOC/1097 Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Associated Lab Samples:						
	902883001	902883002	902885001	902885002	902885003	902885004
	902892002	902892004	902892008	902892009	902892010	902901001
	902901002	902910001	902957001	902957002	902957003	902957004
	902957005	902960001				

METHOD BLANK: 21283

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Organic Carbon	mg/L	0.60U	0.60	

LABORATORY CONTROL SAMPLE & LCSD: 21284 21285

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Organic Carbon	mg/L	80	81.3	78.6	102	98	90-110	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 21286 21287 Original: 902883001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Organic Carbon	mg/L	12	80	90.3	91.0	98	99	90-110	1	10	

QUALITY CONTROL DATA

QC Batch: MICP/1306 Analysis Method: SM 5210B BOD

QC Batch Method: BOD PREP

Associated Lab Samples: 902900002 902901001 902901002 902908001

METHOD BLANK: 21372

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
BOD	mg/L	2.0U	2.0	

LABORATORY CONTROL SAMPLE: 21374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
BOD	mg/L	198	177	89	85-115	

SAMPLE DUPLICATE: 21375 Original: 902908001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
BOD	mg/L	2.0U	2.0U	0	20	

QUALITY CONTROL DATA

QC Batch: ALKA/1086 Analysis Method: SM 2320 B

QC Batch Method: SM 2320 B

Associated Lab Samples:

902888002	902888003	902888004	902890002	902890003	902890004
902890005	902890006	902890007	902890008	902901001	902901002
902906001	902906002	902906003	902906004	902906005	902906006
902906007	902906008				

METHOD BLANK: 21498

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Alkalinity	mg/L	0.02U	0.02	

LABORATORY CONTROL SAMPLE & LCSD: 21499 21500

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Alkalinity	mg/L	250	244	244	98	98	90-110	0	20	

SAMPLE DUPLICATE: 21501 Original: 902888002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Alkalinity	mg/L	448	446	0.4		

QUALITY CONTROL DATA

QC Batch: FCOL/1411
Analysis Method: SM 9222 B

QC Batch Method: SM 9222 B

Associated Lab Samples: 902901001 902901003

METHOD BLANK: 21580

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Coliform	cfu/100m	1U	1	

QUALITY CONTROL DATA

QC Batch: FCOL/1418 Analysis Method: SM 9222 D

QC Batch Method: SM 9222 D

Associated Lab Samples: 902855001 902874002 902875002 902876002 902877001 902877002 902877003 902877004 902877005 902878003 902879002 902880001 902901001 902901003

METHOD BLANK: 21623

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Fecal Coliform	cfu/100m	1.0U	1.0	

SAMPLE DUPLICATE: 21625 Original: 902879002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Fecal Coliform	cfu/100m	1.0U	1.0U	0	20	

QUALITY CONTROL DATA

QC Batch: SOLI/1596 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples:

902877001	902877002	902877003	902877004	902877005	902891001
902891002	902891003	902891004	902891005	902891006	902891007
902891008	902891009	902891010	902891011	902892006	902892007
902901001	902901002				

METHOD BLANK: 21709

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Dissolved Solids(TDS)	mg/L	7.00U	7.00	

SAMPLE DUPLICATE: 21783 Original: 902892007

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Dissolved Solids(TDS)	mg/L	405	457	12.1	20	

QUALITY CONTROL DATA

QC Batch: MISC/1160 Analysis Method: EPA 410.4

QC Batch Method: EPA 410.4

Associated Lab Samples:						
	902901001	902901002	902949001	902951002	902960001	902960002
	902960003	902988001	903027001	903158001	903178001	903178002
	903178003	903178004	903181001	903181002		

METHOD BLANK: 22044

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
COD	mg/L	6.7U	6.7	

LABORATORY CONTROL SAMPLE & LCSD: 22045 22046

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
COD	mg/L	200	207	200	104	100	90-110	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 22049 22050 Original: 902988001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
COD	mg/L	51	200	242	245	96	97	90-110	1	20	

QUALITY CONTROL DATA

QC Batch: INPR/1559 Analysis Method: EPA 351.2

QC Batch Method: EPA 351.2

Associated Lab Samples:
902728040 902822001 902901001 902901002 902908001 902951002
902988001 903004003 903027001 903042001 903042005 903042013
903042015 903051001 903056001 903056002 903066001 903069001
903069002

METHOD BLANK: 22051

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Kjeldahl Nitrogen	mg/L	0.22U	0.22	

LABORATORY CONTROL SAMPLE & LCSD: 22052 22053

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Kjeldahl Nitrogen	mg/L	5	4.66	4.65	93.2	93	90-110	0.21	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 22054 22055 Original: 902728040

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Kjeldahl Nitrogen	mg/L	28.6	5	32.7	33.0	82	86.8	90-110	5.7	20	

QUALITY CONTROL DATA QUALIFIERS

QUALITY CONTROL PARAMETER QUALIFIERS

J	Estimated value.
V	Present in blank.
[12]	MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.
[13]	NCR-% RPD exceeds control limits
[14]	8
[15]	7
[16]	72

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
902901001	MW1-D2 PI	3510C	EXTO/1870	SW-846 8141A	GCSV/1476
902901002	SP1	3510C	EXTO/1870	SW-846 8141A	GCSV/1476
902901001	MW1-D2 PI	SM 4500-S F(20th Ed.)	HACH/1149		
902901002	SP1	SM 4500-S F(20th Ed.)	HACH/1149		
902901001	MW1-D2 PI	SM 2540 D	SOLI/1580		
902901001	MW1-D2 PI	EPA 365.1	INPR/1535	EPA 365.1	LACH/1915
902901002	SP1	EPA 365.1	INPR/1535	EPA 365.1	LACH/1915
902901001	MW1-D2 PI	EPA 365.1	LACH/1910		
902901002	SP1	EPA 365.1	LACH/1910		
902901001	MW1-D2 PI	SW-846 8260B	MSV/1539		
902901002	SP1	SW-846 8260B	MSV/1539		
902901004	TRIP BLANK	SW-846 8260B	MSV/1539		
902901001	MW1-D2 PI	SM 2130 B	MISC/1147		
902901002	SP1	SM 2130 B	MISC/1147		
902901001	MW1-D2 PI	3510C	EXTO/1891	SW-846 8151A	GCSV/1483
902901002	SP1	3510C	EXTO/1891	SW-846 8151A	GCSV/1483
902901001	MW1-D2 PI	3510C	EXTO/1892	SW-846 8082	GCSV/1488
902901002	SP1	3510C	EXTO/1892	SW-846 8082	GCSV/1488
902901001	MW1-D2 PI	3510C	EXTO/1893	SW-846 8081A	GCSV/1485
902901002	SP1	3510C	EXTO/1893	SW-846 8081A	GCSV/1485
902901001	MW1-D2 PI	EPA 1664A	EXTO/1894		
902901002	SP1	EPA 1664A	EXTO/1894		
902901001	MW1-D2 PI	EPA 350.1	LACH/1914		

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
902901002	SP1	EPA 350.1	LACH/1914		
902901001	MW1-D2 PI	EPA 300.0	IC/1227		
902901002	SP1	EPA 300.0	IC/1227		
902901001	MW1-D2 PI	SM 5540 C	INPR/1538	SM 5540 C	HACH/1153
902901002	SP1	SM 5540 C	INPR/1538	SM 5540 C	HACH/1153
902901002	SP1	SM 2540 D	SOLI/1584		
902901001	MW1-D2 PI	EPA 120.1	SPCD/1030		
902901002	SP1	EPA 120.1	SPCD/1030		
902901001	MW1-D2 PI	SW-846 9012A	INPR/1539	SW-846 9012A	LACH/1925
902901002	SP1	SW-846 9012A	INPR/1539	SW-846 9012A	LACH/1925
902901001	MW1-D2 PI	SW-846 3010A	DIGM/1718	SW-846 6010	ICP/1434
902901002	SP1	SW-846 3010A	DIGM/1718	SW-846 6010	ICP/1434
902901001	MW1-D2 PI	SW-846 7470	DIGM/1720	SW-846 7470	HG/1090
902901002	SP1	SW-846 7470	DIGM/1720	SW-846 7470	HG/1090
902901001	MW1-D2 PI	SM 5310B	TOC/1097		
902901002	SP1	SM 5310B	TOC/1097		
902901001	MW1-D2 PI	BOD PREP	MICP/1306	SM 5210B BOD	BOD/1261
902901002	SP1	BOD PREP	MICP/1306	SM 5210B BOD	BOD/1261
902901001	MW1-D2 PI	SM 2320 B	ALKA/1086		
902901002	SP1	SM 2320 B	ALKA/1086		
902901001	MW1-D2 PI	SM 9222 B	FCOL/1411		
902901003	SP1	SM 9222 B	FCOL/1411		

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
902901001	MW1-D2 PI	SM 9222 D	FCOL/1418		
902901003	SP1	SM 9222 D	FCOL/1418		
902901001	MW1-D2 PI	SM 2540 C	SOLI/1596		
902901002	SP1	SM 2540 C	SOLI/1596		
902901001	MW1-D2 PI	EPA 410.4	MISC/1160		
902901002	SP1	EPA 410.4	MISC/1160		
902901001	MW1-D2 PI	EPA 351.2	INPR/1559	EPA 351.2	LACH/1963
902901002	SP1	EPA 351.2	INPR/1559	EPA 351.2	LACH/1963
902901001	MW1-D2 PI	900.0	S_17/	900.0	S_17/
902901001	MW1-D2 PI	903.1	S_17/	903.1	S_17/
902901001	MW1-D2 PI	EPA 100.2	S_09/	EPA 100.2	S_09/
902901001	MW1-D2 PI	EPA 300.1	S_05/	EPA 300.1	S_05/
902901001	MW1-D2 PI	EPA 906	S_33/	EPA 906	S_33/
902901001	MW1-D2 PI	RA-05	S_17/	RA-05	S_17/
902901001	MW1-D2 PI	RSK 175	S_15/	RSK 175	S_15/
902901002	SP1	900.0	S_17/	900.0	S_17/
902901002	SP1	903.1	S_17/	903.1	S_17/
902901002	SP1	EPA 100.2	S_09/	EPA 100.2	S_09/
902901002	SP1	EPA 300.1	S_05/	EPA 300.1	S_05/
902901002	SP1	EPA 906	S_33/	EPA 906	S_33/
902901002	SP1	RA-05	S_17/	RA-05	S_17/
902901002	SP1	RSK 175	S_15/	RSK 175	S_15/

902901

Genapure Analytical Services, Inc.
3231 NW 7th Ave., Boca Raton, FL 33431
www.genapure.com

CHAIN OF CUSTODY RECORD

Log# 902901 T#S___ Quote:________ Page 1 of 3

Company Name: HDR ONE PO#
Address: ON F.I.E
City: State: Zip:
Attn: Fax#
email:
Project Name: Turkey Pointe Proj# SE
Sampler Signature: Phone#

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other________
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other____
Example: 4ozP = 4oz Plastic, 8oxSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other________ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. Zn Acetate
D. NaOH	H. $NaHSO_4$	O. Other

LAB ANALYSIS

							Sample	MW1									
							TRC										
							pH		7	7	2	2	7			7	
							Pres Codes	E	I	I	I	I	I	g	g	A	
#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters	Full 8260	Full 8270	Full 8151	Full 8141	Full 8081	Full 8082	Fecal Coli	T.coli	OPO4 FF	EXAMPLE Diss.8RCRA 6010	REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1		# of Containers Size/Type									1 16oz P	③V ③ [illegible] P ②4P ②S/1
1	MW1-02FI	31709	1420	GW			11		2 LV	2 AG	1 AG	1 AG	1 AG	1 AG	1 P	1 P	1 P		SP1 = Biscayne Bay
2	SP1		945	SU			11		2	2	1	1	1	1	1 NA	1 NA	1		② V ① P ⑤ M
3	SP1		1455				2								1	1			② 4P
4	TripBlank	31609	1700	AFW			2		4										
5																			
6																			
7																			
8																			
9																			
0																			

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
[✓ Y/N]	Date Required	[✓ Y]___ N___	None___ 1___ 2___ 3___ Other___	[✓ Y] N	MR		___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
		GEN	31709	1710		GAJ	31709	17:10

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 1.4	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatile rec'd without headspace?	✓		
Proper Containers Used?	✓		

ORIGINAL

Genapure Telephone:888-862-LABS or 561-447-7373 Fax: 888-456-4846 or 561-447-6136 Revision G101007

194538

Genapure Analytical Services, Inc.

3231 NW 7th Ave., Boca Raton, FL 33431
www.genapure.com

CHAIN OF CUSTODY RECORD

Log# 902001 T#S___ Quote:________ Page 2 of 3

Company Name: HDR ONE PO#
Address: ONF. IE
City: State: Zip:
Attn: Fax#
email:
Project Name: Turkey Point Proj# SE
Sampler Signature Phone#

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other________
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L 40ml other____
Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other______ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate + NAOH
D. NaOH	H. NaHSO4	O. Other

LAB ANALYSIS

Sample									
TRC									
pH									
Pres Codes	I	I	I	C	C	B	D	E	K
Parameters	TSS, TDS, Fl, Bromide, Brom.de, NO2, NO3, ph, SO4, Cl, TURB, ALK, COND	BOD	MBAS	O.I.I grease	COD, TKN, TPO4, NH3	PP metals + (plus)	CN	TOC	H2S/sulfide

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	TSS, TDS…	BOD	MBAS	O.I.I grease	COD, TKN…	PP metals	CN	TOC	H2S/sulfide	EXAMPLE Diss.8RCRA 6010	REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1										1 16ozP	
1	SP1	31709	945	SU			9	1 P	1 P	1 P	1 AG	1 P	1 P	1 P	1 SJ	1 P		
2	MW1-D205		1420	gw			9	1	1	1	1	1	1	1	1	1		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
0																		

# of Containers
Size/Type

ORIGINAL

T.A.T. REQUEST Standard	T.A.T. REQUEST RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
Y/N	Date Required	Y___ N___	None___ 1___ 2___ 3___ Other___	Y N			___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
		GEN	31709	1710		GAI	3/17/09	1720

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 4.6	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals intact?	✓		
Volatile rec'd without headspace?	✓		
Proper Containers Used?	✓		

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CHAIN OF CUSTODY RECORD

Log# 90290 T#S___ Quote:________ Page 3 of 3

Company Name: ADR ONE PO#
Address: ON FILE
City: State: Zip:
Attn: Fax#
email:
Project Name Turkey Pointe Proj# SE
Sampler Signature Phone#

LAB ANALYSIS

Sample									
TRC									
pH									
Pres Codes	B	I							
Parameters	5 Alpha -g Beta Rad 226/228	Methane ethane ethene	ASBESTOS						

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers											EXAMPLE Diss.8RCRA 6010
i.e.	MW-1	6/16/04	11:35	GW	X		1	# of Containers Size/Type										1 16ozP
1	SP1	31709	945	SU			4		1 P	3kv	X							
2	MW1-DZPI	✓	1420	gw			4		1	3	X							
3																		
4																		
5																		
6																		
7																		
8																		
9																		
0																		

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Preproserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other________________
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other____
Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other____________ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate
D. NaOH	H. NaHSO4	O. Other

REMARKS

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
Y/N	Date Required	Y____ N____	None___ 1___ 2___ 3___ Other___	Y N			___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
		gen	31709	1710				

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓	___	___
Received on Wet Ice? Temp 4c	✓	___	___
Proper Preservatives Indicated?	✓	___	___
Received within holding time?	✓	___	___
Custody seals Intact?	✓	___	___
Volatile rec'd without headspace?	✓	___	___
Proper Containers Used?	___	___	___

ORIGINAL

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Genapure Analytical Services, Inc.
3231 NW 7th Avenue
Boca Raton, FL 33431
Phone: (561) 447-7373
Fax: (561) 447-7374

June 4, 2009

DEBORAH DAIGLE
HDR ENGINEERING
5426 BAY CENTER DR.
SUITE 400
Tampa, FL 33609

RE:
Workorder: 904913
Project: FPL 101650

Dear DEBORAH DAIGLE:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, May 06, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Neshmah Castaneda
ncastaneda@genapure.com
Project Manager

FL-NELAC E86240

Statement of uncertainty is available upon request.
FL Qualifiers: I=value between MDL and PQL; V=value was positive in Blank; J=estimated value.See comment;
U=undetected; Q=out of hold
EPA Qualifiers: B=value was positive in Blank; J=estimated value. May be between MDL and PQL;
U=undetected; Q=out of hold
Enclosures

SAMPLE SUMMARY

Lab ID	Sample ID	Collector	Matrix	Date Collected	Date Received	Temp
904913001	TRIP BLANK	CLIENT	DI Water	5/5/2009 00:00	5/6/2009 10:15	4
904913002	PW-1	CLIENT	Groundwater	5/5/2009 09:35	5/6/2009 10:15	4

ANALYTICAL RESULTS

Lab ID: **904913001**
Sample ID: **TRIP BLANK/**
Date Received: 5/6/2009 10:15 Matrix: DI Water
Date Collected: 5/5/2009

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Volatiles									
Analytical Method: SW-846 8260B									
1,1,1,2-Tetrachloroethane	0.120	U	ug/L	0.120	1.00	1		5/8/2009 02:35	LN
1,1,1-Trichloroethane	0.682	U	ug/L	0.682	1.00	1		5/8/2009 02:35	LN
1,1,2,2-Tetrachloroethane	0.572	U	ug/L	0.572	1.00	1		5/8/2009 02:35	LN
1,1,2-Trichloroethane	0.841	U	ug/L	0.841	1.00	1		5/8/2009 02:35	LN
1,1-Dichloroethane	0.410	U	ug/L	0.410	1.00	1		5/8/2009 02:35	LN
1,1-Dichloroethene	0.638	U	ug/L	0.638	1.00	1		5/8/2009 02:35	LN
1,1-Dichloropropene	0.632	U	ug/L	0.632	1.00	1		5/8/2009 02:35	LN
1,2,3-Trichlorobenzene	0.686	U	ug/L	0.686	1.00	1		5/8/2009 02:35	LN
1,2,3-Trichloropropane	0.160	U	ug/L	0.160	1.00	1		5/8/2009 02:35	LN
1,2,4-Trichlorobenzene	0.538	U	ug/L	0.538	1.00	1		5/8/2009 02:35	LN
1,2,4-Trimethylbenzene	0.508	U	ug/L	0.508	1.00	1		5/8/2009 02:35	LN
1,2-Dibromo-3-chloropropane	0.933	U	ug/L	0.933	1.00	1		5/8/2009 02:35	LN
1,2-Dibromoethane	0.345	U	ug/L	0.345	1.00	1		5/8/2009 02:35	LN
1,2-Dichlorobenzene	0.584	U	ug/L	0.584	1.00	1		5/8/2009 02:35	LN
1,2-Dichloroethane	0.897	U	ug/L	0.897	1.00	1		5/8/2009 02:35	LN
1,2-Dichloropropane	0.725	U	ug/L	0.725	1.00	1		5/8/2009 02:35	LN
1,3,5-Trimethylbenzene	0.477	U	ug/L	0.477	1.00	1		5/8/2009 02:35	LN
1,3-Dichlorobenzene	0.558	U	ug/L	0.558	1.00	1		5/8/2009 02:35	LN
1,3-Dichloropropane	0.345	U	ug/L	0.345	1.00	1		5/8/2009 02:35	LN
1,4-Dichlorobenzene	0.537	U	ug/L	0.537	1.00	1		5/8/2009 02:35	LN
2,2-Dichloropropane	0.700	U	ug/L	0.700	1.00	1		5/8/2009 02:35	LN
2-Butanone	4.28	U	ug/L	4.28	10.0	1		5/8/2009 02:35	LN
2-Chloroethylvinyl ether	0.470	U	ug/L	0.470	1.00	1		5/8/2009 02:35	LN
2-Chlorotoluene	0.550	U	ug/L	0.550	1.00	1		5/8/2009 02:35	LN
2-Hexanone	1.83	U	ug/L	1.83	10.0	1		5/8/2009 02:35	LN
4-Chlorotoluene	0.570	U	ug/L	0.570	1.00	1		5/8/2009 02:35	LN
4-Isopropyltoluene	0.380	U	ug/L	0.380	1.00	1		5/8/2009 02:35	LN
4-Methyl-2-pentanone	0.220	U	ug/L	0.220	1.00	1		5/8/2009 02:35	LN
Acetone	1.43	U	ug/L	1.43	10.0	1		5/8/2009 02:35	LN
Acrolein	2.47	U	ug/L	2.47	10.0	1		5/8/2009 02:35	LN
Acrylonitrile	0.955	U	ug/L	0.955	10.0	1		5/8/2009 02:35	LN
Benzene	0.621	U	ug/L	0.621	1.00	1		5/8/2009 02:35	LN
Bromobenzene	0.382	U	ug/L	0.382	1.00	1		5/8/2009 02:35	LN
Bromochloromethane	0.637	U	ug/L	0.637	1.00	1		5/8/2009 02:35	LN
Bromodichloromethane	0.100	U	ug/L	0.100	1.00	1		5/8/2009 02:35	LN
Bromoform	0.486	U	ug/L	0.486	1.00	1		5/8/2009 02:35	LN
Bromomethane	0.427	U	ug/L	0.427	1.00	1		5/8/2009 02:35	LN
n-Butylbenzene	0.564	U	ug/L	0.564	1.00	1		5/8/2009 02:35	LN
Carbon disulfide	0.650	U	ug/L	0.650	10.0	1		5/8/2009 02:35	LN
Carbon tetrachloride	0.468	U	ug/L	0.468	1.00	1		5/8/2009 02:35	LN
Chlorobenzene	0.316	U	ug/L	0.316	1.00	1		5/8/2009 02:35	LN
Chloroethane	1.00	U	ug/L	1.00	1.00	1		5/8/2009 02:35	LN
Chloroform	0.572	U	ug/L	0.572	1.00	1		5/8/2009 02:35	LN

ANALYTICAL RESULTS

Lab ID: **904913001**
Sample ID: **TRIP BLANK/**

Date Received: 5/6/2009 10:15 Matrix: DI Water
Date Collected: 5/5/2009

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Chloromethane	1.03		ug/L	0.524	1.00	1		5/8/2009 02:35	LN
Dibromochloromethane	0.378	U	ug/L	0.378	1.00	1		5/8/2009 02:35	LN
Dibromomethane	0.739	U	ug/L	0.739	1.00	1		5/8/2009 02:35	LN
Dichlorodifluoromethane	0.525	U	ug/L	0.525	1.00	1		5/8/2009 02:35	LN
cis-1,3-Dichloropropene	0.664	U	ug/L	0.664	1.00	1		5/8/2009 02:35	LN
trans-1,3-Dichloropropene	0.522	U	ug/L	0.522	1.00	1		5/8/2009 02:35	LN
Ethylbenzene	0.323	U	ug/L	0.323	1.00	1		5/8/2009 02:35	LN
Hexachlorobutadiene	0.763	U	ug/L	0.763	1.00	1		5/8/2009 02:35	LN
Isopropylbenzene (Cumene)	0.528	U	ug/L	0.528	1.00	1		5/8/2009 02:35	LN
Methyl-t-butyl ether	0.650	U	ug/L	0.650	1.00	1		5/8/2009 02:35	LN
Methylene chloride	1.16	I	ug/L	0.580	5.00	1		5/8/2009 02:35	LN
Naphthalene	0.417	U	ug/L	0.417	1.00	1		5/8/2009 02:35	LN
Styrene	0.458	U	ug/L	0.458	1.00	1		5/8/2009 02:35	LN
Tetrachloroethene	0.312	U	ug/L	0.312	1.00	1		5/8/2009 02:35	LN
Toluene	0.389	U	ug/L	0.389	1.00	1		5/8/2009 02:35	LN
Trichloroethene	0.821	U	ug/L	0.821	1.00	1		5/8/2009 02:35	LN
Trichlorofluoromethane	1.00	U	ug/L	1.00	1.00	1		5/8/2009 02:35	LN
Vinyl acetate	0.570	U	ug/L	0.570	10.0	1		5/8/2009 02:35	LN
Vinyl chloride	0.506	U	ug/L	0.506	1.00	1		5/8/2009 02:35	LN
Xylene, m,p-	0.639	U	ug/L	0.639	2.00	1		5/8/2009 02:35	LN
Xylene, o-	0.341	U	ug/L	0.341	1.00	1		5/8/2009 02:35	LN
Xylenes (total)	0.980	U	ug/L	0.980	3.00	1		5/8/2009 02:35	LN
cis-1,2-Dichloroethene	0.442	U	ug/L	0.442	1.00	1		5/8/2009 02:35	LN
n-Propylbenzene	0.624	U	ug/L	0.624	1.00	1		5/8/2009 02:35	LN
sec-Butylbenzene	0.521	U	ug/L	0.521	1.00	1		5/8/2009 02:35	LN
tert-Butylbenzene	0.607	U	ug/L	0.607	1.00	1		5/8/2009 02:35	LN
trans-1,2-Dichloroethene	0.410	U	ug/L	0.410	1.00	1		5/8/2009 02:35	LN
4-Bromofluorobenzene (S)	100		%	64-130		1		5/8/2009 02:35	LN
Dibromofluoromethane (S)	119		%	69-134		1		5/8/2009 02:35	LN
Toluene d8 (S)	97		%	63-127		1		5/8/2009 02:35	LN

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**
Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Wet Chemistry									
Analytical Method: SM 2540 C									
Total Dissolved Solids(TDS)	33800		mg/L	350	500	50		5/6/2009 16:45	AR
Preparation Method: EPA 351.2 Analytical Method: EPA 351.2									
Total Kjeldahl Nitrogen	0.494		mg/L	0.22	0.40	1	5/12/2009 18:00	5/13/2009 13:20	IG
Analytical Method: EPA 350.1									
Ammonia	0.182		mg/L	0.017	0.050	1		5/12/2009 12:38	IG
Analytical Method: EPA 300.0									
Bromide	110	6	mg/L	0.522	5.00	10		5/6/2009 23:16	AD
Chloride	19400		mg/L	133	1000	2000		5/14/2009 08:14	AD
Fluoride	0.584	I6	mg/L	0.300	2.00	10		5/6/2009 23:16	AD
Nitrate	0.074	U	mg/L	0.074	0.500	10		5/6/2009 23:16	AD
Nitrite	0.053	U6	mg/L	0.053	0.500	10		5/6/2009 23:16	AD
Sulfate	2540	V,Q	mg/L	15.1	100	200		5/13/2009 21:33	AD
Analytical Method: EPA 410.4									
COD	1550		mg/L	67.0	100	10		5/12/2009 09:00	AR
Analytical Method: SM 2320 B									
Total Alkalinity	150		mg/L	0.02	0.05	1		5/13/2009 13:30	LP
Preparation Method: BOD PREP Analytical Method: SM 5210B BOD									
BOD	<206	5	mg/L	40	40	20	5/5/2009 19:45	5/11/2009 11:30	JC
Analytical Method: SM 5310B									
Total Organic Carbon	2.1		mg/L	0.60	1.0	1		5/12/2009 22:00	LP
Analytical Method: EPA 1664A									
Oil and Grease	1.7	I	mg/L	1.4	4.0	1		5/7/2009 15:35	JS
Preparation Method: SW-846 9012A Analytical Method: SW-846 9012A									
Total Cyanide	0.0032	U	mg/L	0.0032	0.0050	1	5/7/2009 11:20	5/7/2009 14:47	IG
Preparation Method: SM 5540 C Analytical Method: SM 5540 C									
Surfactants	0.040	U	mg/L-LAS	0.040	0.200	1	5/6/2009 19:11	5/6/2009 20:00	AR
Analytical Method: SM 2130 B									
Turbidity	0.21	I	NTU	0.05	1.0	1		5/6/2009 17:15	ZE
Analytical Method: SM 4500-S F(20th Ed.)									
Sulfide	0.415		mg/L	0.050	0.063	1		5/12/2009 17:20	AR
Analytical Method: EPA 365.1									
Ortho Phosphate - P	0.033		mg/L-P	0.005	0.015	1		5/6/2009 17:44	ZE
Total Phosphorus	0.085		mg/L	0.004	0.015	1	5/12/2009 18:15	5/13/2009 15:55	ZE
Analytical Method: SM 2540 D									
Total Suspended Solids	21.2		mg/L	2.0	4.0	1		5/11/2009 14:10	MF
Analytical Method: EPA 120.1									
Conductivity	15500		umhos/cm			1		5/11/2009 16:00	AD
Radiological Analysis									

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**
Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Analytical Method: 903.1									
Radium 226	2.8+/-0.3	1	pCi/l	0.20	0.20	1		5/19/2009 11:42	SU
Analytical Method: RA-05									
Radium 228	1.4+/-0.6	1	pCi/l	0.70	0.70	1		5/19/2009 11:04	SU
Herbicides									
Preparation Method: 3510C	Analytical Method: SW-846 8151A								
2,4,5-T	0.345	U	ug/L	0.345	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
2,4,5-TP (Silvex)	0.492	U	ug/L	0.492	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
2,4-D	0.406	U	ug/L	0.406	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
2,4-DB	0.547	U	ug/L	0.547	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
Dalapon	0.509	U	ug/L	0.509	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
Dicamba	0.369	U	ug/L	0.369	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
Dichlorprop	0.399	U	ug/L	0.399	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
Dinoseb	0.509	U	ug/L	0.509	2.00	1	5/7/2009 18:30	5/9/2009 03:45	MR
MCPA	47.7	U	ug/L	47.7	200	1	5/7/2009 18:30	5/9/2009 03:45	MR
MCPP	98.0	U	ug/L	98.0	200	1	5/7/2009 18:30	5/9/2009 03:45	MR
DCAA (S)	86		%	46-142		1	5/7/2009 18:30	5/9/2009 03:45	MR
PCBs									
Preparation Method: 3510C	Analytical Method: SW-846 8082								
PCB 1016	0.012	U	ug/L	0.012	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
PCB 1221	0.014	U	ug/L	0.014	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
PCB 1232	0.190	U	ug/L	0.190	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
PCB 1242	0.010	U	ug/L	0.010	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
PCB 1248	0.00850	U	ug/L	0.00850	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
PCB 1254	0.014	U	ug/L	0.014	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
PCB 1260	0.015	U	ug/L	0.015	0.500	1	5/7/2009 19:00	5/9/2009 09:27	MR
Tetrachloro-m-xylene (S)	91		%	50-125		1	5/7/2009 19:00	5/9/2009 09:27	MR
Decachlorobiphenyl (S)	117		%	45-162		1	5/7/2009 19:00	5/9/2009 09:27	MR
Metals Analysis									
Preparation Method: SW-846 7470	Analytical Method: SW-846 7470								
Mercury	0.00013	U	mg/L	0.00013	0.00020	1	5/13/2009 11:30	5/14/2009 12:42	TI
Preparation Method: SW-846 3010A	Analytical Method: SW-846 6010								
Antimony	0.0038	U	mg/l	0.0038	0.020	1	5/7/2009 14:00	5/8/2009 20:37	TB
Arsenic	0.0046	U	mg/l	0.0046	0.010	1	5/7/2009 14:00	5/8/2009 20:37	TB
Beryllium	0.00067	U	mg/l	0.00067	0.0040	1	5/7/2009 14:00	5/8/2009 20:37	TB
Cadmium	0.00057	U	mg/l	0.00057	0.0050	1	5/7/2009 14:00	5/8/2009 20:37	TB
Chromium	0.0011	U	mg/l	0.0011	0.0050	1	5/7/2009 14:00	5/8/2009 20:37	TB
Copper	0.0096	U	mg/l	0.0096	0.020	1	5/7/2009 14:00	5/8/2009 20:37	TB
Lead	0.00334	I	mg/l	0.0031	0.010	1	5/7/2009 14:00	5/8/2009 20:37	TB
Nickel	0.0052	U	mg/l	0.0052	0.010	1	5/7/2009 14:00	5/8/2009 20:37	TB
Selenium	0.0054	U	mg/l	0.0054	0.030	1	5/7/2009 14:00	5/8/2009 20:37	TB
Silver	0.0016	U	mg/l	0.0016	0.020	1	5/7/2009 14:00	5/8/2009 20:37	TB
Zinc	0.0240	I	mg/l	0.0053	0.025	1	5/7/2009 14:00	5/8/2009 20:37	TB

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**

Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Preparation Method: EPA 200.8 Analytical Method: EPA 200.8									
Thallium	0.00027	U	mg/L	0.00027	0.0020	1	5/7/2009 11:30	5/12/2009 22:44	DF
Analytical Method: EPA 300.1									
Bromate	100	U3	ug/L	100	750	300		5/12/2009 19:22	SU
Wet Chemistry - Subcontract									
Analytical Method: EPA 100.2									
Asbestos	0.18	U2	MFL	0.18	0.18	1		5/14/2009 18:00	SU
Analytical Method: EPA 7063 mod									
Arsenite (Trivalent As)	2	U4	ug/L	2	2	1		5/21/2009 12:00	SU
Organophosphorus Pesticides									
Preparation Method: 3510C Analytical Method: SW-846 8141A									
Aspon	0.185	U	ug/L	0.185	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Azinphos-ethyl	0.130	U	ug/L	0.130	2.00	1	5/7/2009 15:00	5/10/2009 01:33	LR
Bolstar	0.202	U	ug/L	0.202	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Carbophenothion	0.063	U	ug/L	0.063	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Chlorpyrifos	0.121	U	ug/L	0.121	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Chlorpyrifos-methyl	0.137	U	ug/L	0.137	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Coumaphos	0.079	U	ug/L	0.079	1.50	1	5/7/2009 15:00	5/10/2009 01:33	LR
Crotoxyphos	0.078	U	ug/L	0.078	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Demeton-o	0.041	U	ug/L	0.041	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Demeton-s	0.062	U	ug/L	0.062	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Dichlorfenthion	0.190	U	ug/L	0.190	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Dichlorovos	0.075	U	ug/L	0.075	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Dicrotophos	0.175	U	ug/L	0.175	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Dimethoate	0.184	U	ug/L	0.184	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Dioxathion	0.110	U	ug/L	0.110	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Disulfoton	0.129	U	ug/L	0.129	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
EPN	0.132	U	ug/L	0.132	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Ethion	0.132	U	ug/L	0.132	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Ethoprop	0.068	U	ug/L	0.068	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Famphur	0.081	U	ug/L	0.081	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Fenithrothion	0.198	U	ug/L	0.198	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Fenthion	0.074	U	ug/L	0.074	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Leptophos	0.046	U	ug/L	0.046	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Merphos	0.208	U	ug/L	0.208	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Mevinphos	0.172	U	ug/L	0.172	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Naled	0.220	U	ug/L	0.220	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Phorate	0.177	U	ug/L	0.177	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Phosmet	0.102	U	ug/L	0.102	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Phosphamidon	0.311	U	ug/L	0.311	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Ronnel	0.054	U	ug/L	0.054	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
TEPP	0.189	U	ug/L	0.189	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Terbufos	0.063	U	ug/L	0.063	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Thionazine	0.179	U	ug/L	0.179	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**
Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Tokuthion (Prothiophos)	0.106	U	ug/L	0.106	0.500	1	5/7/2009 15:00	5/10/2009 01:33	LR
Trichlorfon	1.09	U	ug/L	1.09	1.80	1	5/7/2009 15:00	5/10/2009 01:33	LR
Tributyl Phosphate (S)	120		%	44-125		1	5/7/2009 15:00	5/10/2009 01:33	LR
Triphenyl Phosphate (S)	122		%	43-134		1	5/7/2009 15:00	5/10/2009 01:33	LR
Semivolatiles									
Preparation Method: 3510C	Analytical Method: SW-846 8270C								
1,2,4-Trichlorobenzene	1.5	U	ug/L	1.5	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
1,2-Dichlorobenzene	0.34	U	ug/L	0.34	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
1,2-Diphenylhydrazine	0.23	U	ug/L	0.23	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
1,3-Dichlorobenzene	0.35	U	ug/L	0.35	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
1,4-Dichlorobenzene	0.28	U	ug/L	0.28	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4,5-Trichlorophenol	0.38	U	ug/L	0.38	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4,6-Trichlorophenol	0.27	U	ug/L	0.27	1.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4-Dichlorophenol	0.43	U	ug/L	0.43	0.53	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4-Dinitrophenol	1.4	U	ug/L	1.4	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4-Dinitrotoluene	0.31	U	ug/L	0.31	0.45	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,6-Dinitrotoluene	0.31	U	ug/L	0.31	0.39	1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Chloronaphthalene	0.32	U	ug/L	0.32	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Chlorophenol	2.6	U	ug/L	2.6	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Methylphenol	0.22	U	ug/L	0.22	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Nitroaniline	0.20	U	ug/L	0.20	50	1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Nitrophenol	0.24	U	ug/L	0.24	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
3,3'-Dichlorobenzidine	0.31	U	ug/L	0.31	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
3-Nitroaniline	0.28	U	ug/L	0.28	50	1	5/7/2009 13:00	5/7/2009 18:04	TB
4,6-Dinitro-2-methylphenol	0.35	U	ug/L	0.35	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
4-Chloro-3-methylphenol	0.22	U	ug/L	0.22	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
4-Chloroaniline	0.29	U	ug/L	0.29	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
4-Chlorophenyl phenyl ether	0.45	U	ug/L	0.45	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Aniline	0.28	U	ug/L	0.28	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Benzidine	9.7	U	ug/L	9.7	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
Benzoic acid	2.0	U	ug/L	2.0	50	1	5/7/2009 13:00	5/7/2009 18:04	TB
Benzyl alcohol	0.22	U	ug/L	0.22	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Bis(2-Chloroethoxy)methane	0.32	U	ug/L	0.32	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Bis(2-Chloroethyl)ether	0.46	U	ug/L	0.46	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Bis(2-Chloroisopropyl)ether	0.34	U	ug/L	0.34	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Bis(2-Ethylhexyl)phthalate	0.20	U	ug/L	0.20	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
4-Bromophenyl phenyl ether	0.27	U	ug/L	0.27	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Butyl benzyl phthalate	0.36	U	ug/L	0.36	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
Carbazole	0.28	U	ug/L	0.28	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Di-n-butyl phthalate	0.21	U	ug/L	0.21	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Di-n-octyl phthalate	0.28	U	ug/L	0.28	1.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Dibenzofuran	0.29	U	ug/L	0.29	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
Diethyl phthalate	0.33	U	ug/L	0.33	1.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Dimethyl phthalate	0.31	U	ug/L	0.31	1.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4-Dimethylphenol	0.40	U	ug/L	0.40	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Hexachlorobenzene	0.32	U	ug/L	0.32	1.0	1	5/7/2009 13:00	5/7/2009 18:04	TB

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**

Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Hexachlorobutadiene	0.45	U	ug/L	0.45	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Hexachlorocyclopentadiene	0.70	U	ug/L	0.70	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Hexachloroethane	0.36	U	ug/L	0.36	2.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Isophorone	0.34	U	ug/L	0.34	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
4-Nitroaniline	0.24	U	ug/L	0.24	50	1	5/7/2009 13:00	5/7/2009 18:04	TB
Nitrobenzene	0.31	U	ug/L	0.31	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
4-Nitrophenol	0.79	U	ug/L	0.79	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
Pentachlorophenol	0.70	U	ug/L	0.70	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
Phenol	0.40	U	ug/L	0.40	1.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Pyridine	8.9	U	ug/L	8.9	10	1	5/7/2009 13:00	5/7/2009 18:04	TB
m,p-Cresol	0.23	U	ug/L	0.23	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
n-Nitrosodi-n-propylamine	0.33	U	ug/L	0.33	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
n-Nitrosodimethylamine	3.4	U	ug/L	3.4	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
n-Nitrosodiphenylamine	0.31	U	ug/L	0.31	4.0	1	5/7/2009 13:00	5/7/2009 18:04	TB
Nitrobenzene-d5 (S)	72		%	7.7-130		1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Fluorobiphenyl (S)	68		%	19-126		1	5/7/2009 13:00	5/7/2009 18:04	TB
Terphenyl-d14 (S)	77		%	27-133		1	5/7/2009 13:00	5/7/2009 18:04	TB
Phenol-d6 (S)	45.1		%	10-59		1	5/7/2009 13:00	5/7/2009 18:04	TB
2-Fluorophenol (S)	46		%	28-62		1	5/7/2009 13:00	5/7/2009 18:04	TB
2,4,6-Tribromophenol (S)	80		%	48-132		1	5/7/2009 13:00	5/7/2009 18:04	TB
Volatiles									
Analytical Method: SW-846 8260B									
1,1,1,2-Tetrachloroethane	0.120	U	ug/L	0.120	1.00	1		5/8/2009 02:59	LN
1,1,1-Trichloroethane	0.682	U	ug/L	0.682	1.00	1		5/8/2009 02:59	LN
1,1,2,2-Tetrachloroethane	0.572	U	ug/L	0.572	1.00	1		5/8/2009 02:59	LN
1,1,2-Trichloroethane	0.841	U	ug/L	0.841	1.00	1		5/8/2009 02:59	LN
1,1-Dichloroethane	0.410	U	ug/L	0.410	1.00	1		5/8/2009 02:59	LN
1,1-Dichloroethene	0.638	U	ug/L	0.638	1.00	1		5/8/2009 02:59	LN
1,1-Dichloropropene	0.632	U	ug/L	0.632	1.00	1		5/8/2009 02:59	LN
1,2,3-Trichlorobenzene	0.686	U	ug/L	0.686	1.00	1		5/8/2009 02:59	LN
1,2,3-Trichloropropane	0.160	U	ug/L	0.160	1.00	1		5/8/2009 02:59	LN
1,2,4-Trichlorobenzene	0.538	U	ug/L	0.538	1.00	1		5/8/2009 02:59	LN
1,2,4-Trimethylbenzene	0.508	U	ug/L	0.508	1.00	1		5/8/2009 02:59	LN
1,2-Dibromo-3-chloropropane	0.933	U	ug/L	0.933	1.00	1		5/8/2009 02:59	LN
1,2-Dibromoethane	0.345	U	ug/L	0.345	1.00	1		5/8/2009 02:59	LN
1,2-Dichlorobenzene	0.584	U	ug/L	0.584	1.00	1		5/8/2009 02:59	LN
1,2-Dichloroethane	0.897	U	ug/L	0.897	1.00	1		5/8/2009 02:59	LN
1,2-Dichloropropane	0.725	U	ug/L	0.725	1.00	1		5/8/2009 02:59	LN
1,3,5-Trimethylbenzene	0.477	U	ug/L	0.477	1.00	1		5/8/2009 02:59	LN
1,3-Dichlorobenzene	0.558	U	ug/L	0.558	1.00	1		5/8/2009 02:59	LN
1,3-Dichloropropane	0.345	U	ug/L	0.345	1.00	1		5/8/2009 02:59	LN
1,4-Dichlorobenzene	0.537	U	ug/L	0.537	1.00	1		5/8/2009 02:59	LN
2,2-Dichloropropane	0.700	U	ug/L	0.700	1.00	1		5/8/2009 02:59	LN
2-Butanone	4.28	U	ug/L	4.28	10.0	1		5/8/2009 02:59	LN
2-Chloroethylvinyl ether	0.470	U	ug/L	0.470	1.00	1		5/8/2009 02:59	LN

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**

Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
2-Chlorotoluene	0.550	U	ug/L	0.550	1.00	1		5/8/2009 02:59	LN
2-Hexanone	1.83	U	ug/L	1.83	10.0	1		5/8/2009 02:59	LN
4-Chlorotoluene	0.570	U	ug/L	0.570	1.00	1		5/8/2009 02:59	LN
4-Isopropyltoluene	0.380	U	ug/L	0.380	1.00	1		5/8/2009 02:59	LN
4-Methyl-2-pentanone	0.220	U	ug/L	0.220	1.00	1		5/8/2009 02:59	LN
Acetone	1.43	U	ug/L	1.43	10.0	1		5/8/2009 02:59	LN
Acrolein	2.47	U	ug/L	2.47	10.0	1		5/8/2009 02:59	LN
Acrylonitrile	0.955	U	ug/L	0.955	10.0	1		5/8/2009 02:59	LN
Benzene	0.621	U	ug/L	0.621	1.00	1		5/8/2009 02:59	LN
Bromobenzene	0.382	U	ug/L	0.382	1.00	1		5/8/2009 02:59	LN
Bromochloromethane	0.637	U	ug/L	0.637	1.00	1		5/8/2009 02:59	LN
Bromodichloromethane	0.100	U	ug/L	0.100	1.00	1		5/8/2009 02:59	LN
Bromoform	0.486	U	ug/L	0.486	1.00	1		5/8/2009 02:59	LN
Bromomethane	0.427	U	ug/L	0.427	1.00	1		5/8/2009 02:59	LN
n-Butylbenzene	0.564	U	ug/L	0.564	1.00	1		5/8/2009 02:59	LN
Carbon disulfide	0.650	U	ug/L	0.650	10.0	1		5/8/2009 02:59	LN
Carbon tetrachloride	0.468	U	ug/L	0.468	1.00	1		5/8/2009 02:59	LN
Chlorobenzene	0.316	U	ug/L	0.316	1.00	1		5/8/2009 02:59	LN
Chloroethane	1.00	U	ug/L	1.00	1.00	1		5/8/2009 02:59	LN
Chloroform	0.572	U	ug/L	0.572	1.00	1		5/8/2009 02:59	LN
Chloromethane	0.524	U	ug/L	0.524	1.00	1		5/8/2009 02:59	LN
Dibromochloromethane	0.378	U	ug/L	0.378	1.00	1		5/8/2009 02:59	LN
Dibromomethane	0.739	U	ug/L	0.739	1.00	1		5/8/2009 02:59	LN
Dichlorodifluoromethane	0.525	U	ug/L	0.525	1.00	1		5/8/2009 02:59	LN
cis-1,3-Dichloropropene	0.664	U	ug/L	0.664	1.00	1		5/8/2009 02:59	LN
trans-1,3-Dichloropropene	0.522	U	ug/L	0.522	1.00	1		5/8/2009 02:59	LN
Ethylbenzene	0.323	U	ug/L	0.323	1.00	1		5/8/2009 02:59	LN
Hexachlorobutadiene	0.763	U	ug/L	0.763	1.00	1		5/8/2009 02:59	LN
Isopropylbenzene (Cumene)	0.528	U	ug/L	0.528	1.00	1		5/8/2009 02:59	LN
Methyl-t-butyl ether	0.650	U	ug/L	0.650	1.00	1		5/8/2009 02:59	LN
Methylene chloride	0.580	U	ug/L	0.580	5.00	1		5/8/2009 02:59	LN
Naphthalene	0.417	U	ug/L	0.417	1.00	1		5/8/2009 02:59	LN
Styrene	0.458	U	ug/L	0.458	1.00	1		5/8/2009 02:59	LN
Tetrachloroethene	0.312	U	ug/L	0.312	1.00	1		5/8/2009 02:59	LN
Toluene	0.389	U	ug/L	0.389	1.00	1		5/8/2009 02:59	LN
Trichloroethene	0.821	U	ug/L	0.821	1.00	1		5/8/2009 02:59	LN
Trichlorofluoromethane	1.00	U	ug/L	1.00	1.00	1		5/8/2009 02:59	LN
Vinyl acetate	0.570	U	ug/L	0.570	10.0	1		5/8/2009 02:59	LN
Vinyl chloride	0.506	U	ug/L	0.506	1.00	1		5/8/2009 02:59	LN
Xylene, m,p-	0.639	U	ug/L	0.639	2.00	1		5/8/2009 02:59	LN
Xylene, o-	0.341	U	ug/L	0.341	1.00	1		5/8/2009 02:59	LN
Xylenes (total)	0.980	U	ug/L	0.980	3.00	1		5/8/2009 02:59	LN
cis-1,2-Dichloroethene	0.442	U	ug/L	0.442	1.00	1		5/8/2009 02:59	LN
n-Propylbenzene	0.624	U	ug/L	0.624	1.00	1		5/8/2009 02:59	LN
sec-Butylbenzene	0.521	U	ug/L	0.521	1.00	1		5/8/2009 02:59	LN
tert-Butylbenzene	0.607	U	ug/L	0.607	1.00	1		5/8/2009 02:59	LN

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**
Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
trans-1,2-Dichloroethene	0.410	U	ug/L	0.410	1.00	1		5/8/2009 02:59	LN
4-Bromofluorobenzene (S)	97		%	64-130		1		5/8/2009 02:59	LN
Dibromofluoromethane (S)	113		%	69-134		1		5/8/2009 02:59	LN
Toluene d8 (S)	96		%	63-127		1		5/8/2009 02:59	LN
Pesticides									
Preparation Method: 3510C	Analytical Method: SW-846 8081A								
4,4'-DDD	0.000993	U	ug/L	0.000993	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
4,4'-DDE	0.00148	U	ug/L	0.00148	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
4,4'-DDT	0.00120	U	ug/L	0.00120	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Aldrin	0.00139	U	ug/L	0.00139	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
Dieldrin	0.00344	I	ug/L	0.00106	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
Endosulfan I	0.00316	I	ug/L	0.00103	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Endosulfan II	0.00103	U	ug/L	0.00103	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Endosulfan sulfate	0.00279	U	ug/L	0.00279	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Endrin	0.00717	U	ug/L	0.00717	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Endrin aldehyde	0.000695	U	ug/L	0.000695	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Endrin ketone	0.000969	U	ug/L	0.000969	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Heptachlor	0.00152	U	ug/L	0.00152	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
Heptachlor epoxide	0.00121	U	ug/L	0.00121	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
Methoxychlor	0.000900	U	ug/L	0.000900	0.100	1	5/7/2009 13:00	5/8/2009 23:54	CC
Toxaphene	0.047	U	ug/L	0.047	3.00	1	5/7/2009 13:00	5/8/2009 23:54	CC
alpha-BHC	0.000924	U	ug/L	0.000924	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
alpha-Chlordane	0.00289	I	ug/L	0.00118	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
beta-BHC	0.00123	U	ug/L	0.00123	0.020	1	5/7/2009 13:00	5/8/2009 23:54	CC
delta-BHC	0.000904	U	ug/L	0.000904	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
gamma-BHC (Lindane)	0.000563	U	ug/L	0.000563	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
gamma-Chlordane	0.00130	U	ug/L	0.00130	0.050	1	5/7/2009 13:00	5/8/2009 23:54	CC
Tetrachloro-m-xylene (S)	92		%	32-137		1	5/7/2009 13:00	5/8/2009 23:54	CC
Decachlorobiphenyl (S)	90		%	25-165		1	5/7/2009 13:00	5/8/2009 23:54	CC
PAH									
Preparation Method: 3510C	Analytical Method: SW-846 8270C low PAH								
1-Methylnaphthalene	0.026	U	ug/L	0.026	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
2-Methylnaphthalene	0.030	U	ug/L	0.030	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Acenaphthene	0.027	U	ug/L	0.027	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Acenaphthylene	0.026	U	ug/L	0.026	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Anthracene	0.0056	U	ug/L	0.0056	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Benzo(a)anthracene	0.011	U	ug/L	0.011	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Benzo(a)pyrene	0.013	U	ug/L	0.013	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Benzo(b)fluoranthene	0.015	U	ug/L	0.015	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Benzo(g,h,i)perylene	0.014	U	ug/L	0.014	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Benzo(k)fluoranthene	0.012	U	ug/L	0.012	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Chrysene	0.017	U	ug/L	0.017	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Dibenz(a,h)anthracene	0.0056	U	ug/L	0.0056	0.20	1	5/7/2009 22:45	5/8/2009 18:27	TB
Fluoranthene	0.0078	U	ug/L	0.0078	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Fluorene	0.011	U	ug/L	0.011	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB

ANALYTICAL RESULTS

Lab ID: **904913002**
Sample ID: **PW-1/**
Date Received: 5/6/2009 10:15 Matrix: Groundwater
Date Collected: 5/5/2009 9:35:00 AM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Indeno(1,2,3-cd)pyrene	0.011	U	ug/L	0.011	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
Naphthalene	0.034	U	ug/L	0.034	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Phenanthrene	0.014	U	ug/L	0.014	1.0	1	5/7/2009 22:45	5/8/2009 18:27	TB
Pyrene	0.0084	U	ug/L	0.0084	0.10	1	5/7/2009 22:45	5/8/2009 18:27	TB
2-Fluorobiphenyl (S)	57.2		%	10-116		1	5/7/2009 22:45	5/8/2009 18:27	TB
Nitrobenzene-d5 (S)	61.5		%	10-112		1	5/7/2009 22:45	5/8/2009 18:27	TB
Terphenyl-d14 (S)	69.9		%	20-128		1	5/7/2009 22:45	5/8/2009 18:27	TB
Volatiles - Subcontract									
Analytical Method: RSK 175									
Dissolved Ethane	0.024	U	ug/L	0.024	1.00	1		5/18/2009 15:47	SU
Dissolved Ethene	0.030	U	ug/L	0.030	1.00	1		5/18/2009 15:47	SU
Methane	11.4	7	ug/L	0.116	5.00	1		5/18/2009 15:47	SU

ANALYTICAL RESULTS QUALIFIERS

PARAMETER QUALIFIERS

Q	Holding time exceeded.
V	Present in blank.
[1]	E83033
[2]	E86772
[3]	E83079
[4]	E87225
[5]	BOD sample result estimated due to the oxygen depletion being outside acceptable range.
[6]	MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.
[7]	E87854

CASE NARRATIVE

Sample Analysis Comments

Lab ID 904913002   Client ID PW-1

Analyte/Arsenite (Trivalent As)

[4] E87225

Analyte/Asbestos

[2] E86772

Analyte/BOD

BOD sample result estimated due to the oxygen depletion being outside acceptable range.

Analyte/Bromate

[3] E83079

Analyte/Bromide

MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.

Analyte/Fluoride

MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.

Analyte/Methane

[7] E87854

Analyte/Nitrite

MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.

Analyte/Radium 226

[1] E83033

Analyte/Radium 228

[1] E83033

QUALITY CONTROL DATA

QC Batch: LACH/2178 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Associated Lab Samples:						
	904824001	904824002	904824003	904824004	904824005	904824006
	904824007	904824008	904824009	904824010	904824011	904913002

METHOD BLANK: 27217

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Ortho Phosphate - P	mg/L-P	0.005U	0.005	

LABORATORY CONTROL SAMPLE & LCSD: 27218 27219

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Ortho Phosphate - P	mg/L-P	0.5	0.483	0.481	97	96	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27222 27223 Original: 904824011

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Ortho Phosphate - P	mg/L-P	0.079	0.5	0.546	0.547	93	94	90-110	1	20	

QUALITY CONTROL DATA

QC Batch: IC/1297 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:
904760003 904787001 904787002 904787003 904787004 904787005
904789001 904791003 904879001 904879002 904883003 904884002
904890001 904890002 904913002

METHOD BLANK: 27280

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Bromide	mg/L	0.052U	0.052	
Nitrite	mg/L	0.005U	0.005	
Nitrate	mg/L	0.007U	0.007	
Fluoride	mg/L	0.030U	0.030	

LABORATORY CONTROL SAMPLE & LCSD: 27281 27282

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Bromide	mg/L	2.5	2.65	2.71	106	108	90-110	2	20	
Nitrite	mg/L	2.5	2.63	2.68	105	107	90-110	2	20	
Nitrate	mg/L	2.5	2.61	2.65	104	106	90-110	2	20	
Fluoride	mg/L	2.5	2.72	2.75	109	110	90-110	0.91	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27283 27284 Original: 904913002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Bromide	mg/L	110	25	106	108	-18	-10	90-110	-55.	20	
Nitrite	mg/L	0	25	46.3	46.4	185	186	90-110	0.54	20	
Nitrate	mg/L	0	25	24.2	24.7	97	99	90-110	2	20	
Fluoride	mg/L	0.584	25	22.7	23.2	88.6	90.4	90-110	2	20	

QUALITY CONTROL DATA

QC Batch: SOLI/1753 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples: 904895004 904913002 904914002 904914004 904918001 904918002 904918003 904918004 904918005 904918006 904918007 904918008 904918009

METHOD BLANK: 27285

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Dissolved Solids(TDS)	mg/L	7.00U	7.00	

SAMPLE DUPLICATE: 27286 Original: 904895004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Dissolved Solids(TDS)	mg/L	406	359	12.3	20	

SAMPLE DUPLICATE: 27287 Original: 904914004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Dissolved Solids(TDS)	mg/L	124	113	9.3	20	

QUALITY CONTROL DATA

QC Batch: MISC/1205

Analysis Method: SM 2130 B

QC Batch Method: SM 2130 B

Associated Lab Samples: 904913002

METHOD BLANK: 27288

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Turbidity	NTU	0.05U	0.05	

SAMPLE DUPLICATE: 27289

Original: 904905002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Turbidity	NTU	0.57I	0.59I	3	20	

QUALITY CONTROL DATA

QC Batch: INPR/1668 Analysis Method: SM 5540 C

QC Batch Method: SM 5540 C

Associated Lab Samples: 904913002 904917001 904917002 904917003 904917004

METHOD BLANK: 27290

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Surfactants	mg/L-LAS	0.040U	0.040	

LABORATORY CONTROL SAMPLE & LCSD: 27291 27292

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Surfactants	mg/L-LAS	1	0.948	0.948	95	95	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27293 27294 Original: 904917002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Surfactants	mg/L-LAS	0	1	0.902	0.909	90	91	80-120	1	20	

QUALITY CONTROL DATA

QC Batch: EXTO/2116 Analysis Method: SW-846 8270C low PAH

QC Batch Method: 3510C

Associated Lab Samples:						
	904906004	904906005	904906006	904913002	904921001	904938002
	904938004	904938008	904938011	904938014	904938015	904938018
	904938023	904938026	904938030	904938031	904947004	904948001
	904948002					

METHOD BLANK: 27305

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
PAH				
Acenaphthene	ug/L	0.027U	0.027	
Acenaphthylene	ug/L	0.026U	0.026	
Anthracene	ug/L	0.0056U	0.0056	
Benzo(a)anthracene	ug/L	0.011U	0.011	
Benzo(b)fluoranthene	ug/L	0.015U	0.015	
Benzo(k)fluoranthene	ug/L	0.012U	0.012	
Benzo(g,h,i)perylene	ug/L	0.014U	0.014	
Benzo(a)pyrene	ug/L	0.013U	0.013	
Chrysene	ug/L	0.017U	0.017	
Dibenz(a,h)anthracene	ug/L	0.0056U	0.0056	
Fluoranthene	ug/L	0.0078U	0.0078	
Fluorene	ug/L	0.011U	0.011	
Indeno(1,2,3-cd)pyrene	ug/L	0.011U	0.011	
1-Methylnaphthalene	ug/L	0.026U	0.026	
2-Methylnaphthalene	ug/L	0.030U	0.030	
Naphthalene	ug/L	0.034U	0.034	
Phenanthrene	ug/L	0.014U	0.014	
Pyrene	ug/L	0.0084U	0.0084	
2-Fluorobiphenyl (S)	%	58	10-116	
Nitrobenzene-d5 (S)	%	61.1	10-112	
Terphenyl-d14 (S)	%	71.4	20-128	

LABORATORY CONTROL SAMPLE: 27306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PAH						
Acenaphthene	ug/L	5	2.78	56	23-100	
Acenaphthylene	ug/L	5	2.91	58	21-109	
Anthracene	ug/L	5	2.96	59	39-111	
Benzo(a)anthracene	ug/L	5	3.42	68	28-115	
Benzo(b)fluoranthene	ug/L	5	2.91	58	15-116	
Benzo(k)fluoranthene	ug/L	5	3.95	79	33-122	
Benzo(g,h,i)perylene	ug/L	5	3.22	64	29-120	
Benzo(a)pyrene	ug/L	5	3.42	68	27-119	
Chrysene	ug/L	5	3.39	68	11-115	
Dibenz(a,h)anthracene	ug/L	5	3.31	66	11-115	

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 27306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoranthene	ug/L	5	3.25	65	42-112	
Fluorene	ug/L	5	2.82	56	25-109	
Indeno(1,2,3-cd)pyrene	ug/L	5	3.34	67	16-120	
1-Methylnaphthalene	ug/L	5	2.43	49	10-104	
2-Methylnaphthalene	ug/L	5	3.05	61	10-115	
Naphthalene	ug/L	5	2.56	51	12-102	
Phenanthrene	ug/L	5	2.96	59	38-108	
Pyrene	ug/L	5	3.46	69	36-123	
2-Fluorobiphenyl (S)	%			57.4	10-116	
Nitrobenzene-d5 (S)	%			59.7	10-112	
Terphenyl-d14 (S)	%			67	20-128	

MATRIX SPIKE SAMPLE: 27307 Original: 904934001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
PAH							
Acenaphthene	ug/L	0.019	5	2.98	60	23-100	
Acenaphthylene	ug/L	0.0111	5	3.25	65	21-109	
Anthracene	ug/L	0.00376	5	3.50	70	39-111	
Benzo(a)anthracene	ug/L	0	5	3.64	73	34-121	
Benzo(b)fluoranthene	ug/L	0.00393	5	3.08	62	27-119	
Benzo(k)fluoranthene	ug/L	0.00737	5	4.36	87	29-120	
Benzo(g,h,i)perylene	ug/L	0	5	3.48	70	15-116	
Benzo(a)pyrene	ug/L	0.00954	5	3.85	77	28-115	
Chrysene	ug/L	0	5	3.66	73	33-122	
Dibenz(a,h)anthracene	ug/L	0	5	3.64	73	11-115	
Fluoranthene	ug/L	0	5	3.68	74	42-112	
Fluorene	ug/L	0	5	3.19	64	25-109	
Indeno(1,2,3-cd)pyrene	ug/L	0	5	3.70	74	16-120	
1-Methylnaphthalene	ug/L	0	5	2.45	49	10-104	
2-Methylnaphthalene	ug/L	0	5	3.15	63	10-115	
Naphthalene	ug/L	0	5	2.52	50	12-102	
Phenanthrene	ug/L	0.00736	5	3.36	67	38-108	
Pyrene	ug/L	0.00472	5	3.74	75	36-123	
2-Fluorobiphenyl (S)	%				55.6	10-116	
Nitrobenzene-d5 (S)	%				55.5	10-112	
Terphenyl-d14 (S)	%				65.3	20-128	

QUALITY CONTROL DATA

QC Batch: EXTO/2117 Analysis Method: SW-846 8270C

QC Batch Method: 3510C

Associated Lab Samples: 904913002 904921001

METHOD BLANK: 27309

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles				
Benzidine	ug/L	9.7U	9.7	
Benzoic acid	ug/L	2.0U	2.0	
Butyl benzyl phthalate	ug/L	0.36U	0.36	
Bis(2-Chloroethoxy)methane	ug/L	0.32U	0.32	
Bis(2-Chloroethyl)ether	ug/L	0.46U	0.46	
Bis(2-Chloroisopropyl)ether	ug/L	0.34U	0.34	
Bis(2-Ethylhexyl)phthalate	ug/L	0.20U	0.20	
4-Bromophenyl phenyl ether	ug/L	0.27U	0.27	
Carbazole	ug/L	0.28U	0.28	
4-Chlorophenyl phenyl ether	ug/L	0.45U	0.45	
Dibenzofuran	ug/L	0.29U	0.29	
1,2-Dichlorobenzene	ug/L	0.34U	0.34	
1,3-Dichlorobenzene	ug/L	0.35U	0.35	
3,3'-Dichlorobenzidine	ug/L	0.31U	0.31	
2,4-Dichlorophenol	ug/L	0.43U	0.43	
Diethyl phthalate	ug/L	0.33U	0.33	
2,4-Dimethylphenol	ug/L	0.40U	0.40	
Dimethyl phthalate	ug/L	0.31U	0.31	
Di-n-octyl phthalate	ug/L	0.28U	0.28	
2,4-Dinitrophenol	ug/L	1.4U	1.4	
2,6-Dinitrotoluene	ug/L	0.31U	0.31	
Hexachlorobenzene	ug/L	0.32U	0.32	
Hexachlorobutadiene	ug/L	0.45U	0.45	
Hexachlorocyclopentadiene	ug/L	0.70U	0.70	
Hexachloroethane	ug/L	0.36U	0.36	
Isophorone	ug/L	0.34U	0.34	
2-Methylphenol	ug/L	0.22U	0.22	
Nitrobenzene	ug/L	0.31U	0.31	
2-Nitrophenol	ug/L	0.24U	0.24	
n-Nitrosodimethylamine	ug/L	3.4U	3.4	
n-Nitrosodiphenylamine	ug/L	0.31U	0.31	
2,4,5-Trichlorophenol	ug/L	0.38U	0.38	
2,4,6-Trichlorophenol	ug/L	0.27U	0.27	
Benzyl alcohol	ug/L	0.22U	0.22	
Aniline	ug/L	0.28U	0.28	
Pyridine	ug/L	8.9U	8.9	
3-Nitroaniline	ug/L	0.28U	0.28	
4-Nitroaniline	ug/L	0.24U	0.24	
Di-n-butyl phthalate	ug/L	0.21U	0.21	
1,2-Diphenylhydrazine	ug/L	0.23U	0.23	
2-Nitroaniline	ug/L	0.20U	0.20	
2-Chloronaphthalene	ug/L	0.32U	0.32	
4-Chloroaniline	ug/L	0.29U	0.29	

QUALITY CONTROL DATA

METHOD BLANK: 27309

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
m,p-Cresol	ug/L	0.23U	0.23	
4,6-Dinitro-2-methylphenol	ug/L	0.35U	0.35	
Phenol	ug/L	0.40U	0.40	
2-Chlorophenol	ug/L	2.6U	2.6	
1,4-Dichlorobenzene	ug/L	0.28U	0.28	
n-Nitrosodi-n-propylamine	ug/L	0.33U	0.33	
1,2,4-Trichlorobenzene	ug/L	1.5U	1.5	
4-Chloro-3-methylphenol	ug/L	0.22U	0.22	
4-Nitrophenol	ug/L	0.79U	0.79	
2,4-Dinitrotoluene	ug/L	0.31U	0.31	
Pentachlorophenol	ug/L	0.70U	0.70	
Nitrobenzene-d5 (S)	%	75	7.7-130	
Phenol-d6 (S)	%	36.5	10-59	
2-Fluorobiphenyl (S)	%	69	19-126	
2-Fluorophenol (S)	%	48	28-62	
2,4,6-Tribromophenol (S)	%	81	48-132	
Terphenyl-d14 (S)	%	78	27-133	

LABORATORY CONTROL SAMPLE: 27310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Semivolatiles						
Benzidine	ug/L	50	22.4	45	10-104	
Benzoic acid	ug/L	50	16.7I	33		
Butyl benzyl phthalate	ug/L	50	39.5	79	10-152	
Bis(2-Chloroethoxy)methane	ug/L	50	36.8	74	33-184	
Bis(2-Chloroethyl)ether	ug/L	50	37.1	74	12-158	
Bis(2-Chloroisopropyl)ether	ug/L	50	37.0	74	36-166	
Bis(2-Ethylhexyl)phthalate	ug/L	50	36.0	72	10-158	
4-Bromophenyl phenyl ether	ug/L	50	40.2	80	53-127	
Carbazole	ug/L	50	45.3	91	44-140	
4-Chlorophenyl phenyl ether	ug/L	50	38.9	78	25-158	
Dibenzofuran	ug/L	50	40.7	81		
1,2-Dichlorobenzene	ug/L	50	39.0	78	32-129	
1,3-Dichlorobenzene	ug/L	50	35.5	71	10-172	
3,3'-Dichlorobenzidine	ug/L	50	42.7	85	10-262	
2,4-Dichlorophenol	ug/L	50	37.7	75	10-191	
Diethyl phthalate	ug/L	50	37.9	76	10-114	
2,4-Dimethylphenol	ug/L	50	38.2	76	32-119	
Dimethyl phthalate	ug/L	50	40.4	81	10-112	
Di-n-octyl phthalate	ug/L	50	33.4	67	10-146	
2,4-Dinitrophenol	ug/L	50	41.5	83	29-182	

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 27310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,6-Dinitrotoluene	ug/L	50	39.1	78	50-158	
Hexachlorobenzene	ug/L	50	39.2	78	10-152	
Hexachlorobutadiene	ug/L	50	34.5	69	24-116	
Hexachlorocyclopentadiene	ug/L	50	23.5	47	10-115	
Hexachloroethane	ug/L	50	35.7	71	40-113	
Isophorone	ug/L	50	41.6	83	21-196	
2-Methylphenol	ug/L	50	33.0	66	55-126	
Nitrobenzene	ug/L	50	39.1	78	35-180	
2-Nitrophenol	ug/L	50	38.2	76	29-182	
n-Nitrosodimethylamine	ug/L	50	28.9	58	28-64	
n-Nitrosodiphenylamine	ug/L	50	36.7	73	42-113	
2,4,5-Trichlorophenol	ug/L	50	37.6	75		
2,4,6-Trichlorophenol	ug/L	50	39.2	78	37-144	
Benzyl alcohol	ug/L	50	36.4	73		
Aniline	ug/L	50	30.0	60		
Pyridine	ug/L	50	20.1	40		
3-Nitroaniline	ug/L	50	50.1	100		
4-Nitroaniline	ug/L	50	50.1	100		
Di-n-butyl phthalate	ug/L	50	39.2	78	62-154	
1,2-Diphenylhydrazine	ug/L		36.4			
2-Nitroaniline	ug/L	50	46.7I	93		
2-Chloronaphthalene	ug/L	50	39.9	80	60-118	
4-Chloroaniline	ug/L	50	39.7	79		
m,p-Cresol	ug/L		30.3			
4,6-Dinitro-2-methylphenol	ug/L	50	42.2	84	10-181	
Phenol	ug/L	50	17.3	35		
2-Chlorophenol	ug/L	50	33.8	68	25-117	
1,4-Dichlorobenzene	ug/L	50	37.4	75	30-116	
n-Nitrosodi-n-propylamine	ug/L	50	38.0	76	43-136	
1,2,4-Trichlorobenzene	ug/L	50	39.1	78	30-119	
4-Chloro-3-methylphenol	ug/L	50	37.9	76	30-128	
4-Nitrophenol	ug/L	50	23.0	46	10-73	
2,4-Dinitrotoluene	ug/L	50	43.3	87	54-133	
Pentachlorophenol	ug/L	50	49.4	99	29-142	
Nitrobenzene-d5 (S)	%			78	10-112	
Phenol-d6 (S)	%			39.3	10-59	
2-Fluorobiphenyl (S)	%			71	10-116	
2-Fluorophenol (S)	%			49	28-62	
2,4,6-Tribromophenol (S)	%			82	48-132	
Terphenyl-d14 (S)	%			76	20-128	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27311 27312 Original: 904934002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles											
Benzidine	ug/L	0	50	21.2	17.0	42	34	10-104	21	20	8
Benzoic acid	ug/L	0	50	16.7I	16.4I	33	33		0		
Butyl benzyl phthalate	ug/L	0	50	36.8	36.3	74	73	10-152	1	20	
Bis(2-Chloroethoxy)methane	ug/L	0	50	31.2	30.7	62	61	33-184	2	20	
Bis(2-Chloroethyl)ether	ug/L	0	50	32.8	32.4	66	65		2		
Bis(2-Chloroisopropyl)ether	ug/L	0	50	32.5	30.9	65	62	36-166	5	20	
Bis(2-Ethylhexyl)phthalate	ug/L	0	50	33.5	33.2	67	66	10-158	2	20	
4-Bromophenyl phenyl ether	ug/L	0	50	37.3	37.2	75	74	53-127	1	20	
Carbazole	ug/L	0.0865	50	43.2	41.5	86	83	73-131	4	20	
4-Chlorophenyl phenyl ether	ug/L	0	50	35.5	36.2	71	72	25-158	1	20	
Dibenzofuran	ug/L	0.0821	50	37.9	37.3	76	75		1		
1,2-Dichlorobenzene	ug/L	0	50	33.8	33.2	68	66	32-129	3	20	
1,3-Dichlorobenzene	ug/L	0	50	31.1	29.6	62	59	10-172	5	20	
3,3'-Dichlorobenzidine	ug/L	0	50	39.9	39.5	80	79	10-262	1	20	
2,4-Dichlorophenol	ug/L	0	50	31.8	33.8	64	68	39-135	6	20	
Diethyl phthalate	ug/L	0	50	36.9	34.4	74	69	10-114	7	20	
2,4-Dimethylphenol	ug/L	0	50	31.8	32.7	64	65	32-119	2	20	
Dimethyl phthalate	ug/L	0	50	38.6	37.5	77	75	10-112	3	20	
Di-n-octyl phthalate	ug/L	0.0735	50	31.9	30.5	64	61	10-146	5	20	
2,4-Dinitrophenol	ug/L	0	50	41.3	38.3	83	77	10-191	8	20	
2,6-Dinitrotoluene	ug/L	0	50	36.5	36.5	73	73	39-139	0	20	
Hexachlorobenzene	ug/L	0	50	35.3	33.9	71	68	10-152	4	20	
Hexachlorobutadiene	ug/L	0	50	30.1	29.2	60	58	24-116	3	20	
Hexachlorocyclopentadiene	ug/L	0	50	20.6	19.6	41	39	10-115	5	20	
Hexachloroethane	ug/L	0	50	29.8	29.9	60	60	40-113	0	20	
Isophorone	ug/L	0	50	36.7	35.8	73	72	21-196	1	20	
2-Methylphenol	ug/L	0	50	28.5	28.5	57	57	55-126	0	20	
Nitrobenzene	ug/L	0	50	33.0	34.0	66	68	35-180	3	20	
2-Nitrophenol	ug/L	0	50	32.7	32.8	65	66	29-182	2	20	
n-Nitrosodimethylamine	ug/L	0	50	25.5	24.7	51	49		4		
n-Nitrosodiphenylamine	ug/L	0	50	34.6	33.7	69	67	42-113	3	20	
2,4,5-Trichlorophenol	ug/L	0	50	36.3	35.0	73	70		4		
2,4,6-Trichlorophenol	ug/L	0	50	35.8	36.3	72	73	37-144	1	20	
Benzyl alcohol	ug/L	0	50	33.7	31.9	67	64		5		
Aniline	ug/L	0	50	27.9	24.9	56	50		11		
Pyridine	ug/L	0	50	17.5	13.0	35	26		30		
3-Nitroaniline	ug/L	0	50	48.1I	46.6I	96	93		3		
4-Nitroaniline	ug/L	0	50	48.1I	46.6I	96	93		3		
Di-n-butyl phthalate	ug/L	0.0895	50	37.3	37.2	75	74	57-126	1	20	
1,2-Diphenylhydrazine	ug/L			32.5	32.3						
2-Nitroaniline	ug/L	0	50	42.7I	42.0I	85	84		1		
2-Chloronaphthalene	ug/L	0	50	34.6	35.2	69	70	60-118	1	20	
4-Chloroaniline	ug/L	0	50	36.3	33.4	73	67		9		
m,p-Cresol	ug/L			26.7	26.6						

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27311 27312 Original: 904934002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
4,6-Dinitro-2-methylphenol	ug/L	0	50	40.0	38.6	80	77	10-181	4	20	
Phenol	ug/L	0	50	15.3	15.3	31	31		0		
2-Chlorophenol	ug/L	0	50	30.0	28.9	60	58	23-134	3	20	
1,4-Dichlorobenzene	ug/L	0	50	31.4	31.3	63	63	20-124	0	20	
n-Nitrosodi-n-propylamine	ug/L	0	50	34.2	34.0	68	68	10-230	0	20	
1,2,4-Trichlorobenzene	ug/L	0	50	31.8	32.3	64	65	44-142	2	20	
4-Chloro-3-methylphenol	ug/L	0	50	35.0	34.7	70	69	22-147	1	20	
4-Nitrophenol	ug/L	0	50	22.1	21.2	44	42	10-132	5	20	
2,4-Dinitrotoluene	ug/L	0	50	39.8	39.1	80	78	54-133	3	20	
Pentachlorophenol	ug/L	0	50	46.1	46.4	92	93	14-176	1	20	
Nitrobenzene-d5 (S)	%					70	68	10-112	3		
Phenol-d6 (S)	%					36.4	36	10-59	1.1		
2-Fluorobiphenyl (S)	%					61	62	10-116	2		
2-Fluorophenol (S)	%					45	45	28-62	0		
2,4,6-Tribromophenol (S)	%					81	79	48-132	3		
Terphenyl-d14 (S)	%					72	71	20-128	1		

QUALITY CONTROL DATA

QC Batch: EXTO/2118 Analysis Method: SW-846 8081A

QC Batch Method: 3510C

Associated Lab Samples: 904913002 904941002 904941003

METHOD BLANK: 27313

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Pesticides				
alpha-BHC	ug/L	0.000924U	0.000924	
beta-BHC	ug/L	0.00123U	0.00123	
delta-BHC	ug/L	0.000904U	0.000904	
Heptachlor epoxide	ug/L	0.00121U	0.00121	
Endosulfan I	ug/L	0.00103U	0.00103	
4,4'-DDE	ug/L	0.00148U	0.00148	
Endosulfan II	ug/L	0.00103U	0.00103	
4,4'-DDD	ug/L	0.000993U	0.000993	
Endosulfan sulfate	ug/L	0.00279U	0.00279	
Methoxychlor	ug/L	0.000900U	0.000900	
Endrin ketone	ug/L	0.000969U	0.000969	
Endrin aldehyde	ug/L	0.000695U	0.000695	
alpha-Chlordane	ug/L	0.00118U	0.00118	
gamma-Chlordane	ug/L	0.00130U	0.00130	
Toxaphene	ug/L	0.047U	0.047	
gamma-BHC (Lindane)	ug/L	0.000563U	0.000563	
Heptachlor	ug/L	0.00152U	0.00152	
Aldrin	ug/L	0.00139U	0.00139	
Dieldrin	ug/L	0.00106U	0.00106	
Endrin	ug/L	0.00717U	0.00717	
4,4'-DDT	ug/L	0.00120U	0.00120	
Tetrachloro-m-xylene (S)	%	62	32-137	
Decachlorobiphenyl (S)	%	79	25-165	

LABORATORY CONTROL SAMPLE: 27314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pesticides						
alpha-BHC	ug/L	0.1	0.086	86		
beta-BHC	ug/L	0.1	0.109	109		
delta-BHC	ug/L	0.1	0.072	72		
Heptachlor epoxide	ug/L	0.1	0.093	93		
Endosulfan I	ug/L	0.1	0.094I	94		
4,4'-DDE	ug/L	0.1	0.115	115		
Endosulfan II	ug/L	0.1	0.098I	98		
4,4'-DDD	ug/L	0.1	0.151	151		
Endosulfan sulfate	ug/L	0.1	0.120	120		
Methoxychlor	ug/L	0.1	0.185	185		
Endrin ketone	ug/L	0.1	0.130	130		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 27314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin aldehyde	ug/L	0.1	0.106	106		
alpha-Chlordane	ug/L	0.1	0.097	97		
gamma-Chlordane	ug/L	0.1	0.096	96		
Toxaphene	ug/L		0.047U			
gamma-BHC (Lindane)	ug/L	0.1	0.090	90	33-155	
Heptachlor	ug/L	0.1	0.095	95	47-148	
Aldrin	ug/L	0.1	0.087	87	43-149	
Dieldrin	ug/L	0.1	0.095	95	47-162	
Endrin	ug/L	0.1	0.101	101	41-189	
4,4'-DDT	ug/L	0.1	0.119	119	14-228	
Tetrachloro-m-xylene (S)	%			88	32-137	
Decachlorobiphenyl (S)	%			101	25-165	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27315 27316 Original: 904934003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Pesticides											
alpha-BHC	ug/L	0	0.1	0.079	0.061	79	61		26		
beta-BHC	ug/L	0	0.1	0.107	0.080	107	80		29		
delta-BHC	ug/L	0	0.1	0.074	0.055	74	55		29		
Heptachlor epoxide	ug/L	0	0.1	0.089	0.068	89	68		27		
Endosulfan I	ug/L	0	0.1	0.090I	0.070I	90	70		25		
4,4'-DDE	ug/L	0	0.1	0.118	0.092I	118	92		25		
Endosulfan II	ug/L	0	0.1	0.099I	0.078I	99	78		24		
4,4'-DDD	ug/L	0	0.1	0.161	0.127	161	127		24		
Endosulfan sulfate	ug/L	0	0.1	0.125	0.095I	125	95		27		
Methoxychlor	ug/L	0	0.1	0.194	0.146	194	146		28		
Endrin ketone	ug/L	0	0.1	0.133	0.102	133	102		26		
Endrin aldehyde	ug/L	0	0.1	0.088I	0.059I	88	59		39		
alpha-Chlordane	ug/L	0	0.1	0.092	0.071	92	71		26		
gamma-Chlordane	ug/L	0	0.1	0.087	0.068	87	68		25		
Toxaphene	ug/L			0.047U	0.047U						
gamma-BHC (Lindane)	ug/L	0	0.1	0.084	0.063	84	63	33-155	29	20	8
Heptachlor	ug/L	0	0.1	0.088	0.066	88	66	47-148	29	20	8
Aldrin	ug/L	0	0.1	0.080	0.062	80	62	43-149	25	20	8
Dieldrin	ug/L	0	0.1	0.092	0.073	92	73	47-162	23	20	8
Endrin	ug/L	0	0.1	0.100	0.079I	100	79	41-189	23	20	8
4,4'-DDT	ug/L	0	0.1	0.120	0.090I	120	90	14-228	29	20	8
Tetrachloro-m-xylene (S)	%					78	61	32-137	24		
Decachlorobiphenyl (S)	%					97	79	25-165	20		

QUALITY CONTROL DATA

QC Batch: EXTO/2119   Analysis Method: SW-846 8082

QC Batch Method: 3510C

Associated Lab Samples: 904913002

METHOD BLANK: 27317

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
PCBs				
PCB 1221	ug/L	0.014U	0.014	
PCB 1232	ug/L	0.190U	0.190	
PCB 1242	ug/L	0.010U	0.010	
PCB 1248	ug/L	0.00850U	0.00850	
PCB 1254	ug/L	0.014U	0.014	
PCB 1016	ug/L	0.012U	0.012	
PCB 1260	ug/L	0.015U	0.015	
Decachlorobiphenyl (S)	%	113	45-162	
Tetrachloro-m-xylene (S)	%	95	50-125	

LABORATORY CONTROL SAMPLE: 27318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCBs						
PCB 1221	ug/L		0.014U			
PCB 1232	ug/L		0.190U			
PCB 1242	ug/L		0.010U			
PCB 1248	ug/L		0.00850U			
PCB 1254	ug/L		0.014U			
PCB 1016	ug/L	1	0.957	96	12-176	
PCB 1260	ug/L	1	0.802	80	10-180	
Decachlorobiphenyl (S)	%			91	45-162	
Tetrachloro-m-xylene (S)	%			71	50-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27319   27320   Original: 904934004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
PCBs											
PCB 1221	ug/L			0.014U	0.014U						
PCB 1232	ug/L			0.190U	0.190U						
PCB 1242	ug/L			0.010U	0.010U						
PCB 1248	ug/L			0.00850U	0.00850U						
PCB 1254	ug/L			0.014U	0.014U						
PCB 1016	ug/L	0	1	1.04	0.976	104	98	12-176	6	20	
PCB 1260	ug/L	0	1	0.943	0.890	94	89	10-181	5	20	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27319 27320 Original: 904934004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Decachlorobiphenyl (S)	%					110	101	45-162	9		
Tetrachloro-m-xylene (S)	%					75	76	50-125	1		

QUALITY CONTROL DATA

QC Batch: EXTO/2120 Analysis Method: SW-846 8141A
QC Batch Method: 3510C
Associated Lab Samples: 904913002

METHOD BLANK: 27321

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Carbophenothion	ug/L	0.063U	0.063	
Chlorpyrifos	ug/L	0.121U	0.121	
Chlorpyrifos-methyl	ug/L	0.137U	0.137	
Demeton-s	ug/L	0.062U	0.062	
Demeton-o	ug/L	0.041U	0.041	
Crotoxyphos	ug/L	0.078U	0.078	
Dichlorovos	ug/L	0.075U	0.075	
Fenithrothion	ug/L	0.198U	0.198	
Ronnel	ug/L	0.054U	0.054	
Terbufos	ug/L	0.063U	0.063	
Fenthion	ug/L	0.074U	0.074	
Leptophos	ug/L	0.046U	0.046	
Tributyl Phosphate (S)	%	97	44-125	
Triphenyl Phosphate (S)	%	98	43-134	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosphamidon	ug/L	0.311U	0.311	
Aspon	ug/L	0.185U	0.185	
Phorate	ug/L	0.177U	0.177	
Bolstar	ug/L	0.202U	0.202	
Dichlorfenthion	ug/L	0.190U	0.190	
Dioxathion	ug/L	0.110U	0.110	
Naled	ug/L	0.220U	0.220	
Dimethoate	ug/L	0.184U	0.184	
TEPP	ug/L	0.189U	0.189	
Thionazine	ug/L	0.179U	0.179	
EPN	ug/L	0.132U	0.132	
Merphos	ug/L	0.208U	0.208	
Mevinphos	ug/L	0.172U	0.172	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosmet	ug/L	0.102U	0.102	
Disulfoton	ug/L	0.129U	0.129	
Azinphos-ethyl	ug/L	0.130U	0.130	
Coumaphos	ug/L	0.079U	0.079	
Dicrotophos	ug/L	0.175U	0.175	
Famphur	ug/L	0.081U	0.081	
Ethoprop	ug/L	0.068U	0.068	
Ethion	ug/L	0.132U	0.132	

QUALITY CONTROL DATA

METHOD BLANK: 27321

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Tokuthion (Prothiophos)	ug/L	0.106U	0.106	
Trichlorfon	ug/L	1.09U	1.09	

LABORATORY CONTROL SAMPLE: 27322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbophenothion	ug/L	2	2.25	113	21-148	
Chlorpyrifos	ug/L	2	2.10	105	46-133	
Chlorpyrifos-methyl	ug/L	2	2.04	102	44-122	
Demeton-s	ug/L		0.377I			
Crotoxyphos	ug/L	2	2.64	132		
Demeton-o	ug/L		1.82			
Dichlorovos	ug/L	2	2.08	104	12-128	
Fenithrothion	ug/L	2	2.09	104		
Ronnel	ug/L	2	2.03	102	35-126	
Terbufos	ug/L	2	1.96	98	48-124	
Fenthion	ug/L	2	2.10	105		
Leptophos	ug/L	2	2.19	109	11-146	
Tributyl Phosphate (S)	%			101	44-125	
Triphenyl Phosphate (S)	%			120	43-134	

LABORATORY CONTROL SAMPLE: 27322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Phosphamidon	ug/L		0.311U			
Aspon	ug/L		0.185U			
Phorate	ug/L		0.177U			
Bolstar	ug/L		0.202U			
Dichlorfenthion	ug/L		0.190U			
Dioxathion	ug/L		0.110U			
Naled	ug/L		0.220U			
Dimethoate	ug/L		0.184U			
TEPP	ug/L		0.189U			
Thionazine	ug/L		0.179U			
EPN	ug/L		0.132U			
Merphos	ug/L		0.208U			
Mevinphos	ug/L		0.172U			

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 27322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Phosmet	ug/L		0.102U			
Disulfoton	ug/L		0.129U			
Azinphos-ethyl	ug/L		0.130U			
Coumaphos	ug/L		0.079U			
Dicrotophos	ug/L		0.175U			
Famphur	ug/L		0.081U			
Ethoprop	ug/L		0.068U			
Ethion	ug/L		0.132U			
Tokuthion (Prothiophos)	ug/L		0.106U			
Trichlorfon	ug/L		1.09U			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27323 27324 Original: 904934005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Carbophenothion	ug/L	0	2	1.98	2.18	99	109	21-148	10	20	
Chlorpyrifos	ug/L	0	2	2.07	2.00	104	100	46-133	4	20	
Chlorpyrifos-methyl	ug/L	0	2	2.07	2.00	104	100	44-122	4	20	
Demeton-s	ug/L			0.360I	0.381I						
Crotoxyphos	ug/L	0	2	2.57	2.42	129	121		6		
Demeton-o	ug/L			1.80	1.81						
Dichlorovos	ug/L	0	2	2.09	2.16	104	108	12-128	4	20	
Fenithrothion	ug/L	0	2	2.06	2.17	103	109		6		
Ronnel	ug/L	0	2	2.01	2.00	101	100	35-126	1	20	
Terbufos	ug/L	0	2	2.03	1.99	101	100	48-124	1	20	
Fenthion	ug/L	0	2	2.05	2.04	103	102		1		
Leptophos	ug/L	0	2	2.06	1.93	103	97	11-146	6	20	
Tributyl Phosphate (S)	%					109	102	44-125			
Triphenyl Phosphate (S)	%					112	106	43-134			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27323 27324 Original: 904934005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Phosphamidon	ug/L			0.311U	0.311U						
Aspon	ug/L			0.185U	0.185U						
Phorate	ug/L			0.177U	0.177U						
Bolstar	ug/L			0.202U	0.202U						
Dichlorfenthion	ug/L			0.190U	0.190U						
Dioxathion	ug/L			0.110U	0.110U						
Naled	ug/L			0.220U	0.220U						
Dimethoate	ug/L			0.184U	0.184U						

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27323 27324 Original: 904934005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TEPP	ug/L			0.189U	0.189U						
Thionazine	ug/L			0.179U	0.179U						
EPN	ug/L			0.132U	0.132U						
Merphos	ug/L			0.208U	0.208U						
Mevinphos	ug/L			0.172U	0.172U						

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27323 27324 Original: 904934005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Phosmet	ug/L			0.102U	0.102U						
Disulfoton	ug/L			0.129U	0.129U						
Azinphos-ethyl	ug/L			0.130U	0.130U						
Coumaphos	ug/L			0.079U	0.079U						
Dicrotophos	ug/L			0.175U	0.175U						
Famphur	ug/L			0.081U	0.081U						
Ethoprop	ug/L			0.068U	0.068U						
Ethion	ug/L			0.132U	0.132U						
Tokuthion (Prothiophos)	ug/L			0.106U	0.106U						
Trichlorfon	ug/L			1.09U	1.09U						

QUALITY CONTROL DATA

QC Batch: EXTO/2121
Analysis Method: SW-846 8151A
QC Batch Method: 3510C
Associated Lab Samples: 904913002

METHOD BLANK: 27325

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Dinoseb	ug/L	0.509U	0.509	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Herbicides				
2,4-D	ug/L	0.406U	0.406	
2,4,5-T	ug/L	0.345U	0.345	
2,4,5-TP (Silvex)	ug/L	0.492U	0.492	
Dalapon	ug/L	0.509U	0.509	
Dicamba	ug/L	0.369U	0.369	
Dichlorprop	ug/L	0.399U	0.399	
MCPA	ug/L	47.7U	47.7	
MCPP	ug/L	98.0U	98.0	
DCAA (S)	%	75	46-142	

LABORATORY CONTROL SAMPLE: 27326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dinoseb	ug/L	5	2.90	58		

LABORATORY CONTROL SAMPLE: 27326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Herbicides						
2,4-D	ug/L	5	4.41	88	29-146	
2,4,5-T	ug/L	5	4.37	87	29-156	
2,4,5-TP (Silvex)	ug/L	5	4.51	90	30-180	
MCPA	ug/L	500	397	79		
Dalapon	ug/L	5	3.54	71		
Dicamba	ug/L	5	3.82	76	35-135	
Dichlorprop	ug/L	5	4.07	81	36-148	
MCPP	ug/L		388			
DCAA (S)	%			84	46-142	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27327 27328 Original: 904934006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Dinoseb	ug/L	0	5	2.98	2.98	60	60		0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27327 27328 Original: 904934006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Herbicides											
2,4-D	ug/L	0	5	4.71	5.02	94	100	29-146	6	20	
2,4,5-T	ug/L	0	5	4.68	4.87	94	97	29-157	3	20	
2,4,5-TP (Silvex)	ug/L	0	5	4.79	5.01	96	100	30-180	4	20	
MCPA	ug/L	0	500	442	449	88	90		2		
Dalapon	ug/L	0	5	4.06	4.70	81	94		15		
Dicamba	ug/L	0	5	4.23	4.40	85	88	35-135	3	20	
Dichlorprop	ug/L	0	5	4.49	4.50	90	90	36-148	0	20	
MCPP	ug/L			455	449						
DCAA (S)	%					93	96	46-142	3		

QUALITY CONTROL DATA

QC Batch: EXTO/2122 Analysis Method: EPA 1664A

QC Batch Method: EPA 1664A

Associated Lab Samples: 904913002 904916001 904919001 904920001 904927001 904928001 904932001 904933001

METHOD BLANK: 27329

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Oil and Grease	mg/L	1.4U	1.4	

LABORATORY CONTROL SAMPLE: 27330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Oil and Grease	mg/L	200	188	94	78-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27331 27332 Original: 904934007

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Oil and Grease	mg/L	1.2	200	189	190	95	95	70-130	0	20	

QUALITY CONTROL DATA

QC Batch: DIGM/1920 Analysis Method: SW-846 6010

QC Batch Method: SW-846 3010A

Associated Lab Samples:
904776001 904776003 904776005 904776007 904833001 904833002
904833003 904840001 904840002 904840003 904841002 904841003
904845001 904913002

METHOD BLANK: 27350

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Antimony	mg/l	0.0038U	0.0038	
Arsenic	mg/l	0.0046U	0.0046	
Beryllium	mg/l	0.00067U	0.00067	
Cadmium	mg/l	0.00057U	0.00057	
Chromium	mg/l	0.0011U	0.0011	
Copper	mg/l	0.0096U	0.0096	
Lead	mg/l	0.0031U	0.0031	
Nickel	mg/l	0.0052U	0.0052	
Selenium	mg/l	0.0054U	0.0054	
Silver	mg/l	0.0016U	0.0016	
Zinc	mg/l	0.0053U	0.0053	

LABORATORY CONTROL SAMPLE: 27351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Antimony	mg/l	1	0.998	100	80-120	
Arsenic	mg/l	1	1.01	101	80-120	
Beryllium	mg/l	1	0.990	99	80-120	
Cadmium	mg/l	1	0.999	100	80-120	
Chromium	mg/l	1	0.984	98	80-120	
Copper	mg/l	1	0.997	100	80-120	
Lead	mg/l	1	0.994	99	80-120	
Nickel	mg/l	1	0.985	98	80-120	
Selenium	mg/l	1	0.979	98	80-120	
Silver	mg/l	0.5	0.507	101	80-120	
Zinc	mg/l	1	1.01	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27352 27353 Original: 904913002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Antimony	mg/l	0	1	1.10	1.10	110	110		0		

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27352 27353 Original: 904913002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Arsenic	mg/l	0.00266	1	1.15	1.15	115	115		0		
Beryllium	mg/l	0	1	0.927	0.923	93	92		1		
Cadmium	mg/l	0	1	1.14	1.13	114	113		0.9		
Chromium	mg/l	0.00036	1	0.879	0.871	88	87		1		
Copper	mg/l	0	1	0.894	0.881	89	88		1		
Lead	mg/l	0.00334	1	0.862	0.860	86	86		0		
Nickel	mg/l	0	1	0.889	0.885	89	89		0		
Selenium	mg/l	0	1	1.12	1.12	112	112		0		
Silver	mg/l	0	0.5	0.670	0.670	134	134		0		
Zinc	mg/l	0.024	1	1.17	1.17	114	114		0		

QUALITY CONTROL DATA

QC Batch: DIGM/1922 Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Associated Lab Samples: 904765001 904765002 904782002 904825001 904913002

METHOD BLANK: 27358

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Thallium	mg/L	0.00027U	0.00027	

LABORATORY CONTROL SAMPLE: 27359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Thallium	mg/L	0.2	0.206	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27360 27361 Original: 904825001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Thallium	mg/L	0.00064	0.2	0.220	0.226	110	113	70-130	3	20	

QUALITY CONTROL DATA

QC Batch: TOC/1122 Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Associated Lab Samples:					
904816001	904816002	904831001	904853001	904901001	904902001
904902002	904902003	904902004	904902005	904902006	904902007
904902008	904913002	904939001	904939002	904939003	

METHOD BLANK: 27400

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Organic Carbon	mg/L	0.60U	0.60	

LABORATORY CONTROL SAMPLE: 27401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Total Organic Carbon	mg/L	80	87.5	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27403 27404 Original: 904816001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Organic Carbon	mg/L	19	80	105	104	107	106	90-110	0.9	10	

QUALITY CONTROL DATA

QC Batch: INPR/1669 Analysis Method: SW-846 9012A

QC Batch Method: EPA 335.2

Associated Lab Samples: 904825001 904892001 904892003 904913002 904917001 904917002 904917003 904917004 904920001 904939004

METHOD BLANK: 27410

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Cyanide	mg/L	0.0032U	0.0032	

LABORATORY CONTROL SAMPLE & LCSD: 27411 27412

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Cyanide	mg/L	0.2	0.2013	0.1981	101	99	90-110	2	20	

MATRIX SPIKE SAMPLE: 27413 Original: 904825001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Wet Chemistry							
Total Cyanide	mg/L	0.0058	0.2	0.2042	99	90-110	

MATRIX SPIKE SAMPLE: 27415 Original: 904920001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Wet Chemistry							
Total Cyanide	mg/L	0.0038	0.2	0.2075	104	90-110	

QUALITY CONTROL DATA

QC Batch: MSV/1665 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 8260B

Associated Lab Samples: 904913001 904913002 904947001 904947002 904947003 904947004

METHOD BLANK: 27497

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Volatiles				
Acetone	ug/L	1.43U	1.43	
Acrolein	ug/L	2.47U	2.47	
Acrylonitrile	ug/L	0.955U	0.955	
Bromochloromethane	ug/L	0.637U	0.637	
Bromodichloromethane	ug/L	0.100U	0.100	
Bromoform	ug/L	0.486U	0.486	
Bromomethane	ug/L	0.427U	0.427	
Carbon disulfide	ug/L	0.650U	0.650	
Carbon tetrachloride	ug/L	0.468U	0.468	
Chloroethane	ug/L	1.00U	1.00	
Xylene, m,p-	ug/L	0.639U	0.639	
Chloroform	ug/L	0.572U	0.572	
Chloromethane	ug/L	0.524U	0.524	
Dibromochloromethane	ug/L	0.378U	0.378	
Dibromomethane	ug/L	0.739U	0.739	
Dichlorodifluoromethane	ug/L	0.525U	0.525	
1,1-Dichloroethane	ug/L	0.410U	0.410	
1,2-Dichloroethane	ug/L	0.897U	0.897	
cis-1,2-Dichloroethene	ug/L	0.442U	0.442	
trans-1,2-Dichloroethene	ug/L	0.410U	0.410	
Methylene chloride	ug/L	0.580U	0.580	
1,2-Dichloropropane	ug/L	0.725U	0.725	
cis-1,3-Dichloropropene	ug/L	0.664U	0.664	
trans-1,3-Dichloropropene	ug/L	0.522U	0.522	
Ethylbenzene	ug/L	0.323U	0.323	
2-Hexanone	ug/L	1.83U	1.83	
Isopropylbenzene (Cumene)	ug/L	0.528U	0.528	
2-Butanone	ug/L	4.28U	4.28	
4-Methyl-2-pentanone	ug/L	0.220U	0.220	
n-Propylbenzene	ug/L	0.624U	0.624	
Styrene	ug/L	0.458U	0.458	
Tetrachloroethene	ug/L	0.312U	0.312	
1,1,1,2-Tetrachloroethane	ug/L	0.120U	0.120	
1,1,2,2-Tetrachloroethane	ug/L	0.572U	0.572	
1,2,4-Trichlorobenzene	ug/L	0.538U	0.538	
1,1,1-Trichloroethane	ug/L	0.682U	0.682	
1,1,2-Trichloroethane	ug/L	0.841U	0.841	
Trichlorofluoromethane	ug/L	1.00U	1.00	
1,2,3-Trichloropropane	ug/L	0.160U	0.160	
1,2,4-Trimethylbenzene	ug/L	0.508U	0.508	
1,3,5-Trimethylbenzene	ug/L	0.477U	0.477	
Vinyl chloride	ug/L	0.506U	0.506	
Xylene, o-	ug/L	0.341U	0.341	

QUALITY CONTROL DATA

METHOD BLANK: 27497

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	0.933U	0.933	
1,2-Dibromoethane	ug/L	0.345U	0.345	
Vinyl acetate	ug/L	0.570U	0.570	
Methyl-t-butyl ether	ug/L	0.650U	0.650	
4-Isopropyltoluene	ug/L	0.380U	0.380	
2,2-Dichloropropane	ug/L	0.700U	0.700	
1,1-Dichloropropene	ug/L	0.632U	0.632	
2-Chloroethylvinyl ether	ug/L	0.470U	0.470	
1,3-Dichloropropane	ug/L	0.345U	0.345	
Bromobenzene	ug/L	0.382U	0.382	
2-Chlorotoluene	ug/L	0.550U	0.550	
4-Chlorotoluene	ug/L	0.570U	0.570	
tert-Butylbenzene	ug/L	0.607U	0.607	
sec-Butylbenzene	ug/L	0.521U	0.521	
1,3-Dichlorobenzene	ug/L	0.558U	0.558	
1,4-Dichlorobenzene	ug/L	0.537U	0.537	
n-Butylbenzene	ug/L	0.564U	0.564	
1,2-Dichlorobenzene	ug/L	0.584U	0.584	
Hexachlorobutadiene	ug/L	0.763U	0.763	
Naphthalene	ug/L	0.417U	0.417	
1,2,3-Trichlorobenzene	ug/L	0.686U	0.686	
1,1-Dichloroethene	ug/L	0.638U	0.638	
Benzene	ug/L	0.621U	0.621	
Trichloroethene	ug/L	0.821U	0.821	
Toluene	ug/L	0.389U	0.389	
Chlorobenzene	ug/L	0.316U	0.316	
4-Bromofluorobenzene (S)	%	106	64-130	
Dibromofluoromethane (S)	%	113	69-134	
Toluene d8 (S)	%	97	63-127	
Xylenes (total)	ug/L	0.980U	0.980	

LABORATORY CONTROL SAMPLE & LCSD: 27498 27499

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles										
Acetone	ug/L	50	54.7	53.8	109	108		0.9		
Acrolein	ug/L	100	54.6	55.9	55	56		2		
Acrylonitrile	ug/L	100	98.2	94.8	98	95		3		
Bromochloromethane	ug/L	20	18.9	17.4	95	87		9		
Bromodichloromethane	ug/L	20	20.0	19.8	100	99		1		
Bromoform	ug/L	20	20.5	20.3	102	102		0		
Bromomethane	ug/L	20	15.4	18.4	77	92		18		
Carbon disulfide	ug/L	20	17.8	17.1	89	85		5		
Carbon tetrachloride	ug/L	20	24.3	23.9	122	120		2		
Chloroethane	ug/L	20	24.1	24.0	121	120		0.8		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE & LCSD: 27498 27499

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Xylene, m,p-	ug/L	40	42.7	43.3	107	108		0.9		
Chloroform	ug/L	20	20.8	19.9	104	100		4		
Chloromethane	ug/L	20	17.2	16.3	86	82		5		
Dibromochloromethane	ug/L	20	22.0	22.1	110	111		0.9		
Dibromomethane	ug/L	20	20.1	19.7	100	99		1		
Dichlorodifluoromethane	ug/L	20	22.3	21.3	111	107		4		
1,1-Dichloroethane	ug/L	20	20.2	19.9	101	100		1		
1,2-Dichloroethane	ug/L	20	23.0	22.5	115	113		2		
cis-1,2-Dichloroethene	ug/L	20	19.6	18.9	98	94		4		
trans-1,2-Dichloroethene	ug/L	20	20.8	19.8	104	99		5		
Methylene chloride	ug/L	20	19.1	18.9	96	94		2		
1,2-Dichloropropane	ug/L	20	18.8	18.5	94	93		1		
cis-1,3-Dichloropropene	ug/L	20	20.0	19.6	100	98		2		
trans-1,3-Dichloropropene	ug/L	20	20.0	19.7	100	98		2		
Ethylbenzene	ug/L	20	21.0	21.2	105	106		0.9		
2-Hexanone	ug/L	50	60.5	62.0	121	124		2		
Isopropylbenzene (Cumene)	ug/L	20	18.0	18.1	90	91		1		
2-Butanone	ug/L	50	55.8	53.3	112	107		5		
4-Methyl-2-pentanone	ug/L	50	52.7	54.5	105	109		4		
n-Propylbenzene	ug/L	20	19.3	19.9	97	100		3		
Styrene	ug/L	20	20.1	20.5	100	102		2		
Tetrachloroethene	ug/L	20	22.1	22.8	111	114		3		
1,1,1,2-Tetrachloroethane	ug/L	20	22.1	22.5	110	113		3		
1,1,2,2-Tetrachloroethane	ug/L	20	17.6	17.8	88	89		1		
1,2,4-Trichlorobenzene	ug/L	20	20.5	20.7	103	104		1		
1,1,1-Trichloroethane	ug/L	20	22.4	22.9	112	115		3		
1,1,2-Trichloroethane	ug/L	20	18.9	18.2	94	91		3		
Trichlorofluoromethane	ug/L	20	19.5	19.4	98	97		1		
1,2,3-Trichloropropane	ug/L	20	21.4	22.2	107	111		4		
1,2,4-Trimethylbenzene	ug/L	20	21.6	22.1	108	111		3		
1,3,5-Trimethylbenzene	ug/L	20	20.5	21.4	103	107		4		
Vinyl chloride	ug/L	20	23.2	23.4	116	117		0.9		
Xylene, o-	ug/L	20	19.3	19.8	96	99		3		
1,2-Dibromo-3-chloropropane	ug/L	20	19.4	21.0	97	105		8		
1,2-Dibromoethane	ug/L	20	20.3	20.3	101	101		0		
Vinyl acetate	ug/L	20	16.2	16.4	81	82		1		
Methyl-t-butyl ether	ug/L	20	20.7	20.6	103	103		0		
4-Isopropyltoluene	ug/L	20	19.4	19.8	97	99		2		
2,2-Dichloropropane	ug/L	20	22.6	22.4	113	112		0.9		
1,1-Dichloropropene	ug/L	20	23.6	23.1	118	115		3		
2-Chloroethylvinyl ether	ug/L	20	16.9	17.6	85	88		3		
1,3-Dichloropropane	ug/L	20	19.8	20.1	99	101		2		
Bromobenzene	ug/L	20	18.5	18.0	92	90		2		
2-Chlorotoluene	ug/L	20	19.2	19.9	96	100		4		
4-Chlorotoluene	ug/L	20	19.0	19.6	95	98		3		
tert-Butylbenzene	ug/L	20	20.2	21.0	101	105		4		
sec-Butylbenzene	ug/L	20	20.1	20.9	100	105		5		
1,3-Dichlorobenzene	ug/L	20	19.1	19.6	95	98		3		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE & LCSD: 27498 27499

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ug/L	20	18.7	19.2	94	96		2		
n-Butylbenzene	ug/L	20	21.5	21.9	108	110		2		
1,2-Dichlorobenzene	ug/L	20	19.1	19.6	96	98		2		
Hexachlorobutadiene	ug/L	20	21.6	22.6	108	113		5		
Naphthalene	ug/L	20	18.5	18.7	92	94		2		
1,2,3-Trichlorobenzene	ug/L	20	20.7	22.0	104	110		6		
1,1-Dichloroethene	ug/L	20	20.9	19.8	104	99	62-141	5	20	
Benzene	ug/L	20	17.7	17.4	88	87	65-141	1	20	
Trichloroethene	ug/L	20	20.1	20.6	100	103	65-140	3	20	
Toluene	ug/L	20	19.2	18.6	96	93	64-139	3	20	
Chlorobenzene	ug/L	20	19.9	20.1	100	101	48-146	1	20	
4-Bromofluorobenzene (S)	%				94	95	64-130	1		
Dibromofluoromethane (S)	%				111	108	69-134	3		
Toluene d8 (S)	%				100	99	63-127	1		
Xylenes (total)	ug/L		61.9	63.0						

QUALITY CONTROL DATA

QC Batch: MICP/1402 Analysis Method: SM 5210B BOD

QC Batch Method: BOD PREP

Associated Lab Samples: 904849001 904850001 904913002

METHOD BLANK: 27635

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
BOD	mg/L	2.0U	2.0	

LABORATORY CONTROL SAMPLE: 27637

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
BOD	mg/L	198	174	88	70-130	

SAMPLE DUPLICATE: 27638 Original: 904850001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
BOD	mg/L	236	233	1	20	

QUALITY CONTROL DATA

QC Batch: SOLI/1761 Analysis Method: SM 2540 D

QC Batch Method: SM 2540 D

Associated Lab Samples:						
	904769002	904833001	904847002	904848001	904848002	904849001
	904850001	904852001	904852002	904860001	904860002	904878001
	904911001	904911002	904912001	904913002	904932001	904933001
	904956001					

METHOD BLANK: 27771

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Suspended Solids	mg/L	1.0U	1.0	

SAMPLE DUPLICATE: 27772 Original: 904848001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Suspended Solids	mg/L	30.8	30.3	1.6	20	

QUALITY CONTROL DATA

QC Batch: MISC/1211
Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4

Associated Lab Samples:						
	904354001	904852001	904852002	904913002	904916001	904919002
	904973001	904973002	904973003	905024002	905041001	905049001

METHOD BLANK: 27777

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
COD	mg/L	6.7U	6.7	

LABORATORY CONTROL SAMPLE & LCSD: 27778 27779

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
COD	mg/L	200	202	194	101	97	90-110	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27780 27781 Original: 904973003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
COD	mg/L	27	200	220	216	96	94	90-110	2	20	

QUALITY CONTROL DATA

QC Batch:	HACH/1218		Analysis Method:	SM 4500-S F(20th Ed.)		
QC Batch Method:	SM 4500-S F(20th Ed.)					
Associated Lab Samples:	904913002	904941002	904941003	904941004	905041001	905107001

METHOD BLANK: 27782

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Sulfide	mg/L	0.050U	0.050	

LABORATORY CONTROL SAMPLE: 27783

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Sulfide	mg/L	10	8.80	88	70-130	

SAMPLE DUPLICATE: 27784 Original: 904905002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Sulfide	mg/L	0.050U	0.050U	0	20	

QUALITY CONTROL DATA

QC Batch: INPR/1675 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Associated Lab Samples:
904875001 904875002 904875003 904876001 904879001 904879002
904882001 904882002 904883003 904884002 904888003 904890001
904890002 904891001 904913002 904924001 904924002 905020041
905020042

METHOD BLANK: 27809

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Phosphorus	mg/L	0.004U	0.004	

LABORATORY CONTROL SAMPLE & LCSD: 27810 27811

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Phosphorus	mg/L	0.5	0.480	0.488	95.9	97.7	90-110	1.9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27812 27813 Original: 905020041

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Phosphorus	mg/L	2.23	2.5	4.74	4.70	100	98.7	90-110	1.3	20	Q

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27814 27815 Original: 904879001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Phosphorus	mg/L	0.003	0.5	0.513	0.509	103	102	90-110	0.98	20	

QUALITY CONTROL DATA

QC Batch: LACH/2194 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Associated Lab Samples:					
904873001	904873002	904873003	904875001	904875002	904875003
904876001	904878002	904879001	904879002	904882001	904882002
904890001	904890002	904891001	904913002	905020041	905020042

METHOD BLANK: 27867

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Ammonia	mg/L	0.017U	0.017	

LABORATORY CONTROL SAMPLE & LCSD: 27868 27869

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Ammonia	mg/L	2.5	2.73	2.73	109	109	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27872 27873 Original: 904878002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Ammonia	mg/L	0	2.5	2.62	2.62	105	105	90-110	0	20	

QUALITY CONTROL DATA

QC Batch: INPR/1684 Analysis Method: EPA 351.2

QC Batch Method: EPA 351.2

Associated Lab Samples:

904879001	904879002	904882001	904882002	904883003	904884002
904888003	904890001	904890002	904891001	904911001	904911002
904912001	904913002	904941001	904965002	904968001	

METHOD BLANK: 27996

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Kjeldahl Nitrogen	mg/L	0.22U	0.22	

LABORATORY CONTROL SAMPLE & LCSD: 27997 27998

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Kjeldahl Nitrogen	mg/L	5	5.01	4.99	100	99.8	90-110	0.2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 27999 28000 Original: 904882001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Kjeldahl Nitrogen	mg/L	0.877	5	6.27	5.35	108	89.5	90-110	18.7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28602 28603 Original: 904890001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Kjeldahl Nitrogen	mg/L	1.15	5	6.44	6.68	106	111	90-110	4.6	20	

QUALITY CONTROL DATA

QC Batch: ALKA/1111 Analysis Method: SM 2320 B

QC Batch Method: SM 2320 B

Associated Lab Samples: 904913002 904959001 904965001 904965002 904973001 904973002 904973003 904974001 904974002 904977001 904977002 904990001 904990002 904990003

METHOD BLANK: 28011

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Alkalinity	mg/L	0.02U	0.02	

LABORATORY CONTROL SAMPLE & LCSD: 28012 28013

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Alkalinity	mg/L	250	244	240	98	96	90-110	2	20	

SAMPLE DUPLICATE: 28635 Original: 904913002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Alkalinity	mg/L	150	148	1		

QUALITY CONTROL DATA

QC Batch: DIGM/1953   Analysis Method: SW-846 7470

QC Batch Method: SW-846 7470

Associated Lab Samples: 904913002 905010001 905116002 905116005 905136002 905146003
905146005 905146007 905146009 905146011 905146013 905146015
905146017

METHOD BLANK: 28227

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Mercury	mg/L	0.00013U	0.00013	

LABORATORY CONTROL SAMPLE: 28228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Mercury	mg/L	0.002	0.00182	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28229 28230 Original: 904905002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Mercury	mg/L	-0.00013	0.002	0.00190	0.00203	95	102	75-125	7	20	

QUALITY CONTROL DATA

QC Batch: IC/1308 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:					
904861001	904861002	904863001	904863002	904866001	904869001
904870001	904872001	904872002	904872003	904913002	904918001
904918002	904918003	904918006	904983001	904983002	904983003

METHOD BLANK: 28265

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Sulfate	mg/L	0.164I	0.076	

LABORATORY CONTROL SAMPLE & LCSD: 28266 28267

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Sulfate	mg/L	7.5	7.23	7.22	96	96	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28268 28269 Original: 904983001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Sulfate	mg/L	449	75	560	563	148	152	90-110	3	20	

QUALITY CONTROL DATA

QC Batch: IC/1310 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:					
904861001	904861002	904863001	904863002	904869001	904870001
904893001	904913002	904918001	904918002	904918003	904995001
904995002	905193001	905193002	905195003	905197001	905197002
905212004					

METHOD BLANK: 28318

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Chloride	mg/L	0.066U	0.066	

LABORATORY CONTROL SAMPLE & LCSD: 28319 28320

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Chloride	mg/L	5	4.91	4.96	98	99	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 28321 28322 Original: 905193002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Chloride	mg/L			243	243				0.82	20	

QUALITY CONTROL DATA QUALIFIERS

QUALITY CONTROL PARAMETER QUALIFIERS

Q	Holding time exceeded.
[6]	MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.
[8]	NCR-% RPD exceeds control limits

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
904913002	PW-1	EPA 365.1	LACH/2178		
904913002	PW-1	EPA 300.0	IC/1297		
904913002	PW-1	SM 2540 C	SOLI/1753		
904913002	PW-1	SM 2130 B	MISC/1205		
904913002	PW-1	SM 5540 C	INPR/1668	SM 5540 C	HACH/1214
904913002	PW-1	3510C	EXTO/2116	SW-846 8270C low PAH	MSSV/1383
904913002	PW-1	3510C	EXTO/2117	SW-846 8270C	MSSV/1381
904913002	PW-1	3510C	EXTO/2118	SW-846 8081A	GCSV/1613
904913002	PW-1	3510C	EXTO/2119	SW-846 8082	GCSV/1619
904913002	PW-1	3510C	EXTO/2120	SW-846 8141A	GCSV/1624
904913002	PW-1	3510C	EXTO/2121	SW-846 8151A	GCSV/1618
904913002	PW-1	EPA 1664A	EXTO/2122		
904913002	PW-1	SW-846 3010A	DIGM/1920	SW-846 6010	ICP/1551
904913002	PW-1	EPA 200.8	DIGM/1922	EPA 200.8	ICPM/1117
904913002	PW-1	SM 5310B	TOC/1122		
904913002	PW-1	SW-846 9012A	INPR/1669	SW-846 9012A	LACH/2181
904913001	TRIP BLANK	SW-846 8260B	MSV/1665		

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
904913002	PW-1	SW-846 8260B	MSV/1665		
904913002	PW-1	BOD PREP	MICP/1402	SM 5210B BOD	BOD/1344
904913002	PW-1	SM 2540 D	SOLI/1761		
904913002	PW-1	EPA 410.4	MISC/1211		
904913002	PW-1	SM 4500-S F(20th Ed.)	HACH/1218		
904913002	PW-1	EPA 365.1	INPR/1675	EPA 365.1	LACH/2208
904913002	PW-1	EPA 350.1	LACH/2194		
904913002	PW-1	EPA 120.1	SPCD/1040		
904913002	PW-1	EPA 351.2	INPR/1684	EPA 351.2	LACH/2228
904913002	PW-1	SM 2320 B	ALKA/1111		
904913002	PW-1	SW-846 7470	DIGM/1953	SW-846 7470	HG/1107
904913002	PW-1	EPA 300.0	IC/1308		
904913002	PW-1	EPA 300.0	IC/1310		
904913002	PW-1	903.1	S_17/	903.1	S_17/
904913002	PW-1	EPA 100.2	S_09/	EPA 100.2	S_09/
904913002	PW-1	EPA 300.1	S_05/	EPA 300.1	S_05/
904913002	PW-1	EPA 7063 mod	S_36/	EPA 7063 mod	S_36/
904913002	PW-1	RA-05	S_17/	RA-05	S_17/
904913002	PW-1	RSK 175	S_15/	RSK 175	S_15/

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CHAIN OF CUSTODY RECORD

Log# 904913 T#S___ Quote:________ Page 1 of 3

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other____________
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other____
Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other_________ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO3	F. MeOH	J. MCAA
C. H2SO4	G. Na2S2O3	K. Zn Acetate
D. NaOH	H. NaHSO4	O. Other

Company Name: HDR PO#
Address:
City: State: Zip:
Attn: Deborah Daugh Fax#
email: deborah.daugh@hdrinc.com
Project Name: FPL Proj#
Sampler Signature: Deb Daugh Phone# 813-382-5677

LAB ANALYSIS

Sample / TRC / pH / Pres Codes

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters	8081	8082	O&G	8270	NO3, MBAS, NO2	PP Metals	CN	TKN, OD, TP	H2S	EXAMPLE Diss.8RCRA 6010	REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1		# of Containers Size/Type									1 16ozP	
_1	Trip Blank			AFW			1		1	1	1	4 v	1	1	1	1	1		
_2	PW-1	5/5/09	0935	GW															
_3																			
_4																			
_5																			
_6																			
_7																			
_8																			
_9																			
_0																			

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
Y/N	N/A Date Required	Y ✓ N___	None___ 1___ 2___ 3___ Other___	Y N			___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
		GAS	4-9-09	1110	Deb Daugh	HDR	5-5-09	1200
	Deb Daugh	HDR	5-5-09	1230	BN	GAS	5/6/09	10:15

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?			
Received on Wet Ice? Temp 4 °c			
Proper Preservatives Indicated?			
Received within holding time?			
Custody seals intact?			
Volatile rec'd without headspace?			
Proper Containers Used?			

ORIGINAL

198018

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CHAIN OF CUSTODY RECORD

Log# 904913 T#S___ Quote:______ Page 2 of 3

Company Name: HDR PO#
Address:
City: State: Zip:
Attn: Deborah Daigl Fax#
email: deborah.daigl@hdrinc.com
Project Name: FPL Proj# 101650
Sampler Signature: Deb Daigl Phone# 813-382-5677

LAB ANALYSIS

Sample									
TRC									
pH									
Pres Codes									
Parameters	OPO4 PF	BOD	8260	8141	8151	Bromide, Alk, turb, cond, SO4, FL, TDS, TSS, CL	TOC	Bromide	trivalent Arsenic

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK (Y/N)	Total # of containers	OPO4 PF	BOD	8260	8141	8151	Bromide, Alk, turb, cond, SO4, FL, TDS, TSS, CL	TOC	Bromide	trivalent Arsenic	EXAMPLE Diss.8RCRA 6010	REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1							# of Containers Size/Type			1 16ozP	
1	PW-1	5/5/09	0930	GW				1	1	2 VOA	1	1	1	1	1	2		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
0																		

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
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SJ	Soil Jar	G	Gallon Jug

Other______
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other____
Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other____ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. Zn Acetate
D. NaOH	H. $NaHSO_4$	O. Other

T.A.T. REQUEST Standard	T.A.T. REQUEST Rush	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
[✓ Y] N	N/A Date Required	Y ✓ N___	None__ 1__ 2__ 3__ Other__	[✓ Y] N	GN		__ __ __ __ __

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Deb Daigl	HDR	5-5-09	1230				
					GN		5/6/9	10:15

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 4 °c	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatile rec'd without headspace?	✓		
Proper Containers Used?	✓		

ORIGINAL

198020

Genapure Telephone:888-862-LABS or 561-447-7373 Fax: 888-456-4846 or 561-447-6136 Revision G101007

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CHAIN OF CUSTODY RECORD

Log# 904913 T#S___ Quote:________ Page 3 of 3

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
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CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other________

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other____

Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Company Name: HDR PO#

Address:

City: State: Zip:

Attn: deborahdaigh Fax#

email: deborah.daigh@hdrinc.com

Project Name FPL Proj# 101656

Sampler Signature Phone# 813-382-5277

LAB ANALYSIS

								Sample										
								TRC										
								pH										
								Pres Codes										
#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters	Asbestos	Dissolved Gases	Rad 226/228						EXAMPLE Diss.8RCRA 6010	REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1									# of Containers Size/Type	1 16ozP	
1	PW-1	5/5/09	0930	GW					1	2 VOA								
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
0																		

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other________ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. Zn Acetate
D. NaOH	H. $NaHSO_4$	O. Other

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
Y/N	Date Required	Y____ N____	None___ 1___ 2___ 3___ Other___	[✓ Y] N	GN		___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Deb Dayl	HDR	5-5-05	1230				
					GN	GAS	5/6/09	10:15

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 4 °c	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatile rec'd without headspace?	✓		
Proper Containers Used?			

ORIGINAL

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198019

Genapure Analytical Services, Inc.
3231 NW 7th Avenue
Boca Raton, FL 33431

Phone: (561) 447-7373
Fax: (561) 447-7374

April 30, 2009

DEBORAH DAIGLE
HDR ENGINEERING
5426 BAY CENTER DR.
SUITE 400
Tampa, FL 33609

RE:
Workorder: 904015
Project: FPL

Dear DEBORAH DAIGLE:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, April 14, 2009. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Neshmah Castaneda
ncastaneda@genapure.com
Project Manager

FL-NELAC E86240

Statement of uncertainty is available upon request.
FL Qualifiers: I=value between MDL and PQL; V=value was positive in Blank; J=estimated value.See comment;
U=undetected; Q=out of hold
EPA Qualifiers: B=value was positive in Blank; J=estimated value. May be between MDL and PQL;
U=undetected; Q=out of hold
Enclosures

SAMPLE SUMMARY

Lab ID	Sample ID	Collector	Matrix	Date Collected	Date Received	Temp
904015001	PW-1	CL	Groundwater	4/13/2009 16:00	4/14/2009 10:00	4
904015002	TRIP BLANK	CL	DI Water	4/13/2009 16:00	4/14/2009 10:00	4

ANALYTICAL RESULTS

Lab ID: **904015001**
Sample ID: **PW-1/**
Date Received: 4/14/2009 Matrix: Groundwater
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Wet Chemistry									
Analytical Method: SM 2540 C									
Total Dissolved Solids(TDS)	35800		mg/L	350	500	50		4/16/2009 16:30	AR
Preparation Method: EPA 351.2	Analytical Method: EPA 351.2								
Total Kjeldahl Nitrogen	0.379	I	mg/L	0.22	0.40	1	4/20/2009 16:00	4/22/2009 12:49	IG
Analytical Method: EPA 350.1									
Ammonia	0.133		mg/L	0.017	0.050	1		4/21/2009 12:22	IG
Analytical Method: EPA 300.0									
Bromide	101		mg/L	0.522	5.00	10		4/15/2009 03:03	AD
Chloride	20700		mg/L	199	1500	3000		4/24/2009 15:28	AD
Fluoride	0.300	U	mg/L	0.300	2.00	10		4/15/2009 03:03	AD
Nitrate	0.074	U	mg/L	0.074	0.500	10		4/15/2009 03:03	AD
Nitrite	0.053	U	mg/L	0.053	0.500	10		4/15/2009 03:03	AD
Sulfate	2530	V	mg/L	15.1	100	200		4/20/2009 19:52	AD
Analytical Method: EPA 410.4									
COD	1510		mg/L	33.5	50.0	5		4/30/2009 16:58	AR
Analytical Method: SM 2320 B									
Total Alkalinity	154		mg/L	0.02	0.05	1		4/16/2009 12:00	JC
Preparation Method: BOD PREP	Analytical Method: SM 5210B BOD								
BOD	40	U	mg/L	40	40	20	4/14/2009 20:00	4/19/2009 12:45	RB
Analytical Method: SM 5310B									
Total Organic Carbon	2.5		mg/L	0.60	1.0	1		4/16/2009 08:46	LP
Analytical Method: EPA 1664A									
Oil and Grease	1.5	I	mg/L	1.4	4.0	1		4/15/2009 15:00	JS
Analytical Method: SW-846 7196A									
Chromium VI	0.007	U	mg/L	0.007	0.010	1		4/14/2009 15:30	AD
Preparation Method: SW-846 9012A	Analytical Method: SW-846 9012A								
Total Cyanide	0.0032	U	mg/L	0.0032	0.0050	1	4/16/2009 13:40	4/16/2009 16:57	IG
Analytical Method: SM 4500 CO2 D									
Bicarbonate Alkalinity	156		mg/L	2.0	2.0	1		4/16/2009 14:00	JC
Preparation Method: SM 5540 C	Analytical Method: SM 5540 C								
Surfactants	0.040	U	mg/L-LAS	0.040	0.200	1	4/15/2009 15:45	4/15/2009 15:45	AR
Analytical Method: SM 2130 B									
Turbidity	0.67	I	NTU	0.05	1.0	1		4/14/2009 17:00	ZE
Analytical Method: SM 2520 B									
Salinity	8.6			0.1	0.1	1		4/17/2009 15:30	AD

ANALYTICAL RESULTS

Lab ID: **904015001**

Sample ID: **PW-1/**

Date Received: 4/14/2009 Matrix: Groundwater

Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Analytical Method: SM 4500-S F(20th Ed.)									
Sulfide	8.00		mg/L	0.800	1.00	1		4/14/2009 18:00	AR
Analytical Method: EPA 365.1									
Ortho Phosphate - P	0.030		mg/L-P	0.005	0.015	1		4/15/2009 08:18	ZE
Total Phosphorus	0.063		mg/L	0.004	0.015	1	4/15/2009 09:30	4/15/2009 15:50	ZE
Analytical Method: SM 2540 D									
Total Suspended Solids	23.9		mg/L	2.0	4.0	1		4/16/2009 14:05	MF
Analytical Method: SM4500H-B									
pH	7.01		pH unit	0.100	0.100	1		4/15/2009 13:30	AD
Analytical Method: EPA 120.1									
Conductivity	21300		umhos/cm	2.0	2.0	1		4/23/2009 14:30	SM
Subcontract Analysis									
Analytical Method: EPA 906									
See Attached	Attached	U1				1		4/17/2009 12:00	SU
Analytical Method: Krone1989/GCMS									
See Attached	Attached	U2				1		4/23/2009 21:13	SU
Analytical Method: 903.1									
Radium 226	2.6+/-0.3	U3	pCi/l	0.20	0.20	1		4/27/2009 10:52	SU
Analytical Method: 900.0									
Gross Alpha (Incl Uranium)	53.4+/-28.8	U3	pCi/l	43	43	1		4/24/2009 13:52	SU
Gross Beta	44+/-29.8	U	pCi/l	41	41	1		4/24/2009 13:52	SU
Radiological Analysis									
Analytical Method: RA-05									
Radium 228	<0.9+/-0.6	U3	pCi/l	0.90	0.90	1		4/27/2009 11:12	SU
PCBs									
Preparation Method: 3510C Analytical Method: SW-846 8082									
PCB 1016	0.012	U	ug/L	0.012	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
PCB 1221	0.014	U	ug/L	0.014	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
PCB 1232	0.190	U	ug/L	0.190	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
PCB 1242	0.010	U	ug/L	0.010	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
PCB 1248	0.00850	U	ug/L	0.00850	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
PCB 1254	0.014	U	ug/L	0.014	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
PCB 1260	0.015	U	ug/L	0.015	0.500	1	4/15/2009 18:00	4/18/2009 08:42	MR
Decachlorobiphenyl (S)	121		%	45-162		1	4/15/2009 18:00	4/18/2009 08:42	MR
Tetrachloro-m-xylene (S)	95		%	50-125		1	4/15/2009 18:00	4/18/2009 08:42	MR
Herbicides									

ANALYTICAL RESULTS

Lab ID: **904015001**
Sample ID: **PW-1/**
Date Received: 4/14/2009 Matrix: Groundwater
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Preparation Method: 3510C	Analytical Method: SW-846 8151A								
2,4,5-T	0.345	U	ug/L	0.345	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
2,4,5-TP (Silvex)	0.492	U	ug/L	0.492	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
2,4-D	0.406	U	ug/L	0.406	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
2,4-DB	0.547	U	ug/L	0.547	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
Dalapon	0.509	U	ug/L	0.509	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
Dicamba	0.369	U	ug/L	0.369	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
Dichlorprop	0.399	U	ug/L	0.399	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
Dinoseb	0.509	U	ug/L	0.509	2.00	1	4/15/2009 08:30	4/16/2009 06:46	MR
MCPA	47.7	U	ug/L	47.7	200	1	4/15/2009 08:30	4/16/2009 06:46	MR
MCPP	98.0	U	ug/L	98.0	200	1	4/15/2009 08:30	4/16/2009 06:46	MR
DCAA (S)	66		%	46-142		1	4/15/2009 08:30	4/16/2009 06:46	MR
Metals Analysis									
Preparation Method: SW-846 7470	Analytical Method: SW-846 7470								
Mercury	0.00013	U	mg/L	0.00013	0.00020	1	4/23/2009 09:45	4/23/2009 17:03	IT
Preparation Method: SW-846 3010A	Analytical Method: SW-846 6010								
Aluminum	0.046	U	mg/l	0.046	0.20	1	4/15/2009 15:45	4/17/2009 03:40	TB
Antimony	0.0038	U	mg/l	0.0038	0.020	1	4/15/2009 15:45	4/17/2009 03:40	TB
Arsenic	0.0046	U	mg/l	0.0046	0.010	1	4/15/2009 15:45	4/17/2009 03:40	TB
Barium	0.0159		mg/l	0.0020	0.010	1	4/15/2009 15:45	4/17/2009 03:40	TB
Beryllium	0.00067	U	mg/l	0.00067	0.0040	1	4/15/2009 15:45	4/17/2009 03:40	TB
Boron	4.41		mg/l	0.034	0.25	10	4/15/2009 15:45	4/17/2009 03:34	TB
Cadmium	0.00057	U	mg/l	0.00057	0.0050	1	4/15/2009 15:45	4/17/2009 03:40	TB
Calcium	471		mg/l	0.59	2.0	10	4/15/2009 15:45	4/17/2009 03:34	TB
Chromium	0.0011	U	mg/l	0.0011	0.0050	1	4/15/2009 15:45	4/17/2009 03:40	TB
Cobalt	0.00072	U	mg/l	0.00072	0.010	1	4/15/2009 15:45	4/17/2009 03:40	TB
Copper	0.0096	U	mg/l	0.0096	0.020	1	4/15/2009 15:45	4/17/2009 03:40	TB
Iron	0.189		mg/l	0.045	0.10	1	4/15/2009 15:45	4/17/2009 03:40	TB
Lead	0.0031	U	mg/l	0.0031	0.010	1	4/15/2009 15:45	4/17/2009 03:40	TB
Magnesium	1430		mg/l	0.45	2.0	10	4/15/2009 15:45	4/17/2009 03:34	TB
Manganese	0.015	U6	mg/l	0.015	0.015	1	4/15/2009 15:45	4/17/2009 03:40	TB
Molybdenum	0.0030	U	mg/l	0.0030	0.0050	1	4/15/2009 15:45	4/17/2009 03:40	TB
Nickel	0.0175		mg/l	0.0052	0.010	1	4/15/2009 15:45	4/17/2009 03:40	TB
Potassium	443		mg/l	3.50	10	10	4/15/2009 15:45	4/17/2009 03:34	TB
Selenium	0.0054	U	mg/l	0.0054	0.030	1	4/15/2009 15:45	4/17/2009 03:40	TB
Silica	5.00		mg/l		0.30	1	4/15/2009 15:45	4/17/2009 03:40	TB
Silver	0.0016	U	mg/l	0.0016	0.020	1	4/15/2009 15:45	4/17/2009 03:40	TB
Sodium	10000	V	mg/l	3.70	13	50	4/15/2009 15:45	4/17/2009 20:55	TB
Strontium	8.32		mg/l	0.015	0.15	10	4/15/2009 15:45	4/17/2009 03:34	TB
Tin	0.0042	U	mg/l	0.0042	0.025	1	4/15/2009 15:45	4/17/2009 03:40	TB
Titanium	0.0061	U	mg/l	0.0061	0.050	1	4/15/2009 15:45	4/17/2009 03:40	TB
Vanadium	0.0056	U	mg/l	0.0056	0.020	1	4/15/2009 15:45	4/17/2009 03:40	TB
Zinc	7.27	V	mg/l	0.053	0.25	10	4/15/2009 15:45	4/17/2009 03:34	TB
Preparation Method: EPA 200.8	Analytical Method: EPA 200.8								

ANALYTICAL RESULTS

Lab ID:	**904015001**	Date Received:	4/14/2009	Matrix:	Groundwater
Sample ID:	**PW-1/**	Date Collected:	4/13/2009 4:00:00 PM		

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Thallium	0.00027	U	mg/L	0.00027	0.0020	1	4/16/2009 20:00	4/21/2009 14:09	DF

PAH

Preparation Method: 3510C Analytical Method: SW-846 8270C low PAH

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
1-Methylnaphthalene	0.026	U	ug/L	0.026	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
2-Methylnaphthalene	0.030	U	ug/L	0.030	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Acenaphthene	0.027	U	ug/L	0.027	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Acenaphthylene	0.026	U	ug/L	0.026	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Anthracene	0.0056	U	ug/L	0.0056	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Benzo(a)anthracene	0.011	U	ug/L	0.011	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Benzo(a)pyrene	0.013	U	ug/L	0.013	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Benzo(b)fluoranthene	0.015	U	ug/L	0.015	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Benzo(g,h,i)perylene	0.014	U	ug/L	0.014	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Benzo(k)fluoranthene	0.012	U	ug/L	0.012	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Chrysene	0.017	U	ug/L	0.017	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Dibenz(a,h)anthracene	0.0056	U	ug/L	0.0056	0.20	1	4/16/2009 13:30	4/17/2009 00:04	TB
Fluoranthene	0.0078	U	ug/L	0.0078	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Fluorene	0.011	U	ug/L	0.011	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Indeno(1,2,3-cd)pyrene	0.011	U	ug/L	0.011	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
Naphthalene	0.034	U	ug/L	0.034	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Phenanthrene	0.014	U	ug/L	0.014	1.0	1	4/16/2009 13:30	4/17/2009 00:04	TB
Pyrene	0.0084	U	ug/L	0.0084	0.10	1	4/16/2009 13:30	4/17/2009 00:04	TB
2-Fluorobiphenyl (S)	59.9		%	10-116		1	4/16/2009 13:30	4/17/2009 00:04	TB
Nitrobenzene-d5 (S)	62.4		%	10-112		1	4/16/2009 13:30	4/17/2009 00:04	TB
Terphenyl-d14 (S)	82.4		%	20-128		1	4/16/2009 13:30	4/17/2009 00:04	TB

Organophosphorus Pesticides

Preparation Method: 3510C Analytical Method: SW-846 8141A

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Aspon	0.185	U	ug/L	0.185	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Azinphos-ethyl	0.130	U	ug/L	0.130	2.00	1	4/14/2009 23:00	4/16/2009 04:38	LR
Bolstar	0.202	U	ug/L	0.202	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Carbophenothion	0.063	U	ug/L	0.063	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Chlorpyrifos	0.121	U	ug/L	0.121	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Chlorpyrifos-methyl	0.137	U	ug/L	0.137	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Coumaphos	0.079	U	ug/L	0.079	1.50	1	4/14/2009 23:00	4/16/2009 04:38	LR
Crotoxyphos	0.078	U	ug/L	0.078	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Demeton-o	0.041	U	ug/L	0.041	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Demeton-s	0.062	U	ug/L	0.062	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Dichlorfenthion	0.190	U	ug/L	0.190	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Dichlorovos	0.075	U	ug/L	0.075	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Dicrotophos	0.175	U	ug/L	0.175	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Dimethoate	0.184	U	ug/L	0.184	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Dioxathion	0.110	U	ug/L	0.110	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Disulfoton	0.129	U	ug/L	0.129	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
EPN	0.132	U	ug/L	0.132	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Ethion	0.132	U	ug/L	0.132	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR

ANALYTICAL RESULTS

Lab ID: **904015001**
Sample ID: **PW-1/**
Date Received: 4/14/2009 Matrix: Groundwater
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Ethoprop	0.068	U	ug/L	0.068	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Famphur	0.081	U	ug/L	0.081	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Fenithrothion	0.198	U	ug/L	0.198	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Fensulfothion	0.192	U	ug/L	0.192	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Fenthion	0.074	U	ug/L	0.074	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Leptophos	0.046	U	ug/L	0.046	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Merphos	0.208	U	ug/L	0.208	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Mevinphos	0.172	U	ug/L	0.172	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Naled	0.220	U	ug/L	0.220	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Phorate	0.177	U	ug/L	0.177	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Phosmet	0.102	U	ug/L	0.102	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Phosphamidon	0.311	U	ug/L	0.311	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Ronnel	0.054	U	ug/L	0.054	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
TEPP	0.189	U	ug/L	0.189	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Terbufos	0.063	U	ug/L	0.063	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Tetrachlorvinphos (Stirofos)	0.107	U	ug/L	0.107	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Thionazine	0.179	U	ug/L	0.179	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Tokuthion (Prothiophos)	0.106	U	ug/L	0.106	0.500	1	4/14/2009 23:00	4/16/2009 04:38	LR
Trichlorfon	1.09	U	ug/L	1.09	1.80	1	4/14/2009 23:00	4/16/2009 04:38	LR
Triphenyl Phosphate (S)	89		%	43-134		1	4/14/2009 23:00	4/16/2009 04:38	LR
Tributyl Phosphate (S)	108		%	44-125		1	4/14/2009 23:00	4/16/2009 04:38	LR

Semivolatiles

Preparation Method: 3510C Analytical Method: SW-846 8270C

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
1,2,4-Trichlorobenzene	1.5	U	ug/L	1.5	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
1,2-Dichlorobenzene	0.34	U	ug/L	0.34	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
1,2-Diphenylhydrazine	0.23	U	ug/L	0.23	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
1,3-Dichlorobenzene	0.35	U	ug/L	0.35	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
1,4-Dichlorobenzene	0.28	U	ug/L	0.28	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4,5-Trichlorophenol	0.38	U	ug/L	0.38	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4,6-Trichlorophenol	0.27	U	ug/L	0.27	1.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4-Dichlorophenol	0.43	U	ug/L	0.43	0.53	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4-Dinitrophenol	1.4	U	ug/L	1.4	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4-Dinitrotoluene	0.31	U	ug/L	0.31	0.45	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,6-Dinitrotoluene	0.31	U	ug/L	0.31	0.39	1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Chloronaphthalene	0.32	U	ug/L	0.32	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Chlorophenol	2.6	U	ug/L	2.6	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Methylphenol	0.22	U	ug/L	0.22	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Nitroaniline	0.20	U	ug/L	0.20	50	1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Nitrophenol	0.24	U	ug/L	0.24	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
3,3'-Dichlorobenzidine	0.31	U	ug/L	0.31	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
3-Nitroaniline	0.28	U	ug/L	0.28	50	1	4/16/2009 09:00	4/16/2009 18:02	TB
4,6-Dinitro-2-methylphenol	0.35	U	ug/L	0.35	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
4-Chloro-3-methylphenol	0.22	U	ug/L	0.22	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
4-Chloroaniline	0.29	U	ug/L	0.29	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
4-Chlorophenyl phenyl ether	0.45	U	ug/L	0.45	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB

ANALYTICAL RESULTS

Lab ID:	**904015001**	Date Received:	4/14/2009	Matrix:	Groundwater
Sample ID:	**PW-1/**	Date Collected:	4/13/2009 4:00:00 PM		

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Aniline	0.28	U	ug/L	0.28	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Benzidine	9.7	U	ug/L	9.7	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
Benzoic acid	2.0	U	ug/L	2.0	50	1	4/16/2009 09:00	4/16/2009 18:02	TB
Benzyl alcohol	0.22	U	ug/L	0.22	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Bis(2-Chloroethoxy)methane	0.32	U	ug/L	0.32	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Bis(2-Chloroethyl)ether	0.46	U	ug/L	0.46	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Bis(2-Chloroisopropyl)ether	0.34	U	ug/L	0.34	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Bis(2-Ethylhexyl)phthalate	0.20	U	ug/L	0.20	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
4-Bromophenyl phenyl ether	0.27	U	ug/L	0.27	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Butyl benzyl phthalate	0.36	U	ug/L	0.36	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
Carbazole	0.28	U	ug/L	0.28	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Di-n-butyl phthalate	0.21	U	ug/L	0.21	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Di-n-octyl phthalate	0.28	U	ug/L	0.28	1.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Dibenzofuran	0.29	U	ug/L	0.29	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
Diethyl phthalate	0.33	U	ug/L	0.33	1.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Dimethyl phthalate	0.31	U	ug/L	0.31	1.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4-Dimethylphenol	0.40	U	ug/L	0.40	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Hexachlorobenzene	0.32	U	ug/L	0.32	1.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Hexachlorobutadiene	0.45	U	ug/L	0.45	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Hexachlorocyclopentadiene	0.70	U	ug/L	0.70	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Hexachloroethane	0.36	U	ug/L	0.36	2.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Isophorone	0.34	U	ug/L	0.34	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
4-Nitroaniline	0.24	U	ug/L	0.24	50	1	4/16/2009 09:00	4/16/2009 18:02	TB
Nitrobenzene	0.31	U	ug/L	0.31	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
4-Nitrophenol	0.79	U	ug/L	0.79	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
Pentachlorophenol	0.70	U	ug/L	0.70	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
Phenol	0.40	U	ug/L	0.40	1.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Pyridine	8.9	U	ug/L	8.9	10	1	4/16/2009 09:00	4/16/2009 18:02	TB
m,p-Cresol	0.23	U	ug/L	0.23	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
n-Nitrosodi-n-propylamine	0.33	U	ug/L	0.33	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
n-Nitrosodimethylamine	3.4	U	ug/L	3.4	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
n-Nitrosodiphenylamine	0.31	U	ug/L	0.31	4.0	1	4/16/2009 09:00	4/16/2009 18:02	TB
Nitrobenzene-d5 (S)	58		%	7.7-130		1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Fluorobiphenyl (S)	58		%	19-126		1	4/16/2009 09:00	4/16/2009 18:02	TB
Terphenyl-d14 (S)	62		%	27-133		1	4/16/2009 09:00	4/16/2009 18:02	TB
Phenol-d6 (S)	34.5		%	10-59		1	4/16/2009 09:00	4/16/2009 18:02	TB
2-Fluorophenol (S)	44		%	28-62		1	4/16/2009 09:00	4/16/2009 18:02	TB
2,4,6-Tribromophenol (S)	64		%	48-132		1	4/16/2009 09:00	4/16/2009 18:02	TB
Analytical Method: EPA 300.1									
Bromate	83	U4	ug/L	83	620	250		4/20/2009 13:42	SU
Volatiles									
Analytical Method: SW-846 8260B									
1,1,1,2-Tetrachloroethane	0.120	U	ug/L	0.120	1.00	1		4/16/2009 16:10	LN
1,1,1-Trichloroethane	0.682	U	ug/L	0.682	1.00	1		4/16/2009 16:10	LN
1,1,2,2-Tetrachloroethane	0.572	U	ug/L	0.572	1.00	1		4/16/2009 16:10	LN

ANALYTICAL RESULTS

Lab ID: **904015001**
Sample ID: **PW-1/**
Date Received: 4/14/2009 Matrix: Groundwater
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
1,1,2-Trichloroethane	0.841	U	ug/L	0.841	1.00	1		4/16/2009 16:10	LN
1,1-Dichloroethane	0.410	U	ug/L	0.410	1.00	1		4/16/2009 16:10	LN
1,1-Dichloroethene	0.638	U	ug/L	0.638	1.00	1		4/16/2009 16:10	LN
1,1-Dichloropropene	0.632	U	ug/L	0.632	1.00	1		4/16/2009 16:10	LN
1,2,3-Trichlorobenzene	0.686	U	ug/L	0.686	1.00	1		4/16/2009 16:10	LN
1,2,3-Trichloropropane	0.160	U	ug/L	0.160	1.00	1		4/16/2009 16:10	LN
1,2,4-Trichlorobenzene	0.538	U	ug/L	0.538	1.00	1		4/16/2009 16:10	LN
1,2,4-Trimethylbenzene	0.508	U	ug/L	0.508	1.00	1		4/16/2009 16:10	LN
1,2-Dibromo-3-chloropropane	0.933	U	ug/L	0.933	1.00	1		4/16/2009 16:10	LN
1,2-Dibromoethane	0.345	U	ug/L	0.345	1.00	1		4/16/2009 16:10	LN
1,2-Dichlorobenzene	0.584	U	ug/L	0.584	1.00	1		4/16/2009 16:10	LN
1,2-Dichloroethane	0.897	U	ug/L	0.897	1.00	1		4/16/2009 16:10	LN
1,2-Dichloropropane	0.725	U	ug/L	0.725	1.00	1		4/16/2009 16:10	LN
1,3,5-Trimethylbenzene	0.477	U	ug/L	0.477	1.00	1		4/16/2009 16:10	LN
1,3-Dichlorobenzene	0.558	U	ug/L	0.558	1.00	1		4/16/2009 16:10	LN
1,3-Dichloropropane	0.345	U	ug/L	0.345	1.00	1		4/16/2009 16:10	LN
1,4-Dichlorobenzene	0.537	U	ug/L	0.537	1.00	1		4/16/2009 16:10	LN
2,2-Dichloropropane	0.700	U	ug/L	0.700	1.00	1		4/16/2009 16:10	LN
2-Butanone	4.28	U	ug/L	4.28	10.0	1		4/16/2009 16:10	LN
2-Chloroethylvinyl ether	0.470	U	ug/L	0.470	1.00	1		4/16/2009 16:10	LN
2-Chlorotoluene	0.550	U	ug/L	0.550	1.00	1		4/16/2009 16:10	LN
2-Hexanone	1.83	U	ug/L	1.83	10.0	1		4/16/2009 16:10	LN
4-Chlorotoluene	0.570	U	ug/L	0.570	1.00	1		4/16/2009 16:10	LN
4-Isopropyltoluene	0.380	U	ug/L	0.380	1.00	1		4/16/2009 16:10	LN
4-Methyl-2-pentanone	0.220	U	ug/L	0.220	1.00	1		4/16/2009 16:10	LN
Acetone	1.43	U	ug/L	1.43	10.0	1		4/16/2009 16:10	LN
Acrolein	2.47	U	ug/L	2.47	10.0	1		4/16/2009 16:10	LN
Acrylonitrile	0.955	U	ug/L	0.955	10.0	1		4/16/2009 16:10	LN
Benzene	0.621	U	ug/L	0.621	1.00	1		4/16/2009 16:10	LN
Bromobenzene	0.382	U	ug/L	0.382	1.00	1		4/16/2009 16:10	LN
Bromochloromethane	0.637	U	ug/L	0.637	1.00	1		4/16/2009 16:10	LN
Bromodichloromethane	0.100	U	ug/L	0.100	1.00	1		4/16/2009 16:10	LN
Bromoform	0.486	U	ug/L	0.486	1.00	1		4/16/2009 16:10	LN
Bromomethane	0.427	U	ug/L	0.427	1.00	1		4/16/2009 16:10	LN
n-Butylbenzene	0.564	U	ug/L	0.564	1.00	1		4/16/2009 16:10	LN
Carbon disulfide	0.650	U	ug/L	0.650	10.0	1		4/16/2009 16:10	LN
Carbon tetrachloride	0.468	U	ug/L	0.468	1.00	1		4/16/2009 16:10	LN
Chlorobenzene	0.316	U	ug/L	0.316	1.00	1		4/16/2009 16:10	LN
Chloroethane	1.00	U	ug/L	1.00	1.00	1		4/16/2009 16:10	LN
Chloroform	0.572	U	ug/L	0.572	1.00	1		4/16/2009 16:10	LN
Chloromethane	0.524	U	ug/L	0.524	1.00	1		4/16/2009 16:10	LN
Dibromochloromethane	0.378	U	ug/L	0.378	1.00	1		4/16/2009 16:10	LN
Dibromomethane	0.739	U	ug/L	0.739	1.00	1		4/16/2009 16:10	LN
Dichlorodifluoromethane	0.525	U	ug/L	0.525	1.00	1		4/16/2009 16:10	LN
cis-1,3-Dichloropropene	0.664	U	ug/L	0.664	1.00	1		4/16/2009 16:10	LN

ANALYTICAL RESULTS

Lab ID: **904015001**
Sample ID: **PW-1/**
Date Received: 4/14/2009 Matrix: Groundwater
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
trans-1,3-Dichloropropene	0.522	U	ug/L	0.522	1.00	1		4/16/2009 16:10	LN
Ethylbenzene	0.323	U	ug/L	0.323	1.00	1		4/16/2009 16:10	LN
Hexachlorobutadiene	0.763	U	ug/L	0.763	1.00	1		4/16/2009 16:10	LN
Isopropylbenzene (Cumene)	0.528	U	ug/L	0.528	1.00	1		4/16/2009 16:10	LN
Methyl-t-butyl ether	0.650	U	ug/L	0.650	1.00	1		4/16/2009 16:10	LN
Methylene chloride	0.580	U	ug/L	0.580	5.00	1		4/16/2009 16:10	LN
Naphthalene	0.417	U	ug/L	0.417	1.00	1		4/16/2009 16:10	LN
Styrene	0.458	U	ug/L	0.458	1.00	1		4/16/2009 16:10	LN
Tetrachloroethene	0.312	U	ug/L	0.312	1.00	1		4/16/2009 16:10	LN
Toluene	0.389	U	ug/L	0.389	1.00	1		4/16/2009 16:10	LN
Trichloroethene	0.821	U	ug/L	0.821	1.00	1		4/16/2009 16:10	LN
Trichlorofluoromethane	1.00	U	ug/L	1.00	1.00	1		4/16/2009 16:10	LN
Vinyl acetate	0.570	U	ug/L	0.570	10.0	1		4/16/2009 16:10	LN
Vinyl chloride	0.506	U	ug/L	0.506	1.00	1		4/16/2009 16:10	LN
Xylene, m,p-	0.639	U	ug/L	0.639	2.00	1		4/16/2009 16:10	LN
Xylene, o-	0.341	U	ug/L	0.341	1.00	1		4/16/2009 16:10	LN
Xylenes (total)	0.980	U	ug/L	0.980	3.00	1		4/16/2009 16:10	LN
cis-1,2-Dichloroethene	0.442	U	ug/L	0.442	1.00	1		4/16/2009 16:10	LN
n-Propylbenzene	0.624	U	ug/L	0.624	1.00	1		4/16/2009 16:10	LN
sec-Butylbenzene	0.521	U	ug/L	0.521	1.00	1		4/16/2009 16:10	LN
tert-Butylbenzene	0.607	U	ug/L	0.607	1.00	1		4/16/2009 16:10	LN
trans-1,2-Dichloroethene	0.410	U	ug/L	0.410	1.00	1		4/16/2009 16:10	LN
4-Bromofluorobenzene (S)	85		%	64-130		1		4/16/2009 16:10	LN
Dibromofluoromethane (S)	98		%	69-134		1		4/16/2009 16:10	LN
Toluene d8 (S)	98		%	63-127		1		4/16/2009 16:10	LN

Pesticides

Preparation Method: 3510C Analytical Method: SW-846 8081A

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
4,4'-DDD	0.000993	U	ug/L	0.000993	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
4,4'-DDE	0.00148	U	ug/L	0.00148	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
4,4'-DDT	0.00120	U	ug/L	0.00120	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Aldrin	0.00139	U	ug/L	0.00139	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
Dieldrin	0.00106	U	ug/L	0.00106	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
Endosulfan I	0.00103	U	ug/L	0.00103	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Endosulfan II	0.00103	U	ug/L	0.00103	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Endosulfan sulfate	0.00279	U	ug/L	0.00279	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Endrin	0.00717	U	ug/L	0.00717	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Endrin aldehyde	0.000695	U	ug/L	0.000695	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Endrin ketone	0.000969	U	ug/L	0.000969	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Heptachlor	0.00152	U	ug/L	0.00152	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
Heptachlor epoxide	0.00236	I	ug/L	0.00121	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
Methoxychlor	0.000900	U	ug/L	0.000900	0.100	1	4/14/2009 20:00	4/16/2009 13:39	CC
Toxaphene	0.047	U	ug/L	0.047	3.00	1	4/14/2009 20:00	4/16/2009 13:39	CC
alpha-BHC	0.000924	U	ug/L	0.000924	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
alpha-Chlordane	0.00118	U	ug/L	0.00118	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
beta-BHC	0.00123	U	ug/L	0.00123	0.020	1	4/14/2009 20:00	4/16/2009 13:39	CC

ANALYTICAL RESULTS

Lab ID: **904015001**
Sample ID: **PW-1/**
Date Received: 4/14/2009 Matrix: Groundwater
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
delta-BHC	0.000904	U	ug/L	0.000904	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
gamma-BHC (Lindane)	0.000563	U	ug/L	0.000563	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
gamma-Chlordane	0.00130	U	ug/L	0.00130	0.050	1	4/14/2009 20:00	4/16/2009 13:39	CC
Tetrachloro-m-xylene (S)	71		%	32-137		1	4/14/2009 20:00	4/16/2009 13:39	CC
Decachlorobiphenyl (S)	87		%	25-165		1	4/14/2009 20:00	4/16/2009 13:39	CC
Wet Chemistry - Subcontract									
Analytical Method: EPA 100.2									
Asbestos	0.18	U5	MFL	0.18	0.18	1		4/16/2009 17:00	SU
Analytical Method: EPA 7063 mod									
Arsenite (Trivalent As)	2	U2	ug/L	2	2	1		4/27/2009 12:00	SU
Volatiles - Subcontract									
Analytical Method: RSK 175									
Dissolved Ethane	0.024	U	ug/L	0.024	1.00	1		4/16/2009 18:20	SU
Dissolved Ethene	0.030	U	ug/L	0.030	1.00	1		4/16/2009 18:20	SU
Methane	20.3	7	ug/L	0.116	5.00	1		4/16/2009 18:20	SU

ANALYTICAL RESULTS

Lab ID: **904015002**
Sample ID: **TRIP BLANK/**
Date Received: 4/14/2009 Matrix: DI Water
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Volatiles									
Analytical Method: SW-846 8260B									
1,1,1,2-Tetrachloroethane	0.120	U	ug/L	0.120	1.00	1		4/16/2009 16:34	LN
1,1,1-Trichloroethane	0.682	U	ug/L	0.682	1.00	1		4/16/2009 16:34	LN
1,1,2,2-Tetrachloroethane	0.572	U	ug/L	0.572	1.00	1		4/16/2009 16:34	LN
1,1,2-Trichloroethane	0.841	U	ug/L	0.841	1.00	1		4/16/2009 16:34	LN
1,1-Dichloroethane	0.410	U	ug/L	0.410	1.00	1		4/16/2009 16:34	LN
1,1-Dichloroethene	0.638	U	ug/L	0.638	1.00	1		4/16/2009 16:34	LN
1,1-Dichloropropene	0.632	U	ug/L	0.632	1.00	1		4/16/2009 16:34	LN
1,2,3-Trichlorobenzene	0.686	U	ug/L	0.686	1.00	1		4/16/2009 16:34	LN
1,2,3-Trichloropropane	0.160	U	ug/L	0.160	1.00	1		4/16/2009 16:34	LN
1,2,4-Trichlorobenzene	0.538	U	ug/L	0.538	1.00	1		4/16/2009 16:34	LN
1,2,4-Trimethylbenzene	0.508	U	ug/L	0.508	1.00	1		4/16/2009 16:34	LN
1,2-Dibromo-3-chloropropane	0.933	U	ug/L	0.933	1.00	1		4/16/2009 16:34	LN
1,2-Dibromoethane	0.345	U	ug/L	0.345	1.00	1		4/16/2009 16:34	LN
1,2-Dichlorobenzene	0.584	U	ug/L	0.584	1.00	1		4/16/2009 16:34	LN
1,2-Dichloroethane	0.897	U	ug/L	0.897	1.00	1		4/16/2009 16:34	LN
1,2-Dichloropropane	0.725	U	ug/L	0.725	1.00	1		4/16/2009 16:34	LN
1,3,5-Trimethylbenzene	0.477	U	ug/L	0.477	1.00	1		4/16/2009 16:34	LN
1,3-Dichlorobenzene	0.558	U	ug/L	0.558	1.00	1		4/16/2009 16:34	LN
1,3-Dichloropropane	0.345	U	ug/L	0.345	1.00	1		4/16/2009 16:34	LN
1,4-Dichlorobenzene	0.537	U	ug/L	0.537	1.00	1		4/16/2009 16:34	LN
2,2-Dichloropropane	0.700	U	ug/L	0.700	1.00	1		4/16/2009 16:34	LN
2-Butanone	4.28	U	ug/L	4.28	10.0	1		4/16/2009 16:34	LN
2-Chloroethylvinyl ether	0.470	U	ug/L	0.470	1.00	1		4/16/2009 16:34	LN
2-Chlorotoluene	0.550	U	ug/L	0.550	1.00	1		4/16/2009 16:34	LN
2-Hexanone	1.83	U	ug/L	1.83	10.0	1		4/16/2009 16:34	LN
4-Chlorotoluene	0.570	U	ug/L	0.570	1.00	1		4/16/2009 16:34	LN
4-Isopropyltoluene	0.380	U	ug/L	0.380	1.00	1		4/16/2009 16:34	LN
4-Methyl-2-pentanone	0.220	U	ug/L	0.220	1.00	1		4/16/2009 16:34	LN
Acetone	1.43	U	ug/L	1.43	10.0	1		4/16/2009 16:34	LN
Acrolein	2.47	U	ug/L	2.47	10.0	1		4/16/2009 16:34	LN
Acrylonitrile	0.955	U	ug/L	0.955	10.0	1		4/16/2009 16:34	LN
Benzene	0.621	U	ug/L	0.621	1.00	1		4/16/2009 16:34	LN
Bromobenzene	0.382	U	ug/L	0.382	1.00	1		4/16/2009 16:34	LN
Bromochloromethane	0.637	U	ug/L	0.637	1.00	1		4/16/2009 16:34	LN
Bromodichloromethane	0.100	U	ug/L	0.100	1.00	1		4/16/2009 16:34	LN
Bromoform	0.486	U	ug/L	0.486	1.00	1		4/16/2009 16:34	LN
Bromomethane	0.427	U	ug/L	0.427	1.00	1		4/16/2009 16:34	LN
n-Butylbenzene	0.564	U	ug/L	0.564	1.00	1		4/16/2009 16:34	LN
Carbon disulfide	0.650	U	ug/L	0.650	10.0	1		4/16/2009 16:34	LN
Carbon tetrachloride	0.468	U	ug/L	0.468	1.00	1		4/16/2009 16:34	LN
Chlorobenzene	0.316	U	ug/L	0.316	1.00	1		4/16/2009 16:34	LN
Chloroethane	1.00	U	ug/L	1.00	1.00	1		4/16/2009 16:34	LN
Chloroform	0.572	U	ug/L	0.572	1.00	1		4/16/2009 16:34	LN

ANALYTICAL RESULTS

Lab ID: **904015002**
Sample ID: **TRIP BLANK/**

Date Received: 4/14/2009 Matrix: DI Water
Date Collected: 4/13/2009 4:00:00 PM

Parameters	Results	Qual	Units	MDL	PQL	DF	Prepared	Analyzed	By
Chloromethane	0.524	U	ug/L	0.524	1.00	1		4/16/2009 16:34	LN
Dibromochloromethane	0.378	U	ug/L	0.378	1.00	1		4/16/2009 16:34	LN
Dibromomethane	0.739	U	ug/L	0.739	1.00	1		4/16/2009 16:34	LN
Dichlorodifluoromethane	0.525	U	ug/L	0.525	1.00	1		4/16/2009 16:34	LN
cis-1,3-Dichloropropene	0.664	U	ug/L	0.664	1.00	1		4/16/2009 16:34	LN
trans-1,3-Dichloropropene	0.522	U	ug/L	0.522	1.00	1		4/16/2009 16:34	LN
Ethylbenzene	0.323	U	ug/L	0.323	1.00	1		4/16/2009 16:34	LN
Hexachlorobutadiene	0.763	U	ug/L	0.763	1.00	1		4/16/2009 16:34	LN
Isopropylbenzene (Cumene)	0.528	U	ug/L	0.528	1.00	1		4/16/2009 16:34	LN
Methyl-t-butyl ether	0.650	U	ug/L	0.650	1.00	1		4/16/2009 16:34	LN
Methylene chloride	0.580	U	ug/L	0.580	5.00	1		4/16/2009 16:34	LN
Naphthalene	0.417	U	ug/L	0.417	1.00	1		4/16/2009 16:34	LN
Styrene	0.458	U	ug/L	0.458	1.00	1		4/16/2009 16:34	LN
Tetrachloroethene	0.312	U	ug/L	0.312	1.00	1		4/16/2009 16:34	LN
Toluene	0.389	U	ug/L	0.389	1.00	1		4/16/2009 16:34	LN
Trichloroethene	0.821	U	ug/L	0.821	1.00	1		4/16/2009 16:34	LN
Trichlorofluoromethane	1.00	U	ug/L	1.00	1.00	1		4/16/2009 16:34	LN
Vinyl acetate	0.570	U	ug/L	0.570	10.0	1		4/16/2009 16:34	LN
Vinyl chloride	0.506	U	ug/L	0.506	1.00	1		4/16/2009 16:34	LN
Xylene, m,p-	0.639	U	ug/L	0.639	2.00	1		4/16/2009 16:34	LN
Xylene, o-	0.341	U	ug/L	0.341	1.00	1		4/16/2009 16:34	LN
Xylenes (total)	0.980	U	ug/L	0.980	3.00	1		4/16/2009 16:34	LN
cis-1,2-Dichloroethene	0.442	U	ug/L	0.442	1.00	1		4/16/2009 16:34	LN
n-Propylbenzene	0.624	U	ug/L	0.624	1.00	1		4/16/2009 16:34	LN
sec-Butylbenzene	0.521	U	ug/L	0.521	1.00	1		4/16/2009 16:34	LN
tert-Butylbenzene	0.607	U	ug/L	0.607	1.00	1		4/16/2009 16:34	LN
trans-1,2-Dichloroethene	0.410	U	ug/L	0.410	1.00	1		4/16/2009 16:34	LN
4-Bromofluorobenzene (S)	82		%	64-130		1		4/16/2009 16:34	LN
Dibromofluoromethane (S)	100		%	69-134		1		4/16/2009 16:34	LN
Toluene d8 (S)	96		%	63-127		1		4/16/2009 16:34	LN

ANALYTICAL RESULTS QUALIFIERS

PARAMETER QUALIFIERS

V	Present in blank.
[1]	E14157
[2]	E87358
[3]	E83033
[4]	E83079
[5]	E86772
[6]	Detection limit has been elevated due to matrix interference.
[7]	E87854

CASE NARRATIVE

Sample Analysis Comments

Lab ID 904015001   Client ID PW-1

Analyte/Arsenite (Trivalent As)

[2] E87358

Analyte/Asbestos

[5] E86772

Analyte/Bromate

[4] E83079

Analyte/Gross Alpha (Incl Uranium)

[3] E83033

Analyte/Manganese

Detection limit has been elevated due to matrix interference.

Analyte/Methane

[7] E87854

Analyte/Radium 226

[3] E83033

Analyte/Radium 228

[3] E83033

Analyte/See Attached

[1] E14157
[2] E87358

QUALITY CONTROL DATA

QC Batch: EXTO/2010 Analysis Method: EPA 1664A

QC Batch Method: EPA 1664A

Associated Lab Samples:						
	903906001	903917001	903918001	903922001	903999001	904015001
	904047005	904048001	904049001	904050004	904058002	904072003
	904073004	904074003	904076003			

METHOD BLANK: 24131

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Oil and Grease	mg/L	1.4U	1.4	

LABORATORY CONTROL SAMPLE: 24132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Oil and Grease	mg/L	200	197	98	78-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24133 24134 Original: 903952010

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Oil and Grease	mg/L	1.2	200	194	201	97	100	70-130	3	20	

QUALITY CONTROL DATA

QC Batch: LACH/2030 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Associated Lab Samples:					
903976001	903976002	903976003	904015001	904029001	904029002
904029003	904029004	904029005	904029006	904029007	904029008
904029009	904029010	904029011			

METHOD BLANK: 24283

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Ortho Phosphate - P	mg/L-P	0.005U	0.005	

LABORATORY CONTROL SAMPLE & LCSD: 24284 24285

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Ortho Phosphate - P	mg/L-P	0.5	0.536	0.536	107	107	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24465 24466 Original: 904030004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Ortho Phosphate - P	mg/L-P			0.583	0.584				1	20	

QUALITY CONTROL DATA

QC Batch: HACH/1190 Analysis Method: SM 4500-S F(20th Ed.)

QC Batch Method: SM 4500-S F(20th Ed.)

Associated Lab Samples:						
	903814001	903814002	903865001	903865002	903953001	903953002
	904010001	904010002	904010003	904015001		

METHOD BLANK: 24291

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Sulfide	mg/L	0.800U	0.800	

LABORATORY CONTROL SAMPLE: 24292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
Sulfide	mg/L	10	8.80	88	70-130	

SAMPLE DUPLICATE: 24293 Original: 903814001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Sulfide	mg/L	1.20	1.20	0	20	

QUALITY CONTROL DATA

QC Batch: EXTO/2015 Analysis Method: SW-846 8270C low PAH

QC Batch Method: 3510C

Associated Lab Samples: 903950022 904006012 904006013 904015001 904060001 904062001
904062002 904149001 904158010

METHOD BLANK: 24428

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
PAH				
Acenaphthene	ug/L	0.027U	0.027	
Acenaphthylene	ug/L	0.026U	0.026	
Anthracene	ug/L	0.0056U	0.0056	
Benzo(a)anthracene	ug/L	0.011U	0.011	
Benzo(b)fluoranthene	ug/L	0.015U	0.015	
Benzo(k)fluoranthene	ug/L	0.012U	0.012	
Benzo(g,h,i)perylene	ug/L	0.014U	0.014	
Benzo(a)pyrene	ug/L	0.013U	0.013	
Chrysene	ug/L	0.017U	0.017	
Dibenz(a,h)anthracene	ug/L	0.0056U	0.0056	
Fluoranthene	ug/L	0.0078U	0.0078	
Fluorene	ug/L	0.011U	0.011	
Indeno(1,2,3-cd)pyrene	ug/L	0.011U	0.011	
1-Methylnaphthalene	ug/L	0.026U	0.026	
2-Methylnaphthalene	ug/L	0.030U	0.030	
Naphthalene	ug/L	0.034U	0.034	
Phenanthrene	ug/L	0.014U	0.014	
Pyrene	ug/L	0.0084U	0.0084	
2-Fluorobiphenyl (S)	%	54.9	10-116	
Nitrobenzene-d5 (S)	%	50.6	10-112	
Terphenyl-d14 (S)	%	79.6	20-128	

METHOD BLANK: 24809

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
PAH				
Acenaphthene	ug/L	0.027U	0.027	
Acenaphthylene	ug/L	0.026U	0.026	
Anthracene	ug/L	0.0110I	0.0056	V
Benzo(a)anthracene	ug/L	0.0197I	0.011	V
Benzo(b)fluoranthene	ug/L	0.015U	0.015	
Benzo(k)fluoranthene	ug/L	0.0148I	0.012	
Benzo(g,h,i)perylene	ug/L	0.014U	0.014	V
Benzo(a)pyrene	ug/L	0.0151I	0.013	V
Chrysene	ug/L	0.017U	0.017	V
Dibenz(a,h)anthracene	ug/L	0.0107I	0.0056	V
Fluoranthene	ug/L	0.0116I	0.0078	V
Fluorene	ug/L	0.0153I	0.011	V
Indeno(1,2,3-cd)pyrene	ug/L	0.0121I	0.011	V

QUALITY CONTROL DATA

METHOD BLANK: 24809

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1-Methylnaphthalene	ug/L	0.026U	0.026	
2-Methylnaphthalene	ug/L	0.030U	0.030	
Naphthalene	ug/L	0.034U	0.034	
Phenanthrene	ug/L	0.0167I	0.014	V
Pyrene	ug/L	0.0103I	0.0084	V
2-Fluorobiphenyl (S)	%	49.3	10-116	
Nitrobenzene-d5 (S)	%	44.7	10-112	
Terphenyl-d14 (S)	%	56.8	20-128	

LABORATORY CONTROL SAMPLE: 24429

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PAH						
Acenaphthene	ug/L	5	3.30	66	23-100	
Acenaphthylene	ug/L	5	3.50	70	21-109	
Anthracene	ug/L	5	3.70	74	39-111	
Benzo(a)anthracene	ug/L	5	3.95	79	28-115	
Benzo(b)fluoranthene	ug/L	5	4.58	92	15-116	
Benzo(k)fluoranthene	ug/L	5	3.33	67	33-122	
Benzo(g,h,i)perylene	ug/L	5	4.03	81	29-120	
Benzo(a)pyrene	ug/L	5	3.95	79	27-119	
Chrysene	ug/L	5	3.74	75	11-115	
Dibenz(a,h)anthracene	ug/L	5	3.77	75	11-115	
Fluoranthene	ug/L	5	3.40	68	42-112	
Fluorene	ug/L	5	3.48	70	25-109	
Indeno(1,2,3-cd)pyrene	ug/L	5	4.19	84	16-120	
1-Methylnaphthalene	ug/L	5	3.02	60	10-104	
2-Methylnaphthalene	ug/L	5	3.15	63	10-115	
Naphthalene	ug/L	5	3.08	62	12-102	
Phenanthrene	ug/L	5	3.63	73	38-108	
Pyrene	ug/L	5	4.35	87	36-123	
2-Fluorobiphenyl (S)	%			72.7	10-116	
Nitrobenzene-d5 (S)	%			67.7	10-112	
Terphenyl-d14 (S)	%			86.3	20-128	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24430 24431 Original: 904031002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
PAH											
Acenaphthene	ug/L	0	5	1.66	2.27	33	45	23-100	31	20	8
Acenaphthylene	ug/L	0.00798	5	1.83	2.53	37	51	21-109	32	20	8

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24430 24431 Original: 904031002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Anthracene	ug/L	0.00413	5	2.40	2.92	48	58	39-111	19	20	
Benzo(a)anthracene	ug/L	0	5	2.96	3.24	59	65	34-121	10	20	
Benzo(b)fluoranthene	ug/L	0.00374	5	3.04	3.27	61	65	27-119	6	20	
Benzo(k)fluoranthene	ug/L	0.00303	5	3.17	3.83	63	77	29-120	20	20	
Benzo(g,h,i)perylene	ug/L	0	5	3.05	3.42	61	68	15-116	11	20	
Benzo(a)pyrene	ug/L	0	5	2.95	3.31	59	66	28-115	11	20	
Chrysene	ug/L	0	5	2.76	3.36	55	67	33-122	20	20	
Dibenz(a,h)anthracene	ug/L	0.00315	5	2.88	3.23	58	65	11-115	11	20	
Fluoranthene	ug/L	0.00422	5	2.58	3.14	52	63	42-112	19	20	
Fluorene	ug/L	0.00574	5	1.91	2.59	38	52	25-109	31	20	8
Indeno(1,2,3-cd)pyrene	ug/L	0.0022	5	3.10	3.52	62	70	16-120	12	20	
1-Methylnaphthalene	ug/L	0.0199	5	1.28	1.79	26	36	10-104	32	20	8
2-Methylnaphthalene	ug/L	0.0243	5	1.34	1.87	27	37	10-115	31	20	8
Naphthalene	ug/L	0.0623	5	1.40	2.03	27	39	12-102	36	20	8
Phenanthrene	ug/L	0.00654	5	2.37	2.89	47	58	38-108	21	20	8
Pyrene	ug/L	0.00432	5	2.89	3.41	58	68	36-123	16	20	
2-Fluorobiphenyl (S)	%					36.2	49.5	10-116	31		
Nitrobenzene-d5 (S)	%					35.3	50.5	10-112	35.4		
Terphenyl-d14 (S)	%					52	61.4	20-128	16.6		

QUALITY CONTROL DATA

QC Batch: EXTO/2017 Analysis Method: SW-846 8270C

QC Batch Method: 3510C

Associated Lab Samples: 903997001 903997002 904015001 904066001 904118001

METHOD BLANK: 24436

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles				
Benzidine	ug/L	9.7U	9.7	
Benzoic acid	ug/L	2.0U	2.0	
Butyl benzyl phthalate	ug/L	0.36U	0.36	
Bis(2-Chloroethoxy)methane	ug/L	0.32U	0.32	
Bis(2-Chloroethyl)ether	ug/L	0.46U	0.46	
Bis(2-Chloroisopropyl)ether	ug/L	0.34U	0.34	
Bis(2-Ethylhexyl)phthalate	ug/L	0.272I	0.20	V
4-Bromophenyl phenyl ether	ug/L	0.27U	0.27	
Carbazole	ug/L	0.28U	0.28	
4-Chlorophenyl phenyl ether	ug/L	0.45U	0.45	
Dibenzofuran	ug/L	0.29U	0.29	
1,2-Dichlorobenzene	ug/L	0.34U	0.34	
1,3-Dichlorobenzene	ug/L	0.35U	0.35	
3,3'-Dichlorobenzidine	ug/L	0.31U	0.31	
2,4-Dichlorophenol	ug/L	0.43U	0.43	
Diethyl phthalate	ug/L	0.33U	0.33	
2,4-Dimethylphenol	ug/L	0.40U	0.40	
Dimethyl phthalate	ug/L	0.31U	0.31	
Di-n-octyl phthalate	ug/L	0.28U	0.28	
2,4-Dinitrophenol	ug/L	1.4U	1.4	
2,6-Dinitrotoluene	ug/L	0.31U	0.31	
Hexachlorobenzene	ug/L	0.32U	0.32	
Hexachlorobutadiene	ug/L	0.45U	0.45	
Hexachlorocyclopentadiene	ug/L	0.70U	0.70	
Hexachloroethane	ug/L	0.36U	0.36	
Isophorone	ug/L	0.34U	0.34	
2-Methylphenol	ug/L	0.22U	0.22	
Nitrobenzene	ug/L	0.31U	0.31	
2-Nitrophenol	ug/L	0.24U	0.24	
n-Nitrosodimethylamine	ug/L	3.4U	3.4	
n-Nitrosodiphenylamine	ug/L	0.31U	0.31	
2,4,5-Trichlorophenol	ug/L	0.38U	0.38	
2,4,6-Trichlorophenol	ug/L	0.27U	0.27	
Benzyl alcohol	ug/L	0.22U	0.22	
Aniline	ug/L	0.28U	0.28	
Pyridine	ug/L	8.9U	8.9	
3-Nitroaniline	ug/L	0.28U	0.28	
4-Nitroaniline	ug/L	0.24U	0.24	
Di-n-butyl phthalate	ug/L	0.21U	0.21	
1,2-Diphenylhydrazine	ug/L	0.23U	0.23	
2-Nitroaniline	ug/L	0.20U	0.20	
2-Chloronaphthalene	ug/L	0.32U	0.32	
4-Chloroaniline	ug/L	0.29U	0.29	

QUALITY CONTROL DATA

METHOD BLANK: 24436

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
m,p-Cresol	ug/L	0.23U	0.23	
4,6-Dinitro-2-methylphenol	ug/L	0.35U	0.35	
Phenol	ug/L	0.40U	0.40	
2-Chlorophenol	ug/L	2.6U	2.6	
1,4-Dichlorobenzene	ug/L	0.28U	0.28	
n-Nitrosodi-n-propylamine	ug/L	0.33U	0.33	
1,2,4-Trichlorobenzene	ug/L	1.5U	1.5	
4-Chloro-3-methylphenol	ug/L	0.22U	0.22	
4-Nitrophenol	ug/L	0.79U	0.79	
2,4-Dinitrotoluene	ug/L	0.31U	0.31	
Pentachlorophenol	ug/L	0.70U	0.70	
Nitrobenzene-d5 (S)	%	59	7.7-130	
Phenol-d6 (S)	%	22.6	10-59	
2-Fluorobiphenyl (S)	%	58	19-126	
2-Fluorophenol (S)	%	40	28-62	
2,4,6-Tribromophenol (S)	%	62	48-132	
Terphenyl-d14 (S)	%	59	27-133	

METHOD BLANK: 24761

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles				
Benzidine	ug/L	9.7U	9.7	
Benzoic acid	ug/L	2.0U	2.0	
Butyl benzyl phthalate	ug/L	0.36U	0.36	
Bis(2-Chloroethoxy)methane	ug/L	0.32U	0.32	
Bis(2-Chloroethyl)ether	ug/L	0.46U	0.46	
Bis(2-Chloroisopropyl)ether	ug/L	0.34U	0.34	
Bis(2-Ethylhexyl)phthalate	ug/L	0.20U	0.20	
4-Bromophenyl phenyl ether	ug/L	0.27U	0.27	
Carbazole	ug/L	0.28U	0.28	
4-Chlorophenyl phenyl ether	ug/L	0.45U	0.45	
Dibenzofuran	ug/L	0.29U	0.29	
1,2-Dichlorobenzene	ug/L	0.34U	0.34	
1,3-Dichlorobenzene	ug/L	0.35U	0.35	
3,3'-Dichlorobenzidine	ug/L	0.31U	0.31	
2,4-Dichlorophenol	ug/L	0.43U	0.43	
Diethyl phthalate	ug/L	0.33U	0.33	
2,4-Dimethylphenol	ug/L	0.40U	0.40	
Dimethyl phthalate	ug/L	0.31U	0.31	
Di-n-octyl phthalate	ug/L	0.28U	0.28	
2,4-Dinitrophenol	ug/L	1.4U	1.4	
2,6-Dinitrotoluene	ug/L	0.31U	0.31	
Hexachlorobenzene	ug/L	0.32U	0.32	
Hexachlorobutadiene	ug/L	0.45U	0.45	
Hexachlorocyclopentadiene	ug/L	0.70U	0.70	

QUALITY CONTROL DATA

METHOD BLANK: 24761

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Hexachloroethane	ug/L	0.36U	0.36	
Isophorone	ug/L	0.34U	0.34	
2-Methylphenol	ug/L	0.22U	0.22	
Nitrobenzene	ug/L	0.31U	0.31	
2-Nitrophenol	ug/L	0.24U	0.24	
n-Nitrosodimethylamine	ug/L	3.4U	3.4	
n-Nitrosodiphenylamine	ug/L	0.31U	0.31	
2,4,5-Trichlorophenol	ug/L	0.38U	0.38	
2,4,6-Trichlorophenol	ug/L	0.27U	0.27	
Benzyl alcohol	ug/L	0.22U	0.22	
Aniline	ug/L	0.28U	0.28	
Pyridine	ug/L	8.9U	8.9	
3-Nitroaniline	ug/L	0.28U	0.28	
4-Nitroaniline	ug/L	0.24U	0.24	
Di-n-butyl phthalate	ug/L	0.21U	0.21	
1,2-Diphenylhydrazine	ug/L	0.23U	0.23	
2-Nitroaniline	ug/L	0.20U	0.20	
2-Chloronaphthalene	ug/L	0.32U	0.32	
4-Chloroaniline	ug/L	0.29U	0.29	
m,p-Cresol	ug/L	0.23U	0.23	
4,6-Dinitro-2-methylphenol	ug/L	0.35U	0.35	
Phenol	ug/L	0.40U	0.40	
2-Chlorophenol	ug/L	2.6U	2.6	
1,4-Dichlorobenzene	ug/L	0.28U	0.28	
n-Nitrosodi-n-propylamine	ug/L	0.33U	0.33	
1,2,4-Trichlorobenzene	ug/L	1.5U	1.5	
4-Chloro-3-methylphenol	ug/L	0.22U	0.22	
4-Nitrophenol	ug/L	0.79U	0.79	
2,4-Dinitrotoluene	ug/L	0.31U	0.31	
Pentachlorophenol	ug/L	0.70U	0.70	
Nitrobenzene-d5 (S)	%	74	7.7-130	
Phenol-d6 (S)	%	29.5	10-59	
2-Fluorobiphenyl (S)	%	76	19-126	
2-Fluorophenol (S)	%	42	28-62	
2,4,6-Tribromophenol (S)	%	89	48-132	
Terphenyl-d14 (S)	%	84	27-133	

LABORATORY CONTROL SAMPLE: 24437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Semivolatiles						
Benzidine	ug/L	50	12.9	26	10-104	
Benzoic acid	ug/L	50	17.0I	34		
Butyl benzyl phthalate	ug/L	50	37.3	75	10-152	

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 24437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bis(2-Chloroethoxy)methane	ug/L	50	34.7	69	33-184	
Bis(2-Chloroethyl)ether	ug/L	50	30.8	62	12-158	
Bis(2-Chloroisopropyl)ether	ug/L	50	30.5	61	36-166	
Bis(2-Ethylhexyl)phthalate	ug/L	50	38.5	77	10-158	
4-Bromophenyl phenyl ether	ug/L	50	39.7	79	53-127	
Carbazole	ug/L	50	39.2	78	44-140	
4-Chlorophenyl phenyl ether	ug/L	50	35.6	71	25-158	
Dibenzofuran	ug/L	50	34.6	69		
1,2-Dichlorobenzene	ug/L	50	35.4	71	32-129	
1,3-Dichlorobenzene	ug/L	50	31.1	62	10-172	
3,3'-Dichlorobenzidine	ug/L	50	39.1	78	10-262	
2,4-Dichlorophenol	ug/L	50	38.2	76	10-191	
Diethyl phthalate	ug/L	50	33.7	67	10-114	
2,4-Dimethylphenol	ug/L	50	40.0	80	32-119	
Dimethyl phthalate	ug/L	50	35.5	71	10-112	
Di-n-octyl phthalate	ug/L	50	43.2	86	10-146	
2,4-Dinitrophenol	ug/L	50	32.7	65	29-182	
2,6-Dinitrotoluene	ug/L	50	31.2	62	50-158	
Hexachlorobenzene	ug/L	50	37.5	75	10-152	
Hexachlorobutadiene	ug/L	50	34.3	69	24-116	
Hexachlorocyclopentadiene	ug/L	50	30.7	61	10-115	
Hexachloroethane	ug/L	50	33.9	68	40-113	
Isophorone	ug/L	50	38.0	76	21-196	
2-Methylphenol	ug/L	50	29.1	58	55-126	
Nitrobenzene	ug/L	50	35.1	70	35-180	
2-Nitrophenol	ug/L	50	39.0	78	29-182	
n-Nitrosodimethylamine	ug/L	50	24.0	48	28-64	
n-Nitrosodiphenylamine	ug/L	50	35.2	70	42-113	
2,4,5-Trichlorophenol	ug/L	50	35.3	71		
2,4,6-Trichlorophenol	ug/L	50	40.3	81	37-144	
Benzyl alcohol	ug/L	50	29.9	60		
Aniline	ug/L	50	23.3	47		
Pyridine	ug/L	50	15.2	30		
3-Nitroaniline	ug/L	50	34.4I	69		
4-Nitroaniline	ug/L	50	34.4I	69		
Di-n-butyl phthalate	ug/L	50	39.3	79	62-154	
1,2-Diphenylhydrazine	ug/L		34.9			
2-Nitroaniline	ug/L	50	36.4I	73		
2-Chloronaphthalene	ug/L	50	37.2	74	60-118	
4-Chloroaniline	ug/L	50	32.7	65		
m,p-Cresol	ug/L		27.3			
4,6-Dinitro-2-methylphenol	ug/L	50	30.6	61	10-181	
Phenol	ug/L	50	14.5	29		
2-Chlorophenol	ug/L	50	31.9	64	25-117	
1,4-Dichlorobenzene	ug/L	50	31.5	63	30-116	

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 24437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Nitrosodi-n-propylamine	ug/L	50	32.5	65	43-136	
1,2,4-Trichlorobenzene	ug/L	50	34.7	69	30-119	
4-Chloro-3-methylphenol	ug/L	50	36.0	72	30-128	
4-Nitrophenol	ug/L	50	17.0	34	10-73	
2,4-Dinitrotoluene	ug/L	50	32.1	64	54-133	
Pentachlorophenol	ug/L	50	35.3	71	29-142	
Nitrobenzene-d5 (S)	%			75	10-112	
Phenol-d6 (S)	%			32.2	10-59	
2-Fluorobiphenyl (S)	%			69	10-116	
2-Fluorophenol (S)	%			49	28-62	
2,4,6-Tribromophenol (S)	%			78	48-132	
Terphenyl-d14 (S)	%			77	20-128	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24438 24439 Original: 904031004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles											
Benzidine	ug/L	0	50	13.6	9.7U	27	12	10-104	77	20	8
Benzoic acid	ug/L	0	50	13.6I	16.2I	27	32		17		
Butyl benzyl phthalate	ug/L	0	50	36.9	38.6	74	77	10-152	4	20	
Bis(2-Chloroethoxy)methane	ug/L	0	50	32.5	32.3	65	65	33-184	0	20	
Bis(2-Chloroethyl)ether	ug/L	0	50	30.8	30.2	62	60		3		
Bis(2-Chloroisopropyl)ether	ug/L	0	50	30.6	29.7	61	59	36-166	3	20	
Bis(2-Ethylhexyl)phthalate	ug/L	0	50	37.0	36.6	74	73	10-158	1	20	
4-Bromophenyl phenyl ether	ug/L	0	50	40.2	38.9	80	78	53-127	3	20	
Carbazole	ug/L	0	50	37.3	38.4	75	77	73-131	3	20	
4-Chlorophenyl phenyl ether	ug/L	0	50	36.5	35.7	73	71	25-158	3	20	
Dibenzofuran	ug/L	0	50	34.6	34.7	69	69		0		
1,2-Dichlorobenzene	ug/L	0	50	33.9	34.1	68	68	32-129	0	20	
1,3-Dichlorobenzene	ug/L	0	50	31.1	30.1	62	60	10-172	3	20	
3,3'-Dichlorobenzidine	ug/L	0	50	38.1	39.0	76	78	10-262	3	20	
2,4-Dichlorophenol	ug/L	0	50	37.0	37.3	74	75	39-135	1	20	
Diethyl phthalate	ug/L	0.0925	50	33.9	33.2	68	66	10-114	3	20	
2,4-Dimethylphenol	ug/L	0	50	39.0	39.2	78	78	32-119	0	20	
Dimethyl phthalate	ug/L	0.0899	50	36.3	35.2	73	70	10-112	4	20	
Di-n-octyl phthalate	ug/L	0.0698	50	42.6	42.1	85	84	10-146	1	20	
2,4-Dinitrophenol	ug/L	0	50	32.5	34.2	65	68	10-191	5	20	
2,6-Dinitrotoluene	ug/L	0	50	32.5	31.3	65	63	39-139	3	20	
Hexachlorobenzene	ug/L	0	50	36.1	36.5	72	73	10-152	1	20	
Hexachlorobutadiene	ug/L	0	50	34.1	33.5	68	67	24-116	1	20	
Hexachlorocyclopentadiene	ug/L	0	50	30.8	28.8	62	58	10-115	7	20	
Hexachloroethane	ug/L	0	50	34.0	32.5	68	65	40-113	5	20	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24438 24439 Original: 904031004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Isophorone	ug/L	0	50	36.3	36.2	73	72	21-196	1	20	
2-Methylphenol	ug/L	0	50	31.0	30.1	62	60	55-126	3	20	
Nitrobenzene	ug/L	0	50	34.6	33.2	69	66	35-180	4	20	
2-Nitrophenol	ug/L	0	50	37.9	36.4	76	73	29-182	4	20	
n-Nitrosodimethylamine	ug/L	0	50	24.2	24.1	48	48		0		
n-Nitrosodiphenylamine	ug/L	0	50	34.6	35.3	69	71	42-113	3	20	
2,4,5-Trichlorophenol	ug/L	0	50	35.2	33.5	70	67		4		
2,4,6-Trichlorophenol	ug/L	0	50	40.2	38.3	80	77	37-144	4	20	
Benzyl alcohol	ug/L	0	50	29.9	29.1	60	58		3		
Aniline	ug/L	0	50	22.7	22.6	45	45		0		
Pyridine	ug/L	0	50	14.9	14.3	30	29		3		
3-Nitroaniline	ug/L	0	50	34.8I	35.6I	70	71		1		
4-Nitroaniline	ug/L	0	50	34.8I	35.6I	70	71		1		
Di-n-butyl phthalate	ug/L	0.0938	50	38.9	39.2	78	78	57-126	0	20	
1,2-Diphenylhydrazine	ug/L			34.1	34.1						
2-Nitroaniline	ug/L	0	50	37.1I	37.3I	74	75		1		
2-Chloronaphthalene	ug/L	0	50	36.7	35.3	73	71	60-118	3	20	
4-Chloroaniline	ug/L	0	50	31.3	32.1	63	64		2		
m,p-Cresol	ug/L			28.8	28.8						
4,6-Dinitro-2-methylphenol	ug/L	0	50	29.5	30.3	59	61	10-181	3	20	
Phenol	ug/L	0	50	15.9	15.2	32	30		6		
2-Chlorophenol	ug/L	0	50	32.9	30.5	66	61	23-134	8	20	
1,4-Dichlorobenzene	ug/L	0	50	32.5	31.1	65	62	20-124	5	20	
n-Nitrosodi-n-propylamine	ug/L	0	50	32.1	32.3	64	65	10-230	2	20	
1,2,4-Trichlorobenzene	ug/L	0	50	33.7	33.6	67	67	44-142	0	20	
4-Chloro-3-methylphenol	ug/L	0	50	35.0	35.8	70	72	22-147	3	20	
4-Nitrophenol	ug/L	0	50	19.0	17.0	38	34	10-132	11	20	
2,4-Dinitrotoluene	ug/L	0	50	33.4	33.2	67	66	54-133	2	20	
Pentachlorophenol	ug/L	0	50	34.4	35.2	69	70	14-176	1	20	
Nitrobenzene-d5 (S)	%					72	71	10-112	1		
Phenol-d6 (S)	%					34.6	33.9	10-59	2		
2-Fluorobiphenyl (S)	%					69	67	10-116	3		
2-Fluorophenol (S)	%					52	48	28-62	8		
2,4,6-Tribromophenol (S)	%					78	78	48-132	0		
Terphenyl-d14 (S)	%					75	77	20-128	3		

QUALITY CONTROL DATA

QC Batch: EXTO/2018 Analysis Method: SW-846 8141A

QC Batch Method: 3510C

Associated Lab Samples: 903945015 903950013 903950014 903950015 904015001

METHOD BLANK: 24440

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Carbophenothion	ug/L	0.063U	0.063	
Chlorpyrifos	ug/L	0.121U	0.121	
Chlorpyrifos-methyl	ug/L	0.137U	0.137	
Demeton-s	ug/L	0.062U	0.062	
Demeton-o	ug/L	0.041U	0.041	
Crotoxyphos	ug/L	0.078U	0.078	
Dichlorovos	ug/L	0.075U	0.075	
Fenithrothion	ug/L	0.198U	0.198	
Ronnel	ug/L	0.054U	0.054	
Terbufos	ug/L	0.063U	0.063	
Fenthion	ug/L	0.074U	0.074	
Leptophos	ug/L	0.046U	0.046	
Tributyl Phosphate (S)	%	93	44-125	
Triphenyl Phosphate (S)	%	93	43-134	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosphamidon	ug/L	0.311U	0.311	
Aspon	ug/L	0.185U	0.185	
Phorate	ug/L	0.177U	0.177	
Bolstar	ug/L	0.202U	0.202	
Dichlorfenthion	ug/L	0.190U	0.190	
Dioxathion	ug/L	0.110U	0.110	
Fensulfothion	ug/L	0.192U	0.192	
Naled	ug/L	0.220U	0.220	
Dimethoate	ug/L	0.184U	0.184	
Thionazine	ug/L	0.179U	0.179	
TEPP	ug/L	0.189U	0.189	
EPN	ug/L	0.132U	0.132	
Merphos	ug/L	0.208U	0.208	
Mevinphos	ug/L	0.172U	0.172	

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Organophosphorus Pesticides				
Phosmet	ug/L	0.102U	0.102	
Disulfoton	ug/L	0.129U	0.129	
Azinphos-ethyl	ug/L	0.130U	0.130	
Coumaphos	ug/L	0.079U	0.079	
Dicrotophos	ug/L	0.175U	0.175	
Ethoprop	ug/L	0.068U	0.068	
Famphur	ug/L	0.081U	0.081	

QUALITY CONTROL DATA

METHOD BLANK: 24440

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Ethion	ug/L	0.132U	0.132	
Tetrachlorvinphos (Stirofos)	ug/L	0.107U	0.107	
Trichlorfon	ug/L	1.09U	1.09	
Tokuthion (Prothiophos)	ug/L	0.106U	0.106	

LABORATORY CONTROL SAMPLE: 24441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Carbophenothion	ug/L	2	2.34	117	21-148	
Chlorpyrifos	ug/L	2	2.38	119	46-133	
Chlorpyrifos-methyl	ug/L	2	2.21	111	44-122	
Demeton-s	ug/L		4.33			
Demeton-o	ug/L		0.407I			
Crotoxyphos	ug/L	2	4.24	212		
Dichlorovos	ug/L	2	1.56	78	12-128	
Fenithrothion	ug/L	2	1.55	78		
Ronnel	ug/L	2	2.07	104	35-126	
Terbufos	ug/L	2	1.79	90	48-124	
Fenthion	ug/L	2	2.11	105		
Leptophos	ug/L	2	2.14	107	11-146	
Tributyl Phosphate (S)	%			97	44-125	
Triphenyl Phosphate (S)	%			101	43-134	

LABORATORY CONTROL SAMPLE: 24441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Phosphamidon	ug/L		0.311U			
Aspon	ug/L		0.185U			
Phorate	ug/L		0.177U			
Bolstar	ug/L		0.202U			
Dichlorfenthion	ug/L		0.190U			
Dioxathion	ug/L		0.110U			
Fensulfothion	ug/L		0.192U			
Naled	ug/L		0.220U			
Dimethoate	ug/L		0.184U			
Thionazine	ug/L		0.179U			
TEPP	ug/L		0.189U			
EPN	ug/L		0.132U			
Merphos	ug/L		0.208U			

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 24441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mevinphos	ug/L		0.172U			

LABORATORY CONTROL SAMPLE: 24441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Organophosphorus Pesticides						
Phosmet	ug/L		0.102U			
Disulfoton	ug/L		0.129U			
Azinphos-ethyl	ug/L		0.130U			
Coumaphos	ug/L		0.079U			
Dicrotophos	ug/L		0.175U			
Ethoprop	ug/L		0.068U			
Famphur	ug/L		0.081U			
Ethion	ug/L		0.132U			
Tetrachlorvinphos (Stirofos)	ug/L		0.107U			
Trichlorfon	ug/L		1.09U			
Tokuthion (Prothiophos)	ug/L		0.106U			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24442 24443 Original: 904031006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Carbophenothion	ug/L	0	2	2.23	2.24	112	112	21-148	0	20	
Chlorpyrifos	ug/L	0	2	2.27	2.07	114	103	46-133	10	20	
Chlorpyrifos-methyl	ug/L	0	2	2.07	1.83	104	91	44-122	13	20	
Demeton-s	ug/L			3.93	3.56						
Demeton-o	ug/L			0.388I	0.326I						
Crotoxyphos	ug/L	0	2	4.24	4.46	212	223		5		
Dichlorovos	ug/L	0	2	2.10	1.78	105	89	12-128	16	20	
Fenithrothion	ug/L	0	2	2.17	1.79	109	90		19		
Ronnel	ug/L	0	2	1.89	1.71	94	85	35-126	10	20	
Terbufos	ug/L	0	2	1.87	1.54	94	77	48-124	20	20	
Fenthion	ug/L	0	2	2.42	2.11	121	106		13		
Leptophos	ug/L	0	2	2.12	1.95	106	97	11-146	9	20	
Tributyl Phosphate (S)	%					103	91	44-125	12		
Triphenyl Phosphate (S)	%					104	102	43-134	2		

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24442 24443 Original: 904031006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Phosphamidon	ug/L			0.311U	0.311U						
Aspon	ug/L			0.185U	0.185U						
Phorate	ug/L			0.177U	0.177U						
Bolstar	ug/L			0.202U	0.202U						
Dichlorfenthion	ug/L			0.190U	0.190U						
Dioxathion	ug/L			0.110U	0.110U						
Fensulfothion	ug/L			0.192U	0.192U						
Naled	ug/L			0.220U	0.220U						
Dimethoate	ug/L			0.184U	0.184U						
Thionazine	ug/L			0.179U	0.179U						
TEPP	ug/L			0.189U	0.189U						
EPN	ug/L			0.132U	0.132U						
Merphos	ug/L			0.208U	0.208U						
Mevinphos	ug/L			0.172U	0.172U						

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24442 24443 Original: 904031006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Organophosphorus Pesticides											
Phosmet	ug/L			0.102U	0.102U						
Disulfoton	ug/L			0.129U	0.129U						
Azinphos-ethyl	ug/L			0.130U	0.130U						
Coumaphos	ug/L			0.079U	0.079U						
Dicrotophos	ug/L			0.175U	0.175U						
Ethoprop	ug/L			0.068U	0.068U						
Famphur	ug/L			0.081U	0.081U						
Ethion	ug/L			0.132U	0.132U						
Tetrachlorvinphos (Stirofos)	ug/L			0.107U	0.107U						
Trichlorfon	ug/L			1.09U	1.09U						
Tokuthion (Prothiophos)	ug/L			0.106U	0.106U						

QUALITY CONTROL DATA

QC Batch: EXTO/2019 Analysis Method: SW-846 8082

QC Batch Method: 3510C

Associated Lab Samples: 904015001

METHOD BLANK: 24444

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
PCBs				
PCB 1221	ug/L	0.014U	0.014	
PCB 1232	ug/L	0.190U	0.190	
PCB 1242	ug/L	0.010U	0.010	
PCB 1248	ug/L	0.00850U	0.00850	
PCB 1254	ug/L	0.014U	0.014	
PCB 1016	ug/L	0.012U	0.012	
PCB 1260	ug/L	0.015U	0.015	
Decachlorobiphenyl (S)	%	121	45-162	
Tetrachloro-m-xylene (S)	%	96	50-125	

LABORATORY CONTROL SAMPLE: 24445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCBs						
PCB 1221	ug/L		0.014U			
PCB 1232	ug/L		0.190U			
PCB 1242	ug/L		0.010U			
PCB 1248	ug/L		0.00850U			
PCB 1254	ug/L		0.014U			
PCB 1016	ug/L	1	1.17	117	12-176	
PCB 1260	ug/L	1	1.27	127	10-180	
Decachlorobiphenyl (S)	%			119	45-162	
Tetrachloro-m-xylene (S)	%			96	50-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24446 24447 Original: 904031007

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
PCBs											
PCB 1221	ug/L			0.014U	0.014U						
PCB 1232	ug/L			0.190U	0.190U						
PCB 1242	ug/L			0.010U	0.010U						
PCB 1248	ug/L			0.00850U	0.00850U						
PCB 1254	ug/L			0.014U	0.014U						
PCB 1016	ug/L	0	1	1.20	1.05	120	105	12-176	13	20	
PCB 1260	ug/L	0	1	1.30	1.08	130	108	10-181	18	20	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24446 24447 Original: 904031007

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Decachlorobiphenyl (S)	%					125	117	45-162	7		
Tetrachloro-m-xylene (S)	%					100	95	50-125	5		

QUALITY CONTROL DATA

QC Batch: EXTO/2020 Analysis Method: SW-846 8151A

QC Batch Method: 3510C

Associated Lab Samples: 903945015 903950013 903950014 903950015 904015001

METHOD BLANK: 24448

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Herbicides				
2,4-D	ug/L	0.406U	0.406	
2,4,5-T	ug/L	0.345U	0.345	
2,4,5-TP (Silvex)	ug/L	0.492U	0.492	
2,4-DB	ug/L	0.547U	0.547	
Dalapon	ug/L	0.509U	0.509	
Dicamba	ug/L	0.369U	0.369	
Dichlorprop	ug/L	0.399U	0.399	
Dinoseb	ug/L	0.509U	0.509	
MCPA	ug/L	47.7U	47.7	
MCPP	ug/L	98.0U	98.0	
DCAA (S)	%	53	46-142	

LABORATORY CONTROL SAMPLE: 24449

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Herbicides						
2,4-D	ug/L	5	2.90	58	29-146	
2,4,5-T	ug/L	5	2.89	58	29-156	
Dinoseb	ug/L	5	1.21I	24		
2,4,5-TP (Silvex)	ug/L	5	3.11	62	30-180	
MCPA	ug/L	500	246	49		
Dalapon	ug/L	5	2.95	59		
Dicamba	ug/L	5	2.60	52	35-135	
Dichlorprop	ug/L	5	2.81	56	36-148	
MCPP	ug/L		341			
2,4-DB	ug/L	5	3.73	75	18-195	
DCAA (S)	%			61	46-142	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24450 24451 Original: 904031005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Herbicides											
2,4-D	ug/L	0	5	3.43	3.45	69	69	29-146	0	20	
2,4,5-T	ug/L	0	5	3.45	3.47	69	69	29-157	0	20	
Dinoseb	ug/L	0	5	1.63I	1.05I	33	21		44		

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24450 24451 Original: 904031005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
2,4,5-TP (Silvex)	ug/L	0	5	3.69	3.73	74	75	30-180	1	20	
MCPA	ug/L	0	500	297	308	59	62		5		
Dalapon	ug/L	0	5	3.56	3.43	71	69		3		
Dicamba	ug/L	0	5	3.11	3.21	62	64	35-135	3	20	
Dichlorprop	ug/L	0	5	3.28	3.45	66	69	36-148	4	20	
MCPP	ug/L			396	455						
2,4-DB	ug/L	0	5	4.23	4.23	85	85	18-195	0	20	
DCAA (S)	%					71	76	46-142	7		

QUALITY CONTROL DATA

QC Batch: EXTO/2021
Analysis Method: SW-846 8081A
QC Batch Method: 3510C
Associated Lab Samples: 903945015 903950013 903950014 903950015 904015001

METHOD BLANK: 24452

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Pesticides				
alpha-BHC	ug/L	0.000924U	0.000924	
beta-BHC	ug/L	0.00123U	0.00123	
delta-BHC	ug/L	0.000904U	0.000904	
Heptachlor epoxide	ug/L	0.00121U	0.00121	
Endosulfan I	ug/L	0.00103U	0.00103	
4,4'-DDE	ug/L	0.00148U	0.00148	
Endosulfan II	ug/L	0.00103U	0.00103	
4,4'-DDD	ug/L	0.000993U	0.000993	
Endosulfan sulfate	ug/L	0.00279U	0.00279	
Methoxychlor	ug/L	0.000900U	0.000900	
Endrin ketone	ug/L	0.000969U	0.000969	
Endrin aldehyde	ug/L	0.000695U	0.000695	
alpha-Chlordane	ug/L	0.00118U	0.00118	
gamma-Chlordane	ug/L	0.00130U	0.00130	
gamma-BHC (Lindane)	ug/L	0.000563U	0.000563	
Heptachlor	ug/L	0.00152U	0.00152	
Aldrin	ug/L	0.00139U	0.00139	
Dieldrin	ug/L	0.00106U	0.00106	
Endrin	ug/L	0.00717U	0.00717	
4,4'-DDT	ug/L	0.00120U	0.00120	
Tetrachloro-m-xylene (S)	%	82	32-137	
Decachlorobiphenyl (S)	%	93	25-165	

LABORATORY CONTROL SAMPLE: 24453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pesticides						
alpha-BHC	ug/L	0.1	0.087	87		
beta-BHC	ug/L	0.1	0.089	89		
delta-BHC	ug/L	0.1	0.052	52		
Heptachlor epoxide	ug/L	0.1	0.095	95		
Endosulfan I	ug/L	0.1	0.088I	88		
4,4'-DDE	ug/L	0.1	0.118	118		
Endosulfan II	ug/L	0.1	0.118	118		
4,4'-DDD	ug/L	0.1	0.113	113		
Endosulfan sulfate	ug/L	0.1	0.104	104		
Methoxychlor	ug/L	0.1	0.187	187		
Endrin ketone	ug/L	0.1	0.144	144		
Endrin aldehyde	ug/L	0.1	0.118	118		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 24453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
alpha-Chlordane	ug/L	0.1	0.102	102		
gamma-Chlordane	ug/L	0.1	0.100	100		
gamma-BHC (Lindane)	ug/L	0.1	0.086	86	33-155	
Heptachlor	ug/L	0.1	0.119	119	47-148	
Aldrin	ug/L	0.1	0.088	88	43-149	
Dieldrin	ug/L	0.1	0.100	100	47-162	
Endrin	ug/L	0.1	0.125	125	41-189	
4,4'-DDT	ug/L	0.1	0.119	119	14-228	
Tetrachloro-m-xylene (S)	%			71	32-137	
Decachlorobiphenyl (S)	%			95	25-165	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24454 24455 Original: 904031008

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Pesticides											
alpha-BHC	ug/L	0	0.1	0.101	0.100	101	100		1		
beta-BHC	ug/L	0	0.1	0.090	0.097	90	97		7		
delta-BHC	ug/L	0	0.1	0.054	0.058	54	58		7		
Heptachlor epoxide	ug/L	0.00336	0.1	0.095	0.103	91	99		8		
Endosulfan I	ug/L	0	0.1	0.087I	0.095I	87	95		9		
4,4'-DDE	ug/L	0	0.1	0.112	0.130	112	130		15		
Endosulfan II	ug/L	0	0.1	0.112	0.116	112	116		4		
4,4'-DDD	ug/L	0	0.1	0.114	0.121	114	121		6		
Endosulfan sulfate	ug/L	0	0.1	0.098I	0.112	98	112		13		
Methoxychlor	ug/L	0	0.1	0.181	0.192	181	192		6		
Endrin ketone	ug/L	0	0.1	0.138	0.151	138	151		9		
Endrin aldehyde	ug/L	0.00104	0.1	0.114	0.123	113	122		8		
alpha-Chlordane	ug/L	0	0.1	0.098	0.110	98	110		12		
gamma-Chlordane	ug/L	0	0.1	0.099	0.108	99	108		9		
gamma-BHC (Lindane)	ug/L	0	0.1	0.090	0.084	90	84	33-155	7	20	
Heptachlor	ug/L	0	0.1	0.116	0.123	116	123	47-148	6	20	
Aldrin	ug/L	0	0.1	0.087	0.093	87	93	43-149	7	20	
Dieldrin	ug/L	0	0.1	0.099	0.107	99	107	47-162	8	20	
Endrin	ug/L	0	0.1	0.113	0.115	113	115	41-189	2	20	
4,4'-DDT	ug/L	0	0.1	0.115	0.123	115	123	14-228	7	20	
Tetrachloro-m-xylene (S)	%					81	73	32-137	10		
Decachlorobiphenyl (S)	%					101	92	25-165	9		

QUALITY CONTROL DATA

QC Batch: INPR/1606 Analysis Method: EPA 365.1

QC Batch Method: EPA 365.1

Associated Lab Samples:						
	903914002	903914003	903926001	903926002	903998001	903998002
	903998003	904015001	904020003	904032001	904032002	904032003

METHOD BLANK: 24467

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Phosphorus	mg/L	0.004U	0.004	

LABORATORY CONTROL SAMPLE & LCSD: 24468 24469

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Phosphorus	mg/L	0.5	0.517	0.513	103	103	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24470 24471 Original: 903914002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Phosphorus	mg/L	0.061	0.5	0.543	0.546	96.4	97	90-110	0.62	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24472 24473 Original: 904032003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Phosphorus	mg/L	0.044	0.5	0.560	0.563	103	104	90-110	0.97	20	

QUALITY CONTROL DATA

QC Batch:	MISC/1182	Analysis Method:	SM 2130 B
QC Batch Method:	SM 2130 B		

Associated Lab Samples: 903998001 903998002 903998003 904015001 904034001 904034002 904034003 904034004 904034005

METHOD BLANK: 24474

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Turbidity	NTU	0.05U	0.05	

SAMPLE DUPLICATE: 24475 Original: 903998001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Turbidity	NTU		1.4	1	20	

QUALITY CONTROL DATA

QC Batch: DIGM/1827 Analysis Method: SW-846 6010

QC Batch Method: SW-846 3010A

Associated Lab Samples: 903998001 903998002 903998003 904010001 904010002 904010003
904015001 904032001 904032002 904032003 904039002 904039003
904039004 904039005 904039006 904039007 904039008 904040003

METHOD BLANK: 24487

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Aluminum	mg/l	0.046U	0.046	
Antimony	mg/l	0.0038U	0.0038	
Arsenic	mg/l	0.0046U	0.0046	
Barium	mg/l	0.0020U	0.0020	
Beryllium	mg/l	0.00067U	0.00067	
Boron	mg/l	0.0034U	0.0034	
Cadmium	mg/l	0.00057U	0.00057	
Calcium	mg/l	0.059U	0.059	
Chromium	mg/l	0.0011U	0.0011	
Cobalt	mg/l	0.00072U	0.00072	
Copper	mg/l	0.0096U	0.0096	
Iron	mg/l	0.045U	0.045	
Lead	mg/l	0.0031U	0.0031	
Magnesium	mg/l	0.045U	0.045	
Manganese	mg/l	0.0044U	0.0044	
Molybdenum	mg/l	0.0030U	0.0030	
Nickel	mg/l	0.0052U	0.0052	
Potassium	mg/l	0.35U	0.35	
Selenium	mg/l	0.0054U	0.0054	
Silver	mg/l	0.0016U	0.0016	
Sodium	mg/l	0.195I	0.074	
Strontium	mg/l	0.0015U	0.0015	
Tin	mg/l	0.0042U	0.0042	
Vanadium	mg/l	0.0056U	0.0056	
Zinc	mg/l	0.00608I	0.0053	
Titanium	mg/l	0.0061U	0.0061	

LABORATORY CONTROL SAMPLE: 24488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Aluminum	mg/l	5	5.19	104	80-120	
Antimony	mg/l	1	0.966	97	80-120	
Arsenic	mg/l	1	1.04	104	80-120	
Barium	mg/l	1	1.05	105	80-120	
Beryllium	mg/l	1	1.06	106	80-120	
Boron	mg/l	1	1.06	106	80-120	

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE: 24488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/l	1	1.05	105	80-120	
Calcium	mg/l	25	25.8	103	80-120	
Chromium	mg/l	1	1.04	104	80-120	
Cobalt	mg/l	1	1.04	104	80-120	
Copper	mg/l	1	1.06	106	80-120	
Iron	mg/l	5	5.37	107	80-120	
Lead	mg/l	1	1.12	112	80-120	
Magnesium	mg/l	25	25.7	103	80-120	
Manganese	mg/l	1	1.06	106	80-120	
Molybdenum	mg/l	1	1.00	100	80-120	
Nickel	mg/l	1	1.06	106	80-120	
Potassium	mg/l	10	9.78	98	80-120	
Selenium	mg/l	1	1.03	103	80-120	
Silver	mg/l	0.5	0.525	105	80-120	
Sodium	mg/l	25	24.2	97	80-120	
Strontium	mg/l	1	1.06	106	80-120	
Tin	mg/l	1	0.992	99	80-120	
Vanadium	mg/l	1	1.08	108	80-120	
Zinc	mg/l	1	1.07	107	80-120	
Titanium	mg/l	1	1.00	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24489 24490 Original: 903998001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Aluminum	mg/l	0.13	5	5.44	5.07	106	99	75-125	7	20	
Antimony	mg/l	0.00167	1	0.982	0.978	98	98	75-125	0	20	
Arsenic	mg/l	0.00266	1	1.07	0.990	107	99	75-125	8	20	
Barium	mg/l	0.0132	1	1.07	0.994	106	98	75-125	8	20	
Beryllium	mg/l	-1.19e-0	1	1.07	0.982	107	98	75-125	9	20	
Boron	mg/l	0.0344	1	1.11	1.03	108	100	75-125	8	20	
Cadmium	mg/l	7.23e-00	1	1.07	0.990	107	99	75-125	8	20	
Calcium	mg/l	116	25	144	141	110	97	75-125	13	20	
Chromium	mg/l	-0.00143	1	1.04	0.964	104	96	75-125	8	20	
Cobalt	mg/l	0.00015	1	1.04	0.959	104	96	75-125	8	20	
Copper	mg/l	0.00061	1	1.05	0.976	105	98	75-125	7	20	
Iron	mg/l	0.152	5	5.54	5.09	108	99	75-125	9	20	
Lead	mg/l	-0.00159	1	1.13	1.04	113	104	75-125	8	20	
Magnesium	mg/l	2.85	25	28.8	28.3	104	102	75-125	2	20	
Manganese	mg/l	0.00936	1	1.07	0.982	106	97	75-125	9	20	
Molybdenum	mg/l	0.00177	1	1.01	0.998	101	100	75-125	1	20	
Nickel	mg/l	0.00069	1	1.06	0.983	106	98	75-125	8	20	
Potassium	mg/l	1.39	10	11.5	11.4	101	101	75-125	0	20	
Selenium	mg/l	-0.00061	1	1.05	0.965	105	96	75-125	9	20	

QUALITY CONTROL DATA

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24489 24490 Original: 903998001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Silver	mg/l	0.00028	0.5	0.533	0.526	107	105	75-125	2	20	
Sodium	mg/l	7.25	25	32.1	31.8	99	98	75-125	1	20	
Strontium	mg/l	0.68	1	1.76	1.68	108	100	75-125	8	20	
Tin	mg/l	-0.00104	1	1.00	0.986	100	99	75-125	1	20	
Vanadium	mg/l	-0.00206	1	1.09	1.01	109	101	75-125	8	20	
Zinc	mg/l	0.00693	1	1.09	1.01	109	100	75-125	9	20	
Titanium	mg/l	0.00135	1	1.02	1.00	102	100	75-125	2	20	

QUALITY CONTROL DATA

QC Batch: IC/1264 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:
903957002 903957003 903957010 903998001 903998002 903998003
904007001 904007002 904007003 904015001 904032001 904032002
904032003 904033005 904033006 904033007 904033008 904033009
904033011 904033013

METHOD BLANK: 24499

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Bromide	mg/L	0.052U	0.052	
Nitrite	mg/L	0.005U	0.005	
Nitrate	mg/L	0.007U	0.007	
Fluoride	mg/L	0.030U	0.030	

LABORATORY CONTROL SAMPLE & LCSD: 24500 24501

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Bromide	mg/L	2.5	2.42	2.42	97	97	90-110	0	20	
Nitrite	mg/L	2.5	2.44	2.42	97	97	90-110	0	20	
Nitrate	mg/L	2.5	2.46	2.46	98	98	90-110	0	20	
Fluoride	mg/L	2.5	2.48	2.50	99.3	99.8	90-110	0.5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24502 24503 Original: 904032001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Bromide	mg/L	0	25	28.9	25.9	116	104	90-110	11	20	
Nitrite	mg/L	0	25	26.0	22.5	104	90	90-110	14	20	
Nitrate	mg/L	0	25	25.2	25.0	101	100	90-110	1	20	
Fluoride	mg/L	0.395	25	26.6	26.4	105	104	90-110	0.96	20	

QUALITY CONTROL DATA

QC Batch: MICP/1360
Analysis Method: SM 5210B BOD
QC Batch Method: BOD PREP
Associated Lab Samples: 904015001

METHOD BLANK: 24509

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
BOD	mg/L	2.0U	2.0	

LABORATORY CONTROL SAMPLE: 24511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Wet Chemistry						
BOD	mg/L	198	171	86	70-130	

SAMPLE DUPLICATE: 24512 Original: 904015001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
BOD	mg/L	40U	40U	0	20	

QUALITY CONTROL DATA

QC Batch: PH/1074   Analysis Method: SM4500H-B

QC Batch Method: SM4500H-B

Associated Lab Samples:						
	903759001	903895001	903895002	903895003	903908001	903918001
	903926001	903926002	903937001	903937002	904015001	904045001
	904046001	904047004	904048001	904049001	904066001	

SAMPLE DUPLICATE: 24531   Original: 903937001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
pH	pH unit	7.47	7.64	2	20	

QUALITY CONTROL DATA

QC Batch: INPR/1610 Analysis Method: SW-846 9012A

QC Batch Method: EPA 335.2

Associated Lab Samples: 903957001 903957002 903957004 903957005 903957006 903957007
903957008 903957009 903999001 904015001 904075003 904077004
904111001

METHOD BLANK: 24589

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Cyanide	mg/L	0.0032U	0.0032	

LABORATORY CONTROL SAMPLE & LCSD: 24590 24591

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Cyanide	mg/L	0.2	0.2086	0.2077	104	104	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24592 Original: 903957001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry							0		0	0	
Total Cyanide	mg/L	0.0003	0.2	0.1749		87	0	90-110	0	0	

MATRIX SPIKE SAMPLE: 24594 Original: 904075003

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Wet Chemistry							
Total Cyanide	mg/L	0.0036	0.2	0.0222	11	90-110	

QUALITY CONTROL DATA

QC Batch: HACH/1191 Analysis Method: SW-846 7196A
QC Batch Method: SW-846 7196A
Associated Lab Samples: 904015001

METHOD BLANK: 24597

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Chromium VI	mg/L	0.007U	0.007	

LABORATORY CONTROL SAMPLE & LCSD: 24598 24599

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Chromium VI	mg/L	0.2	0.200	0.198	100	99	85-115	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24600 24601 Original: 904015001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Chromium VI	mg/L	0.005	0.2	0.203	0.203	102	102	85-115	0	20	

QUALITY CONTROL DATA

QC Batch: SOLI/1688 Analysis Method: SM 2540 D

QC Batch Method: SM 2540 D

Associated Lab Samples:
903965001 903966002 903967001 903968001 903969003 903969004
903977001 903977002 903999001 904015001 904017001 904017002
904017003 904017004 904017005 904017007 904017008 904017009
904047004 904118001

METHOD BLANK: 24620

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Suspended Solids	mg/L	1.0U	1.0	

SAMPLE DUPLICATE: 24621 Original: 903969004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Suspended Solids	mg/L	152	170	10.7	20	

QUALITY CONTROL DATA

QC Batch: INPR/1611 Analysis Method: SM 5540 C

QC Batch Method: SM 5540 C

Associated Lab Samples: 904015001 904111001

METHOD BLANK: 24643

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Surfactants	mg/L-LAS	0.040U	0.040	

LABORATORY CONTROL SAMPLE & LCSD: 24644 24645

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Surfactants	mg/L-LAS	1	0.976	0.972	98	97	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24646 24647 Original: 904015001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Surfactants	mg/L-LAS	0.005	1	0.923	0.934	92	93	80-120	1	20	

QUALITY CONTROL DATA

QC Batch: MSV/1616 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 8260B

Associated Lab Samples: 903997001 903997002 903997003 903997004 904000001 904000002
904000003 904000004 904015001 904015002 904016001 904016002
904016003 904114001 904114002 904114003 904114004 904114005
904114006 904114007

METHOD BLANK: 24668

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Volatiles				
Acetone	ug/L	1.43U	1.43	
Acrolein	ug/L	2.47U	2.47	
Acrylonitrile	ug/L	0.955U	0.955	
Bromochloromethane	ug/L	0.637U	0.637	
Bromodichloromethane	ug/L	0.100U	0.100	
Bromoform	ug/L	0.486U	0.486	
Bromomethane	ug/L	0.450I	0.427	J,9
Carbon disulfide	ug/L	0.650U	0.650	
Carbon tetrachloride	ug/L	0.468U	0.468	
Chloroethane	ug/L	1.00U	1.00	
Xylene, m,p-	ug/L	0.639U	0.639	
Chloroform	ug/L	0.572U	0.572	
Chloromethane	ug/L	0.524U	0.524	
Dibromochloromethane	ug/L	0.378U	0.378	
Dibromomethane	ug/L	0.739U	0.739	
Dichlorodifluoromethane	ug/L	0.525U	0.525	
1,1-Dichloroethane	ug/L	0.410U	0.410	
1,2-Dichloroethane	ug/L	0.897U	0.897	
cis-1,2-Dichloroethene	ug/L	0.442U	0.442	
trans-1,2-Dichloroethene	ug/L	0.410U	0.410	
Methylene chloride	ug/L	0.610I	0.580	
1,2-Dichloropropane	ug/L	0.725U	0.725	
cis-1,3-Dichloropropene	ug/L	0.664U	0.664	
trans-1,3-Dichloropropene	ug/L	0.522U	0.522	
Ethylbenzene	ug/L	0.323U	0.323	
2-Hexanone	ug/L	1.83U	1.83	
Isopropylbenzene (Cumene)	ug/L	0.528U	0.528	
2-Butanone	ug/L	4.28U	4.28	
4-Methyl-2-pentanone	ug/L	0.220U	0.220	
n-Propylbenzene	ug/L	0.624U	0.624	
Styrene	ug/L	0.458U	0.458	
Tetrachloroethene	ug/L	0.312U	0.312	
1,1,1,2-Tetrachloroethane	ug/L	0.120U	0.120	
1,1,2,2-Tetrachloroethane	ug/L	0.572U	0.572	
1,2,4-Trichlorobenzene	ug/L	0.538U	0.538	
1,1,1-Trichloroethane	ug/L	0.682U	0.682	
1,1,2-Trichloroethane	ug/L	0.841U	0.841	
Trichlorofluoromethane	ug/L	1.00U	1.00	
1,2,3-Trichloropropane	ug/L	0.160U	0.160	
1,2,4-Trimethylbenzene	ug/L	0.508U	0.508	

QUALITY CONTROL DATA

METHOD BLANK: 24668

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,3,5-Trimethylbenzene	ug/L	0.477U	0.477	
Vinyl chloride	ug/L	0.506U	0.506	
Xylene, o-	ug/L	0.341U	0.341	
1,2-Dibromo-3-chloropropane	ug/L	0.933U	0.933	
1,2-Dibromoethane	ug/L	0.345U	0.345	
Vinyl acetate	ug/L	0.570U	0.570	
Methyl-t-butyl ether	ug/L	0.650U	0.650	
4-Isopropyltoluene	ug/L	0.380U	0.380	
2,2-Dichloropropane	ug/L	0.700U	0.700	
1,1-Dichloropropene	ug/L	0.632U	0.632	
2-Chloroethylvinyl ether	ug/L	0.470U	0.470	
1,3-Dichloropropane	ug/L	0.345U	0.345	
Bromobenzene	ug/L	0.382U	0.382	
2-Chlorotoluene	ug/L	0.550U	0.550	
4-Chlorotoluene	ug/L	0.570U	0.570	
tert-Butylbenzene	ug/L	0.607U	0.607	
sec-Butylbenzene	ug/L	0.521U	0.521	
1,3-Dichlorobenzene	ug/L	0.558U	0.558	
1,4-Dichlorobenzene	ug/L	0.537U	0.537	
n-Butylbenzene	ug/L	0.564U	0.564	
1,2-Dichlorobenzene	ug/L	0.584U	0.584	
Hexachlorobutadiene	ug/L	0.763U	0.763	
Naphthalene	ug/L	0.417U	0.417	
1,2,3-Trichlorobenzene	ug/L	0.686U	0.686	
1,1-Dichloroethene	ug/L	0.638U	0.638	
Benzene	ug/L	0.621U	0.621	
Trichloroethene	ug/L	0.821U	0.821	
Toluene	ug/L	0.389U	0.389	
Chlorobenzene	ug/L	0.316U	0.316	
4-Bromofluorobenzene (S)	%	86	64-130	
Dibromofluoromethane (S)	%	98	69-134	
Toluene d8 (S)	%	98	63-127	
Xylenes (total)	ug/L	0.980U	0.980	

LABORATORY CONTROL SAMPLE & LCSD: 24669 24670

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles										
Acetone	ug/L	50	60.9	62.1	122	124		2		
Acrolein	ug/L	100	56.5	56.5	57	56		2		
Acrylonitrile	ug/L	100	99.9	98.4	100	98		2		
Bromochloromethane	ug/L	20	18.9	18.9	94	94		0		
Bromodichloromethane	ug/L	20	18.0	18.0	90	90		0		
Bromoform	ug/L	20	19.3	19.3	96	96		0		
Bromomethane	ug/L	20	13.8	15.0	69	75		8		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE & LCSD: 24669 24670

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/L	20	34.7	34.2	174	171		2		
Carbon tetrachloride	ug/L	20	22.1	21.9	110	110		0		
Chloroethane	ug/L	20	21.8	18.7	109	93		16		
Xylene, m,p-	ug/L	40	43.1	43.5	108	109		0.9		
Chloroform	ug/L	20	18.7	18.5	93	93		0		
Chloromethane	ug/L	20	11.7	9.94	59	50		17		
Dibromochloromethane	ug/L	20	19.2	19.3	96	97		1		
Dibromomethane	ug/L	20	18.8	18.9	94	94		0		
Dichlorodifluoromethane	ug/L	20	19.2	18.1	96	91		5		
1,1-Dichloroethane	ug/L	20	21.9	21.3	110	107		3		
1,2-Dichloroethane	ug/L	20	19.6	19.5	98	98		0		
cis-1,2-Dichloroethene	ug/L	20	20.6	20.3	103	102		1		
trans-1,2-Dichloroethene	ug/L	20	24.6	24.7	123	123		0		
Methylene chloride	ug/L	20	20.3	19.3	102	97		5		
1,2-Dichloropropane	ug/L	20	19.7	19.6	98	98		0		
cis-1,3-Dichloropropene	ug/L	20	20.0	19.8	100	99		1		
trans-1,3-Dichloropropene	ug/L	20	19.4	19.3	97	96		1		
Ethylbenzene	ug/L	20	21.1	20.9	105	105		0		
2-Hexanone	ug/L	50	54.2	52.1	108	104		4		
Isopropylbenzene (Cumene)	ug/L	20	18.6	19.1	93	96		3		
2-Butanone	ug/L	50	53.5	51.7	107	103		4		
4-Methyl-2-pentanone	ug/L	50	51.7	49.0	103	98		5		
n-Propylbenzene	ug/L	20	20.3	21.0	101	105		4		
Styrene	ug/L	20	18.3	18.2	92	91		1		
Tetrachloroethene	ug/L	20	22.9	23.1	114	115		0.9		
1,1,1,2-Tetrachloroethane	ug/L	20	19.3	19.1	96	95		1		
1,1,2,2-Tetrachloroethane	ug/L	20	16.6	17.1	83	85		2		
1,2,4-Trichlorobenzene	ug/L	20	18.3	18.4	91	92		1		
1,1,1-Trichloroethane	ug/L	20	20.7	21.2	103	106		3		
1,1,2-Trichloroethane	ug/L	20	19.6	19.2	98	96		2		
Trichlorofluoromethane	ug/L	20	26.3	23.3	131	117		11		
1,2,3-Trichloropropane	ug/L	20	20.7	20.7	103	103		0		
1,2,4-Trimethylbenzene	ug/L	20	20.2	20.5	101	103		2		
1,3,5-Trimethylbenzene	ug/L	20	20.0	20.9	100	105		5		
Vinyl chloride	ug/L	20	24.2	20.9	121	105		14		
Xylene, o-	ug/L	20	20.3	20.1	101	100		1		
1,2-Dibromo-3-chloropropane	ug/L	20	15.3	15.7	76	78		3		
1,2-Dibromoethane	ug/L	20	18.6	18.7	93	93		0		
Vinyl acetate	ug/L	20	17.6	16.5	88	83		6		
Methyl-t-butyl ether	ug/L	20	18.9	18.7	95	93		2		
4-Isopropyltoluene	ug/L	20	21.0	20.9	105	104		1		
2,2-Dichloropropane	ug/L	20	21.5	21.1	107	106		0.9		
1,1-Dichloropropene	ug/L	20	20.0	19.8	100	99		1		
2-Chloroethylvinyl ether	ug/L	20	19.1	18.7	96	94		2		
1,3-Dichloropropane	ug/L	20	19.2	19.2	96	96		0		
Bromobenzene	ug/L	20	17.6	17.9	88	90		2		
2-Chlorotoluene	ug/L	20	18.4	18.9	92	94		2		
4-Chlorotoluene	ug/L	20	17.9	18.6	90	93		3		

QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE & LCSD: 24669 24670

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
tert-Butylbenzene	ug/L	20	20.9	22.0	104	110		6		
sec-Butylbenzene	ug/L	20	22.6	22.6	113	113		0		
1,3-Dichlorobenzene	ug/L	20	18.2	18.1	91	91		0		
1,4-Dichlorobenzene	ug/L	20	18.3	18.3	91	91		0		
n-Butylbenzene	ug/L	20	22.4	22.8	112	114		2		
1,2-Dichlorobenzene	ug/L	20	18.0	18.2	90	91		1		
Hexachlorobutadiene	ug/L	20	20.8	21.4	104	107		3		
Naphthalene	ug/L	20	19.2	19.3	96	96		0		
1,2,3-Trichlorobenzene	ug/L	20	18.4	19.0	92	95		3		
1,1-Dichloroethene	ug/L	20	28.0	26.9	140	135	62-141	4	20	
Benzene	ug/L	20	20.0	20.4	100	102	65-141	2	20	
Trichloroethene	ug/L	20	21.8	21.9	109	109	65-140	0	20	
Toluene	ug/L	20	20.8	21.0	104	105	64-139	1	20	
Chlorobenzene	ug/L	20	19.5	19.5	97	98	48-146	1	20	
4-Bromofluorobenzene (S)	%				85	89	64-130	5		
Dibromofluoromethane (S)	%				99	98	69-134	1		
Toluene d8 (S)	%				99	98	63-127	1		
Xylenes (total)	ug/L		63.4	63.6						

QUALITY CONTROL DATA

QC Batch: TOC/1111 Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Associated Lab Samples: 903971002 904012001 904015001 904019001 904028001 904086001 904092001 904097001 904097002

LABORATORY CONTROL SAMPLE & LCSD: 24691 24692

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Organic Carbon	mg/L	80	83.8	82.2	105	103	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24693 24694 Original: 904015001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Organic Carbon	mg/L	2.5	80	83.8	82.9	102	101	90-110	1	10	

QUALITY CONTROL DATA

QC Batch: ALKA/1098 Analysis Method: SM 2320 B

QC Batch Method: SM 2320 B

Associated Lab Samples:						
	903879001	903885001	903885002	903976001	903976002	903976003
	904015001	904038002	904038003	904039002	904039003	904039004
	904039005	904039006	904039007	904088001	904088002	904088003
	904088004					

METHOD BLANK: 24695

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Alkalinity	mg/L	0.02U	0.02	

LABORATORY CONTROL SAMPLE & LCSD: 24696 24697

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Alkalinity	mg/L	250	243	244	97	98	90-110	1	20	

SAMPLE DUPLICATE: 24698 Original: 903885001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Alkalinity	mg/L	128	128	0		

QUALITY CONTROL DATA

QC Batch: SOLI/1689 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples:					
903978001	903978002	903985002	903985005	903985007	903985009
903998001	903998002	903998003	904015001	904017001	904017002
904017003	904017004	904017005	904017007	904017008	904017009
904040001	904040002				

METHOD BLANK: 24735

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Dissolved Solids(TDS)	mg/L	7.00U	7.00	

SAMPLE DUPLICATE: 24736 Original: 903978001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Dissolved Solids(TDS)	mg/L	1180	1350	13.4	20	

SAMPLE DUPLICATE: 24737 Original: 904017009

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Total Dissolved Solids(TDS)	mg/L	156	163	4.4	20	

QUALITY CONTROL DATA

QC Batch: DIGM/1832 Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Associated Lab Samples:					
903890001	903890002	903891001	903891002	903902001	903902002
903951001	903951002	903997003	904015001	904055001	904055002
904111001	904147002				

METHOD BLANK: 24762

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Thallium	mg/L	0.00027U	0.00027	

LABORATORY CONTROL SAMPLE: 24763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Thallium	mg/L	0.2	0.205	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24764 24765 Original: 903890001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Thallium	mg/L			0.211	0.213						

QUALITY CONTROL DATA

QC Batch: MISC/1185 Analysis Method: SM 2520 B

QC Batch Method: SM 2520 B

Associated Lab Samples: 903584001 903730001 903730002 903730003 904005001 904005002 904005003 904005004 904015001 904040001 904040002 904040003

SAMPLE DUPLICATE: 24831 Original: 903584001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Wet Chemistry						
Salinity	ppt	0.50	0.8	46.2	20	

QUALITY CONTROL DATA

QC Batch: IC/1272 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:					
903914001	903914002	903970001	904005001	904005003	904015001
904040003	904054001	904054002	904055001	904055002	904056001
904094001	904094002	904111001	904128001	904145001	904145002
904160002					

METHOD BLANK: 25058

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Sulfate	mg/L	0.135I	0.076	

LABORATORY CONTROL SAMPLE & LCSD: 25059 25060

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Sulfate	mg/L	7.5	7.23	7.19	96	96	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 25061 25062 Original: 903970001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Sulfate	mg/L	706	375	465	424	-64	-75	90-110	-16	20	

QUALITY CONTROL DATA

QC Batch: INPR/1615 Analysis Method: EPA 351.2

QC Batch Method: EPA 351.2

Associated Lab Samples:						
	903813001	903944001	903998001	903998002	903998003	904015001
	904020003	904028001	904032001	904032002	904032003	904056001
	904057001	904092001	904093001	904094001	904094002	

METHOD BLANK: 25077

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Total Kjeldahl Nitrogen	mg/L	0.22U	0.22	

LABORATORY CONTROL SAMPLE & LCSD: 25078 25079

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Total Kjeldahl Nitrogen	mg/L	5	4.70	4.70	94	94	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 25080 25081 Original: 903944001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Kjeldahl Nitrogen	mg/L	0.199	5	5.57	5.45	111	109	90-110	1.8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 25410 25411 Original: 904032003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Total Kjeldahl Nitrogen	mg/L	0.27	5	3.80	3.70	70.6	68.6	90-110	2.9	20	

QUALITY CONTROL DATA

QC Batch: LACH/2075 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Associated Lab Samples:

903909012	903909013	903909014	903909016	903926001	903926002
903944002	903999001	904015001	904019001	904028001	904032001
904032002	904047003	904048001	904049001	904050003	904058001

METHOD BLANK: 25189

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Ammonia	mg/L	0.017U	0.017	

LABORATORY CONTROL SAMPLE & LCSD: 25190 25191

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Ammonia	mg/L	2.5	2.55	2.60	102	104	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 25194 25195 Original: 904058001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Ammonia	mg/L	0.742	2.5	3.51	3.50	111	110	90-110	0.9	20	

QUALITY CONTROL DATA

QC Batch:	DIGM/1864	Analysis Method:	SW-846 7470
QC Batch Method:	SW-846 7470		

Associated Lab Samples: 904015001 904341001 904341002 904341003 904341004

METHOD BLANK: 25576

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Metals Analysis				
Mercury	mg/L	0.00013U	0.00013	

LABORATORY CONTROL SAMPLE: 25577

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Metals Analysis						
Mercury	mg/L	0.002	0.00204	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 25578 25579 Original: 904015001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Metals Analysis											
Mercury	mg/L	3.3e-005	0.002	0.00220	0.00215	110	108	75-125	2	20	

QUALITY CONTROL DATA

QC Batch: IC/1281   Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples:					
903845001	904015001	904088002	904111001	904147002	904162004
904173004	904215002	904215003	904223001	904385005	904385006
904393001	904405001	904405002			

METHOD BLANK: 25762

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
Chloride	mg/L	0.066U	0.066	

LABORATORY CONTROL SAMPLE & LCSD: 25763   25764

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
Chloride	mg/L	5	4.94	4.97	99	99	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 25765   25766   Original: 903845001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
Chloride	mg/L	214	250	485	474	108	104	90-110	4	20	

QUALITY CONTROL DATA

QC Batch: MISC/1193 Analysis Method: EPA 410.4

QC Batch Method: EPA 410.4

Associated Lab Samples:					
904015001	904047003	904048001	904049001	904050003	904067001
904074006	904075005	904076006	904077003	904097001	904097002
904111001	904156001	904157002	904211001	904258001	904290002
904298001	904298002				

METHOD BLANK: 26177

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Wet Chemistry				
COD	mg/L	6.7U	6.7	

LABORATORY CONTROL SAMPLE & LCSD: 26178 26179

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry										
COD	mg/L	200	202	207	101	104	90-110	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26180 26181 Original: 904097002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Wet Chemistry											
COD	mg/L	24	200	221	220	98	98	90-110	0	20	

QUALITY CONTROL DATA QUALIFIERS

QUALITY CONTROL PARAMETER QUALIFIERS

J	Estimated value.
V	Present in blank.
[8]	NCR-% RPD exceeds control limits
[9]	NCR-Result was based on a one-point calibration
[10]	MS and/or MSD recoveries outside control limits. However, LCS and/or LCSD within limits. Data reported.
[11]	MS and/or MSD recoveries outside control limits due to the high level of target analyte in the spiked sample. LCS and/or LCSD within limits. Data reported.
[12]	NCR-% difference of results from primary and secondary columns is >40%, possible due to matrix interference. Detection limit elevated above lowest concentration.

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
904015001	PW-1	EPA 1664A	EXTO/2010		
904015001	PW-1	EPA 365.1	LACH/2030		
904015001	PW-1	SM 4500-S F(20th Ed.)	HACH/1190		
904015001	PW-1	3510C	EXTO/2015	SW-846 8270C low PAH	MSSV/1351
904015001	PW-1	3510C	EXTO/2017	SW-846 8270C	MSSV/1348
904015001	PW-1	3510C	EXTO/2018	SW-846 8141A	GCSV/1542
904015001	PW-1	3510C	EXTO/2019	SW-846 8082	GCSV/1557
904015001	PW-1	3510C	EXTO/2020	SW-846 8151A	GCSV/1556
904015001	PW-1	3510C	EXTO/2021	SW-846 8081A	GCSV/1546
904015001	PW-1	EPA 365.1	INPR/1606	EPA 365.1	LACH/2047
904015001	PW-1	SM 2130 B	MISC/1182		
904015001	PW-1	SW-846 3010A	DIGM/1827	SW-846 6010	ICP/1490
904015001	PW-1	EPA 300.0	IC/1264		
904015001	PW-1	BOD PREP	MICP/1360	SM 5210B BOD	BOD/1306
904015001	PW-1	SM4500H-B	PH/1074		
904015001	PW-1	SW-846 9012A	INPR/1610	SW-846 9012A	LACH/2052
904015001	PW-1	SW-846 7196A	HACH/1191		

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
904015001	PW-1	SM 2540 D	SOLI/1688		
904015001	PW-1	SM 5540 C	INPR/1611	SM 5540 C	HACH/1193
904015001	PW-1	SW-846 8260B	MSV/1616		
904015002	TRIP BLANK	SW-846 8260B	MSV/1616		
904015001	PW-1	SM 5310B	TOC/1111		
904015001	PW-1	SM 2320 B	ALKA/1098		
904015001	PW-1	SM 4500 CO2 D	ALKA/1099		
904015001	PW-1	SM 2540 C	SOLI/1689		
904015001	PW-1	EPA 200.8	DIGM/1832	EPA 200.8	ICPM/1104
904015001	PW-1	SM 2520 B	MISC/1185		
904015001	PW-1	EPA 300.0	IC/1272		
904015001	PW-1	EPA 351.2	INPR/1615	EPA 351.2	LACH/2086
904015001	PW-1	EPA 350.1	LACH/2075		
904015001	PW-1	EPA 120.1	SPCD/1036		
904015001	PW-1	SW-846 7470	DIGM/1864	SW-846 7470	HG/1100
904015001	PW-1	EPA 300.0	IC/1281		
904015001	PW-1	EPA 410.4	MISC/1193		

QUALITY CONTROL CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
904015001	PW-1	900.0	S_01/	900.0	S_01/
904015001	PW-1	903.1	S_01/	903.1	S_01/
904015001	PW-1	EPA 100.2	S_09/	EPA 100.2	S_09/
904015001	PW-1	EPA 300.1	S_05/	EPA 300.1	S_05/
904015001	PW-1	EPA 7063 mod	S_36/	EPA 7063 mod	S_36/
904015001	PW-1	EPA 906	S_33/	EPA 906	S_33/
904015001	PW-1	Krone1989/GCMS	S_37/	Krone1989/GCMS	S_37/
904015001	PW-1	RA-05	S_17/	RA-05	S_17/
904015001	PW-1	RSK 175	S_15/	RSK 175	S_15/

Genapure Analytical Services, Inc.
3231 NW 7th Ave., Boca Raton, FL 33431
www.genapure.com

CHAIN OF COUSTODY RECORD

Log# 9041013 T#S___ Quote:___ Page___of___

Company Name: HDR PO#
Address:
City: State: Zip:
Attn: Fax#
email: deborah.day@hdrinc.com
Project Name: FPL Proj#
Sampler Signature Phone#

LAB ANALYSIS

Sample									
TRC									
pH	2	2	2	2	2				
Pres Codes	A	A	A	A	A				
Parameters	Full 8181	Full 8141	Full 8151	Full 8276	Full 8082				

EXAMPLE Diss.8RCRA 6010

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers											# of Containers Size/Type
i.e.	MW-1	6/16/04	11:35	GW	X		1											1 16ozP
1	Trip Blank			AFW			1		☒	☒	☒	☒	☐	① V				
2	PW-1	4/13/09		✓					1	1	1	2	1	① 16oz P	⑤ A2			
3									☐	☐	☐	☐	☐	☐	☐	☐	☐	
4									☐	☐	☐	☐	☐	☐	☐	☐	☐	
5									☐	☐	☐	☐	☐	☐	☐	☐	☐	
6									☐	☐	☐	☐	☐	☐	☐	☐	☐	
7									☐	☐	☐	☐	☐	☐	☐	☐	☐	
8									☐	☐	☐	☐	☐	☐	☐	☐	☐	
9									☐	☐	☐	☐	☐	☐	☐	☐	☐	
0									☐	☐	☐	☐	☐	☐	☐	☐	☐	

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
[✓ Y] N	Date Required	Y___ [✓ N]___	None___ 1___ 2___ 3___ Other___	[✓ Y] N	MR		

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
	Jeff Pruett	GAS	4-2-09	0700	Deborah Day	HDR	4/5/09	1200
	Deborah Day	HDR	4-13-09	1800		GAS	4/14/09	11:00

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other___
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other___
Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other___ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. Zn Acetate
D. NaOH	H. $NaHSO_4$	O. Other

REMARKS

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 4 °C	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals intact?	✓		
Volatile rec'd without headspace?			✓
Proper Containers Used?	✓		

ORIGINAL

197568

Genapure Telephone:888-862-LABS or 561-447-7373 Fax: 888-456-4846 or 561-447-6136 Revision G101007

Genapure Analytical Services, Inc.

3231 NW 7th Ave., Boca Raton, FL 33431
www.genapure.com

CHAIN OF CUSTODY RECORD

Log# G64015 T#S___ Quote:_____ Page___of___

Company Name: HDR PO#
Address:
City: State: Zip:
Attn: Fax#
email: deborah.daigle@hdrinc.com
Project Name: PPL Proj#
Sampler Signature Phone#

Container Type Codes

AV	Amber Vial	ES	Encore Sampler
CV	Clear Vial	PPV	Prepreserved vial
P	Plastic	PL C	Plastic container
AL	Amber Liter	PL J	Plastic Jar
CL	Clear Liter	Ziploc	Ziploc bag
AP	Amber Plastic	TEDLAR B	Tedlar bag
AG	Amber Glass	WHIRL P	Whirl pak
SJ	Soil Jar	G	Gallon Jug

Other_____
Size(s): 2oz, 4oz, 8oz, 16oz, 32oz or 1L, 40ml other____
Example: 4ozP = 4oz Plastic, 8ozSJ=8oz Soil Jar

Matrix Codes*

SD	Solid Waste	WW	Waste Water
SO	Soil	AFW	Analyte Free Water
SE	Sediment	DW	Drinking Water
OL	Oil	SU	Surface Water
PE	Petroleum	AQ	Aqueous
NA	Nonaqueous	SW	Source Water
ML	Misc. Liquid	A	Air
GW	Ground Water	O	Other____ (Please Specify)
EFF	Effluent		
INF	Influent		

Pres/Codes

A. None	E. HCL	I. Ice
B. HNO_3	F. MeOH	J. MCAA
C. H_2SO_4	G. $Na_2S_2O_3$	K. Zn Acetate
D. NaOH	H. $NaHSO_4$	O. Other

LAB ANALYSIS

Sample										
TRC										
pH	2 4	7	2	2	12	2	2	2		
Pres Codes	A	A	A	A	D	A	B	C		
Parameters	Bromide, TDS, TSS Alk, Turb, Cond, SO4, FL, Cl	BOD	Bromide	OPO4 (FF)	CN	MBAS, NO3 NO2	PP Metals	COD, TP	H2S	EXAMPLE Diss.8RCRA 6010
# of Containers Size/Type	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			1 16ozP

#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK (Y/N)	Total # of containers										REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1										
1	PW-1	4/13/09	1600	✓				1	1	1	1	1	1	1	1	1	
2											④8P ①4AP ③AG						
3																	
4																	
5																	
6																	
7																	
8																	
9																	
0																	

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
[✓ Y/N]	Date Required	[✓ Y]___ N___	None___ 1___ 2___ 3___ Other___	[✓ Y] N	my		___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Deborah Daigle	HDR	4-13-09	1800		GAS	4/14/09	10:00

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 6	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatile rec'd without headspace?			✓
Proper Containers Used?	✓		

ORIGINAL

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CHAIN OF CUSTODY RECORD

Log# 904015 T#S___ Quote:_______ Page___of___

Company Name: HDR PO#
Address:
City: State: Zip:
Attn: Fax#
email: deborah.daugh@hdrinc.com
Project Name FPL Proj# 101650
Sampler Signature Deb Daugh Phone#

LAB ANALYSIS

									TOC	Full 8260	Ethane, methane Ethene	G.A.B., 2022 6/228	trivalent AS	tritium	tributylin	Asbestos	O&G	EXAMPLE Diss.8RCRA 6010	
								Sample											
								TRC		–									
								pH	2	MAC									
								Pres Codes	E										
#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix Code*	Field Filtered	Integrity OK(Y/N)	Total # of containers	Parameters									# of Containers Size/Type	1 16ozP	REMARKS
i.e.	MW-1	6/16/04	11:35	GW	X		1												
1	PW-1	4/13/09	1600	✓					1	2 VOA	2 VOA	1	1	1	1	1	1		
2													④V ①4gT ①4AP ①16P ①LA ③6AR						
3																			
4																			
5																			
6																			
7																			
8																			
9																			
0																			

T.A.T. REQUEST Standard	RUSH	Short Hold	QA/QC Report Level	COC OK	Initials	Required State Certification	Coolers #'s
[✓ Y/N]	MN Date Required	Y___ [✓ N]___	None___ 1___ 2___ 3___ Other___	[✓ Y] N	MI		___ ___ ___ ___ ___

Item	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Deb Daugh	HDR	4-13-09	1800		GAS	4/14/09	15:[illegible]

Lab Use Only

	Yes	No	N/A
Sample INTACT upon arrival?	✓		
Received on Wet Ice? Temp 6	✓		
Proper Preservatives Indicated?	✓		
Received within holding time?	✓		
Custody seals Intact?	✓		
Volatile rec'd without headspace?	✓		
Proper Containers Used?	✓		

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