Groundwater Classification Exception Area Model Area B Injection Wells, Area 41 Injection Wells, and Recharge Bed

FAA WILLIAM J. HUGHES TECHNICAL CENTER

ATLANTIC CITY INTERNATIONAL AIRPORT, NJ

Prepared for

US Department of Transportation
Federal Aviation Administration
FAA William J. Hughes Technical Center
Atlantic City International Airport, New Jersey

Prepared by

Windsor, Connecticut

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Prepared by

TRC Environmental Corporation
Windsor, Connecticut

TRC Project No. 104146.000280.000400
March 2010

TRC
21 Griffin Road North
Windsor, Connecticut 06095
Telephone 860-298-9692
Facsimile 860-298-639

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1.0 INTRODUCTION

A new groundwater treatment plant was recently constructed at Area D, the Jet Fuel Farm, at the Federal Aviation Administration (FAA) William J. Hughes Technical Center (Technical Center), located at the Atlantic City International Airport in New Jersey. The groundwater treatment plant, referred to as the Central Treatment Plant (CTP), currently treats groundwater from three areas of concern at the Technical Center: Area D; Area 41, the Fuel Farm and Photo Lab area; and Area B, the Navy Fire Test Facility. The effluent from the CTP is discharged to groundwater via two sets of injection wells and a recharge bed. As indicated in Figure 1, subsurface injection into the Intermediate Aquifer is being conducted via injection wells associated with Area B and Area 41, and discharge to the Shallow Aquifer is being conducted at the recharge bed. The CTP has been operating under a New Jersey Pollutant Discharge Elimination System - Discharge to Groundwater (NJPDES-DGW) Permit Equivalent, dated February 26, 2008 (hereafter referred to as the discharge permit). Due to the Technical Center's location within the Pinelands National Reserve, permit conditions for the effluent are based on practical quantitation levels (PQLs) or defined background groundwater levels.

In order to remove the toxic contaminants of concern from the groundwater, chemical treatment processes are used that result in levels of sodium and manganese in the effluent that are above the background-based permit conditions (see Table 1). The New Jersey Groundwater Quality Standards (NJAC 7:9-6) and Technical Requirements for Site Remediation (NJAC 7:26E) allow for the establishment of a Classification Exception Area (CEA) in cases where groundwater contamination exceeds the standards applicable to the Classification Area in which the site is located due to, among other things, localized effects of a permitted discharge. Therefore, to address the discharge of certain constituents in the effluent at levels that exceed permit conditions, the Technical Center is seeking the establishment of a CEA. In this case, the operations that caused the constituent exceedances would be the actual groundwater treatment activities. The North American Industry Classification System (NAICS) has established an NAICS Code of 562910 for remediation and cleanup of contaminated buildings, mine sites, soil, or groundwater. Once the CEA is established, the NJDPES permit equivalent will be modified to reflect the results of the CEA.

To support this effort, a site-wide comprehensive numerical groundwater flow and solute transport model was constructed and calibrated for delineating the groundwater CEA for the Area B injection wells, the Area 41 injection wells, and the recharge bed (see Figure 1). The modeling was performed in accordance with the requirements of the discharge permit, NJAC 7:26E-8.3 and NJAC 7:9C-1.6, NJDEP's Final Guidance on Designation of Classification Exception Areas (undated) and e-mail correspondence from the New Jersey Department of Environmental

Protection (NJDEP), dated August 24, 2009, regarding the permit equivalent waivers and CEA modeling issues.

1.1 General Facility Background Information

The entire CEA lies within the Technical Center property (facility boundaries are shown on Figure 1). The Technical Center property lies on a number of different tax block and lots within the three Egg Harbor, Galloway and Hamilton Townships. The block and lot numbers include Block 516 - Lots 13.01 and 13.02; Block 1 A - Lot 2; Block 2A - Lot 2; Block 3A - Lots 2 and 6; Block 5A - Lots 1 through 6, 8, and 16; Block 7A - Lot 3; and Block 300A - Lot 1 A (TRC, 1996).

The Technical Center is located within the New Jersey Pinelands Preservation area. As such, in accordance with NJAC 7:9C et al., the groundwater quality standards applicable to the Technical Center consist of the Class I-PL (Protection Area) standards. The primary designated use of groundwater with this classification is the preservation of Pinelands plant and animal species and their habitats through the protection and maintenance of the essential characteristics of Pinelands groundwater quality. Secondary designated uses include potable and agricultural water. Groundwater quality criteria for Class I-PL (Protection Area) are defined by the background water quality, so that discharges do not result in the degradation of background water quality. The Groundwater Quality Standards also require that discharges to groundwater within the Class I-PL classification area do not result in a violation of the Surface Water Quality Standards applicable to the Pinelands National Reserve (PL-classified streams). In a PL-classified stream, the waters are to be maintained in their natural state, with changes allowed only toward natural groundwater quality.

The major groundwater usage in the vicinity of the Technical Center consists of the five FAA production wells (non-transient, non-community wells), which are located within the boundaries of the Technical Center, and the nine Atlantic City Municipal Utilities Authority (ACMUA) production wells, which are also located within the boundaries of the Technical Center, along the northern edge of the Upper Atlantic City Reservoir (Figure 5). More information on recent withdrawal rates associated with the ACMUA wells is provided in Section 3.5. In general, individual well extraction rates for the nine ACMUA wells have recently ranged from 97 gallons per minute (gpm) to 910 gpm. The three primary FAA production wells serve approximately 3,000 employees at the Technical Center and operate one-at-a-time at a rate of approximately 250 gpm, with the two other wells serving as backup wells. These three wells are located within a ½-mile radius of the CTP discharge locations. The remaining two FAA production wells serve smaller populations in the Research and Development Area of the Technical Center and in the New Jersey Air National Guard Alert Area. Both the ACMUA and

FAA production wells are screened within the Deep Cohansey Aquifer (see Section 2.1 for further information on the Technical Center geology).

In addition to the production wells located at the Technical Center, there are a few public-community and non-community supply wells located near the edge of a ½-mile radius from the CTP discharge locations. These include wells associated with the Steeplechase Village and the Delilah Terrace/Tilton Terrace communities, located just off Tilton Road to the south of the Technical Center. Information gathered during a well search conducted in 2000 (TRC, 2000) indicates that the Steeplechase Village non-community wells pump at an average rate of 20.5 gpm. The Steeplechase Village wells include one 200-foot deep well and three wells that range in depth from 80 feet to 100 feet. The total average daily discharge of these wells was reported to be approximately 25,000 gallons per day (gpd) as of 1999. No information on these wells was available via New Jersey's current i-MapNJ radius well search function.[1] For the Delilah Terrace/Tilton Terrace community wells, the majority of the wells range in depth from 100 to 116 feet, with one well 160 feet deep. Pumping rates for these wells range from 14 to 33 gpm (i-MapNJ, 2010).

Future groundwater use at the Technical Center is not expected to change significantly in the future. The FAA's Strategic Land Use Plan (FAA, 2000) notes that, in addition to environmental and aviation-related constraints to further facility development, portions of the Technical Center that are available for development are constrained by a lack of infrastructure. The Plan identifies 173 acres of the 5,000-acre facility as being suitable for small-scale development, with remaining areas subject to developmental constraints.

ACMUA has a permitted allocation of 9 billion gallons per year, or an average of 24.7 million gallons per day (mgd). Historically, the maximum average daily demand has been 12.97 mgd, with demands higher in the summer than the winter (City of Atlantic City, 2008). Recent drinking water production rates have decreased with the downturn in the economy. However, the ACMUA has conducted studies of future projected demands and, under a "high growth scenario", the required production for the year 2030 would be 17.75 mgd, which includes an allowance of 15% for unaccounted-for-water (leaks, spills and fire). This estimate is still within the existing allocation (ibid.). Personal discussions with ACMUA representatives indicate that ACMUA may increase their use of surface water and decrease their use of groundwater to meet future drinking water demands. A decrease in the use of groundwater and increase in the use of surface water was implemented in May 2009. ACMUA's 2008 Annual Report (Buchart-Horn, 2009) indicates that the construction of new intake structures in the Atlantic City Lower

[1] http://www.state.nj.us/dep/srp/community/guidance/sites_halfmile.htm

Reservoir is scheduled for the 2010-2015 timeframe, to improve operations and allow for the processing of higher quality water.

1.2 CEA-Specific Background Information

Ten injection wells were installed in Area B (Figure 2) at screen interval depths ranging from 65 feet (screen top minimum depth) to 108 feet (screen bottom maximum depth). Four monitoring wells were installed (Figure 2) in the injection depth interval for recording heads during injection testing and for operational monitoring of heads and water quality, and serve as the point-of-compliance wells for the Area B injection wells.

Three injection wells were installed in Area 41 (Figure 3) at screen interval depths ranging from 60 feet (screen top minimum depth) to 99 feet (screen bottom maximum depth). Four monitoring wells were installed (Figure 3) in the injection depth interval for recording heads during injection testing and for operational monitoring of heads and water quality, and serve as the point-of-compliance wells for the Area 41 injection wells.

Figure 4 shows the locations of the recharge bed and the network of monitoring wells. Water levels in these wells were recorded during recharge bed testing, and these wells will be used for operational monitoring of water levels and water quality, and serve as the point-of-compliance wells for the recharge bed.

Analysis of preliminary results from a comparatively simple model developed for the Area B injection wells indicated that it would be appropriate to develop a model with a significantly greater level of complexity to evaluate the effects of other wells on the transport of injected metals. Therefore, a more complex, comprehensive model was developed that encompasses a much larger area, incorporates multiple aquifers and aquitards, and simulates the effects of pumping of the ACMUA production wells located along the northern edge of the Upper Atlantic City Reservoir (Figure 5). Water levels for the ACMUA monitoring wells were measured in August 2009 for incorporation into the model. All surface water hydrologic controls and the effects of all remediation systems at Areas B, D, 20A and 41 on groundwater flow throughout the model domain were simulated. Furthermore, the anticipation that simultaneous discharge to the Area 41 injection wells, the recharge bed, and the Area B injection wells would generate overlapping impacts of metals transport resulted in a decision to simulate all three discharge areas in a single predictive transport simulation.

The objective of the CEA modeling effort for Area B, Area 41, and the recharge bed is to delineate the area of the Shallow and Intermediate Aquifers that would be impacted by sodium and manganese at concentrations above background levels, due to the injection and infiltration of treated groundwater.

2.0 CONCEPTUAL MODEL

2.1 Geology

The sedimentary strata underlying the site include Quaternary deposits and the Upper Cohansey Sand. The Cohansey Sand is part of an Atlantic Coastal Plain, seaward-dipping wedge of unconsolidated sediments that range in age from Cretaceous to Holocene (Rooney, 1971). These sediments were deposited in beach and shelf environments. Interbedded fine-grained sediments are transgressive marine deposits that formed during major incursions of the sea.

The Quaternary deposits are Recent sediments consisting of sand, gravel, and clay ranging in thickness from 30 to 50 feet in the vicinity of the ACMUA well field (Weston, 1984). Sand and gravel are the dominant sediments. Clay beds as thick as 10 feet were encountered during the drilling for the Weston study, but the clay is laterally discontinuous.

The Tertiary Cohansey Sand is generally a deltaic deposit, but it contains sediments from nearshore marine, fluvial, estuarine, lagoonal, and beach environments (Rhodehamel, 1973). The Cohansey Sand is composed of fine to coarse quartz sand, lenses of clay, and lenses of gravel (Hardt and Hilton, 1969). Grain size varies both vertically and laterally, which is consistent with deposition within a coastal environment.

The stratigraphy in the vicinity of the ACMUA well field (Figure 5) is summarized in Figures 6 and 7. These cross-sections are based upon the drilling logs from the Weston study (Weston, 1984), the drilling logs for the Area B injection and monitoring wells, and the Area 20A drilling logs.

The Cohansey Sand is locally subdivided into an Intermediate Cohansey Aquifer (Intermediate Aquifer) and a Deep Cohansey Aquifer (Deep Aquifer). The Middle Cohansey Clay, 35 to 40 feet thick and separating the two aquifers, occurs throughout the subsurface beneath the site.

The Upper Cohansey Clay locally separates the Cohansey Sand from the shallow Quaternary deposits (Shallow Aquifer) in the vicinity of the ACMUA well field and Area 20A. The Upper Cohansey Clay pinches out between the Upper Atlantic City Reservoir and the Area B injection wells (Figure 6). The Upper Cohansey Clay is expected to pinch out to the northwest of the ACMUA well field, as suggested by the thinning of this unit on Section B-B' (Figure 7). On the western half of the site, therefore, the Shallow and Intermediate Aquifers are contiguous. Lenses of silt and clay occur within the Shallow Aquifer.

2.2 Hydrology and Hydrogeology

The 30-year (1971-2000) average annual precipitation at the Atlantic City International Airport is 40.59 inches (http://climate.rutgers.edu/stateclim_v1/norms/daily/atlanticcityap.html). Model calibration for another CEA delineation performed by TRC at the Technical Center (the Area 29 CEA delineation) indicated that groundwater is recharged at a rate of 21.6 percent of the average annual precipitation rate (TRC, 2009).

The Shallow Aquifer is unconfined. The Intermediate Aquifer is confined in the vicinity of the Upper Atlantic City Reservoir and Area 20A, where shallow groundwater levels and flow are controlled by surface water. The Intermediate Aquifer is unconfined west of the Upper Atlantic City Reservoir. However, aquifer testing data (Appendix A) indicate the hydraulic conductivity of the Intermediate Aquifer is much higher than the Shallow Aquifer. Partly due to this difference in hydraulic conductivity, the potentiometry of the Intermediate Aquifer is distinct from the Shallow Aquifer even in areas where the Intermediate Aquifer is unconfined.

Treated groundwater is injected into the unconfined Intermediate Aquifer (i.e., no silt or clay layer separating the Intermediate Aquifer from the Shallow Aquifer) in Area B and Area 41. Treated groundwater is discharged from the recharge bed to the Shallow Aquifer, where it is also contiguous with the Intermediate Aquifer.

The Deep Aquifer is confined. The ACMUA wells are completed in the Deep Aquifer. Prior to ACMUA well field usage, heads in the Deep Aquifer were greater than heads in the Intermediate and Shallow Aquifers (upward vertical gradients). Results of analyses of pumping test data for the ACMUA well field indicated that the Middle Cohansey Clay is a leaky aquitard (Weston, 1984). Vertical gradients are currently downward from the shallow unconfined groundwater into the Deep Aquifer. Pumping-induced head losses in the Deep Aquifer propagate through the Middle Cohansey Clay, influencing groundwater flow in the Intermediate Aquifer.

Transport of metals from the injection wells and the recharge bed is partly influenced by the effects of ACMUA well field pumping (vertical gradients and modified Intermediate Aquifer flow). However, remediation extraction wells screened in the Intermediate Aquifer in Area 20A, located south of the Upper Atlantic City Reservoir, exert significant mitigating effects on the transport and fate of injected metals within the Intermediate Aquifer.

2.3 Metals Impacts to Groundwater

The treated groundwater from the CTP contains concentrations of sodium and manganese that exceed background groundwater levels, which are the applicable Groundwater Quality

Standards (Table 1). The injected and infiltrated water, therefore, is expected to raise groundwater concentrations of these constituents above background levels.

Controls on the fate and transport of sodium and manganese include adsorption and cation exchange. Sodium is more mobile than manganese in groundwater, partly due to the difference in valence. The interactions between surface sites for adsorption on mineral surfaces and monovalent sodium are much weaker than interactions with divalent manganese. Also, cation exchange processes tend to extract divalent ions from solution, replacing them with monovalent ions. For these reasons, the CEA delineation was based on simulations of the future transport of sodium.

However, sodium is also retained by adsorption on mineral surfaces, especially by minerals with high cation-exchange capacities such as clays (e.g., Hem, 1992). Based upon monitoring data and modeling conducted for the Area 29 CEA, sodium transport is mildly retarded in aquifer groundwater at the site (TRC, 2009). The sodium transport velocity is expected to be strongly retarded in aquitards.

Background sodium concentrations, which are the applicable groundwater quality standards for discharges to groundwater within the Pinelands, are variable across the Technical Center and among aquifers. Sodium concentrations are also variable within specific areas of the Technical Center.

In order to provide a comprehensive, statistically valid evaluation of background metals concentrations in the unconfined, Shallow/Intermediate Cohansey aquifer at the Technical Center, metals results from a large group of wells located at and in the vicinity of the three discharge areas was considered. These wells included piezometers which were each sampled on four separate occasions between 2001 and 2004. Each of the selected piezometers are located outside of the influences of other FAA remediation areas (e.g., Area D, etc.) and represent naturally occurring background groundwater quality conditions. The piezometers used for this evaluation included: U-PZ-15, -20, and -25 (near the Area B injection wells, Figure 2); U-PZ-21, and -26 (near the Area 41 injection wells, Figure 3); and U-PZ-40, -45, and -50 (near the recharge bed, Figure 4). In addition, the 2008 sampling results from the Area B and Area 41 injection monitoring wells and the monitoring wells surrounding the recharge bed were incorporated into the database. All samples from the piezometers, the injection monitoring wells, and recharge bed monitoring wells were collected using bladder pumps and low flow sampling methods. The metals database was then segregated by discharge area allowing a calculation of background metals concentrations for each discharge area. ProUCL Version 4.00.04 (USEPA, 2009) statistical software was then used to calculate the 95% Upper Confidence Level (UCL) of the means of each metal in the database for each discharge area.

The resulting 95% UCL for sodium in the discharge areas included: Area B injection well area (6,944 µg/L), 41 injection well area (5,610 µg/L), and the recharge bed area (5,218 µg/L). The 95% UCL for the remaining metals for each discharge area are included on Tables 2, 3 and 4.

The Groundwater Quality Standards also require that discharges to groundwater within the Class I-PL classification area do not result in a violation of the Surface Water Quality Standards applicable to the Pinelands National Reserve (PL-classified streams). No specific surface water quality standards have been established for either sodium or manganese in freshwater streams in New Jersey (NJAC 7:9B).

3.0 MODEL DEVELOPMENT

The comprehensive, three-dimensional numerical groundwater flow and solute transport model developed for this evaluation (CEA Model) simulates saturated flow and transport processes. The model simulates simultaneous and continuous discharge of the CTP treated groundwater to Area B, Area 41, and the recharge bed for a period of 30 years, which is considered to be a representative time over which groundwater remediation is expected to occur. Net infiltration of incident precipitation (recharge), the hydraulic effects of surface water-groundwater interactions, and the pumping stresses (extraction and injection) of all the remediation systems and the ACMUA extraction wells are incorporated in the model. The model accounts for advection, dispersion, and retardation of the sodium transport velocity. The code that was used is capable of integrating these concurrent stresses and processes, and sufficiently robust to handle the non-linearity of the simulations.

3.1 Numerical Code

MODFLOW-SURFACT, Version 3.0 (HydroGeoLogic Inc., 2008), was used for the groundwater flow and solute transport modeling. MODFLOW-SURFACT is a fully-integrated groundwater flow and solute transport code based on the widely-used and accepted U.S. Geological Survey modular, three-dimensional (3-D) groundwater flow modeling code, MODFLOW (e.g., McDonald and Harbaugh, 1988 and later MODFLOW versions).

MODFLOW is a block-centered, finite-difference mathematical model, written in FORTRAN, which uses approximations of the partial differential equation describing the 3-D migration of groundwater of constant density through porous media:

$$\partial/\partial x(K_{xx}\partial h/\partial x)+\partial/\partial y(K_{yy}\partial h/\partial y)+\partial/\partial z(K_{zz}\partial h/\partial z)-W=S_s\partial h/\partial t \qquad 1)$$

K_{xx}, K_{yy}, *and* K_{zz} = hydraulic conductivity along the x, y, and z coordinate axes;

h = potentiometric head;

W = volumetric flux per unit volume, representing sources and/or sinks of water;

S_s = specific storage of the porous material; and

t = time.

The MODFLOW program consists of a group of sub-routines for simulation of external stresses such as pumping and vertical recharge. Groundwater flow within aquifers can be simulated as fully 3-D or quasi 3-D under confined and unconfined conditions.

MODFLOW's computer code and the governing equation have been verified (Anderson and Woessner, 1992), ensuring accurate solutions to the equations that constitute the mathematical model and accurate descriptions of groundwater migration through porous media. MODFLOW is widely used and accepted internationally because of its demonstrated capability to simulate groundwater flow in complex hydrogeologic settings.

MODFLOW-SURFACT includes new flow modules that were added to MODFLOW (as intended by the authors) to enhance its groundwater flow modeling capability and computational power and stability. MODFLOW-SURFACT improves the routines for performing unconfined simulations involving desaturation/resaturation of nodes, and overcomes the numerical difficulties encountered with standard USGS versions of MODFLOW. Additional enhancements to MODFLOW-SURFACT include options for adaptive time-stepping and output control, several Preconditioned Conjugate Gradient solution packages, a Newton-Raphson linearization package to enhance solver stability, and a multi-node well package for improved simulation of wells screened across multiple strata with different hydraulic conductivity.

The partial differential equation governing 3-D transport of a solute species, k, in a variably-saturated porous medium may be written in the following form (Bear, 1979):

$$\frac{\partial}{\partial x_i}\left(D_{ij}^{k}\frac{\partial c^k}{\partial x_j}\right)-\frac{\partial}{\partial x_i}\left(v_i c^k\right)=\frac{\partial}{\partial t}\left(\Phi S_\alpha c^k\right)+\frac{\partial}{\partial t}\left(\rho_B c_s^k\right)+\lambda_\alpha^k \Phi S_\alpha c^k+\lambda_s^k \rho_B c_s^k-qc^{*k}+\Gamma^k-\lambda_\alpha^{k-1}\Phi S_\alpha c^{k-1}-\lambda_s^{k-1}\rho_B c_s^{k-1} \quad 2)$$

i or j = 1,2,3;

D_{ij} = the apparent hydrodynamic dispersion tensor;

c^k = solute concentration of component k in the active phase;

c_s^k = the concentration of component k adsorbed to the soil;

v_i = the Darcy velocity;

Φ = the effective porosity;

S_α = the saturation of the active fluid phase α;

$\lambda_\alpha^k, \lambda_s^k$ = first-order decay coefficients for component *k* in the active fluid phase, α, and soil, *s*;

q = the volumetric flow rate via sources or sinks per unit volume of the porous medium;

c^{*k} = the solute concentration of the sources or sinks; and

Γ = the mass transfer rate of component *k* from the active phase to the inactive phase (zero for contaminant transport in the active phase only).

Component (*k-1*) is the parent component for daughter product *k* when transformation products occur. The last two terms in equation 2 represent generation of component *k* as a result of decay of (*k-1*) in water and on soil, respectively. The active phase, α, is the phase for which the flow equation is solved.

Equation 2 expresses the transport of a decaying solute in a sorbing porous medium with advection and Fickian dispersion in the active phase. The governing equation for transport of solute in a variably-saturated porous medium reduces to the saturated transport equation when the active fluid phase, α, is water (*w*), and $S_w = 1$.

Verification of the MODFLOW-SURFACT flow code was conducted by comparison of the numerical solutions to analytical solutions, to numerical solutions from other modeling studies, and to field observations (HydroGeoLogic Inc., 2002). Flow continuity requirements are satisfied, and solute transport solutions are mass conservative.

3.2 Model Domain

The model domain is depicted in Figure 8. The domain includes the hydrologic influences of the Upper Atlantic City Reservoir, the western end of the Lower Atlantic City Reservoir, the Area 20A recharge basin, and the north and south branches of Absecon Creek (NBAC and SBAC, respectively).

3.3 Finite-Difference Grid

The finite-difference grid is portrayed in Figure 9. The grid cell size is a uniform 100 feet by 100 feet.

The model has 16 layers representing the Shallow, Intermediate, and Deep Aquifers, and the aquitards of the Upper Cohansey Clay and Middle Cohansey Clay. This number of grid layers facilitates explicit representation of the variable thickness and individual members of the Upper Cohansey Clay and the pinch-outs of the members. The effects of anisotropy in horizontal to vertical hydraulic conductivity and the variable well screen top and bottom elevations are accommodated with this extensive vertical discretization of the grid. Moreover, this discretization results in improved accuracy in simulating vertical hydraulic gradients, an important aspect of the hydrogeology of the site.

The bottom of the model has an elevation of -190 feet below mean sea level, representing the bottom of the Cohansey Aquifer. Figure 10 shows the locations of the lines of section for model cross-sections of the hydrostratigraphy depicted in Figures 11 and 12. Note that the thickness of the Shallow Aquifer is exaggerated, which is unimportant due to the unconfined nature of this aquifer and the simulation of the water table at the appropriate elevations within the model representation of this hydrostratigraphic unit.

3.4 Boundary Conditions

The model boundary conditions are shown in Figure 13.

3.4.1 Hydraulic Boundary Conditions

Constant head nodes on the perimeter of the model domain are used to approximate the heads in the Shallow Aquifer based upon available data and conceptualization of flow in the aquifer. Ground surface elevations were considered in specifying the heads at these nodes (i.e., no heads above ground surface).

General head nodes on the model perimeter are used to approximate variable heads in the Deep Aquifer under different extraction rates of the ACMUA wells, in addition to the heads representing flow in the Deep Aquifer prior to ACMUA well field usage. A calibrated conductance term allows the heads to vary from the natural, unstressed aquifer conditions to the large drawdowns associated with ACMUA pumping. The assigned heads and calibrated conductance of the general head nodes, in combination with calibrated hydraulic conductivities, reproduce measured heads in monitoring wells in both the Deep and Intermediate Aquifers under pumping and natural conditions.

The Upper and Lower Atlantic City Reservoirs are simulated with river nodes. These nodes are used to set surface water elevations, water depths, and a bottom sediments conductance term for seepage of water between the reservoirs and the Shallow Aquifer. The aquifer head is variable, and the reservoir seepage rate (in or out) is a function of the surface water level, the

aquifer head, and the bottom sediments conductance. The Upper Atlantic City Reservoir water elevation is set at 18.84 feet (ft) above mean sea level (amsl), corresponding to the ACMUA reported Fall 2009 water level measured at 4.5 ft below the spillway, and the Lower Atlantic City Reservoir water elevation is set at the spillway elevation water level of 12 ft amsl.

The NBAC, SBAC, and other creeks are represented as drain nodes. These drain nodes simulate groundwater discharge from the Shallow Aquifer to the creeks. The drain nodes are assigned an elevation representing the local creek bottom and have a conductance term. The head in the aquifer and the conductance control the discharge rate, which affects simulated aquifer heads in the vicinity of the creeks. The conductance is calibrated along the SBAC to match stream flow data and water levels in wells near the creek.

Extraction and injection wells are simulated with multi-node model wells. These model wells consist of interconnected nodes among all the layers corresponding to the actual well screens. A single rate is assigned to the multi-node well, and the model well correctly apportions extraction or injection to each layer based upon the layer transmissivity, including variable transmissivity due to different water table elevations. This type of model well can also limit the flow rate. For example, if the discharge rate is greater than simulated capacity of the well, the discharge rate will be automatically decreased by the model.

In addition to the Area B and Area 41 injection wells and the ACMUA extraction wells, the model incorporates extraction and injection associated with remediation at Area 20A, and extraction associated with remediation at Area D, Area B near the SBAC, and Area 41. The discharge to the recharge bed is also simulated with model wells. Total flows to Area B injection wells and Area 41 injection wells are apportioned evenly among the number of wells in the respective areas in the absence of specific well flow rate information. Likewise, the total flow to the recharge bed is apportioned evenly among the nodes representing the recharge bed.

Infiltration of precipitation, or natural recharge to the Shallow Aquifer from incident precipitation, is also a boundary condition. The simulated rate of this natural recharge, 8.76 inches/year, represents an average annualized rate based on 21.6 percent of the 30-year (1971-2000) average annual precipitation of 40.59 inches at the Atlantic City International Airport. Model calibration for the Area 29 CEA delineation (TRC, 2009) indicated the percentage of the average annual precipitation that recharges groundwater is 21.6 percent.

3.4.2 Concentration Boundary Conditions

Constant concentration boundary nodes generate background concentrations of sodium in groundwater flowing into the model domain. Initial concentrations of sodium are also a boundary condition.

Section 2.3 discusses the variations in background sodium concentrations among the different discharge locations and the Deep Aquifer. Background concentrations in groundwater are generally a function of groundwater reactions with aquifer materials and residence times, which are expected to vary spatially and vertically. Spatial variations in the recharge rate and in vertical gradients can account for some of the spatial variation in background concentrations. Periodic infiltration of precipitation causes fluctuations in the background concentrations.

There are insufficient data upon which to estimate the spatial and vertical distributions of initial (background) sodium concentrations across the Technical Center, in a manner that would smoothly represent their variability. This problem also applies to the constant concentration boundary nodes. Furthermore, the model does not account for groundwater reactions with sediments, including reactions in the vadose zone during infiltration of precipitation, which are responsible for the different background concentrations.

Simulating background sodium by specifying arbitrarily-delimited and distinctly different initial sodium concentrations for each effluent discharge area (i.e., a model with three-dimensionally variant and sharply-bounded initial concentrations) and variable constant concentration boundary cells generates time-transient comingled "background" concentrations characterized by strong concentration gradients that are a poor representation of actual conditions. Even within the individual discharge areas, the initial concentrations become highly variable "background" concentrations. Most importantly, it is impossible to separate the effects of the effluent discharge superimposed on this simulated distribution of background sodium.

In order to generate a clear picture of the potential region of impacts of discharge water to groundwater, a single background sodium concentration must be assigned to the constant concentration nodes and the initial concentrations. Furthermore, a conservative approach utilizes the lowest known average background concentration at the site. The area in the immediate vicinity of the recharge bed has the lowest sodium arithmetic mean concentration calculated from the four sampled monitoring wells surrounding the bed (i.e., RP-MW2S, -4S, -5S, and -7S). The mean sodium concentration of these wells was 5,140 µg/L. Use of this background sodium concentration generates the most conservative CEA (i.e., it results in the maximum spatial extent of the modeled CEA). For comparison purposes, the selected background sodium concentration is significantly less than any sodium regulatory screening level based on protection of human health. Neither a primary nor a secondary maximum contaminant level (MCL) has been established for sodium. The EPA has established a drinking water advisory for sodium of 20 milligrams per liter (mg/L) (20,000 µg/L) for individuals on a 500 mg/L restricted sodium diet and has set a taste threshold at 30 to 60 mg/L. A drinking

water advisory is defined as a nonregulatory concentration of a contaminant in water that is likely to be without adverse effects on health and aesthetics.

Simulating a background concentration of 5,140 µg/L sodium throughout the model domain requires that the recharge water (incident precipitation) also be assigned a sodium concentration equal to the background concentration. Transport simulations are initiated with the background concentration at all nodes in the model.

A CTP effluent concentration of 37,000 µg/L sodium was simulated for each of the discharge areas. CTP data for June, July, and August 2009 (Table 1), available at the time of the modeling, suggested the effluent composition was stable and optimized at approximately this sodium concentration. More recent data (September 2009 through January 2010) indicated an increase in the sodium concentration of the effluent to approximately 50,000 µg/L. This increase in the sodium concentration was due to an increase in the amount of sodium hydroxide required to raise the treatment water pH to 9.2-9.4 in order to remove influent iron and zinc concentrations down to their associated PQLs (20 and 10 µg/L, respectively). This pH level was higher than that at which the CTP was previously operated. However, once the CEA is finalized and the NJPDES permit equivalent is modified, the effluent discharge criteria will be required to meet background groundwater quality conditions, which in the case of iron, ranges from 319 to 17,232 µg/L and for zinc, ranges from 5 to 23.5 µg/L (Table 1). Both of these levels are higher than their respective PQLs referenced above. Therefore, it is anticipated that this will allow the CTP operators to use less sodium hydroxide (i.e., operating the CTP at lower pH levels) which will result in effluent sodium concentrations in the range of the modeled 37,000 µg/L level and potentially even significantly lower.

3.5 Model Calibration

Calibration of the model was performed with the objective of determining hydraulic properties and perimeter boundary conditions that satisfy multiple observed conditions, including measured heads prior to ACMUA well field usage. The marine depositional environment of the Cohansey Sand and Clays suggests variation in hydraulic properties within each of the aquifers and aquitards is limited, justifying an approach of calibrating uniform, average model hydraulic conductivities for each of these units. However, the non-marine depositional environment of the Quaternary sediments of the Shallow Aquifer supports incorporating spatial and vertical heterogeneity in the hydraulic properties of this aquifer in the recharge bed area to achieve calibration to measured heads.

The observed conditions and data sets to which the model was calibrated are: 1) measured heads and changes in heads in the Area B injection monitoring wells and Area 41 injection

monitoring wells during injection testing, 2) measured heads in the recharge bed monitoring wells for two distinct rates of discharge during testing, 3) measured heads in the ACMUA monitoring wells of the Intermediate and Deep Aquifers for the 3rd quarter of 2009, 4) measured heads in February 2008 for two sets of monitoring wells completed in the Intermediate Aquifer at different depths (middle and deep) beneath the region of Area B around the SBAC, 5) Shallow Aquifer heads in monitoring wells of Area U and around the Area 20A recharge basin, and 6) measured heads in the Deep Aquifer ACMUA monitoring wells prior to ACMUA well field usage. The model was also calibrated to SBAC baseflow for the reach of the creek within the model domain.

Steady-state simulations were used to calibrate the hydraulic conductivities under the various observed conditions of the distinct time periods. Due to strong and far-reaching effects of the ACMUA well field pumping on heads in all aquifers, the appropriate extraction rates of these wells were simulated for the periods corresponding to the various conditions and data sets of calibration. Additionally, all other applicable rates of well extractions and injections, and the discharge rates to the recharge bed were applied for the relevant time period and calibration data set.

Data on ACMUA well withdrawals were available from January 2008 through August 2009 (Appendix B). Average extraction rates for each well (Table 5) were calculated for three-month periods (quarters) based on the total withdrawals for each well during each quarter. The average rates for the quarter corresponding to the calibration data set were simulated.

Remediation system extraction wells for Area B and Area 20A, and the injection wells at Area 20A were simulated at invariant rates among the different calibration simulations, or not simulated for calibration time periods prior to their usage. These systems are in critical areas of the model domain for calibration. The seven Area B shallow extraction wells, B-EW1S, B-EW2S, B-EW3S, B-EW4S, B-EW5S, B-EW6S, and B-EW7S, were each simulated at 5 gpm. The five deeper Area B extraction wells, B-EW1M, B-EW1D, B-EW2M, B-EW2D, and B-EW4D, were each simulated at 50 gpm. Area 20A extraction wells 20A-EW1, 20A-EW2, and 20A-EW3 were simulated at 40 gpm, 60 gpm, and 120 gpm, respectively. Area 20A injection wells 20A-IW3, 20A-IW4, and 20A-IW5 were simulated at 18 gpm, 13.3 gpm, and 22.8 gpm, respectively. The six Area 41 extraction wells have been inconsistently operated at insignificant rates (Appendix C), and were not simulated for calibration. Likewise, Area D extraction well use has been irregular (Appendix C), and these wells were omitted during calibration. Omission of Area 41 and Area D extraction wells during hydraulic calibration is irrelevant to calibrating the model due to their locations with respect to calibration targets, insignificant extraction rates, and the

objectives of the calibration. However, these wells were simulated during the CEA simulations for their potential effects on sodium transport.

3.5.1 Calibration Simulations

The most significant constraints on overall model calibration are the heads in the ACMUA monitoring wells of the Intermediate and Deep Aquifers for the 3rd quarter of 2009. TRC obtained permission from the ACMUA to measure water levels in these wells in August and early September 2009 (Table 6). Average water levels were calculated from the August data, available at the time of the modeling, for use as calibration targets. The average pumping rates of the ACMUA production wells for the 3rd quarter of 2009 (Table 5) were simulated. September pumping rate data were not available at the time of the modeling. Average extraction rates and average water levels were used for calibration due to significant variations in pumping rates (Appendix B), affecting water levels, especially in the Deep Aquifer.

The primary calibration variable of this 3rd quarter 2009 simulation was the conductance of the general head boundary cells in the Deep Aquifer. The conductance controls the flux of groundwater into the model domain, affecting the heads at the perimeter of the model, as well as heads at the production wells and monitoring wells. The calibrated hydraulic conductivities of the Deep Aquifer and the Middle Cohansey Clay (Figure 11) are similar to the values derived from pumping tests, reported by Weston (1984; 1985). Figures 14 and 15 show the simulated potentiometric surfaces of the Intermediate and Deep Aquifers and the calibration errors. The calibration errors (differences between simulated and average measured water levels) are less than a few feet in both aquifers. Figure 15 illustrates the effects of ACMUA extraction extending beyond the model perimeter, as expected and achievable in simulations with the use of general head boundary conditions.

Calibration of the Intermediate Aquifer hydraulic conductivity was primarily constrained by data from late April 2009 injection testing at Area B and Area 41. Measured flow rates to the injection wells were simulated, and the targets for calibration were the water levels measured in the last week of April 2009 in the four injection monitoring wells in each area during the injection testing (Table 7). Measured total flow rates to the ten Area B injection wells on April 28 and April 29, 2009 were 377 gpm and 374 gpm, respectively. The average rate of 375.5 gpm was distributed equally among the ten wells in the simulation. At the same time, total flow to the three Area 41 injection wells ranged between 13 and 16 gpm. The average of 14.5 gpm was distributed equally among the three wells in the simulation.

Figure 16 shows the simulated local Intermediate Aquifer potentiometry for Areas B and 41 with injection and the calibration errors at the injection monitoring wells. The errors are about

a foot or less at both locations, with a calibrated hydraulic conductivity value of 85 feet/day for the Intermediate Aquifer. This hydraulic conductivity is within the range of reported values from analysis of Area B pumping and injection test data from the Intermediate aquifer (TRC, 2001). Figure 14 shows that use of this hydraulic conductivity value also results in a small calibration error at ACMUA-8S, where the net effect of extraction and injection in the Intermediate Aquifer at Area 20A is significant.

The Intermediate Aquifer calibrated hydraulic conductivity value of 85 feet/day is primarily and most-importantly constrained by the change in measured water levels in the Area B injection monitoring wells from pre-testing water levels (December 8, 2008; the day testing began) to water levels on April 29, 2009 (Table 8), under controlled and measured flow rates to the Area B injection wells. Measured water levels during the injection testing were assumed to have reached steady state, especially after several months of injection and controlled flows during the testing period. A simulated difference in water levels between two steady state simulations (with and without injection) was recorded (Table 8). Independently, the change in water levels due to infiltration of precipitation for the 5 months of testing was also investigated with a transient simulation without injection, incorporating monthly precipitation data for December 2008 through April 2009. The simulated net change in water level due to recharge during this period is +0.12 foot, which was added to the simulated change in water levels due to injection. This combined simulated change in water level was compared to the difference in water levels between December 8, 2008 and April 29, 2009 (Table 8). The maximum error is 0.1 foot.

Calibration of the Shallow Aquifer hydraulic conductivities and boundary conditions was performed against available Shallow Aquifer water level data consisting of a set of Area U piezometer data from June 2004 (Figure 17) and water levels from various dates in several wells in close proximity to the Area 20A recharge basin. In the absence of ACMUA extraction rates for the 2nd quarter 2004, the average rates of the ACMUA production wells for the 2nd quarter 2008 (Table 5) were used as a proxy under the assumption that the seasonal rates were similar. The applied stresses and water level data are acceptable for verification of the configuration of the Shallow Aquifer potentiometry, which is largely controlled by surface water, the perimeter constant head boundary conditions, and the recharge rate. After calibration of the local hydraulic conductivity in the area of the recharge bed, the simulation was repeated to ensure that the recharge bed calibration did not alter the results. Figure 18 shows the final simulated potentiometry for 2nd quarter 2008 and the small errors in simulated heads at Area U and the Area 20A recharge basin. The calibrated hydraulic conductivity of the Shallow Aquifer is 20 feet/day, with some thin zones of 30 feet/day and 50 feet/day transitional to the Intermediate Aquifer where the Upper Cohansey Clay is absent (Figure 11).

Calibration of the local Shallow Aquifer hydraulic conductivity in the vicinity of the recharge bed is based upon data from recharge bed testing in early June 2009, when monitoring well water levels and the flow rate to the bed were stable (Figure 19). Peak flow rates and water levels for a short period during early July testing (Figure 19) were used for verification of the calibration.

The average flow rate to the recharge bed from May 29 to June 3 was about 217 gpm, based upon total flow recorded by a flow meter. This average flow rate was simulated for calibration to early June monitoring well levels. The average rates of the ACMUA production wells for the 2nd quarter 2009 (Table 5) were used for this simulation. The average flow rate to the recharge bed from June 29 to July 6 was about 349 gpm. This much higher rate was simulated to verify model performance by comparing the measured water levels in early July to the heads from this simulation. Local variations in the calibrated hydraulic conductivity range from 0.1 to 30 feet/day, which are consistent with lithologic descriptions from the boreholes for the monitoring wells and laboratory permeability test data (Appendix D) indicating a range of 1.7 to 32 feet/day. The average rates of the ACMUA production wells for the 3rd quarter 2009 (Table 5) were used for this simulation. Figures 20 and 21 show the simulated local Shallow Aquifer potentiometry around the recharge bed for early June and early July, respectively. Note that water level data for monitoring wells RP-MW10S and RP-MW11S, which were installed in July, were not available for the early June calibration, but data were available for use in the early July verification simulation.

Additional model verification was performed by checking simulated heads against measured heads in February 2008 for two sets of monitoring wells screened in the Intermediate Aquifer at different depths ("Intermediate" and "Deep" Wells) beneath the region of Area B around the SBAC (Figures 22 and 23). The average rates of the ACMUA production wells for the 1st quarter of 2008 (Table 5) were simulated. Figures 24 and 25 show the simulated local potentiometry for the "Intermediate" and "Deep" zones of the Intermediate Aquifer. The small errors in simulated heads for completely different conditions verify model boundary conditions as well as hydraulic conductivities. The potentiometry shows the strong effects of the SBAC and the model representation of this creek on heads in the Intermediate Aquifer.

A final, important model verification is the simulated reproduction of the Deep Aquifer potentiometry prior to ACMUA well field usage. This simulation had no pumping stresses in any aquifers, but utilized the same shallow constant head boundary conditions and deep general head boundary conditions used for model calibration under stressed conditions. Figure 26 is the contoured potentiometry of the unstressed Deep Aquifer based upon measured heads (Weston, 1984). Figure 27 shows the simulated reproduction of this potentiometry, which is a good replication of the heads, gradient, and flow direction.

The calibrated model generates a total drain flux for the SBAC (groundwater discharge or baseflow) along the reach of the creek within the model domain that is consistent with data for low flow conditions. Low flow discharges measured at two stations (SG-AEB and SG-SBM) near the Upper Atlantic City Reservoir (Figure 28) are approximately 5.4 to 6 cubic feet per second (cfs) (Table 9). Although data for upstream station SG-SB-49 (Figure 29; western end of model domain) are unavailable for the same day, the average flow at the lower end of the range of the available data (< 5 cfs, Table 10) is 3.0 cfs. The difference in flows between the upstream and two downstream stations, 2.4 to 3.0 cfs, is similar to the simulated discharge of 2.5 cfs from the SBAC. This similarity indicates that model boundary conditions, as well as calibrated hydraulic conductivities, are simulating a water balance that represents a good approximation of actual conditions.

Figure 11 summarizes the calibrated model hydraulic conductivities. The horizontal/vertical anisotropy of aquifers/sand is 10/1. Aquitard/clay horizontal/vertical anisotropy is 100/1.

3.6 Solute Transport Parameters

The solute transport model was not calibrated, because sodium concentration data had not been collected for the monitoring wells at the time of the model calibration. Effective porosity and dispersivity were set with professional judgment and literature guidance. Sodium retardation in the sands is based upon a distribution coefficient (Kd) calibrated in the Area 29 CEA solute transport model (TRC, 2009). Aquitard retardation is based upon a literature Kd.

The effective porosity accounts for the fraction of pore space in which the velocity of transport is zero, i.e., the groundwater is not moving. Dead-end pore space or fully isolated pores are examples. The effective porosity decreases as the grain size distribution increases. The difference between effective porosity and total porosity increases from a few percent or less for clean, uniform medium-coarse grained sediments to all but 1 to 2 % of the total porosity of clay. The solute transport model effective porosity ranges from 1 % for clay to 38 % for clean sand and gravel (Kresic, 1997). Figure 30 shows the modeled effective porosity values.

Dispersion spreads the plume, causing it to advance at a rate greater than the seepage velocity, but the mixing slows the rate of increase in concentration. Longitudinal dispersivity increases with the scale of measurement (e.g., Schulze-Makuch, 2005). Longitudinal dispersivities for each model hydraulic conductivity value are based on calculated advective transport distances in 30 years or the distance to discharge (i.e., to the SBAC). A scaling relationship for longitudinal dispersivity in unconsolidated sediments (Schulze-Makuch, 2005) was used to calculate the dispersivities. The solute transport model longitudinal dispersivities range from 1 foot for clay to 31 feet for clean sand and gravel (Figure 31). The horizontal transverse dispersivity is set at

10%, and the vertical transverse dispersivity is set at 1% of the longitudinal dispersivity, respectively. The order of magnitude relationships among the various dispersivity values is a commonly accepted modeling procedure rooted in dispersivity studies (e.g., Gelhar et al., 1992).

Retardation is a factor that slows the solute transport velocity relative to the seepage velocity, defined as the ratio of V_s/V_r (V_s = seepage velocity, V_r = retarded velocity), or as $1 + \rho_b K_d / \theta_e$ (ρ_b = bulk dry density, K_d = distribution coefficient, θ_e = effective porosity). Retardation also slows the dispersive transport.

Mild retardation for sorption in the sands is based on a Kd value of 0.087 milliliter per gram (ml/g), calibrated in the Area 29 CEA sodium transport model (TRC, 2009) and the justification that sodium is not entirely inert (a conservative tracer) during groundwater transport (e.g., Hem, 1992). Adsorption and cation exchange can slow and attenuate sodium in groundwater. Retardation in the aquitards is based upon a Kd value of 0.16 ml/g, estimated from field profiles of diffusive migration of sodium in clay (Rowe et al., 1995). Bulk dry densities of 1.6 grams per cubic centimeter (g/cm^3) for dry sand and 1.07 g/cm^3 for dry clay (Glover, 1995) were used for calculating the retardation factors. The effective porosities for the calculations are shown in Figure 30. Figure 32 shows the calculated retardation factors, which range from 1.37 for clean sand and gravel to 18.42 for clay.

4.0 PREDICTION (CEA DELINEATION)

The groundwater CEA is based on a 30-year predictive sodium transport simulation. A CTP effluent concentration of 37,000 µg/L sodium was simulated for each of the discharge areas, with the lowest measured background concentration of 5,140 µg/L sodium used throughout the model domain to generate the most conservative CEA. Background conditions were assumed to exist throughout the domain area prior to the addition of the CTP effluent.

Injection into the Intermediate Aquifer at Area B was simulated at a total rate of 100 gpm. The total rate of injection into the Intermediate Aquifer at Area 41 was simulated at 40 gpm. Discharge to the Shallow Aquifer at the recharge bed was simulated at 250 gpm. These values represent typical anticipated operational rates.

Simulated extraction rates of the ACMUA wells are time-averaged rates for 2008 and 2009 based on total volumes extracted during the period of recorded flows (Table 11). Remediation system extraction wells for Area B and Area 20A, and the injection wells at Area 20A were simulated at the same rates used in the calibration (Section 3.5). The ten Area D extraction wells that have been operating were simulated at their respective design rates for the total design rate of 69 gpm (Appendix C). Because the six Area 41 extraction wells have been

inconsistently operated at insignificant rates (Appendix C), for simplicity, each well was simulated at 1.67 gpm for a total of 10 gpm, which was the maximum average total monthly rate recorded during initial testing of these wells (Appendix C).

All extraction, injection, and recharge bed discharge rates are invariant 24 hours/day for the entire 30-year simulation. Simulation of the Area B and Area 41 injection wells continuously at the invariant rates was performed for the sake of model simplification, but this approach is also conservative for delineating the CEA. From April – October, the Area B sprinklers will operate at 100 gpm 24 hours/day, resulting in a flow reduction to the Area B injection wells to 40 gpm, and no flow to the Area 41 injection wells. Another conservative modeling approach is the simulation of the ACMUA wells at the specified rates for the entire 30 years due to anticipated future increased usage of reservoir water and reduction of ACMUA pumping (see Section 1.1).

Figures 33 - 35 depict the simulated concentrations of sodium in the Shallow Aquifer at years 10, 20, and 30. The 5,140 contour represents the maximum extent to which the discharge of treated groundwater could raise sodium concentrations in groundwater above the simulated background concentration of 5,140 µg/L. This contour also delineates the CEA for the Shallow Aquifer. The sodium transport in the Shallow Aquifer is strongly influenced by groundwater flow toward and discharge to the SBAC. There is little change in concentrations and extent from 20 to 30 years, indicating steady-state or maximum impacts would be attained in about 30 years.

Figures 36 - 38 show the simulated concentrations of sodium in the Intermediate Aquifer at years 10, 20, and 30. The 5,140 contour delineates the CEA for the Intermediate Aquifer. Because background sodium concentrations in Area B and Area 41 are higher than the simulated background concentration of 5,140 µg/L, the anticipated actual extent of background exceedance would be less than shown. In addition to the influence of the SBAC on groundwater flow and sodium transport in this unconfined area of the Intermediate Aquifer, the Area 20A extraction wells near the Upper Atlantic City Reservoir (Figure 14) strongly influence sodium transport. Most of the expansion of impacts between years 20 and 30 occurs at the low end of the range in concentrations.

Figures 39 – 41 illustrate for years 10, 20, and 30 the potential effects of the downward vertical gradients on sodium transport through the Middle Cohansey Clay into the Deep Aquifer. Transport within the Deep Aquifer is strongly influenced by gradients toward the ACMUA well field (Figure 15). However, the CEA defined by the 5,140 contour is a conservative maximum extent, partly due to the higher average Deep Aquifer sodium background concentration of 5,333 µg/L, with a range as high as 9,000 µg/L in the ACMUA well field area. The maximum extent is largely a function of the conservatively large extent of transport simulated in the

Intermediate Aquifer due to use of a background concentration much less than measured background concentrations in the Intermediate Aquifer. Downward vertical gradients acting over the conservatively large extent of impacts in the Intermediate Aquifer result in a conservatively large area of impacts in the Deep Aquifer.

The maximum simulated concentration at an ACMUA well in the Deep Aquifer after 30 years is 5,377 µg/L, only marginally above the average sodium background concentration for the ACMUA wells (5,333 µg/L). Furthermore, the wells extract groundwater concentrically. Mixing of background groundwater and the marginally impacted water in the few wells at the western end of the well field would result in sodium concentrations in the extracted groundwater that would be at most negligibly higher than background.

Figure 42 shows a profile of sodium concentrations after 30 years of transport (see Figure 5 for line of section). The profile shows that the Intermediate Aquifer is the dominant medium for sodium transport, and that sodium concentrations are strongly attenuated in the Middle Cohansey Clay.

Figure 43 shows a map of the groundwater CEA boundary. This area represents the predicted maximum horizontal extent of sodium exceeding the simulated background concentration (i.e., 5,140 µg/L). The CEA is based upon the simulated sodium concentrations for the 30-year predictive simulation. The CEA boundary reflects the result of a vertical projection of the 5,140 contour in each of the three modeled aquifers.

5.0 UPPER RESERVOIR SODIUM CONCENTRATIONS

Future concentrations of sodium in the Upper Atlantic City Reservoir, which could potentially be impacted by elevated sodium concentrations in groundwater, were estimated by performing water and mass balances using the model output for some of the components of the balances (Table 12). The components of the water and mass balances include groundwater discharge to the reach of the SBAC within the model domain, direct groundwater inflow to the reservoir, upstream SBAC flow, and net precipitation on the reservoir. The model-derived components are calculated groundwater and mass fluxes to the SBAC and directly to the reservoir. The net precipitation on the reservoir is based on the 30-year (1971-2000) average annual precipitation of 40.59 inches at the Atlantic City International Airport (http://climate.rutgers.edu/stateclim_v1/norms/daily/atlanticcityap.html) and an average annual lake evaporation of 34 inches (Kohler et al., 1959).

The first quartile flow rate (low end of flow rates) of 6.5 cfs at SBAC station SG-SB-49 (Figure 29, Table 10) was used as a conservative input of the upstream SBAC flow to the water and mass balances due to the relatively low sodium concentration in the stream at SG-SB-49 (Appendix

E), which dilutes the higher concentration components of the groundwater discharging to the SBAC and the reservoir. The concentration of 4,397 µg/L sodium used in the mass balance (Table 12) for the upstream SBAC flow represents the average of three analyses of water in the main channel at SG-SB-49 (Appendix E). Overland flow was neglected in the calculations (a conservative approach, as overland flow would dilute the groundwater discharges).

The balances and resulting reservoir concentrations were calculated for one month, and 10, 20, and 30 years in the future. The water balance revealed that the reservoir volume is replaced in less than two months, indicating that estimates of the future reservoir concentration are simplistically a function of mixing of inflows (water replaced eight times per year). The volume of water in the reservoir is estimated to be approximately 40 M cubic feet (Table 12), based on a water depth of 1.2 feet at the western end, a depth of 12.8 feet at the eastern end, and an area of 129 acres (TRC, 2006).

The concentration of sodium in an Upper Atlantic City Reservoir surface water sample collected in 2001 was 4,620 µg/L (TRC, 2003). The estimated sodium concentration in the reservoir in 30 years is 6,433 µg/L, representing only a 39% increase in sodium concentration due to the discharge of groundwater with elevated concentrations. Table 12 also shows that the calculated concentration after 30 days (essentially present day with discharge of shallow groundwater at a background concentration of 5,140 µg/L) is 4,642 µg/L, very close to the concentration reported for 2001, verifying the water and mass balances. However, the calculated future concentrations are conservative maximums based on low SBAC flows (6 cfs). Table 12 shows that in one month 42% of the reservoir volume is derived from upstream streamflow at 6.5 cfs. Considerably higher upstream rates have been measured (Table 10), indicating that the future reservoir concentrations will be less than the results in Table 12 due to a higher proportion of the relatively low concentration upstream flow component. The disregard of overland flow contributions in the calculations further contributes to their conservative nature.

6.0 CONCLUSIONS

Discharge of treated groundwater to injection wells in Area B and Area 41 and to the recharge bed over the next 30 years will generate elevated sodium concentrations in the Shallow, Intermediate and Deep Aquifers. The transport of this sodium will be greatest in the Intermediate Aquifer. Groundwater extraction from the Intermediate Aquifer in Area 20A strongly influences the path of sodium transport toward the Area 20A extraction wells. Discharge of groundwater with elevated concentrations of sodium from the Shallow Aquifer to the SBAC will eventually occur. However, the Upper Atlantic City Reservoir sodium concentration is predicted to increase only marginally, under conservative worst-case assumptions.

Downward vertical gradients produced by pumping the ACMUA wells in the Deep Aquifer generate leakage of Intermediate Aquifer groundwater through the Middle Cohansey Clay into the Deep Aquifer. However, sorption (adsorption and cation exchange) of the sodium will strongly attenuate sodium in the aquitard. Impacts to the Deep Aquifer will be minor after 30 years. The ACMUA wells will be unimpacted.

The model simulations conservatively define a groundwater CEA based upon transport of sodium as the most mobile of discharged metals in the treated groundwater. Manganese is the only other metal at elevated concentrations in the CTP effluent. The mobility of manganese in groundwater will be much less than sodium.

7.0 RECOMMENDATIONS

The point-of-compliance monitoring wells located down-gradient of the discharge areas should be sampled for TAL metals on an annual basis to provide "ground truthing" for the transport of sodium in the ground water. These wells would include, by discharge area and portion of the Cohansey aquifer, the following:

Area B Injection Well Area

Well	Portion of Aquifer
• B-IMW1	Intermediate
• B-IMW2	Intermediate
• B-IMW3	Intermediate
• B-IMW4	Intermediate
• U-PZ15	Shallow
• U-PZ20	Shallow
• U-PZ25	Shallow

Area 41 Injection Well Area

Well	Portion of Aquifer
• 41-IMW1	Intermediate
• 41-IMW2	Intermediate
• 41-IMW3	Intermediate
• 41-IMW4	Intermediate
• U-PZ21	Shallow
• U-PZ26	Shallow

Recharge Bed Area

Well	Portion of Aquifer
• RP-MW2S	Shallow
• RP-MW4S	Shallow
• RP-MW5S	Shallow
• RP-MW7S	Shallow
• U-PZ40	Shallow
• U-PZ45	Shallow
• U-PZ50	Shallow

If sodium concentrations are determined to be in excess of discharge area-specific background concentrations utilizing statistical methods as described in N.J.A.C. 7:14A-10.11(g), new point-of-compliance wells will need to be established. This can be done by utilizing existing site wells screened in the Shallow and/or Intermediate Aquifer or by installing new wells. Due to the strong attenuation effects of the Middle Cohansey Clay on sodium migration, existing Deep Aquifer monitoring wells ACMUA-1D and ACMUA-8D should be sampled on a biennial basis for sodium in order to track sodium concentrations in the Deep Aquifer.

The background groundwater concentrations of metals for each discharge area were determined by calculating the 95% UCL of the means of each metal from the results of the wells sampled in each discharge area. The resulting background metal concentrations (95% UCL and NJPQL) for each discharge area are summarized on Table 2 (Area B injection well area), Table 3 (Area 41 injection well area), and Table 4 (recharge bed area). In accordance with N.J.A.C. 7:9C (New Jersey Groundwater Quality Standards), the groundwater quality standards for the Technical Center site (Pinelands Protection area – Class I-PL) are natural background quality or the associated NJPQL if the background level is less than the NJPQL.

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Table 1
Historical Analytical Results for Effluent at CTP
Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Metals (µg/L)	NJ PQL (µg/L)	Background - Area B (µg/L)	Background - Area 41 (µg/L)	Background - Recharge Bed Area (µg/L)	Effluent													
					2008		2009											
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Aluminum	30	3095	288	3279	**610**	**711**	**1640**	57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	3	4	1	3	ND	ND	ND	ND	ND	**10.2**	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	1	73	3	33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.6**	**1.2**	ND	ND
Iron	20	4890	319	17232	**540**	**106**	ND	ND	ND	**42**	ND	ND	ND	23	ND	ND	ND	ND
Manganese	0.4	42	45	28	**2,140**	**240**	**100**	**1,840**	**103**	**278**	**343**	**362**	**276**	**260**	**363**	**356**	**78.4**	**195**
Nickel	4	146	16	138	**5.88**	**8.05**	**6.53**	**9.79**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	400	6944	5610	5218	**45,000**	**55,400**	**8,490**	**49,600**	**38,700**	**47,200**	**38,000**	**37,400**	**36,900**	**36,800**	**52,600**	**50,400**	**49,900**	**49,900**
Zinc	10	22	5	24	**37**	**16**	**24.6**	**16.2**	12	ND	**17**	ND	12	ND	ND	ND	ND	ND

Exceeds NJ PQLs and/or background levels (when the background levels exceed the PQL)

Background levels are provided only for those analytes where the effluent concentration exceeds the PQL. The background levels listed represent the calculated 95% UCL for the Area B, Area 41 and Recharge Bed background monitoring wells and piezometers.

Effluent data provided by URS.

The pH adjustment process at the end of the treatment train began in February 2009. Operational adjustments to optimize effluent quality continued through the rest of 2009. These changes in operation account for some of the variability in effluent results over the reporting period.

Table 2
Area B Injection Background Groundwater Sample Results Summary
Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Sample Identification: Screened Interval (ft. bgs.) Notes: Sample Date:	NJPQL	B-IMW1(71-73) 65.5-95.5 Pump Intake: 72 ft.bgs 8/29/2008	B-IMW1(80-81) 65.5-95.5 Pump Intake: 80.5 ft.bgs 8/29/2008	B-IMW4(95-96) 76-106 Pump Intake: 95.5 ft.bgs 8/29/2008	B-IMW4(105-106) 76-106 Pump Intake: 105.5 ft.bgs 8/29/2008	95% UCL Background[1]
Metals Analysis (ppb)						
Aluminum	30	**31.9 B**	**232**	**2,750**	**5,110**	3095
Antimony	3	1.8 U	1.8 U	1.8 U	1.8 U	0.461[a]
Arsenic	3	1.7 U	1.7 U	1.7 U	**3.9**	3.99
Barium	200	**16.7 B**	**42.2 B**	**58.6 B**	**82.2 B**	52.21[a]
Beryllium	1	0.15 U	0.15 U	0.15 U	0.15 U	0.197[a]
Cadmium	0.5	0.28 U	0.28 U	0.28 U	0.28 U	1.43
Calcium	NS	**3,040 B**	**2,680 B**	**3,210 B**	**3,560 B**	2869
Chromium	1	0.53 U	**1.1 B**	**5.4 B**	**7.6 B**	73
Cobalt	NS	0.51 U	0.51 U	**1.5 B**	**3.2 B**	3.4
Copper	4	**6.7 B**	2.5 U	2.5 U	**9.5 B**	23
Iron	20	**296**	**544**	**68.8 B**	**711**	4890
Lead	5	1.4 U	1.4 U	1.4 U	1.4 U	2.467[a]
Magnesium	NS	**652 B**	**1,010 B**	**1,300 B**	**1,600 B**	1686
Manganese	0.4	**4.4 B**	**8.7 B**	**12.6 B**	**15.6**	42
Mercury	0.05	**0.076 B**	**0.057 B**	**0.14 B**	**1.5**	0.34
Nickel	4	1.2 U	1.2 U	**2 B**	**3.5 B**	146
Potassium	NS	**1,660 B**	**1,540 B**	**729 B**	**940 B**	1604
Selenium	4	1.6 U	1.6 U	1.6 U	1.6 U	ID
Silver	1	1 U	1 U	1 U	1 U	ID
Sodium	400	**5,330 B**	**8,530 B**	**8,340 B**	**10,300**	6944
Thallium	2	1.3 U	1.3 U	1.3 U	1.3 U	0.0857[a]
Vanadium	NS	0.43 U	**0.5 B**	**1 B**	**3.7 B**	5.61
Zinc	10	**10.7 B**	**12.6 B**	**10.7 B**	**21**	22

Notes:
U = Indicates constituent not detected above the Method Detection Limit (MDL).
J = Indicates an estimated value.
B (inorganics) = Indicates a result ≥ MDL but < Reporting Limit
NS = No Standard.
Numbers in **Bold** denote a detection.
[1] - The 95% UCL background concentrations were calculated using ProUCL Ver. 4.00.04 for the Area B injection monitoring wells and piezometers U-PZ15, U-PZ20, and U-PZ25.
ID - Insufficient data to calculate 95% UCL; Default to NJPQL
[a] - Where background concentration is less than NJPQL, default to NJPQL standard.

TABLE 3

Area 41 Injection Background Ground Water Sample Results Summary

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Sample Identification: Screened Interval (ft. bgs.) Notes: Sample Date:	NJPQL	41-IMW2(90-91) 76-106 Pump Intake: 90.5 ft.bgs 8/28/2008	41-IMW2(105-106) 76-106 Pump Intake: 105.5 ft.bgs 8/28/2008	41-IMW3(61-62) 60.5-90.5 Pump Intake: 61.5 ft. bgs 8/28/2008	41-IMW3(81-82) 60.5-90.5 Pump Intake: 81.5 ft.bgs 8/28/2008	95% UCL Background[1]
Metals Analysis (ppb)						
Aluminum	30	**97 B**	**96 B**	**26.9 B**	**25.5 B**	287.9
Antimony	3	1.8 U	1.8 U	1.8 U	1.8 U	0.186[a]
Arsenic	3	1.7 U	1.7 U	1.7 U	1.7 U	0.811[a]
Barium	200	**39.4 B**	**32.6 B**	**83.2 B**	**86.6 B**	86.12[a]
Beryllium	1	0.15 U	0.15 U	0.15 U	0.15 U	0.244[a]
Cadmium	0.5	0.28 U	0.28 U	0.28 U	0.28 U	0.279[a]
Calcium	NS	**1,310 B**	**1,120 B**	**905 B**	**808 B**	1934
Chromium	1	**1 B**	0.53 U	0.53 U	0.53 U	3.427
Cobalt	NS	0.51 U	0.51 U	**4 B**	**4.9 B**	3.09
Copper	4	2.5 U	2.5 U	2.5 U	2.5 U	1.619[a]
Iron	20	**50.2 B**	**54.9 B**	7.4 U	7.4 U	318.9
Lead	5	1.4 U	1.4 U	1.4 U	1.4 U	0.869[a]
Magnesium	NS	**1,330 B**	**1,020 B**	**2,480 B**	**2,620 B**	2920
Manganese	0.4	**5.2 B**	**4.4 B**	**61.2**	**89.9**	45.21
Mercury	0.05	**0.086 B**	**0.18 B**	**0.073 B**	**0.062 B**	0.138
Nickel	4	1.2 U	1.2 U	1.2 U	1.2 U	15.58
Potassium	NS	**931 B**	**793 B**	**1,080 B**	**1,200 B**	1243
Selenium	4	1.6 U	1.6 U	1.6 U	1.6 U	ID
Silver	1	1 U	1 U	1 U	1 U	ID
Sodium	400	**6,020 B**	**8,360 B**	**4,850 B**	**5,080 B**	5610
Thallium	2	1.3 U	1.3 U	1.3 U	**1.5 B**	0.564[a]
Vanadium	NS	0.43 U	0.43 U	0.43 U	0.43 U	ID
Zinc	10	4 U	**5.6 B**	4 U	4 U	4.94[a]

Notes:
U = Indicates constituent not detected above the Method Detection Limit (MDL).
J = Indicates an estimated value.
B (inorganics) = Indicates a result ≥ MDL but < Reporting Limit
NS = No Standard.
Numbers in **Bold** denote a detection.
[1] - The 95% UCL background concentrations were calculated using ProUCL Ver. 4.00.04 for the Area 41 injection monitoring wells and piezometers U-PZ21 and U-PZ26.
ID - Insufficient data to calculate 95% UCL; Default to NJPQL.
[a] - Where background concentration is less than NJPQL, default to NJPQL standard.

TABLE 4
Recharge Bed Background Ground Water Sample Results Summary
Areas B, 41, D, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Sample Identification: Screened Interval (ft. bgs.): Sample Date:	NJPQL	RP-MW2S 25-35 2/10/2009	RP-MW4S 18-28 2/10/2009	RP-MW10S Dupl. of 4S 2/10/2009	RP-MW5S 12.5-22.5 2/10/2009	RP-MW7S 23.5-33.5 2/10/2009	95% UCL Background[1]
Metals Analysis (ug/L)							
Aluminum	30	**713**	**694**	**712**	**858**	**1,040**	3279
Antimony	3	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	0.104[a]
Arsenic	3	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	3.352
Barium	200	**26.9 B**	**29.1 B**	**29.6 B**	**23.6 B**	**29.2 B**	32.34[a]
Beryllium	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.421[a]
Cadmium	0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.292[a]
Calcium	NS	**1,060 B**	**1,990 B**	**2,030 B**	**1,490 B**	**34,900**	24381
Chromium	1	0.9 U	0.9 U	0.9 U	0.9 U	**2.1 B**	33.07
Cobalt	NS	0.4 U	**2.5 B**	**2.5 B**	**0.9 B**	0.4 U	1.423
Copper	4	**1.6 B**	1.6 U	1.6 U	1.6 U	1.6 U	4.676
Iron	20	**257**	**280**	**290**	**191**	**392**	17232
Lead	5	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	2.647[a]
Magnesium	NS	**1,090 B**	**1,080 B**	**1,090 B**	**2,280 B**	**2,990 B**	1674
Manganese	0.4	**6.1 B**	**34.2**	**35.3**	**10.8 B**	**10.4 B**	28.26
Mercury	0.05	0.049 U	0.049 U	0.049 U	0.049 U	**0.067 B**	ID
Nickel	4	0.6 U	**3.5 B**	**3.5 B**	**1.4 B**	0.6 U	138
Potassium	NS	**1,160 B**	**825 B**	**897 B**	**738 B**	**1,630 B**	1053
Selenium	4	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.713[a]
Silver	1	1 U	1 U	1 U	1 U	1 U	ID
Sodium	400	**3,530 B**	**3,340 B**	**3,400 B**	**9,480 B**	**5,950 B**	5218
Thallium	2	1.5 B	1.5 U	1.5 U	1.5 U	1.5 U	0.457[a]
Vanadium	NS	0.9 U	0.9 U	0.9 U	0.9 U	**2.9 B**	18.79
Zinc	10	**4.1 B**	**38.6**	**39.7**	**3.6 B**	2.9 U	23.53

Notes:

U = Indicates constituent not detected above the Method Detection Limit (MDL).

J = Indicates an estimated value.

B (inorganics) = Indicates a result ≥ MDL but < Reporting Limit

NS = No Standard.

Numbers in **Bold** denote a detection.

[1] - The 95% UCL background concentrations were calculated using ProUCL Ver. 4.00.04 for the Recharge Bed monitoring wells and piezometers U-PZ40, U-PZ45, and U-PZ50.

ID - Insufficient data to calculate 95% UCL; Default to NJPQL.

[a] - Where background concentration is less than NJPQL, default to NJPQL standard.

Table 5

ACMUA Production Wells

Average Quarterly Rates (Gal/Min)

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area

FAA William J. Hughes Technical Center

Well	1 Q 2008	2 Q 2008	3 Q 2008	4 Q 2008	1 Q 2009	2 Q 2009	3 Q 2009*
# 16	407	670	752	431	334	407	462
# 17	636	729	805	477	292	396	662
# 18	706	734	816	588	492	558	762
# 19	730	536	799	141	391	466	722
# 20	97	131	671	437	524	603	847
# 21	715	717	736	537	393	438	617
# 22	876	866	888	793	520	589	592
# 23	910	856	880	703	327	594	539
# 24	630	792	817	671	322	249	407

* July-August

Table 6
ACMUA Monitoring Wells
Depth to Water (feet)

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Well	8/12/2009	8/17/2009	8/20/2009	8/24/2009	8/27/2009	8/31/2009	9/3/2009
ACMUA-MW1S	20.04	20.44	20.08	20.19	20.14	19.7	18.69
ACMUA-MW1D	41.35	34.78	40.44	41.52	29.71	27.68	23.97
ACMUA-MW2S	22.01	22.8	21.77	21.88	21.9	21.95	21.81
ACMUA-MW2D	41.12	43.25	37.95	39.74	39.99	34.71	30.71
ACMUA-MW3S	24.18	24.31	24.04	23.84	23.93	23.44	22.57
ACMUA-MW3D	56.77	47.25	53.61	43.56	52.26	40.61	36.15
ACMUA-MW4S	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACMUA-MW4D	51.65	35.60	52.62	48.76	32.96	32.16	25.34
ACMUA-MW5S	21.22	21.12	21.31	21.03	20.87	20.74	20.2
ACMUA-MW5D	45.13	41.05	46.26	42.44	39.47	38.18	32.35
ACMUA-MW6S	NR	NR	NR	NR	NR	NR	NR
ACMUA-MW6D	NR	NR	NR	NR	NR	NR	NR
ACMUA-MW7S	11.67	11.73	11.76	11.61	11.55	11.38	10.88
ACMUA-MW7D	34.26	32.07	34.51	31.73	28.88	28.82	23.53
ACMUA-MW8S	7.61	8.22	7.92	8.05	8.09	7.56	6.95
ACMUA-MW8D	19.85	25.23	18.17	20.27	20.04	16.48	12.75

NA - Well not accessible.
NR - Water level not recorded.
Depth to water measurements collected from top of casing.

Table 7
Area B and Area 41 Injection Monitoring Wells
Depth to Water (feet)

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Well	4/1/2009	4/8/2009	4/15/2009	4/22/2009	4/29/2009
B-IMW1	18.86	18.72	18.3	17.94	18.28
B-IMW2	23.34	23.24	22.82	22.39	22.71
B-IMW3	30.31	30.26	29.89	29.29	29.62
B-IMW4	27.55	27.42	27.04	26.42	26.62
41-IMW1	27.49	27.38	27.08	26.79	27.01
41-IMW2	27.08	26.91	26.66	26.35	26.58
41-IMW3	18.05	17.87	17.65	17.35	17.55
41-IMW4	22.84	22.73	22.49	22.15	22.3

Table 8

Area B Injection Monitoring Wells
Change in Water Levels (feet)

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area

FAA William J. Hughes Technical Center

		Depth to Water		Ground Water Elevation						
Well		12/8/2008	4/29/2009	12/8/2008	4/29/2009	Difference		Simulated Difference		Error
	Ref. Elev.	Pre- Test	Targets	Pre- Test	Targets			Injection	Plus Recharge	
B-IMW1	47.90	21.68	18.28	26.22	29.62	3.4		3.18	3.3	-0.1
B-IMW2	53.08	26.51	22.71	26.57	30.37	3.8		3.69	3.81	0.01
B-IMW3	60.79	33.62	29.62	27.17	31.17	4.0		3.91	4.03	0.03
B-IMW4	58.40	30.72	26.62	27.68	31.78	4.1		3.89	4.01	-0.09

Depth to water measurements collected from top of casing.

TABLE 9
Stream Channel Baseline Flow Characteristics
Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area
FAA William J. Hughes Technical Center

Sample ID (1)	Sample Date	Gage Reading/ Depth (ft)	Velocity 1 (ft/sec)	Velocity 2 (ft/sec)	Velocity 3 (ft/sec)	Average Velocity (ft/sec)	Discharge (2) (ft³/sec)
Baseline - SB-AEB	5/19/2005	0.82	0.35	NA	NA	0.35	6.03
Baseline - SB-SBM	5/19/2005	0.65	0.41	NA	NA	0.41	5.41

NOTES:

(1) - No sample collected at "baseline" prior to rain event.

(2) - Assumes that the gauge reading is reasonable approximation of the average stream depth.

NA - Not available.

ft - feet.

ft/sec - feet per second.

ft^3/sec - cubic feet per second.

PHYSICAL CHARACTERISTICS:

Stream width at SG-AEB = 33.7 feet (during peak of rain event).

Stream width at SG-SBM = 23.7 feet (during peak of rain event).

Upper Reservoir spillway width = 55.7 feet (concrete sides at sample collection point).

Table 10

SG-SB-49 Stream Flow Data Compilation

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area

FAA William J. Hughes Technical Center

Date	Weather Conditions	Most Recent Precipitation Date	Most Recent Precip. Amount	Gauge Depth	Depth Left	Depth Right	Average Depth	Stream Width	Flow Velocity #1	Flow Velocity #1 (sec./4.4 ft)	Flow Velocity #2	Flow Velocity #2 (sec./4.4 ft)	Average Flow Velocity	Flow Volume(ft3/sec)
9/23/02	Clear/Sunny/Warm	9/15-16/02	0.46;0.23	1.52	1.04	0.58	1.05	13.00	0.83		None		0.83	11.29
10/8/02	Clear/Cool	9/26/2002	0.53	1.54	1.08	0.58	1.07	10.00	0.14		None		0.14	1.49
10/21/02	Overcast/Cool	10/16/2002	1.00	1.56	1.08	0.63	1.09	13.08	0.33		None		0.33	4.70
11/5/02	Clear/Cool	10/29-30/02	1.03;0.57	1.60	1.33	0.58	1.17	12.83	0.14		0.14		0.07	2.10
11/19/02	Partly Sunny/ 40's	11/16-17/02	1.23;1.21	1.72	1.67	0.71	1.37	13.40	0.33		0.34		0.17	6.13
12/12/02	Cloudy/30s	12/11/2002	1.02	1.78	1.67	0.87	1.44	14.10	0.60		0.39		0.50	10.05
12/23/02	Sunny/40s	12/20/2002	0.60	1.74	0.75	1.63	1.37	13.30	0.31		0.33		0.32	5.84
2/5/03	Sunny/30's	2/4/2003	0.37	1.78	1.76	0.72	1.42	13.3	0.43	10.33	0.44	9.91	0.43	8.2
3/6/03	Rainy, 30's	3/5/2003	0.31	2.02	1.91	0.93	1.62	15.2	0.97	4.53	1.07	4.12	1.02	25.1
3/19/03	P. Cloudy, 40's	3/6/2003	0.51	1.88	1.70	0.85	1.48	15.3	0.74	5.92	0.82	5.35	0.78	17.7
4/10/03	Cloudy, 40's	4/9/2003	0.69	1.94	1.93	0.92	1.60	14.9	0.90	4.87	1.53	2.88	1.22	28.9
5/13/03	Sunny, 50's	4/26/2003	0.30	1.86	1.75	0.80	1.47	13.9	0.62	7.10	0.81	5.46	0.71	14.6
6/3/03	Cloudy, 70's	6/1/2003	0.28	1.86	1.78	0.85	1.50	12.9	0.73	6.04	0.75	5.87	0.74	14.3
6/18/03	Rainy/Cloudy, 70's	6/18/2003	0.93	2.08	2.08	1.00	1.72	14.0	2.50	2.00	1.67	3.00	2.08	50.2
7/8/03	Sunny, 90's	7/3/2003	1.11	1.88	1.83	0.90	1.54	13.0	0.56	7.88	0.71	6.16	0.64	12.7
8/15/03	Sunny, 90's	8/7/2003	0.53	1.82	1.71	0.79	1.44	13.2	0.52	8.50	0.52	8.44	0.52	9.9
9/9/03	Sunny, 70's	9/4/2003	0.28	1.78	1.78	1.79	1.78	12.3	0.43	10.31	0.47	9.31	0.45	9.9
10/16/03	Sunny, 60's-70's	10/14/2003	1.37	1.78	1.69	0.85	1.44	13.8	0.31	14.12	0.45	9.72	0.38	7.6
11/18/03	Sunny, 50's-60's	11/12/2003	0.79	1.78	1.00	1.75	1.51	14.3	1.40	3.15	1.24	3.56	1.32	28.4
12/10/03	Sunny, 30's-40's	12/5/2003	1.27	1.84	1.74	0.81	1.46	14.2	0.42	10.60	0.41	10.66	0.41	8.6
3/22/04	Sunny/Windy/40's	3/19/2004	0.70	1.85	1.80	0.85	1.50	6.9	0.65	6.72	0.64	6.84	0.65	6.7
4/15/04	Not Listed	4/13/2004	1.60	1.96	1.98	1.03	1.66	4.5	1.41	3.12	1.18	3.72	1.30	9.6
5/13/04	Sunny/80's	5/3/2004	0.34	1.86	1.84	0.85	1.52	14.0	2.07	2.13	1.34	3.29	1.70	36.2
6/28/04	Sunny/70's - 80's	6/11/2004	0.54	1.78	1.58	0.75	1.37	13.5	0.49	9.00	0.44	10.00	0.46	8.6
8/2/2004	Sunny/70's - 80's	7/28/2004	1.21	1.80	1.45	0.82	1.36	13.9	0.88	5.00	0.73	6.00	0.81	15.2
8/30/04	Sunny/80's	8/16/2004	0.49	0.74	1.72	0.68	1.05	13.5	0.56	7.84	0.48	9.18	0.52	7.4
9/27/04	Sunny/80's	8/16/2004	0.49	1.70	1.40	0.70	1.27	13.7	0.15	30.00	0.20	22.00	0.17	3.0
11/3/04	P. Cloundy, 60's	10/19/2004	1.33	1.78	1.55	0.80	1.38	13.5	0.31	14.00	0.29	15.00	0.30	5.6
11/22/04	Cloudy, 50's	11/13/2004	0.49	1.76	1.52	0.75	1.34	13.4	0.40	11.00	0.34	13.00	0.37	6.6
12/8/04	P. Cloudy, 50's	12/1/2004	0.51	1.78	1.60	0.74	1.37	12.8	0.28	16.00	0.29	15.00	0.28	5.0
1/20/05	Sunny, 20's-30's	1/14/2004	1.17	1.82	1.65	0.74	1.40	12.9	0.37	11.98	0.39	11.25	0.38	6.9
2/24/05	Cloudy/Snow 20's-30's	2/14/2005	1.30	1.80	0.98	0.80	1.19	13.3	0.53	8.24	0.66	6.67	0.60	9.5
3/31/05	M. Sunny 40's-50's	2/28/2005	0.88	1.87	1.65	0.88	1.47	13.5	0.63	6.97	0.86	5.13	0.74	14.7
4/28/05	Sunny, 50's-60's	4/8/2005	1.03	1.92	1.85	1.01	1.59	13.6	0.79	5.59	0.94	4.69	0.86	18.7
5/27/05	Sunny, 50's-60's	5/20/2005	1.92	1.88	1.82	0.96	1.55	13.7	0.61	7.16	0.68	6.43	0.65	13.8
6/29/05	M. Cloudy/Rainy 70's-80's	6/27/2005	1.73	1.82	1.71	0.81	1.45	13.7	0.65	6.81	0.74	5.91	0.70	13.8
7/28/05	Mostly Sunny, 70's	2/27/2005	0.43	1.74	1.25	0.78	1.26	13.2	0.36	12.29	0.28	15.69	0.32	5.3
8/30/05	Cloudy 80's	7/30/2005	0.74	1.70	1.61	0.70	1.34	13.1	0.24	18.30	0.19	23.29	0.21	3.8
11/22/05	Rainy, 40's-50's	11/21/2005	0.96	2.08	2.20	1.05	1.78	14.7	1.40	3.15	1.41	3.11	1.41	36.7
12/29/05	Rainy, 40's-50's	2/29/2005	0.64	1.90	1.30	0.90	1.37	13.8	0.62	7.12	0.72	6.10	0.67	12.63
1/31/2006	Rain, 40's	1/24/2006	1.66	1.96	1.95	0.95	1.62	13.4	0.72	6.10	0.70	6.27	0.71	15.4

Minimum	1.5
1st Quartile	6.5
Median	9.9
3rd Quartile	15.0
Max	50.2
Average	13.0

Table 11

ACMUA Production Wells

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area

FAA William J. Hughes Technical Center

	Average Quarterly Rates (Gal/Min)							CEA Rates (Gal/Min)
Well	1 Q 2008	2 Q 2008	3 Q 2008	4 Q 2008	1 Q 2009	2 Q 2009	3 Q 2009*	Time Averaged
# 16	407	670	752	431	334	407	462	497
# 17	636	729	805	477	292	396	662	567
# 18	706	734	816	588	492	558	762	661
# 19	730	536	799	141	391	466	722	532
# 20	97	131	671	437	524	603	847	455
# 21	715	717	736	537	393	438	617	593
# 22	876	866	888	793	520	589	592	739
# 23	910	856	880	703	327	594	539	695
# 24	630	792	817	671	322	249	407	564

* July-August

Table 12

Upper Reservoir Water and Mass Balances

Areas B, D, 41, and Recharge Bed Groundwater Classification Exception Area

FAA William J. Hughes Technical Center

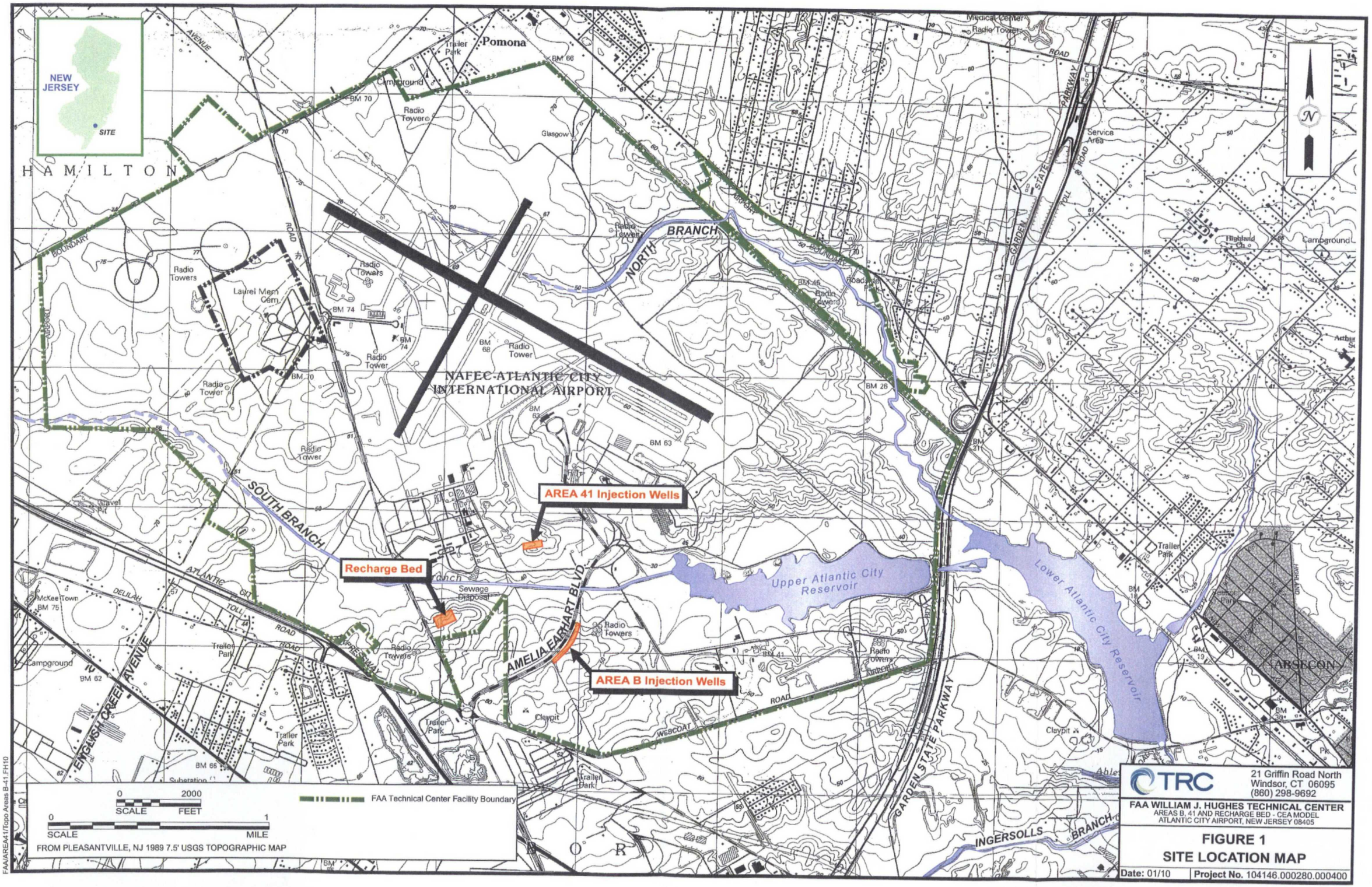
	Year			10	20	30
	Delta T	(days)	30	365	365	365
GW to SBAC	H20 Flux	(ft3 /day)	-236969	-214500	-214512	-214512
	Mass Flux	(ft3/day x ug/L)	-1218021968	-2376494653	-2652894392	-2705551168
	Delta H20	(ft3)	-7109077	-78292348	-78296985	-78297026
	Delta M	(ug)	-1.03472E+12	-2.45626E+13	-2.74194E+13	-2.79637E+13
GW to Reservoir	H20 Flux	(ft3 /day)	-119551	-99426	-99413	-99420
	Mass Flux	(ft3/day x ug/L)	-614491344	-511055292	-512284349	-512980760
	Delta H20	(ft3)	-3586526	-36290360	-36285626	-36288378
	Delta M	(ug)	-5.22014E+11	-5.28209E+12	-5.2948E+12	-5.30199E+12
Total GW to Reservoir	Total Delta H20	(ft3)	10695603	114582708	114582611	114585404
	% GW/Res. Vol.		0.0	0.0	0.0	0.0
	Total Delta M	(ug)	1.55673E+12	2.98447E+13	3.27142E+13	3.32656E+13
SBAC Upstream	Delta Inflow[1]	(ft3)	16848000	204984000	204984000	204984000
	% Upstream/Res. Vol.		0.0	0.0	0.0	0.0
	Concentration[2]	(ug/L)	4397	4397	4397	4397
	Delta M	(ug)	2.09773E+12	2.55224E+13	2.55224E+13	2.55224E+13
Reservoir Water Balance	Precip.	(ft3)	1595799	19415550	19415550	19415550
	Evap.	(ft3)	1336712	16263333	16263333	16263333
	Net Precip.	(ft3)	259086	3152217	3152217	3152217
	Total Inflow	(ft3)	27802690	322718925	322718827	322721621
	% Inflow/Res. Vol.		0	0	0	0
Reservoir Sodium	Total Inflow M	(ug)	3.65446E+12	5.53671E+13	5.82366E+13	5.87881E+13
	Concentration	(ug/L)	4,642	6,059	6,373	6,433

Reservoir Constant Volume (ft3) 40,180,000

[1] Based on Conservative 1st Quartile Flow at SG-SB-49

[2] Average of 3 analyses of main channel water at SG-SB-49

Overland Flow to Reservoir and SBAC Neglected

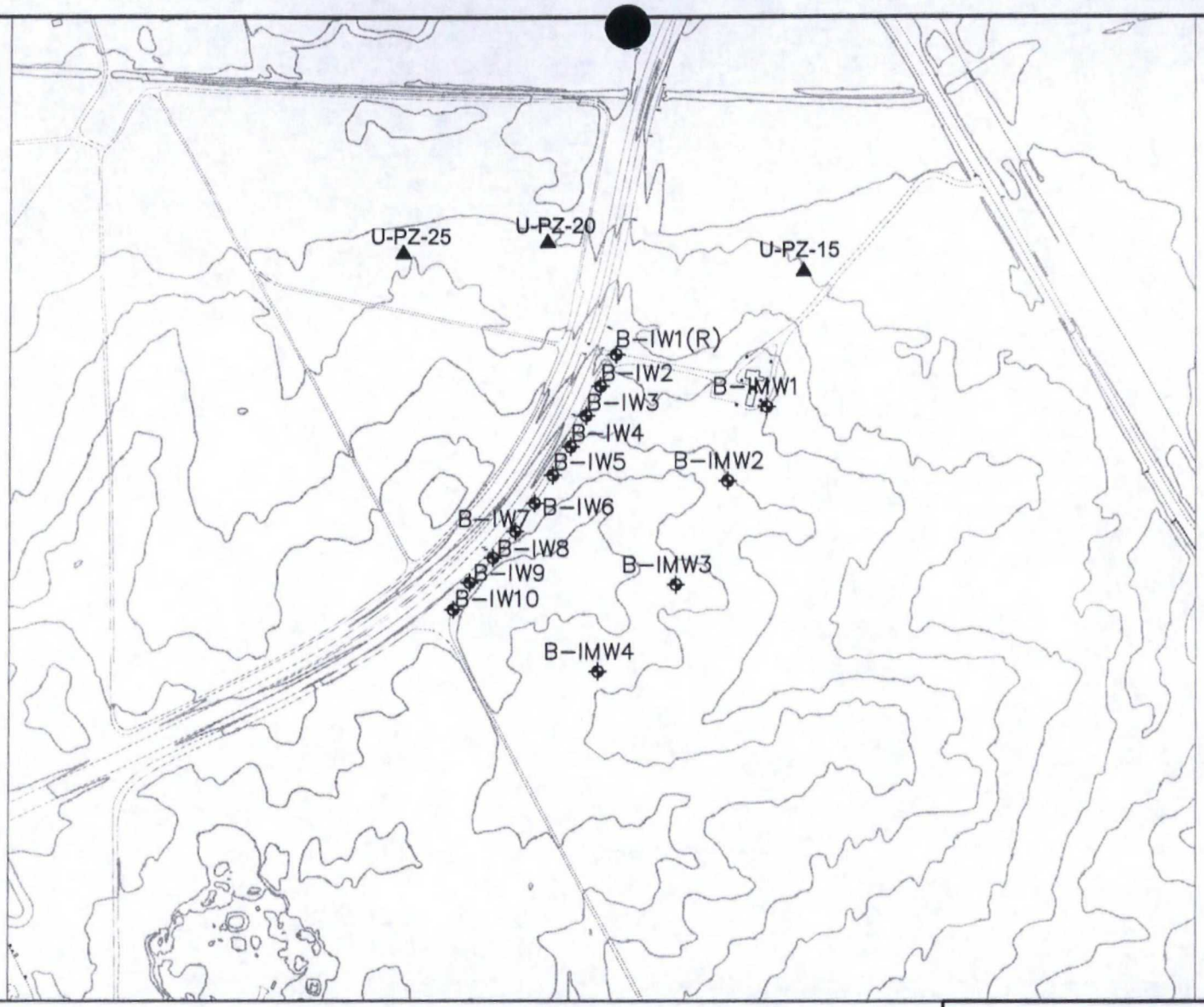


TRC
21 Griffin Road North
Windsor, CT 06095
(860) 298-9692

FAA WILLIAM J. HUGHES TECHNICAL CENTER
AREAS B, 41 AND RECHARGE BED - CEA MODEL
ATLANTIC CITY AIRPORT, NEW JERSEY 08405

FIGURE 1
SITE LOCATION MAP

Date: 01/10 | Project No. 104146.000280.000400



LEGEND:

B-IW3 — Area B Injection Well

B-IMW4 — Area B Injection Monitoring Well

U-PZ-15 — Area B Injection Piezometer

SCALE 0 500' 1000'

AREA B INJECTION

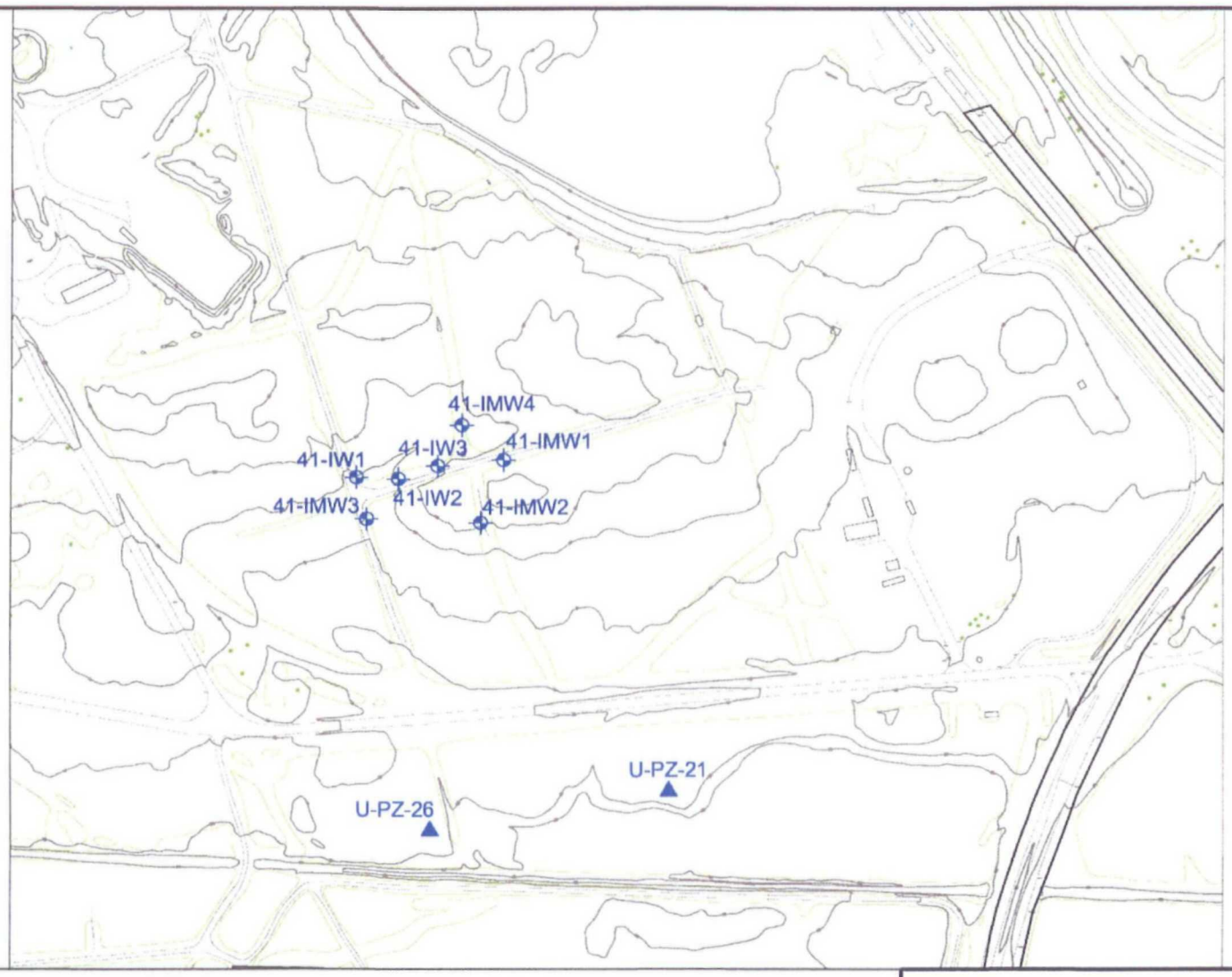
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 2 Area B Inj Wells	
DRAWN BY:	KS	DATE 2/25/10	

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 2



LEGEND:

41-IW1 — Area 41 Injection Well

41-IMW1 — Area 41 Injection Monitoring Well

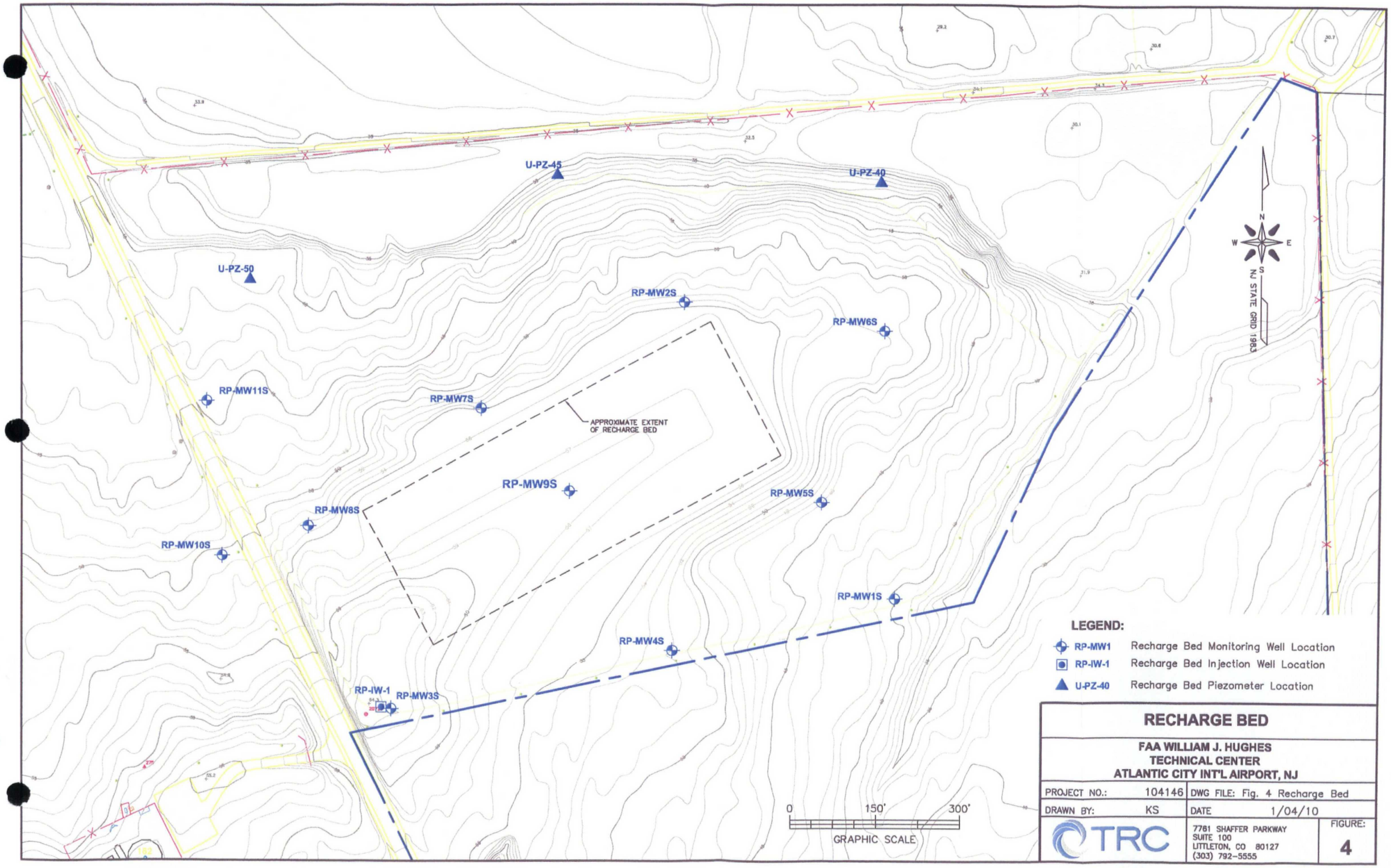
U-PZ-21 — Area 41 Injection Piezometer

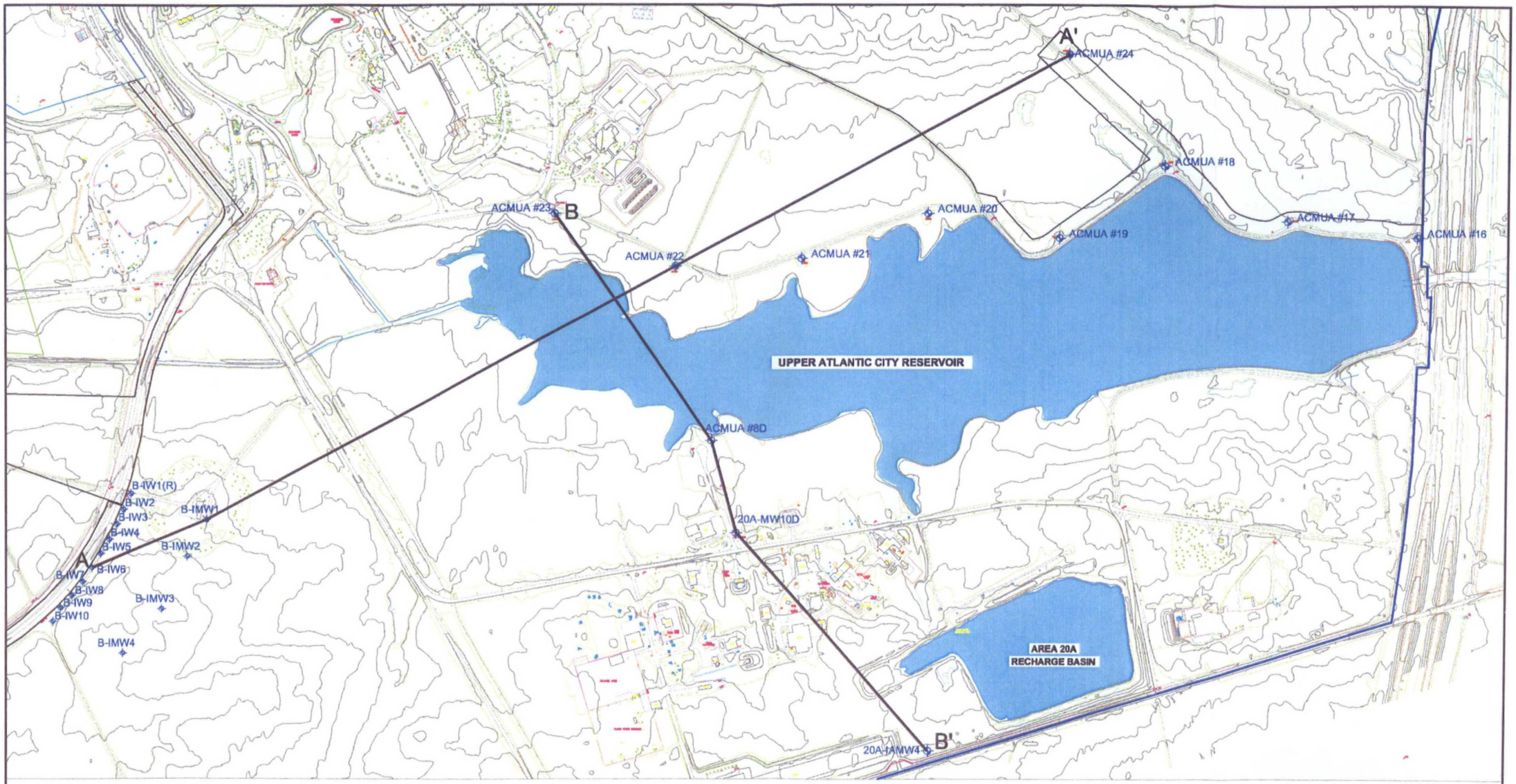
SCALE
0 350' 700'

AREA 41 INJECTION

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 3 Area 41 Injection	
DRAWN BY:	KS	DATE	2/23/10
TRC	7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555		FIGURE: 3


U-PZ-45
U-PZ-40
U-PZ-50
RP-MW2S
RP-MW6S
RP-MW11S
RP-MW7S
APPROXIMATE EXTENT OF RECHARGE BED
RP-MW9S
RP-MW5S
RP-MW8S
RP-MW10S
RP-MW1S
RP-MW4S
RP-IW-1
RP-MW3S
N
W
E
S
NJ STATE GRID 1983
0
150'
300'
GRAPHIC SCALE
LEGEND:
RP-MW1 Recharge Bed Monitoring Well Location
RP-IW-1 Recharge Bed Injection Well Location
U-PZ-40 Recharge Bed Piezometer Location
RECHARGE BED
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ
PROJECT NO.: 104146
DWG FILE: Fig. 4 Recharge Bed
DRAWN BY: KS
DATE 1/04/10
TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555
FIGURE:
4



LEGEND:

A ——— A'	Location of Geologic Cross section
ACMUA #23	Atlantic City Municipal Supply Well
B-IW3	Injection Well
B-IMW4	Injection Monitoring Well
20A-1AMW4	Area 20A Monitoring Well

N

SCALE
0 600' 1200'

CROSS-SECTION LOCATION MAP

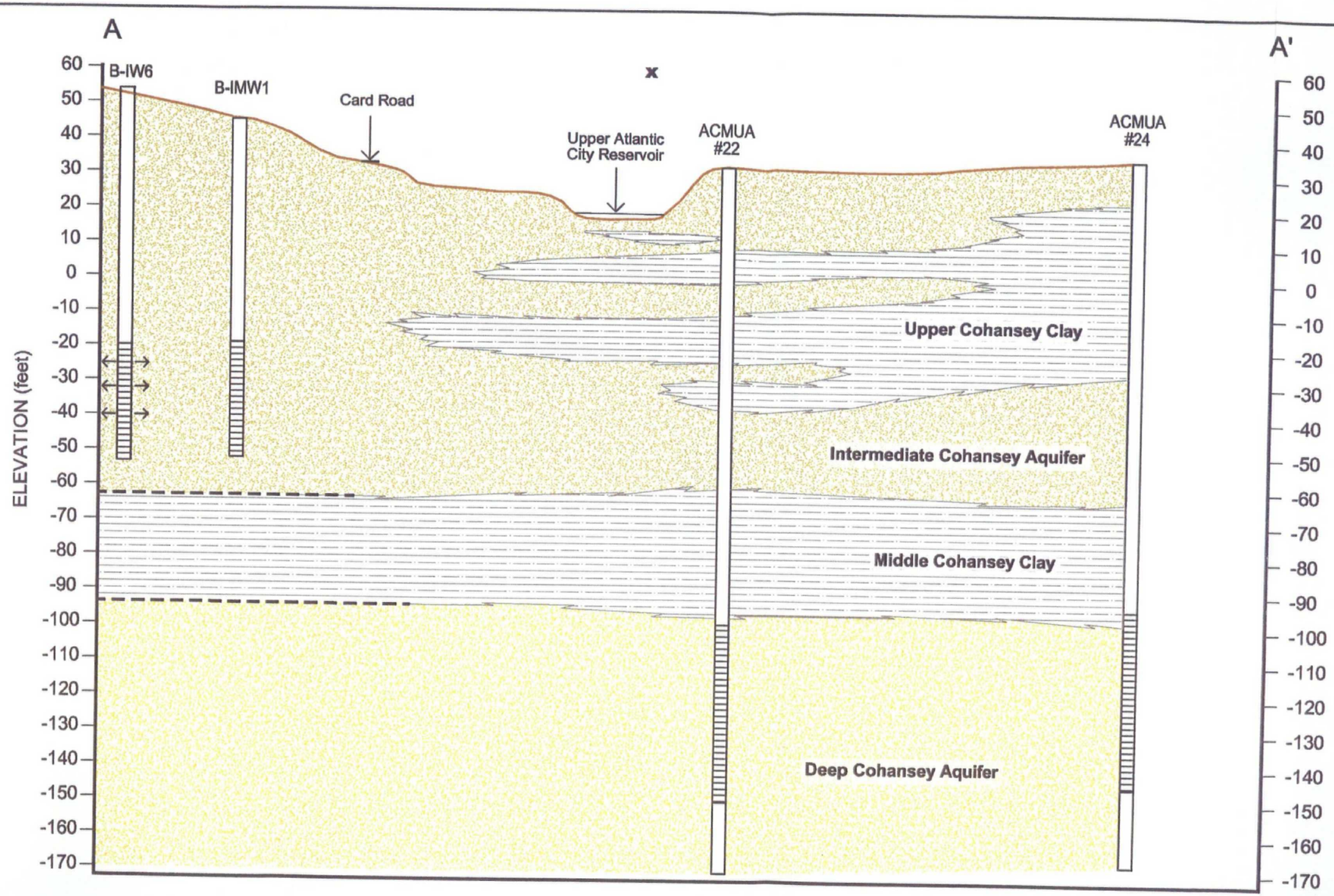
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 5 XS Location Map	
DRAWN BY:	KS	DATE	1/04/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 5



LEGEND:

- Screen Interval
- x Intersection of Cross-Section B-B'
- ← Injection
- F-C Sand
- Clay
- F-M Sand

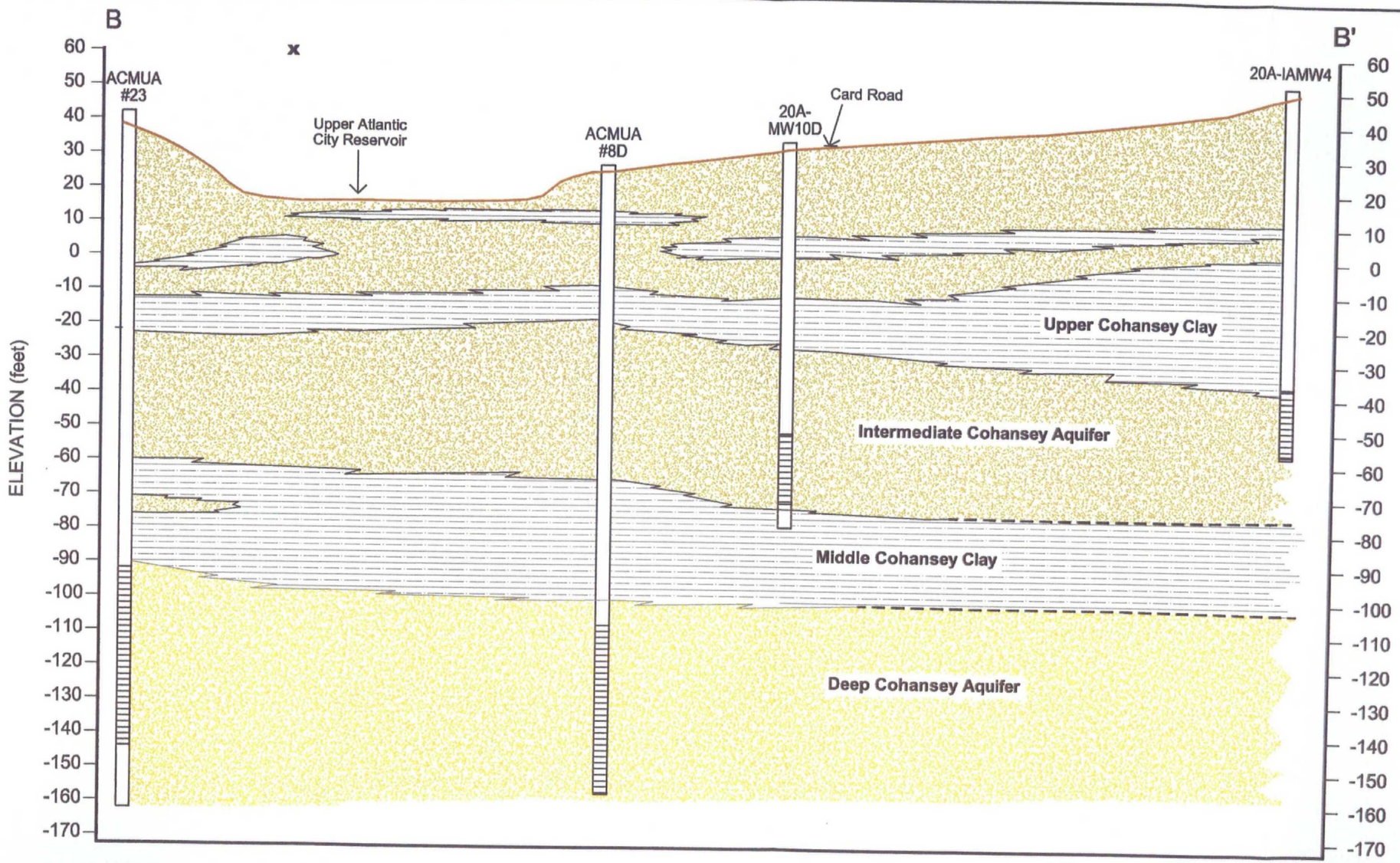
SCALE:
Vertical : 1" = 30 ft.
Horizontal : 1" = 750 ft.
(Vertical Exaggeration = 25X)

30 ft.
750 ft.

CROSS-SECTION A-A'

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: FAA XS A–A NO Pot Surf	
DRAWN BY:	KS	DATE 1/04/10	
TRC	7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792–5555		FIGURE: 6



LEGEND:

x Intersection of Cross-Section A-A'

Screen Interval

F-C Sand

Clay

F-M Sand

SCALE:
Vertical : 1" = 30 ft.
Horizontal : 1" = 375 ft.
(Vertical Exaggeration = 12.5X)

30 ft.

375 ft.

CROSS-SECTION B-B'

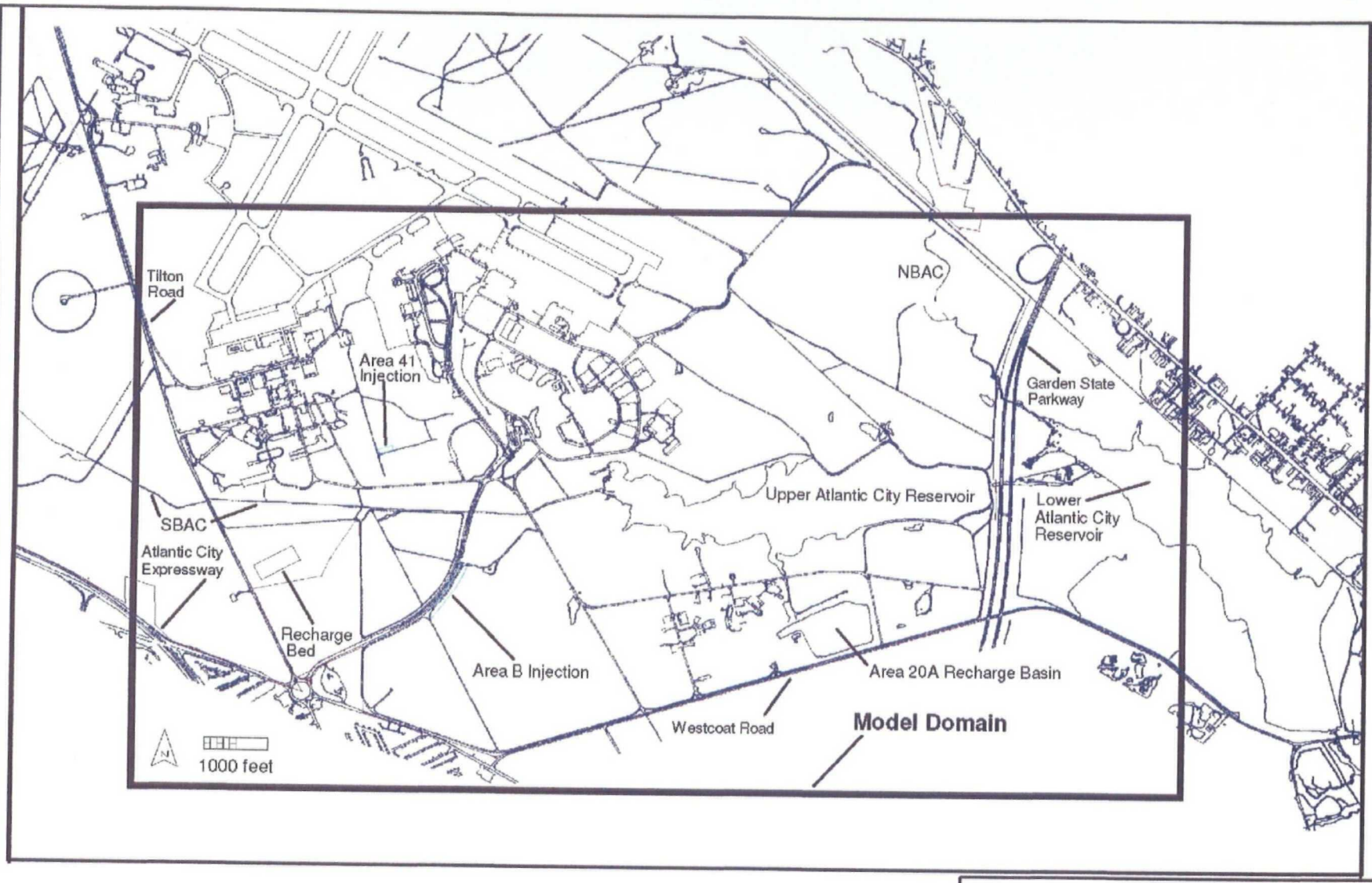
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: FAA XS B-B NO Pot Surf	
DRAWN BY:	KS	DATE	1/04/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

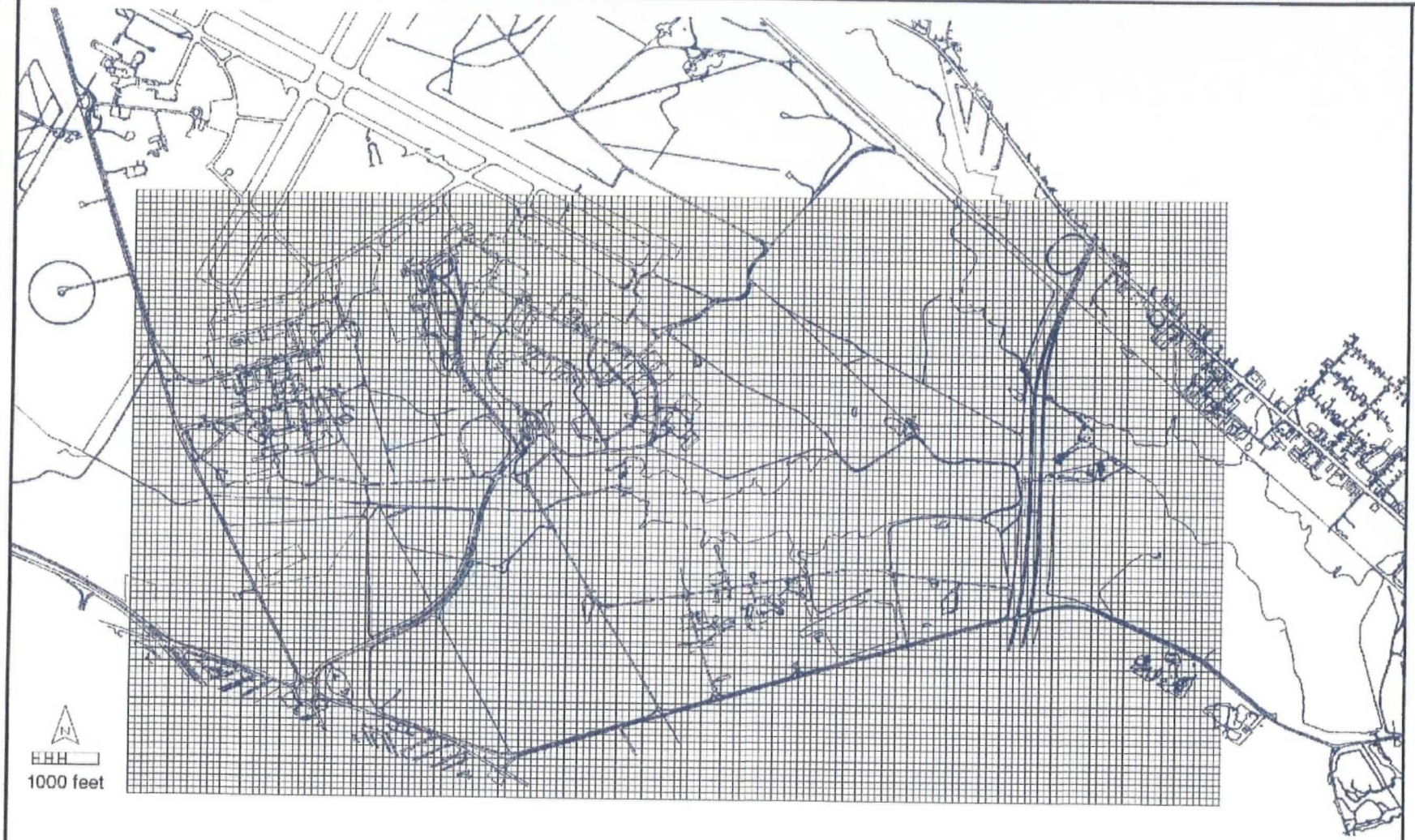
FIGURE: 7



MODEL DOMAIN

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

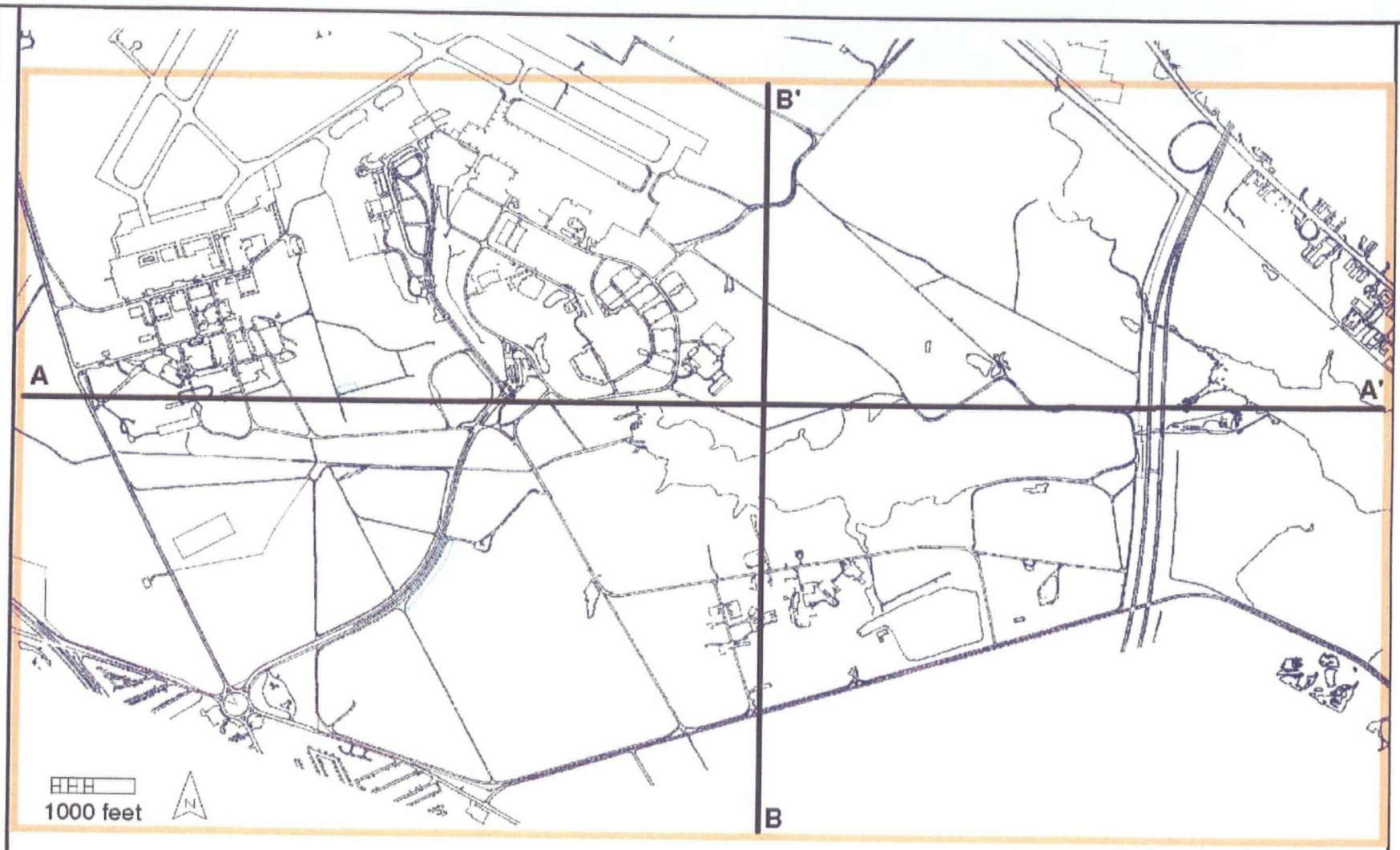
PROJECT NO.:	104146	DWG FILE: Fig. 8 – Model Domain	
DRAWN BY:	KS	DATE	1/04/10
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 8



FINITE DIFFERENCE GRID

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

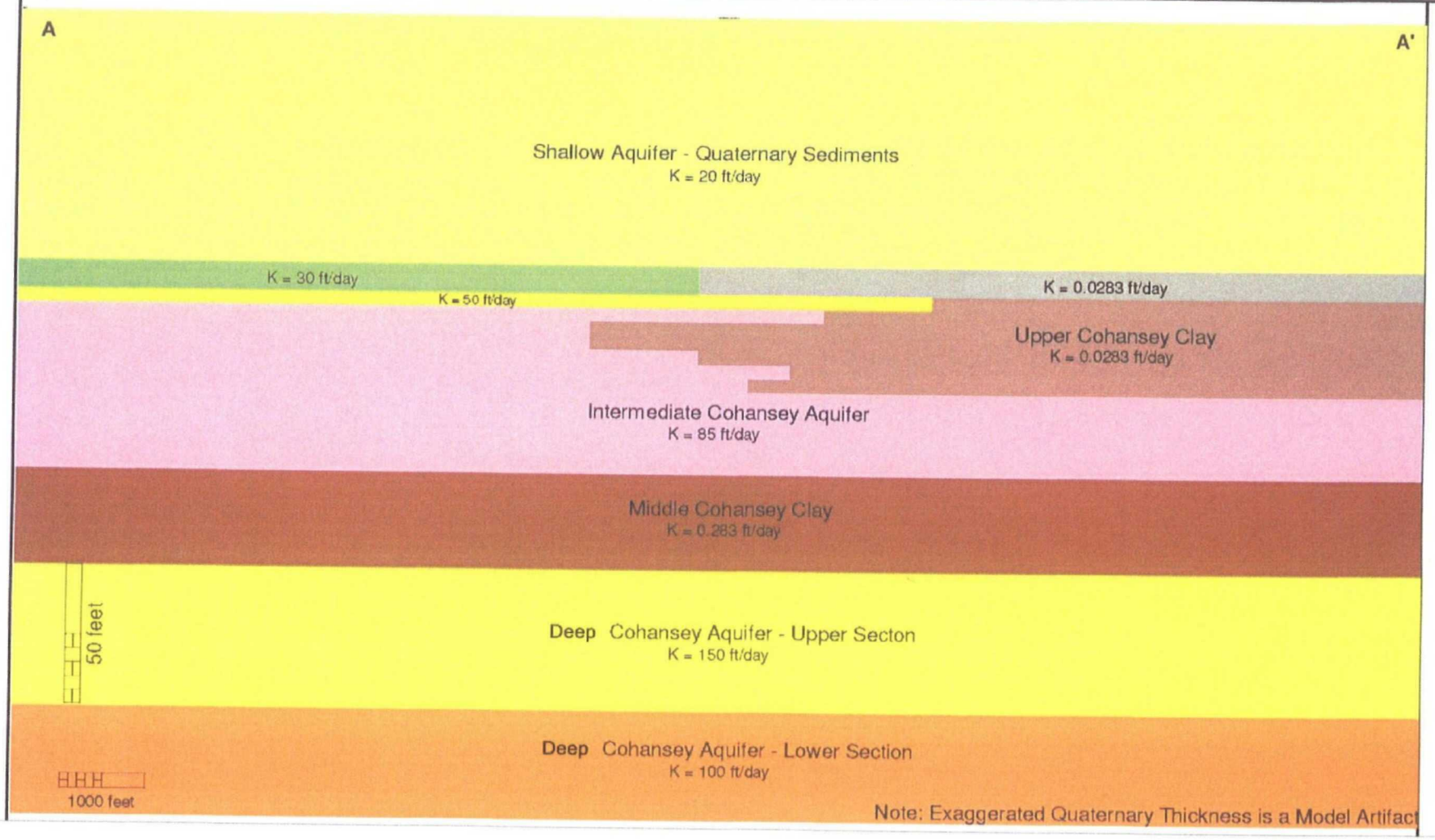
PROJECT NO.:	104146	DWG FILE: Fig. 9 – FD Grid	
DRAWN BY:	KS	DATE	1/13/10
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 9



MODEL CROSS SECTION LOCATION MAP

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

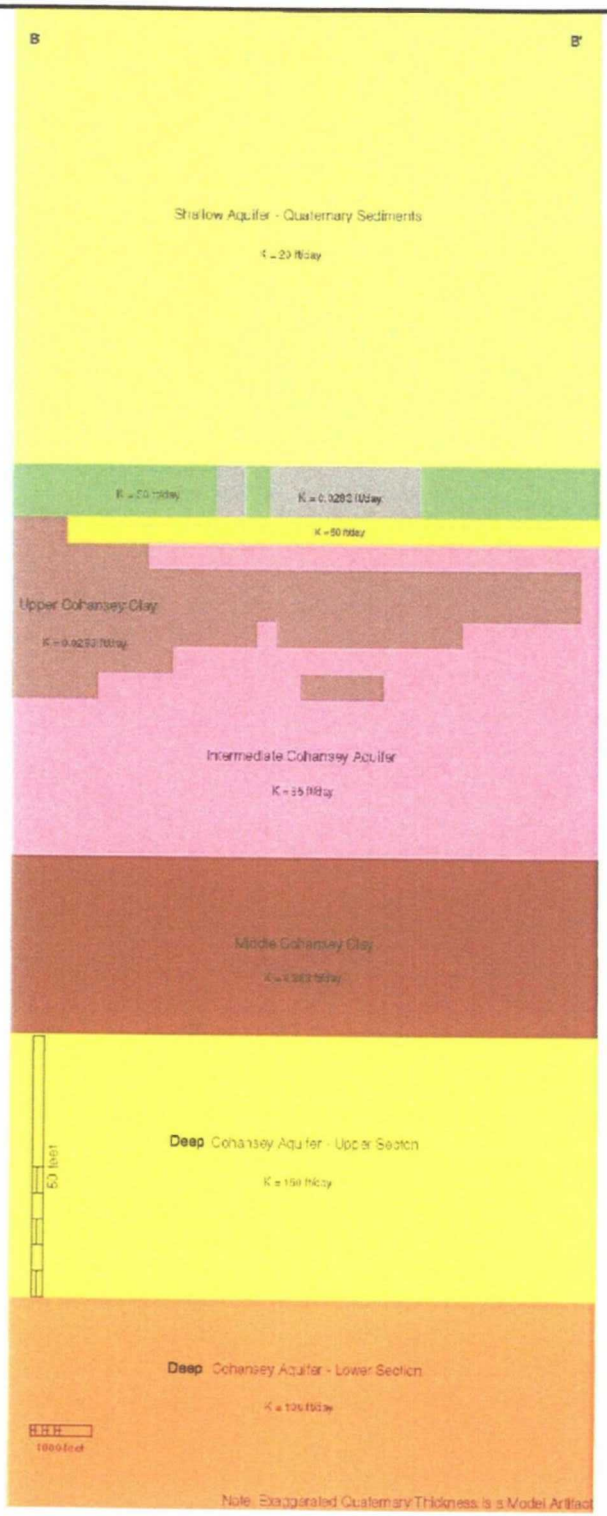
PROJECT NO.:	104146	DWG FILE: Fig. 10 – XS Loc Map	
DRAWN BY:	KS	DATE 1/13/10	
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 10



WEST-EAST MODEL STRATIGRAPHIC CROSS SECTION A-A'
SIMULATED HYDRAULIC CONDUCTIVITIES

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

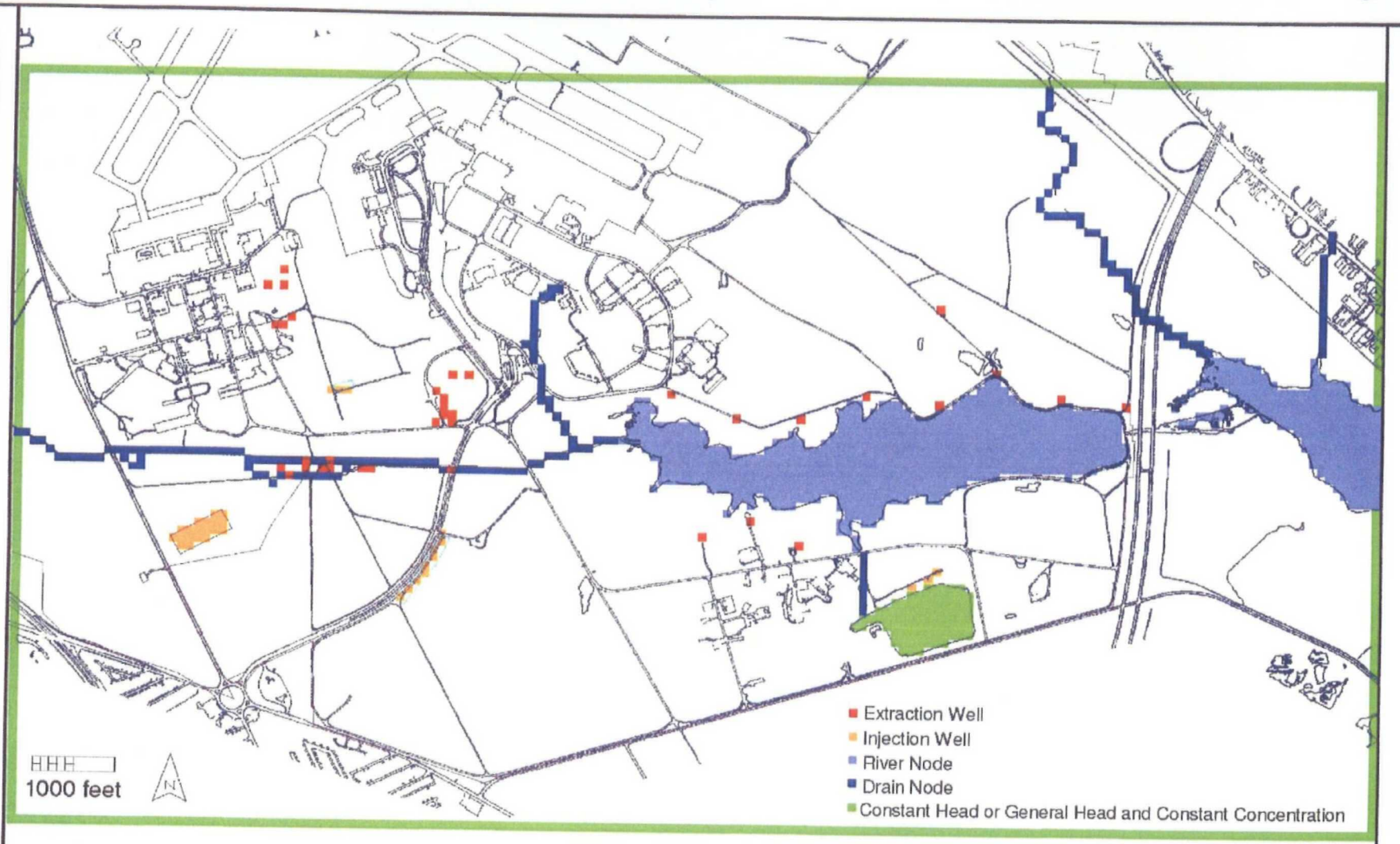
PROJECT NO.:	104146	DWG FILE: Fig. 11 Stratig. XS A–A'	
DRAWN BY:	KS	DATE	1/13/10
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 11



SOUTH-NORTH MODEL STRATIGRAPHIC CROSS SECTION B-B'
SIMULATED HYDRAULIC CONDUCTIVITIES

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

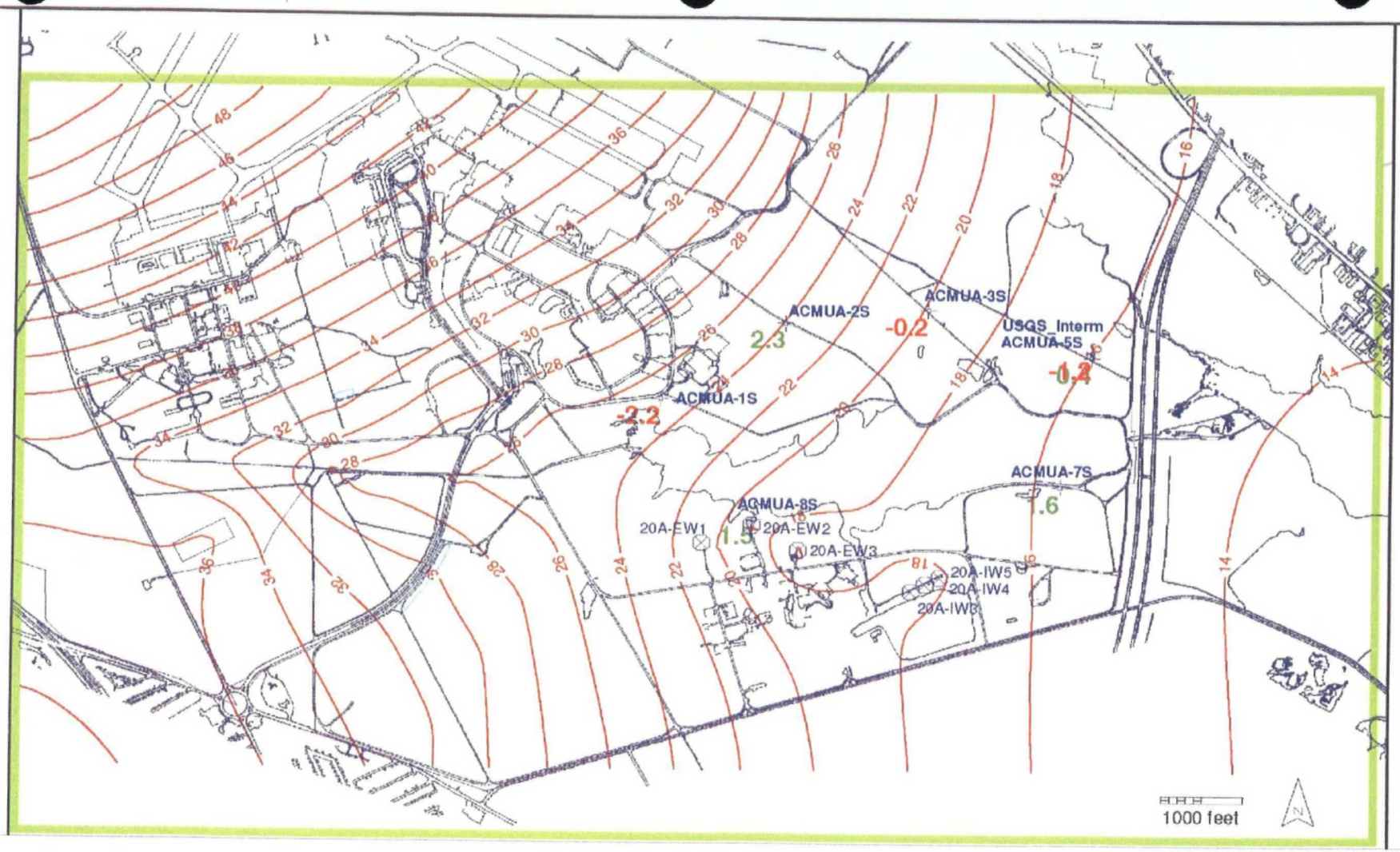
PROJECT NO.:	104146	DWG FILE: Fig. 12 Stratig. XS B–B'	
DRAWN BY:	KS	DATE	1/13/10
TRC		7751 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792–5555	FIGURE: 12



MODEL BOUNDARY CONDITIONS

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 13 Model Boundary	
DRAWN BY:	KS	DATE 1/13/10	
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 13

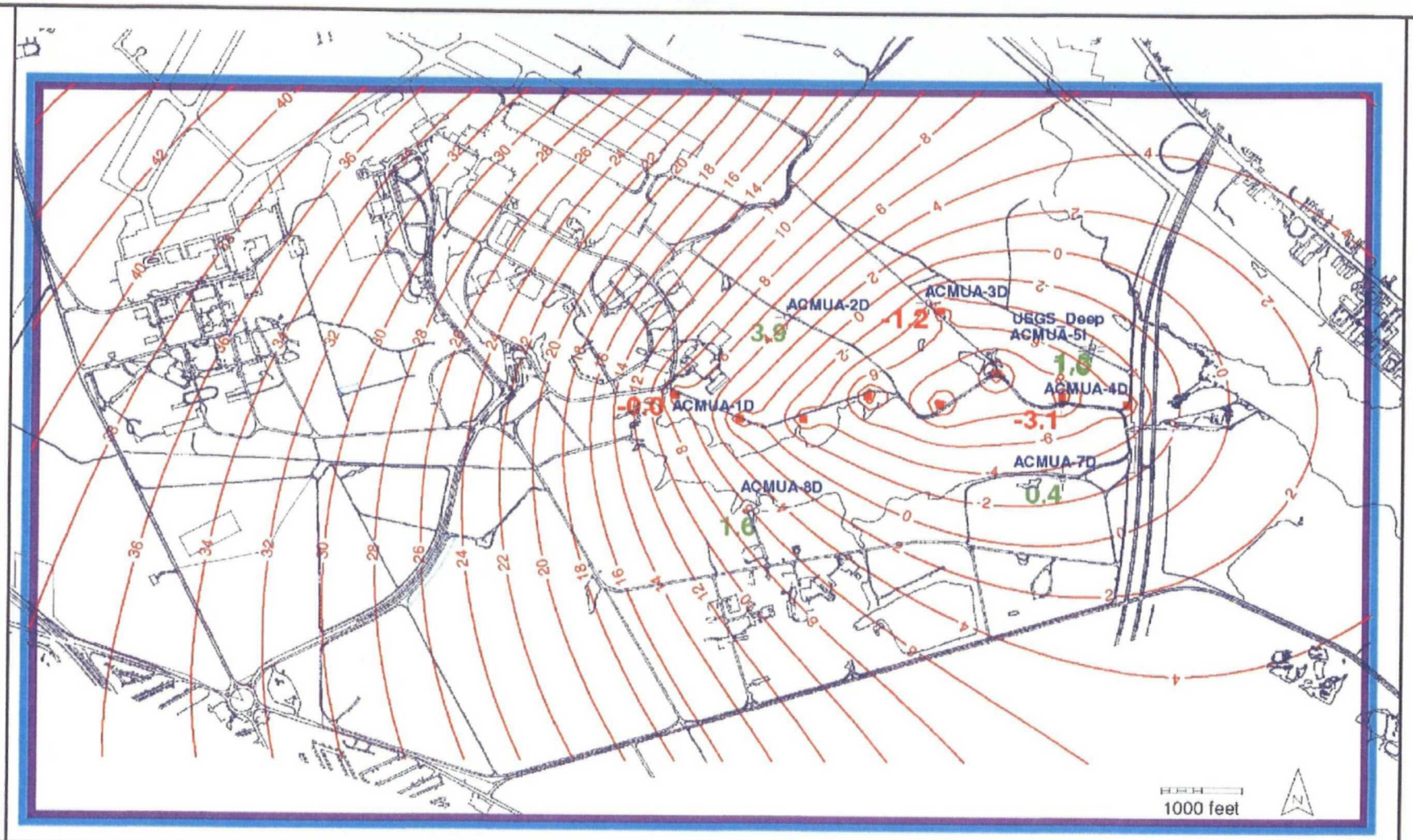


LEGEND:

ACMUA-1S — ACMUA Shallow Monitoring Wells

-2.2 — Calibration Errors in feet

SIMULATED 3rd QUARTER 2009 INTERMEDIATE AQUIFER POTENTIOMETRY AND CALIBRATION ERRORS			
FAA WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, NJ			
PROJECT NO.:	104146	DWG FILE: Fig. 14 Intermed. Aq. PS	
DRAWN BY:	KS	DATE	1/13/10
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 14



LEGEND:

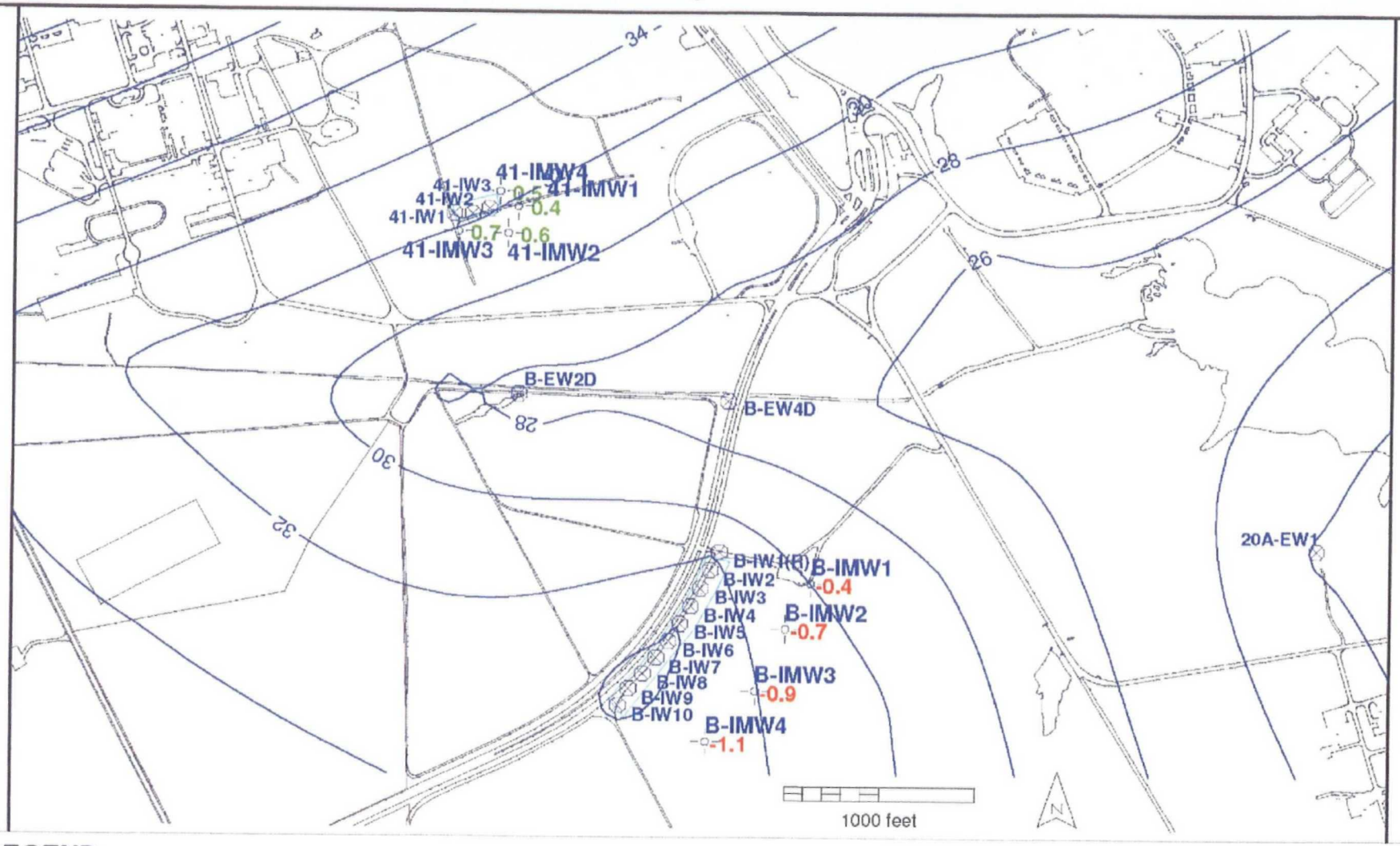
ACMUA-1D ACMUA Deep Monitoring Wells

-1.2 Calibration Errors in feet

SIMULATED 3rd QUARTER 2009 DEEP AQUIFER POTENTIOMETRY AND CALIBRATION ERRORS

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 15 Intermed. Aq. PS	
DRAWN BY:	KS	DATE 1/13/10	
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 15



LEGEND:

IMW1 — Injection Monitoring Wells

IW1 — Injection Wells

-1.1 — Calibration Errors in feet

SIMULATED INTERMEDIATE AQUIFER INJECTION POTENTIOMETRY AND CALIBRATION ERRORS, AREAS B AND 41 INJECTION TESTING LATE APRIL 2009

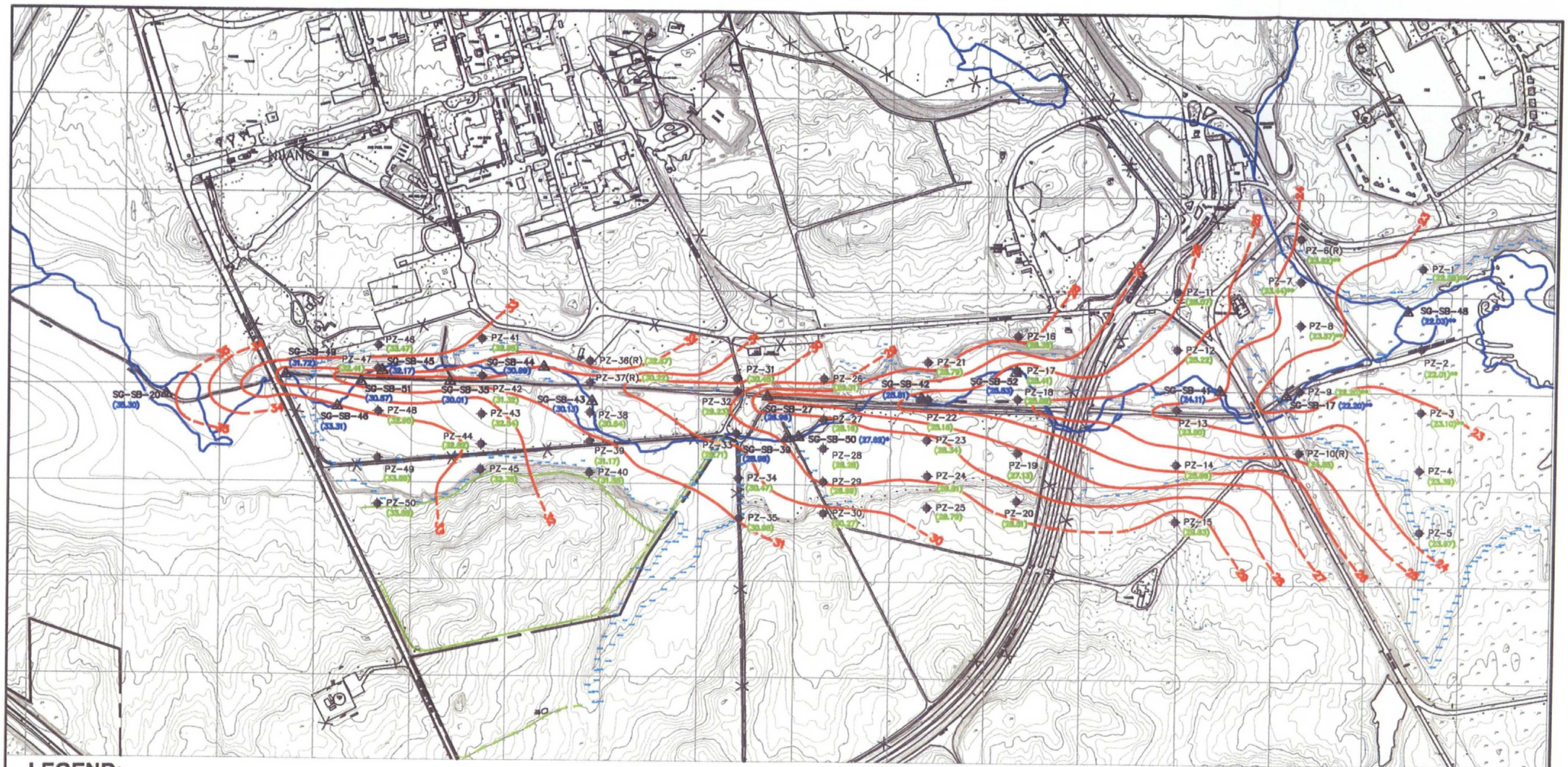
FAA WILLIAM J. HUGHES TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 16 Interm Aq Inject PS	
DRAWN BY:	KS	DATE	1/13/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 16



LEGEND:

PZ-1 — PIEZOMETER LOCATION

SG-SB-1 — STREAM GAUGE LOCATION

SBAC STREAM CHANNEL-1957

32.54 — GROUND WATER ELEVATION IN FEET ON 6/28/04 (FEET ABOVE MSL)

WATER TABLE CONTOUR WITH ELEVATION IN FEET ON 6/14/04 (FEET ABOVE MSL) (DASHED WHERE INFERRED)

FAA PROPERTY LINE

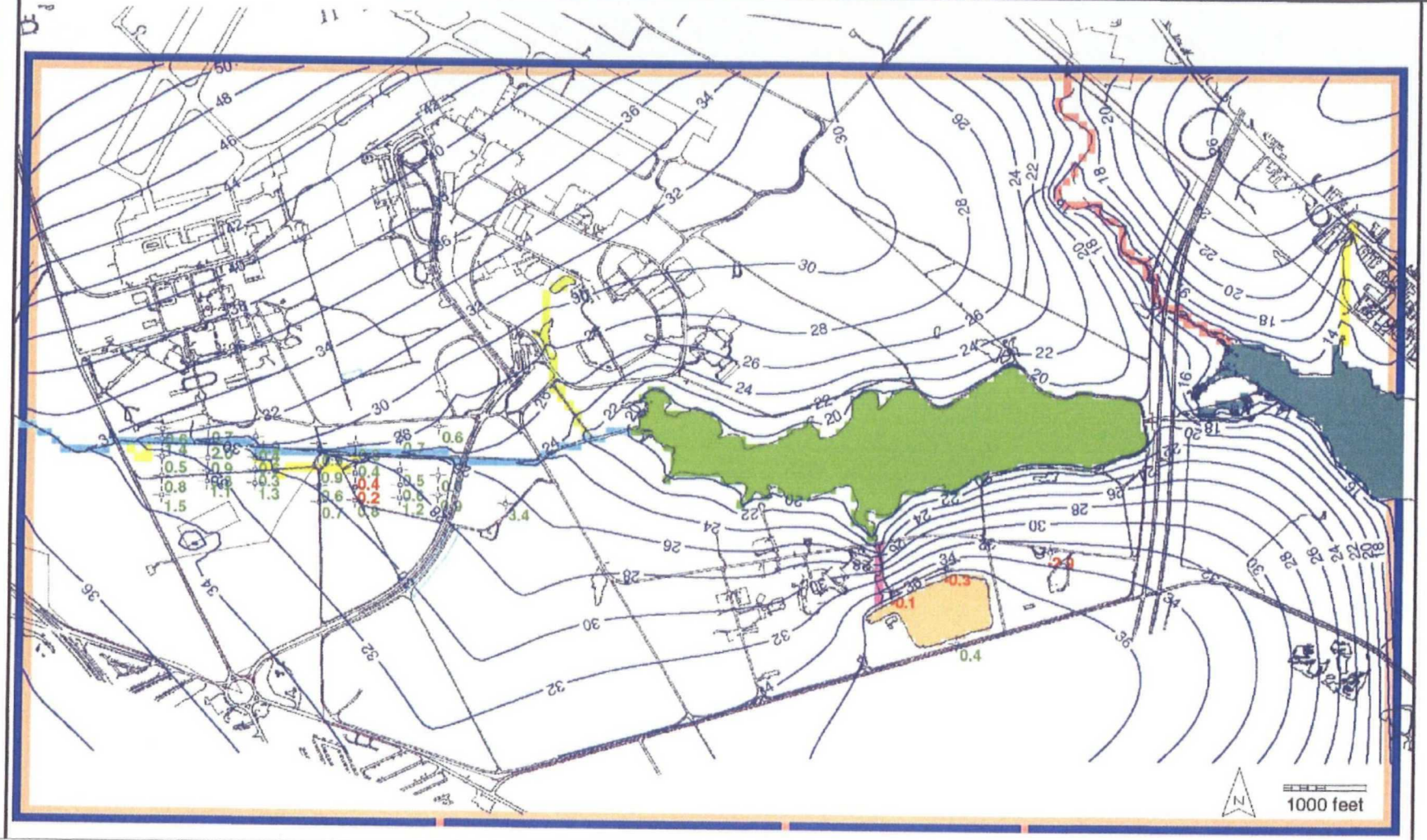
0 500' 1,000'
GRAPHIC SCALE

N W E S
1983 NJ STATE

SOUTH BRANCH ABSECON CREEK CONTOURED WATER TABLE ELEVATIONS AND GROUND WATER FLOW DIRECTIONS JUNE 14, 2004

FAA WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 17-Contoured WT El.	
DRAWN BY:	KS	DATE	1/14/10
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 17



LEGEND:

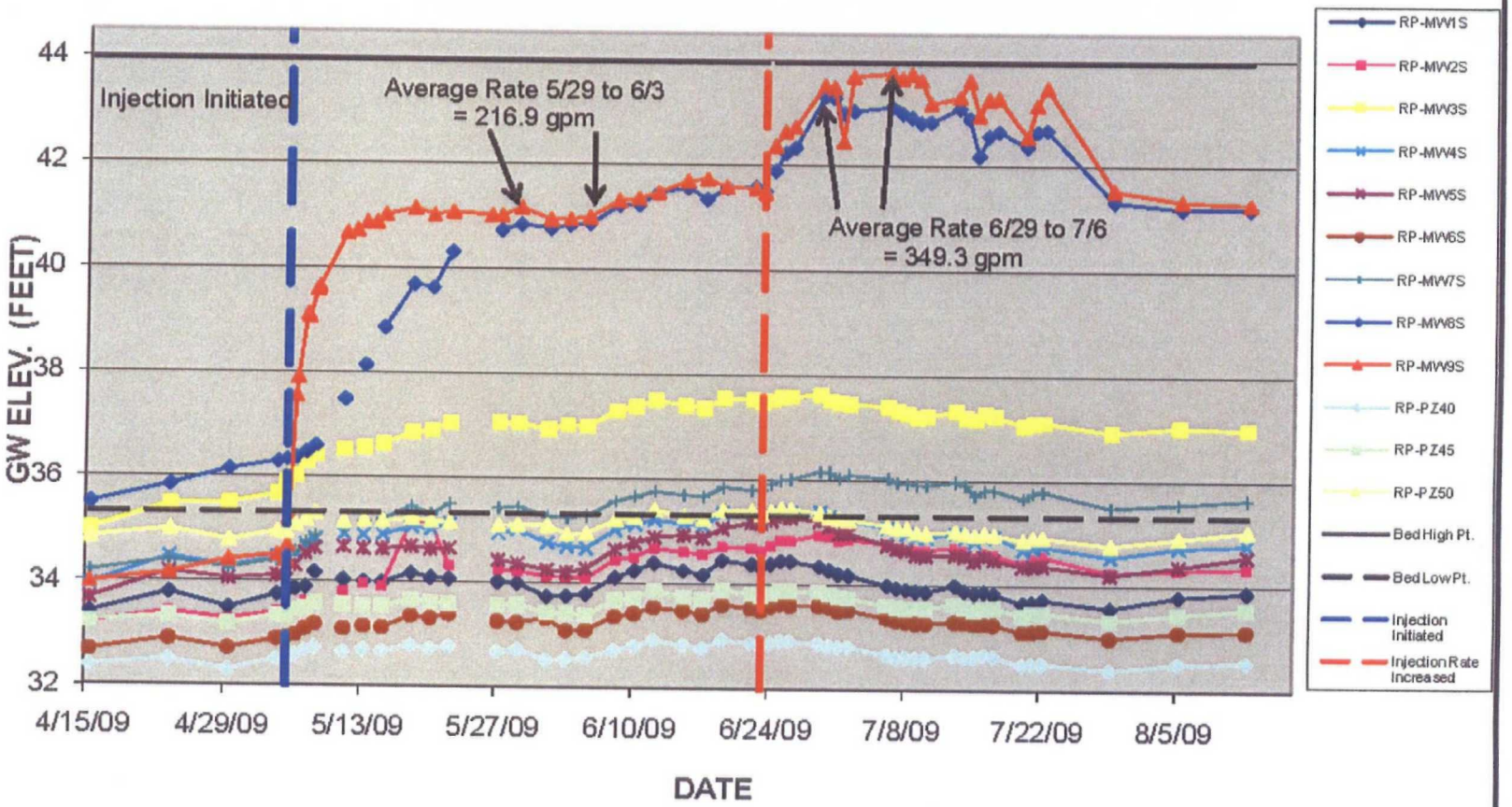
- Monitoring Wells
- 1.5 Calibration Errors in feet

SIMULATED 2nd QUARTER 2008 SHALLOW POTENTIOMETRY

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 18–2nd 2009 Q SP	
DRAWN BY:	KS	DATE 1/13/10	
TRC		7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 18

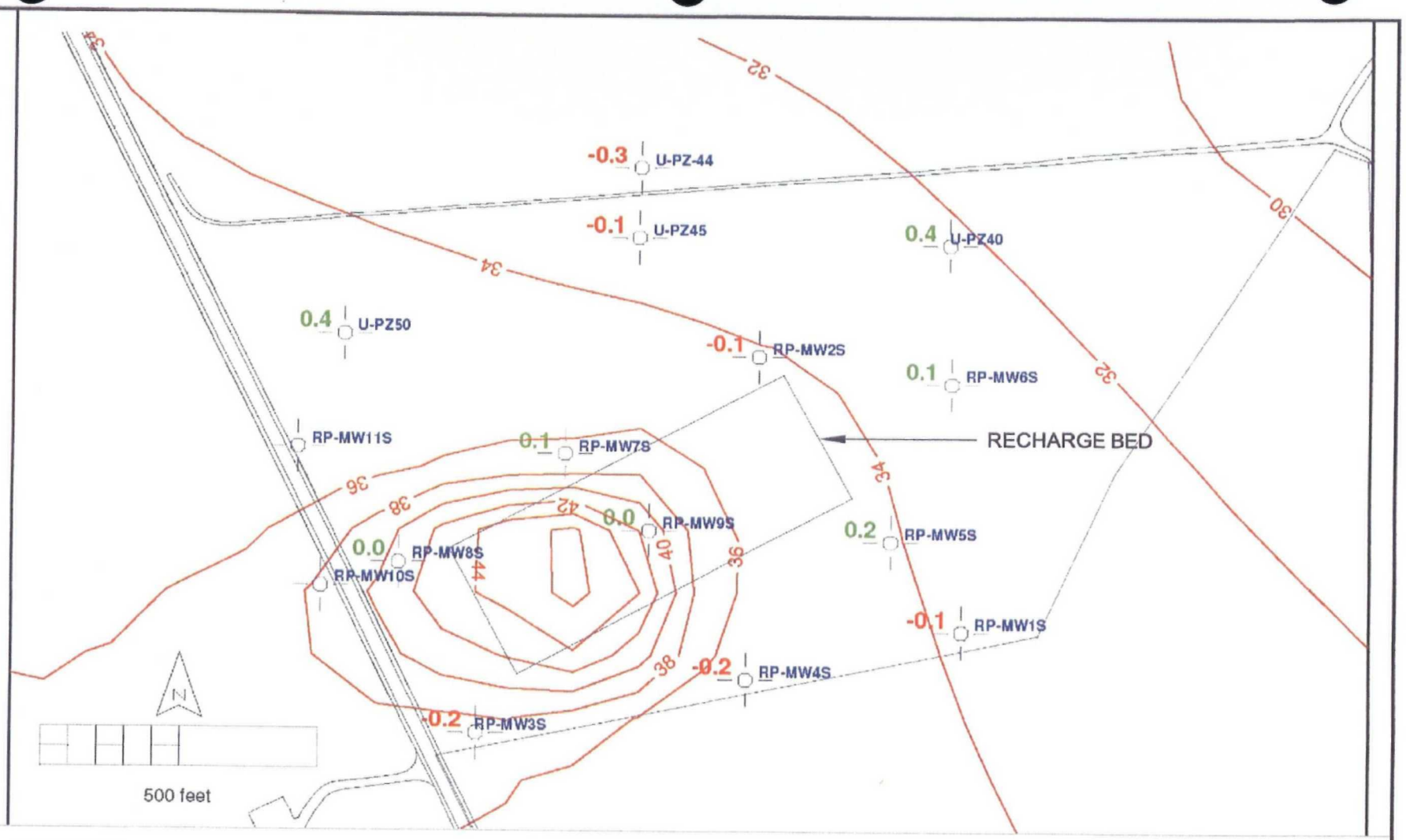
GW ELEV. VS. TIME at RECHARGE BED MONITORING POINTS



RECHARGE BED TESTING
WATER LEVEL DATA

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig 19	
DRAWN BY:	KS	DATE 1/13/10	
TRC		7761 SHAFFER PARKWAY Suite 100 Littleton, Co 80127 (303) 792-5555	FIGURE: 19



LEGEND:

U-PZ-44 — Area U Piezometers

RP-MW2S — Recharge Bed Monitoring Wells

-0.3 — Calibration Errors in feet

SIMULATED RECHARGE BED POTENTIOMETRY AND CALIBRATION ERRORS LATE MAY/EARLY JUNE 2009 TESTING PERIOD

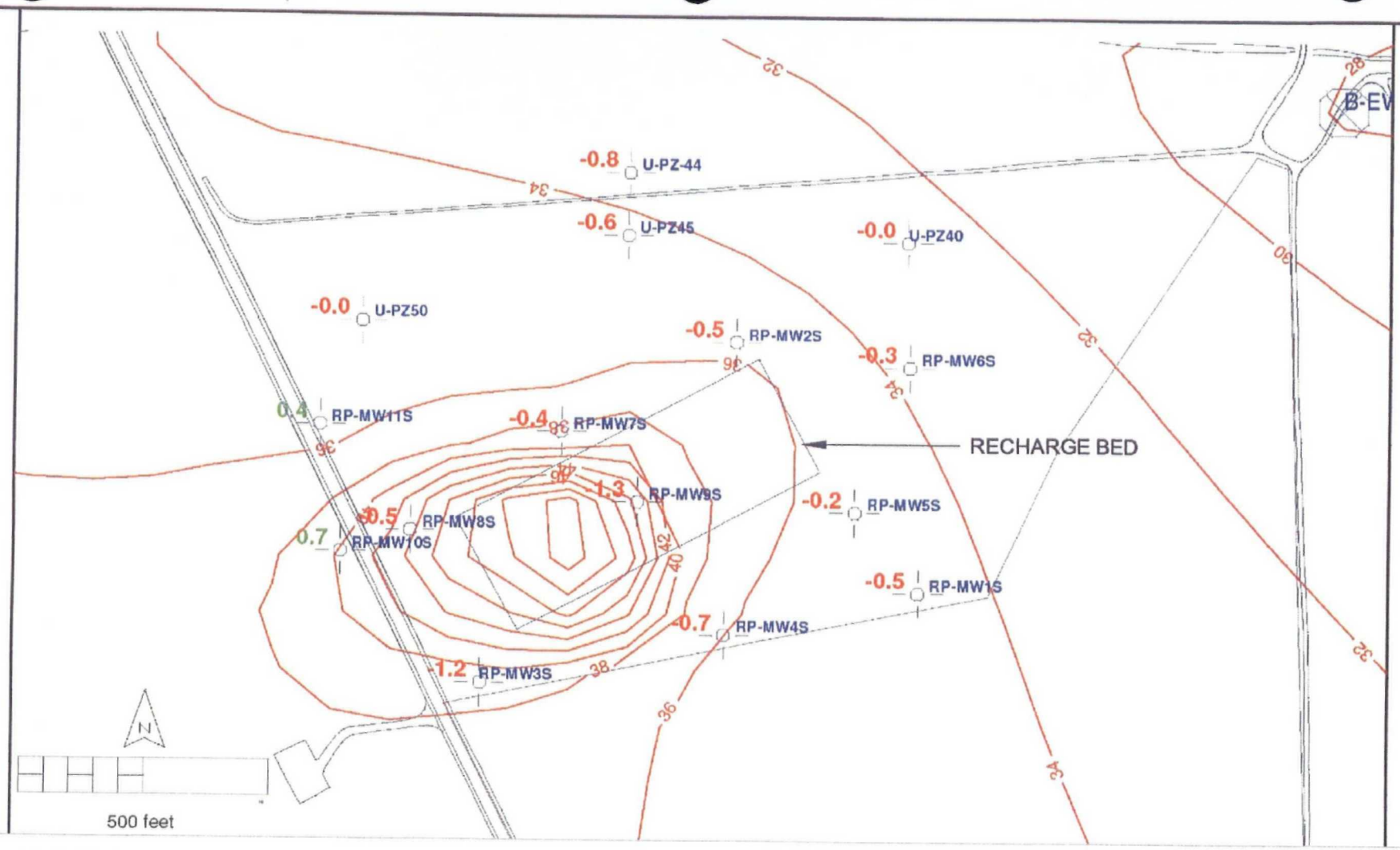
FAA WILLIAM J. HUGHES TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 20
DRAWN BY:	KS	DATE	1/13/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 20



LEGEND:

U-PZ-44 — Area U Piezometers

RP-MW2S — Recharge Bed Monitoring Wells

-0.8 — Calibration Errors in feet

SIMULATED RECHARGE BED POTENTIOMETRY AND CALIBRATION ERRORS LATE JUNE/EARLY JULY 2009 TESTING PERIOD

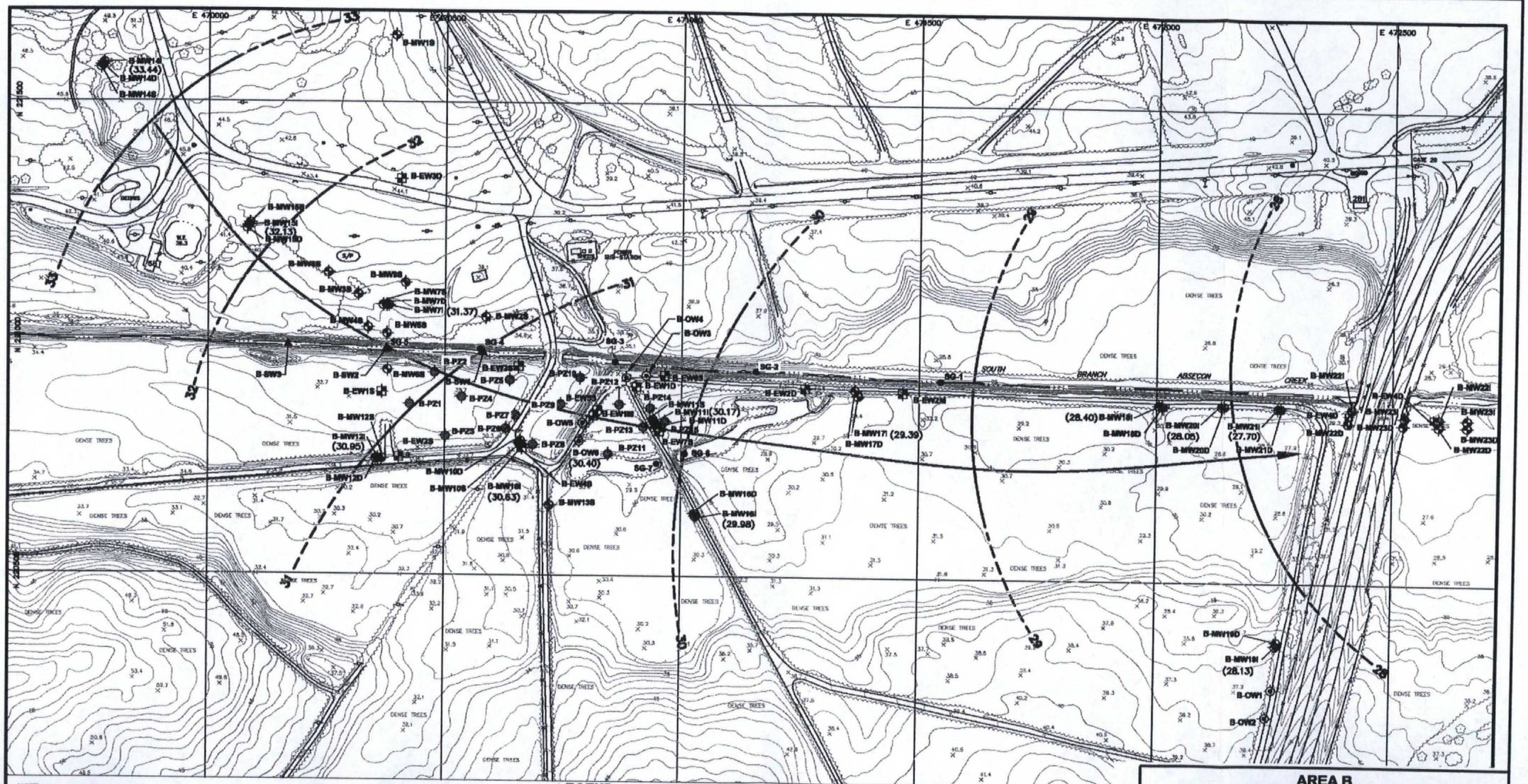
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 21
DRAWN BY:	KS	DATE	1/13/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 21



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY KUCERA INTERNATIONAL, INC.; DATE OF PHOTOGRAPHY– 4/9/94 & 4/14/94.

LEGEND

B-MW15	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
31	GROUND WATER CONTOUR ON 2/19/08 WITH ELEVATION (FT. ABOVE MSL) (DASHED WHERE INFERRED)
→	APPROXIMATE INTERMEDIATE GROUND WATER FLOW DIRECTION
(32.51)	GROUND WATER ELEVATION (FT. ABOVE MSL) ON 2/19/08

0 200' 400'
GRAPHIC SCALE

1983 NJ STATE

J:\CAD\104146\000040\000530\Feb08\
Fig 7a–Fig 7c.dwg Layout:Figure 7b September 05, 2008–3:40PM Raloma

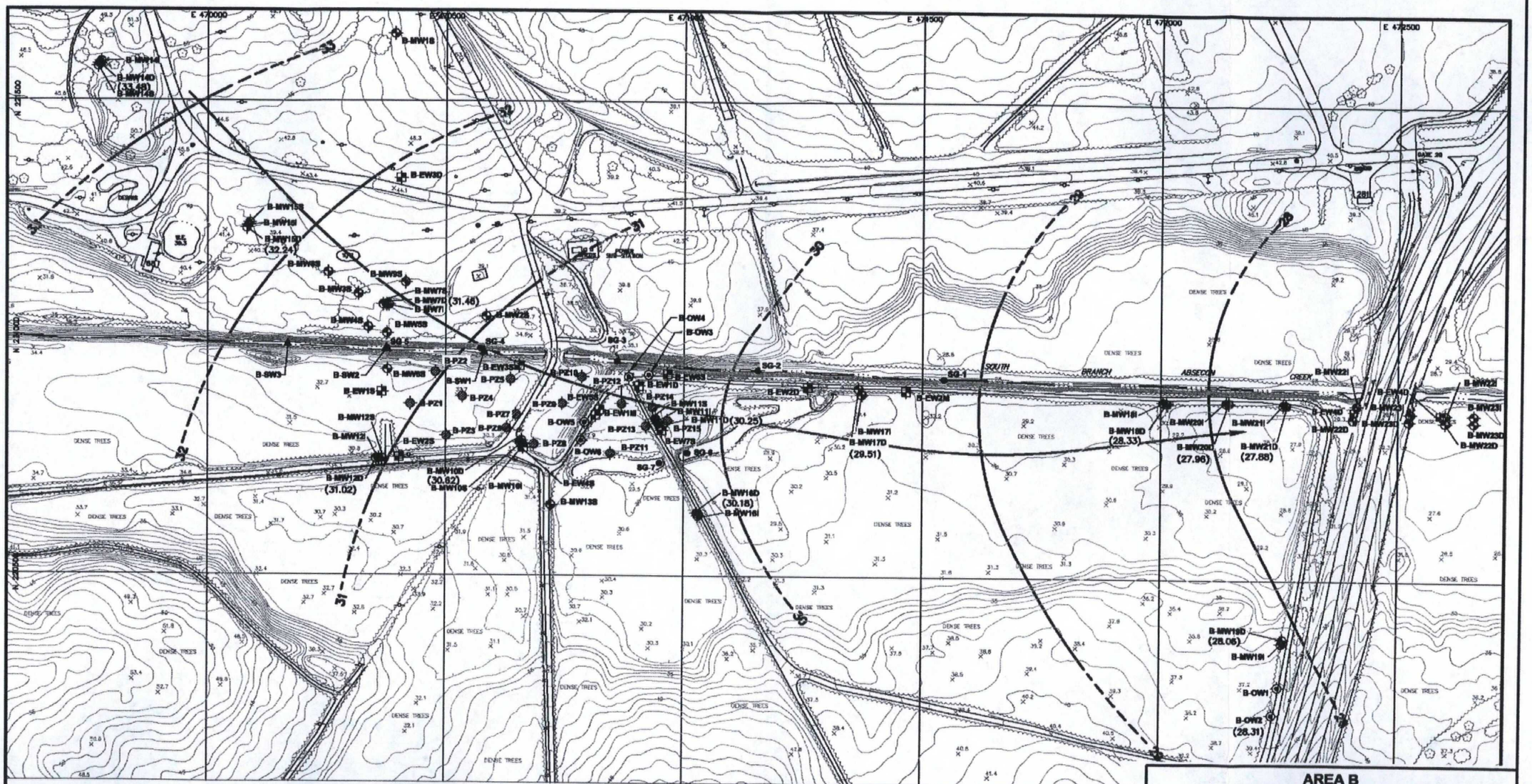
AREA B
CONTOURED WATER LEVEL ELEVATIONS
INTERMEDIATE WELLS -2/18/08

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 22 WL Interm. 2–08	
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792–5555

FIGURE: 22



NOTE:
DRAWING TAKEN FROM AERIAL MAP BY KUCERA INTERNATIONAL, INC.; DATE OF PHOTOGRAPHY-- 4/9/94 & 4/14/94.

LEGEND

B-MW1S	MONITORING WELL LOCATION
B-PZ1	PIEZOMETER LOCATION
B-EW1	EXTRACTION WELL LOCATION
B-OW1	OBSERVATION WELL LOCATION
B-IW1	INJECTION WELL LOCATION
SG-1	STREAM GAUGE LOCATION
B-SW1	SURFACE WATER LOCATION
31 — — —	GROUND WATER CONTOUR ON 2/19/08 WITH ELEVATION (FT. ABOVE MSL) (DASHED WHERE INFERRED)
——→	APPROXIMATE DEEP GROUND WATER FLOW DIRECTION
(32.55)	GROUND WATER ELEVATION (FT. ABOVE MSL) ON 2/19/08

0 200' 400'
GRAPHIC SCALE

1983 NJ STATE

J:\CAD\104146\000040\000530\Feb08\
Fig 7a-Fig 7c.dwg Layout:Figure 7c September 05, 2008-3:41PM Raloma

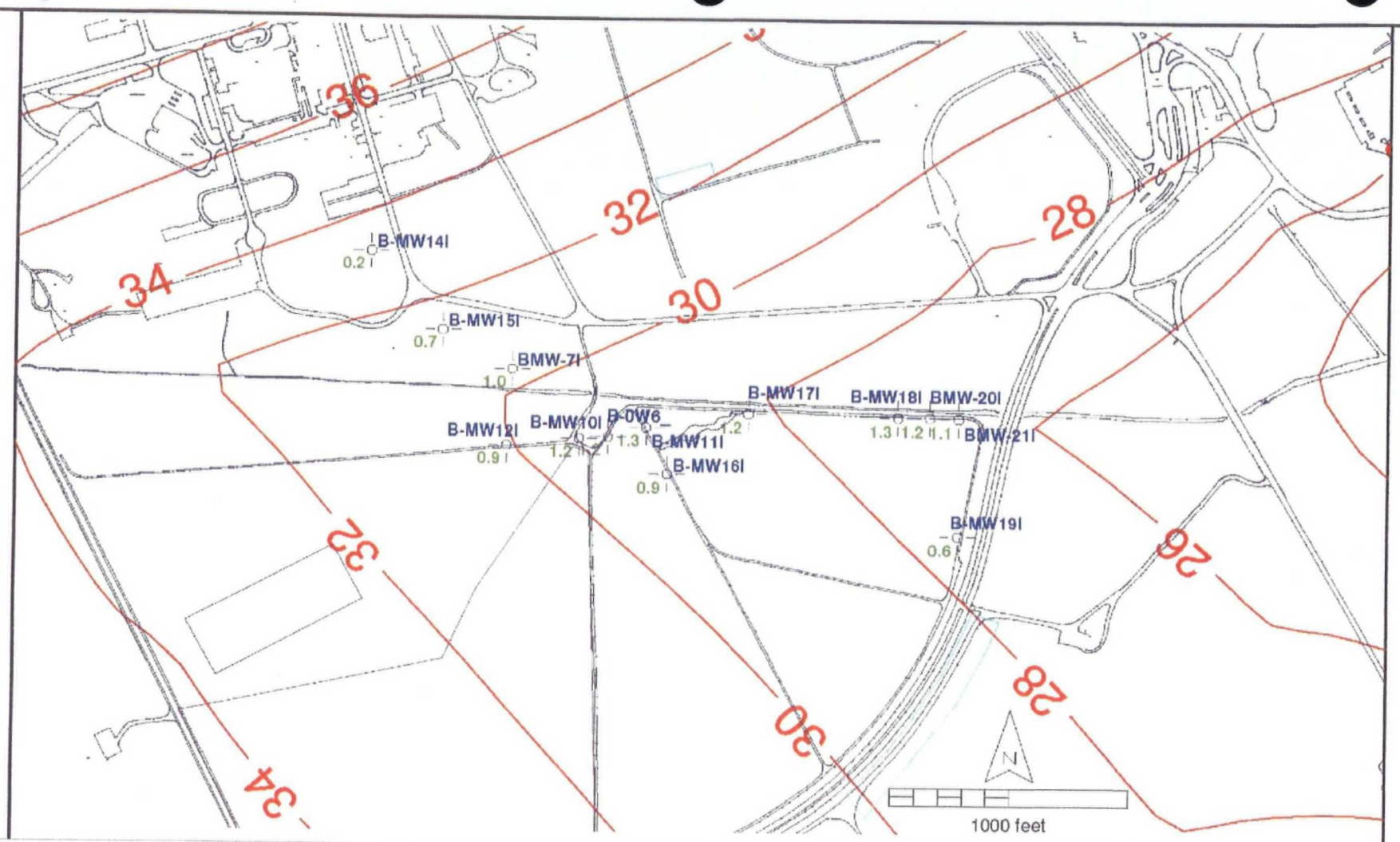
AREA B
CONTOURED WATER LEVEL ELEVATIONS
DEEP WELLS -2/19/08

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 23 WL Deep 2-08	
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 23



LEGEND:

B-MW141 Area B "Intermediate" Monitoring Wells

0.2 Calibration Errors in feet

SIMULATED 1st QUARTER 2008 INTERMEDIATE AQUIFER POTENTIOMETRY AND CALIBRATION ERRORS, AREA B "INTERMEDIATE" WELLS

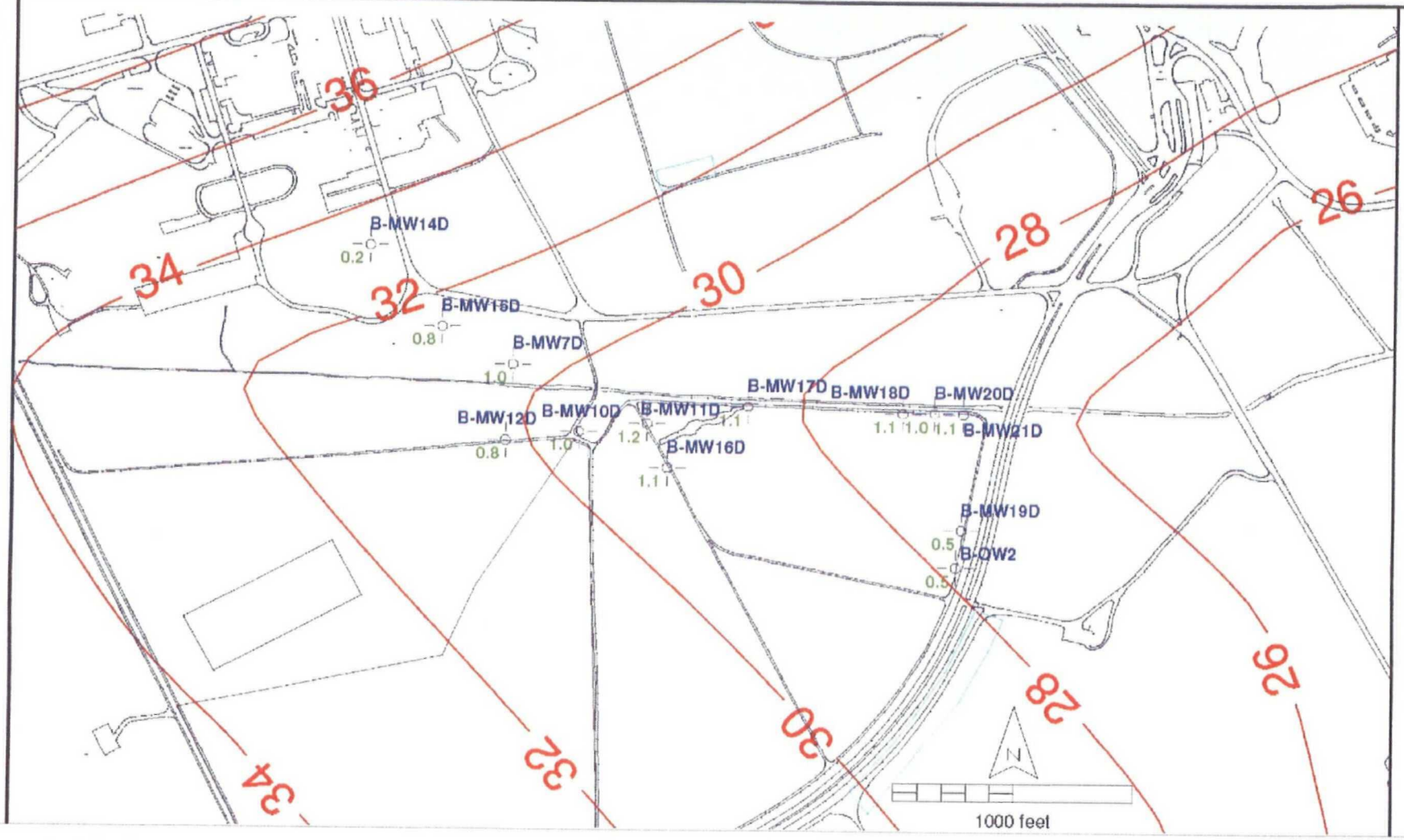
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 24
DRAWN BY:	KS	DATE	1/15/10

TRC

7781 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 24

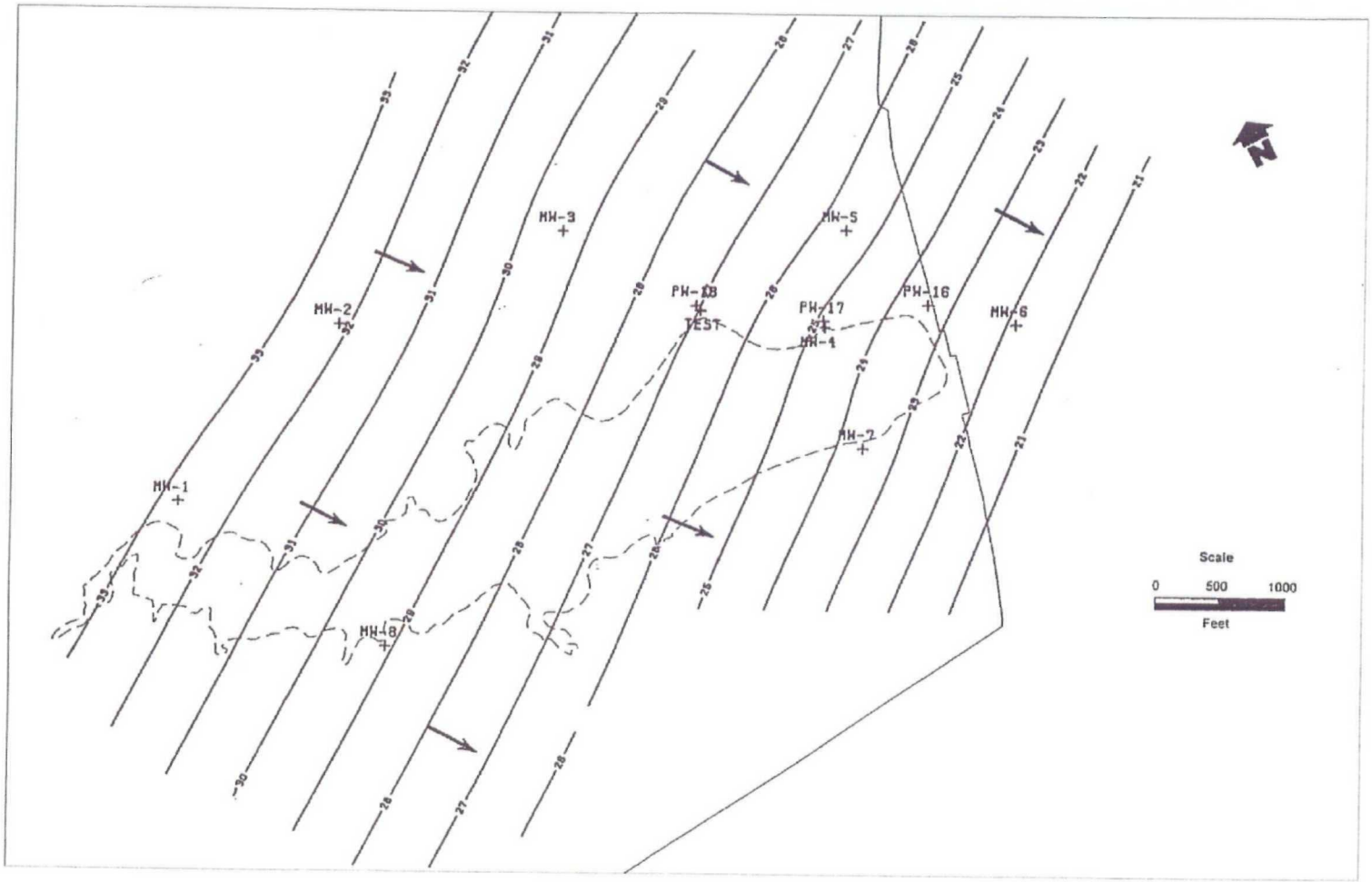


LEGEND:

B-MW141D Area B "Deep" Monitoring Wells

0.2 Calibration Errors in feet

SIMULATED 1st QUARTER 2008 INTERMEDIATE AQUIFER POTENTIOMETRY AND CALIBRATION ERRORS, AREA B "DEEP" WELLS			
FAA WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, NJ			
PROJECT NO.: 104146	DWG FILE: Fig. 25		
DRAWN BY: KS	DATE 1/15/10		
TRC	7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 25	



PRE-ACMUA WELL FIELD DEEP AQUIFER POTENTIOMETRY

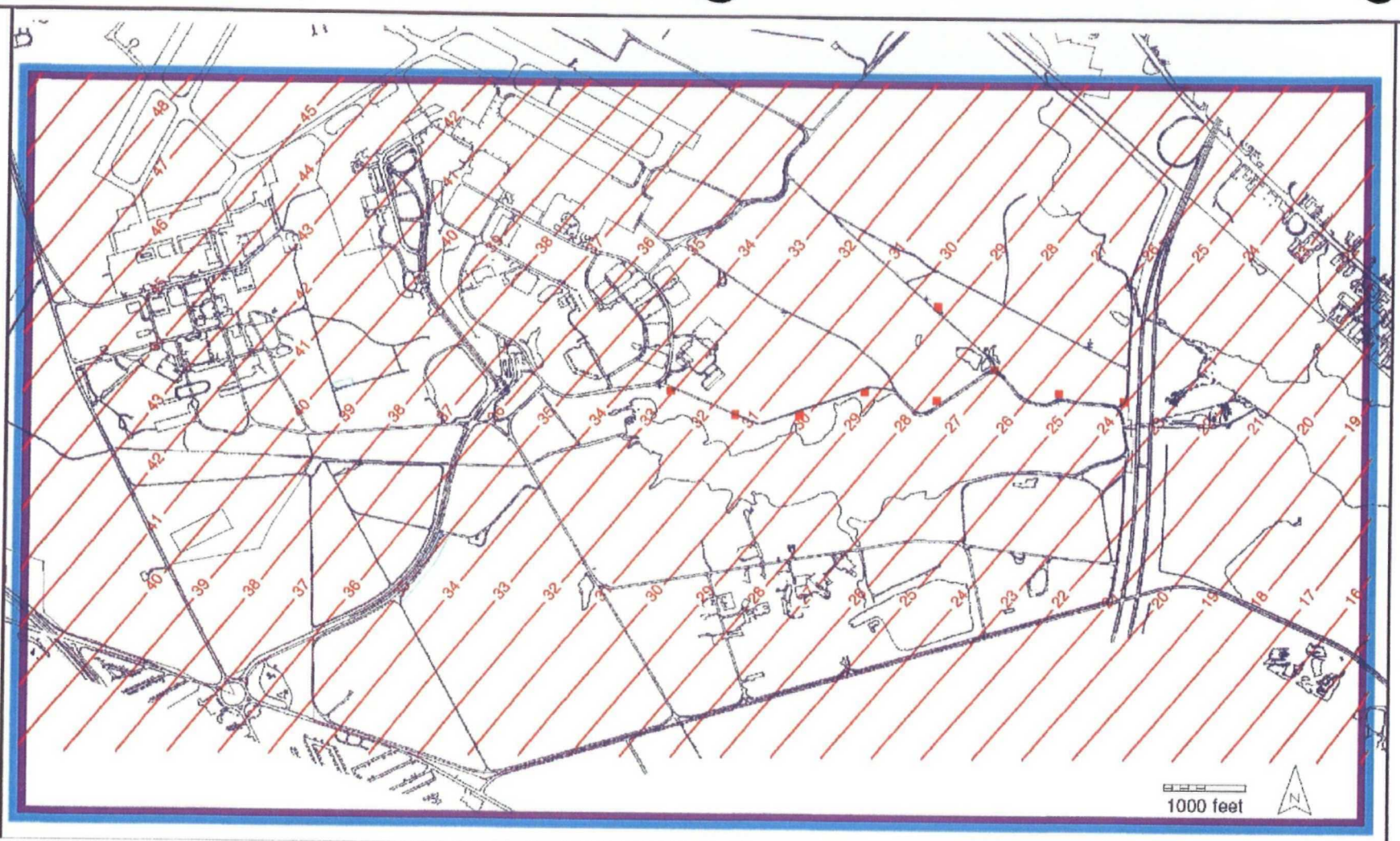
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 26
DRAWN BY:	KS	DATE	1/15/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 26



LEGEND:

■ ACMUA Production Wells

SIMULATED PRE-ACMUA WELL FIELD DEEP AQUIFER POTENTIOMETRY			
FAA WILLIAM J. HUGHES TECHNICAL CENTER ATLANTIC CITY INT'L AIRPORT, NJ			
PROJECT NO.: 104146	DWG FILE: Fig. 27		
DRAWN BY: KS	DATE 1/15/10		
TRC	7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 27	

Legend

- Sample Location
- FAA Property Line
- SBAC Main Channel
- 1957 SBAC Stream Channel

N
W E
S

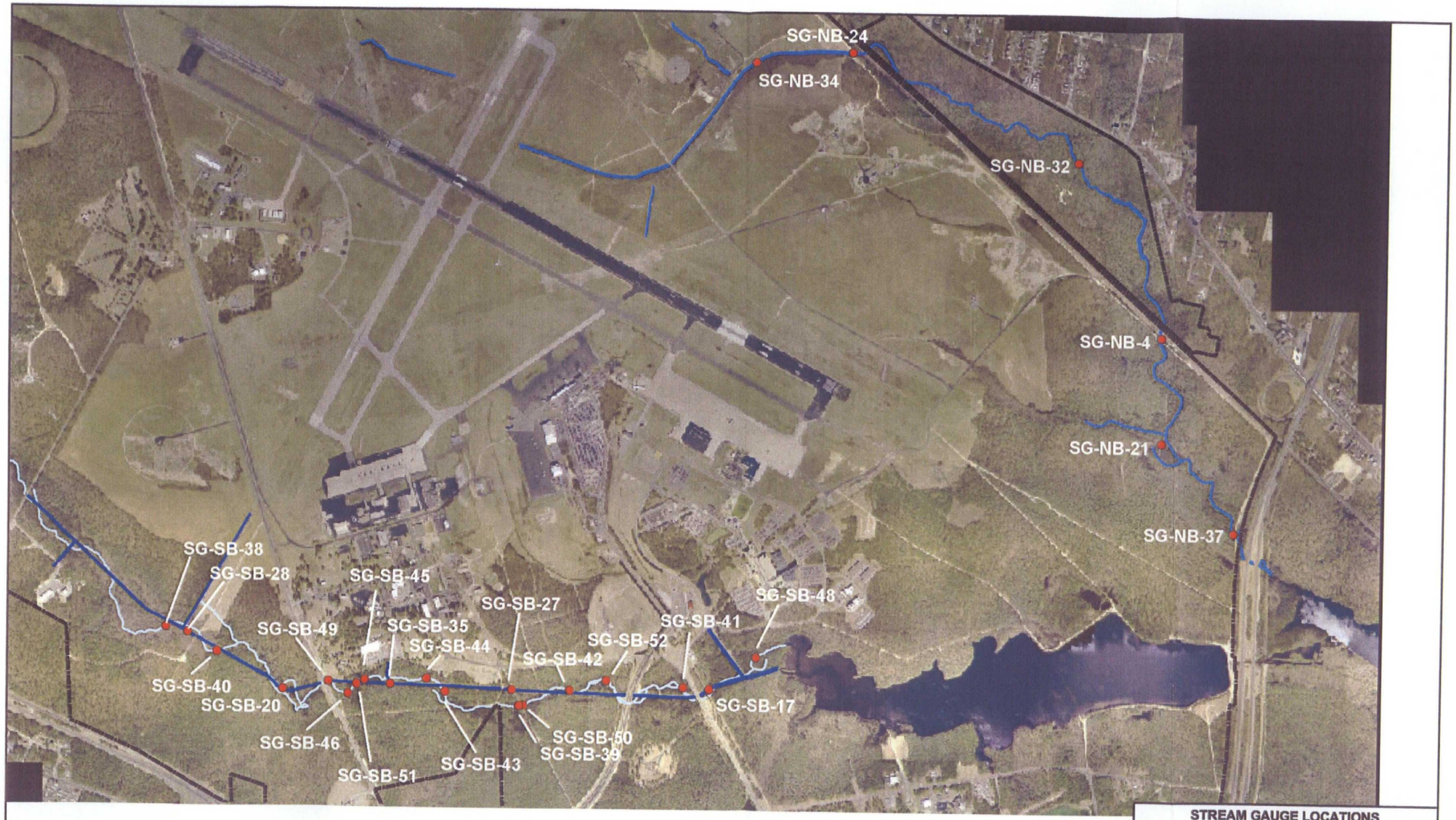
0 300 600 1,200
Feet

Notes: The orthophoto shown in this map was taken on March 19, 2001.

LOW FLOW DISCHARGE MEASUREMENT STATIONS

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.: 104146	DWG FILE: Fig. 28		
DRAWN BY:	DATE 1/18/10		
TRC	7761 SHAFFER PARKWAY SUITE 100 LITTLETON, CO 80127 (303) 792-5555	FIGURE: 28	



Legend

- Stream Gauge Location
- FAA Property Line
- NBAC Main Channel
- SBAC Main Channel
- 1957 SBAC Stream Channel

N W E S

0 600 1,200 2,400
Feet

Note: The orthophoto shown in this map was taken on March 19, 2001.

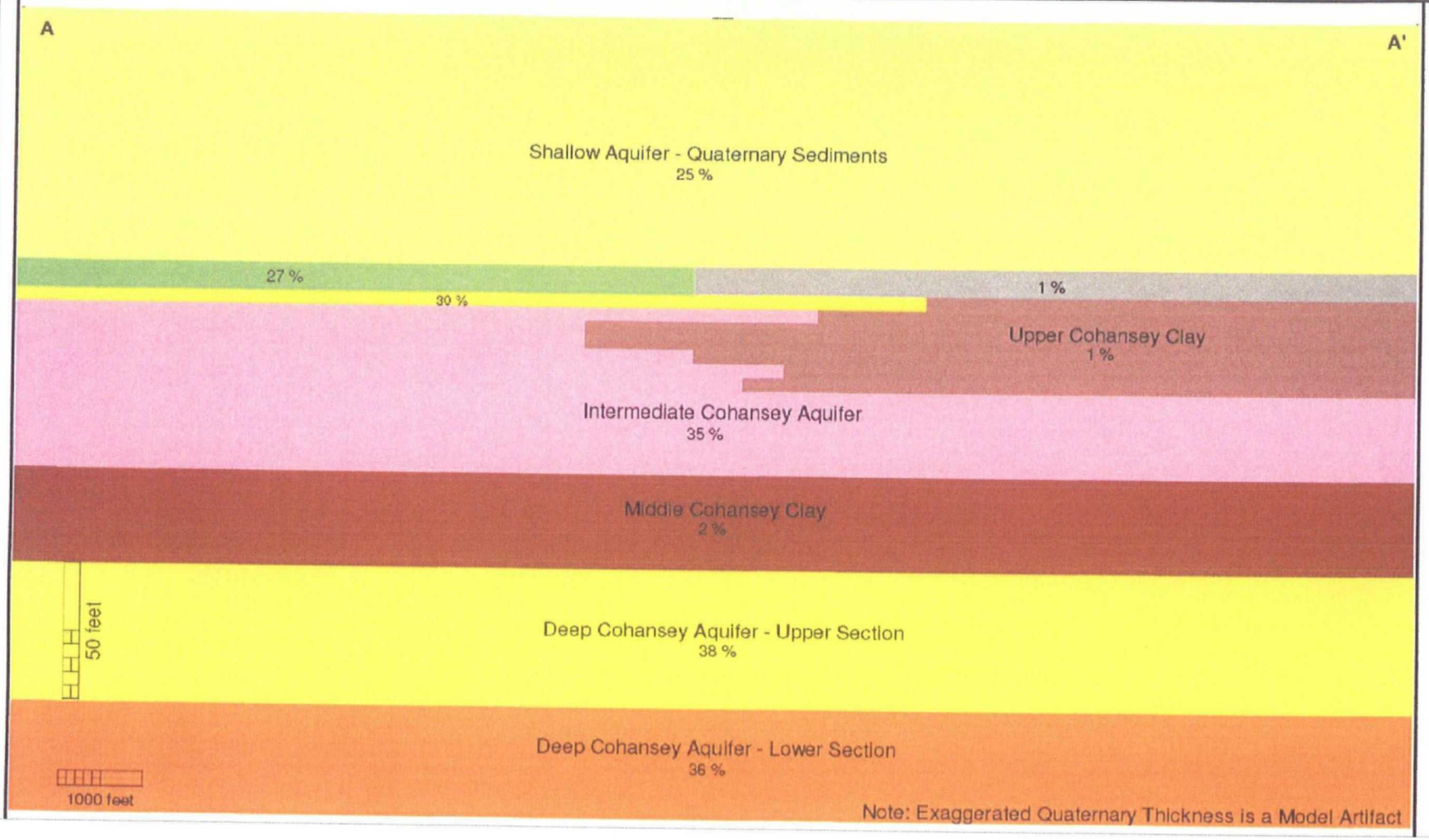
STREAM GAUGE LOCATIONS

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 29
DRAWN BY:		DATE	1/18/10

TRC
7781 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 29



WEST-EAST MODEL STRATIGRAPHIC CROSS SECTION SIMULATED EFFECTIVE POROSITY

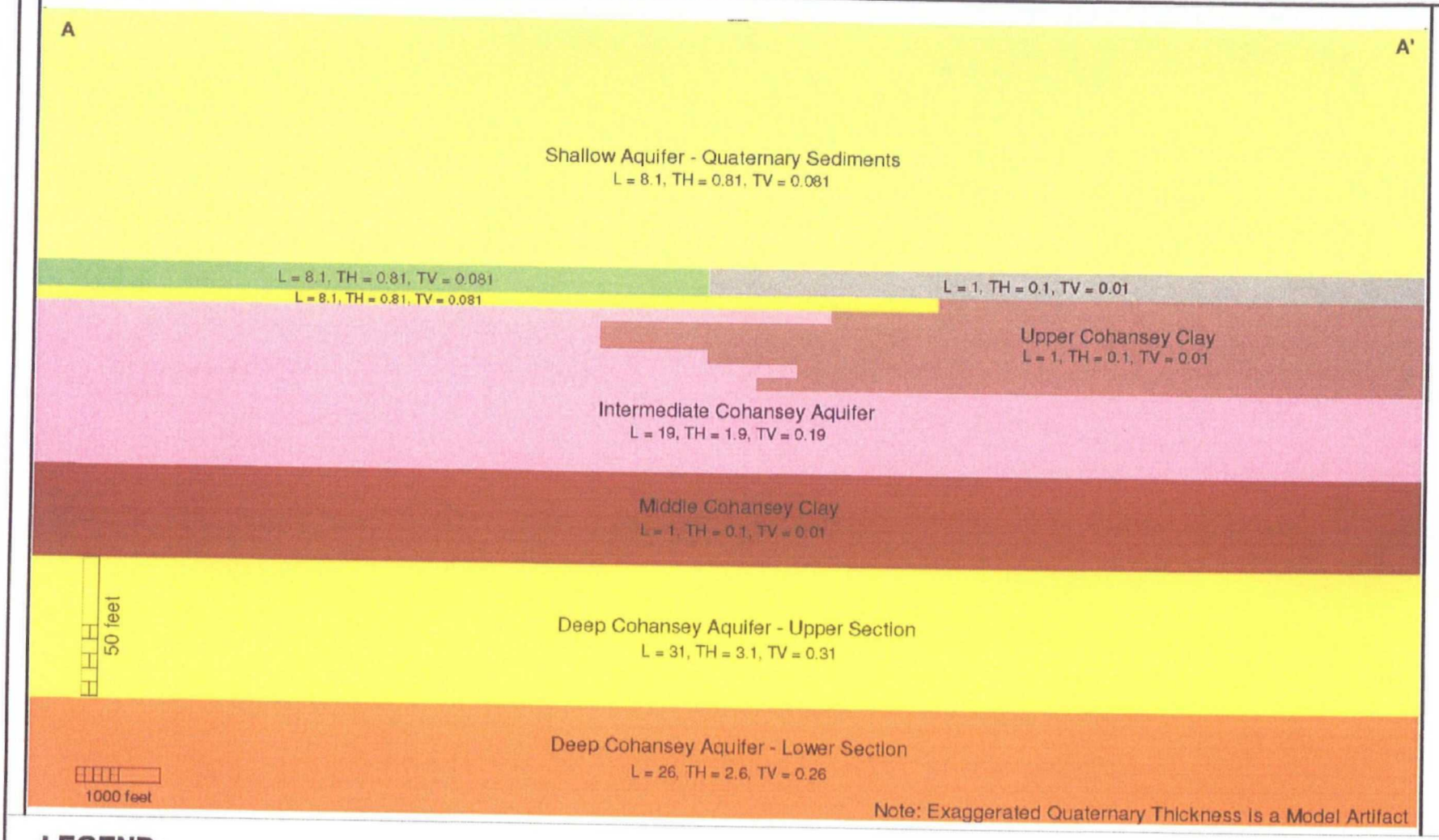
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 30
DRAWN BY:	KS	DATE	1/15/10

TRC

7751 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 30



LEGEND:

L = Longitudinal; TH = Transverse Horizontal, TV = Transverse Vertical.

WEST-EAST MODEL STRATIGRAPHIC CROSS SECTION SIMULATED DISPERSIVITIES

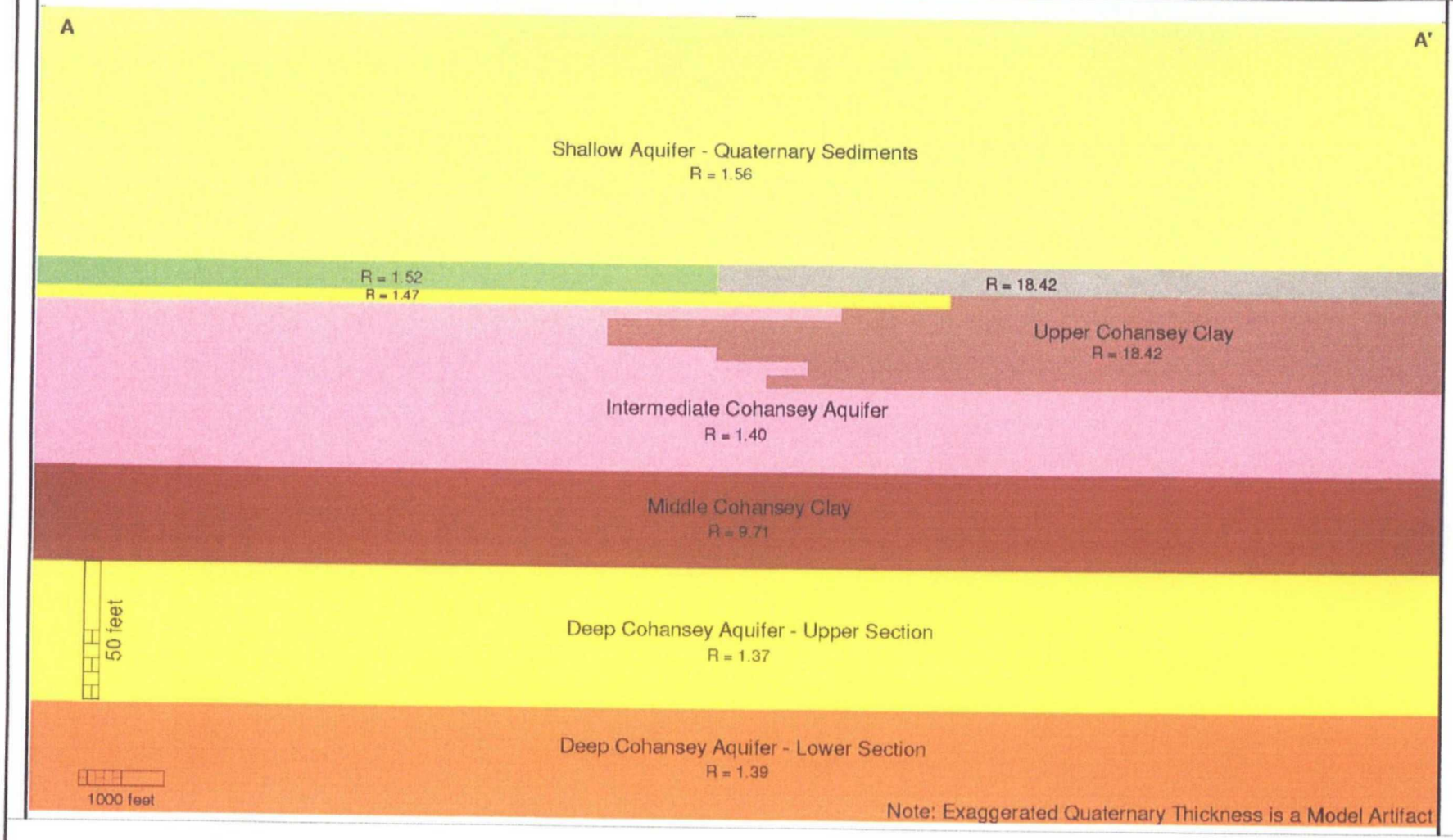
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 31
DRAWN BY:	KS	DATE	1/15/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 31



WEST-EAST MODEL STRATIGRAPHIC CROSS SECTION SIMULATED RETARDATION FACTORS

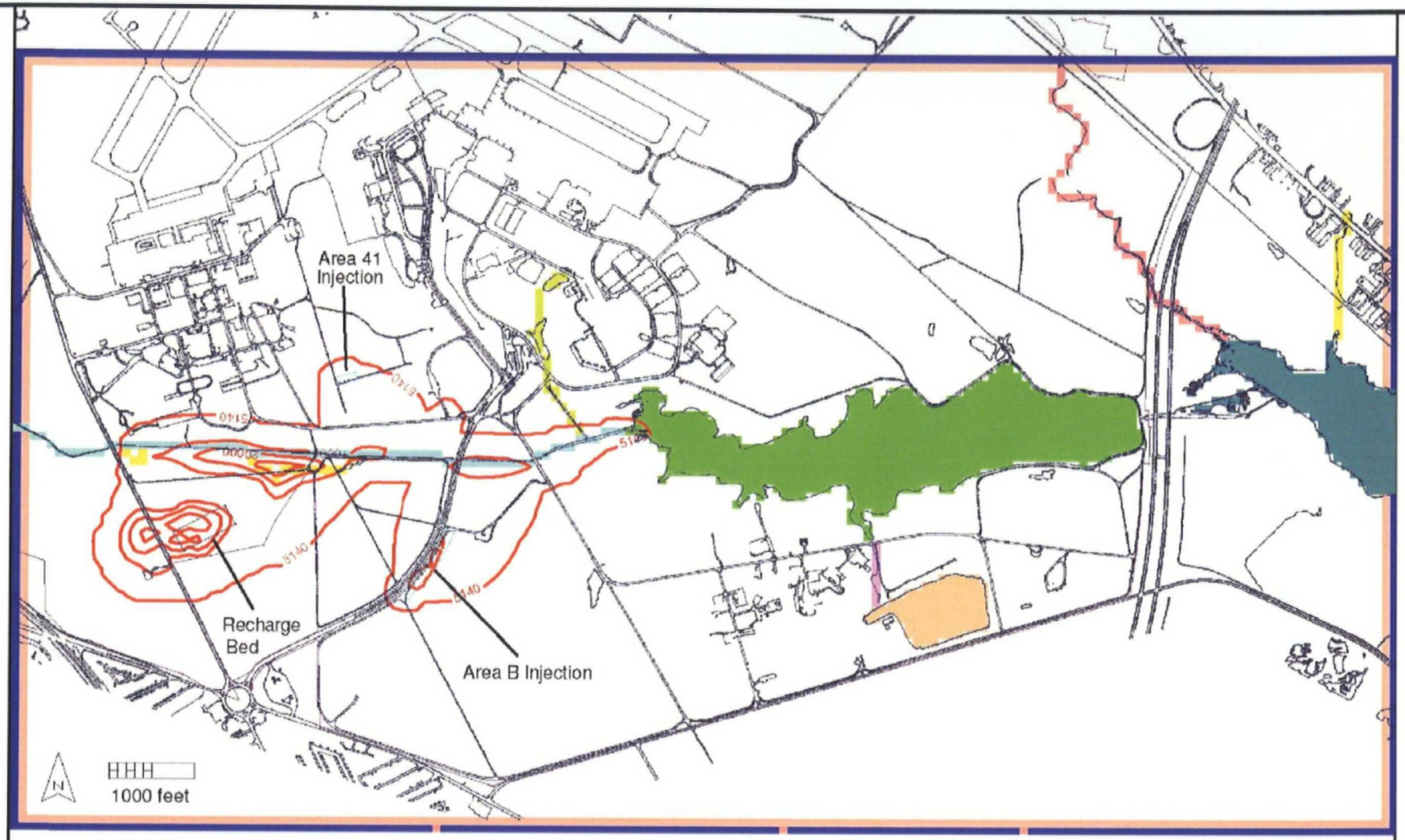
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 32
DRAWN BY:	KS	DATE	1/15/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 32



5140 Sodium Isoconcentration in µg/L

NOTES:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.
- The contour interval for the contours greater than the 5140 contour is 10000 (i.e., 10000, 20000, 30000).

SHALLOW AQUIFER CEA SODIUM CONCENTRATIONS
10 YEAR TRANSPORT

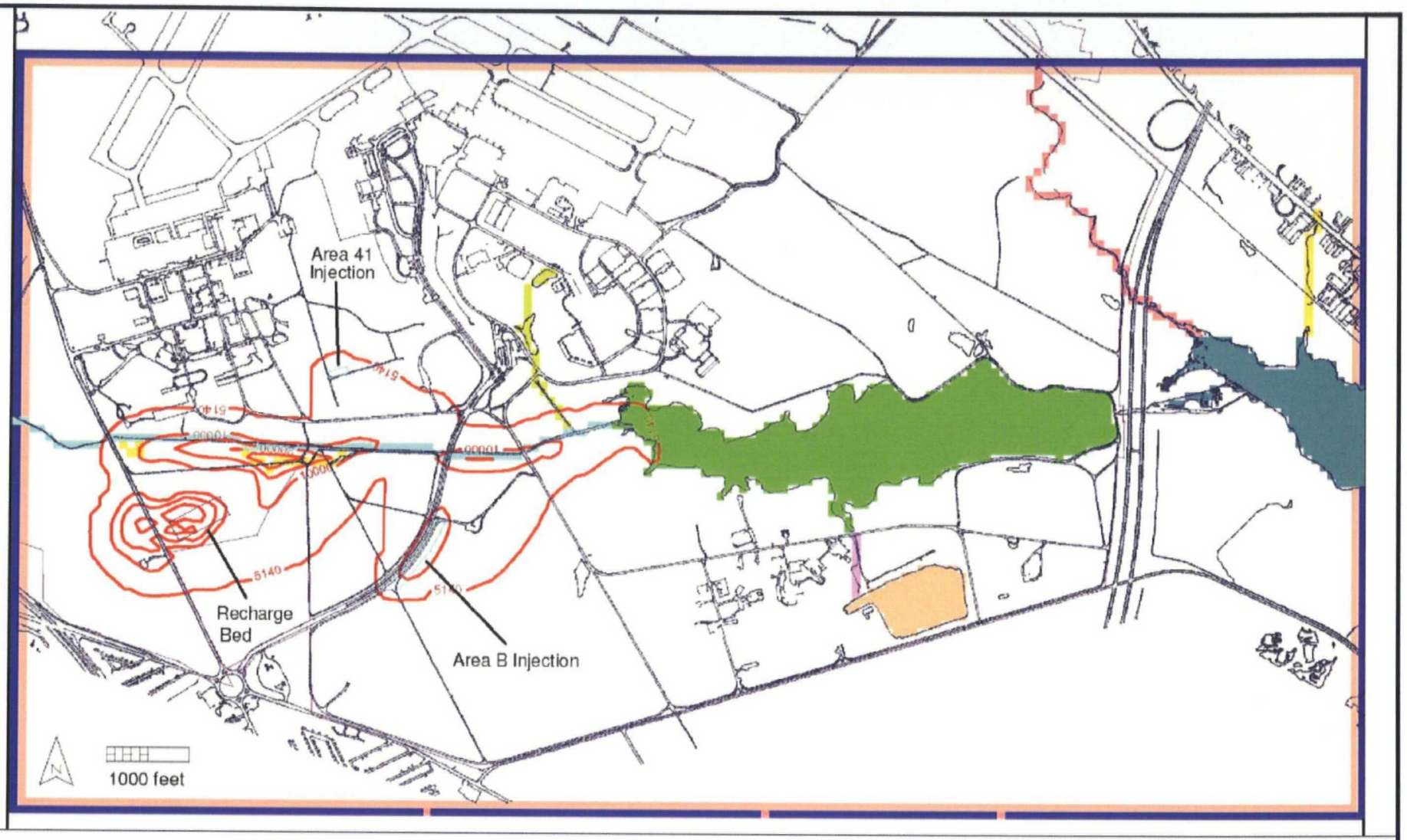
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 33
DRAWN BY:	KS	DATE	1/15/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 33



5140 Sodium Isoconcentration in µg/L

NOTES:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.
- The contour interval for the contours greater than the 5140 contour is 10000 (i.e., 10000, 20000, 30000).

SHALLOW AQUIFER CEA SODIUM CONCENTRATIONS 20 YEAR TRANSPORT

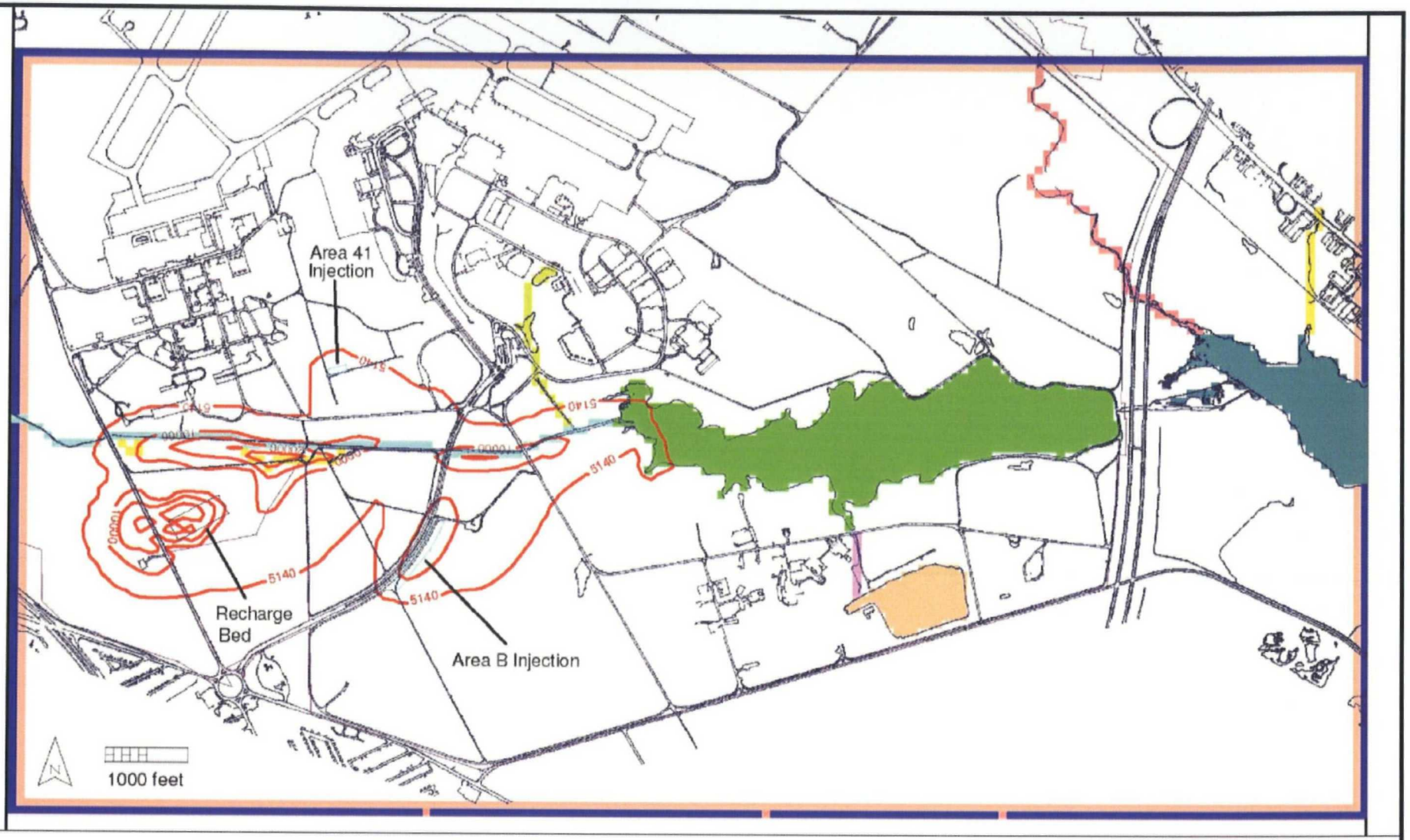
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 34
DRAWN BY:	KS	DATE	1/15/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 34



5140 Sodium Isoconcentration in µg/L

NOTES:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.
- The contour interval for the contours greater than the 5140 contour is 10000 (i.e., 10000, 20000, 30000).

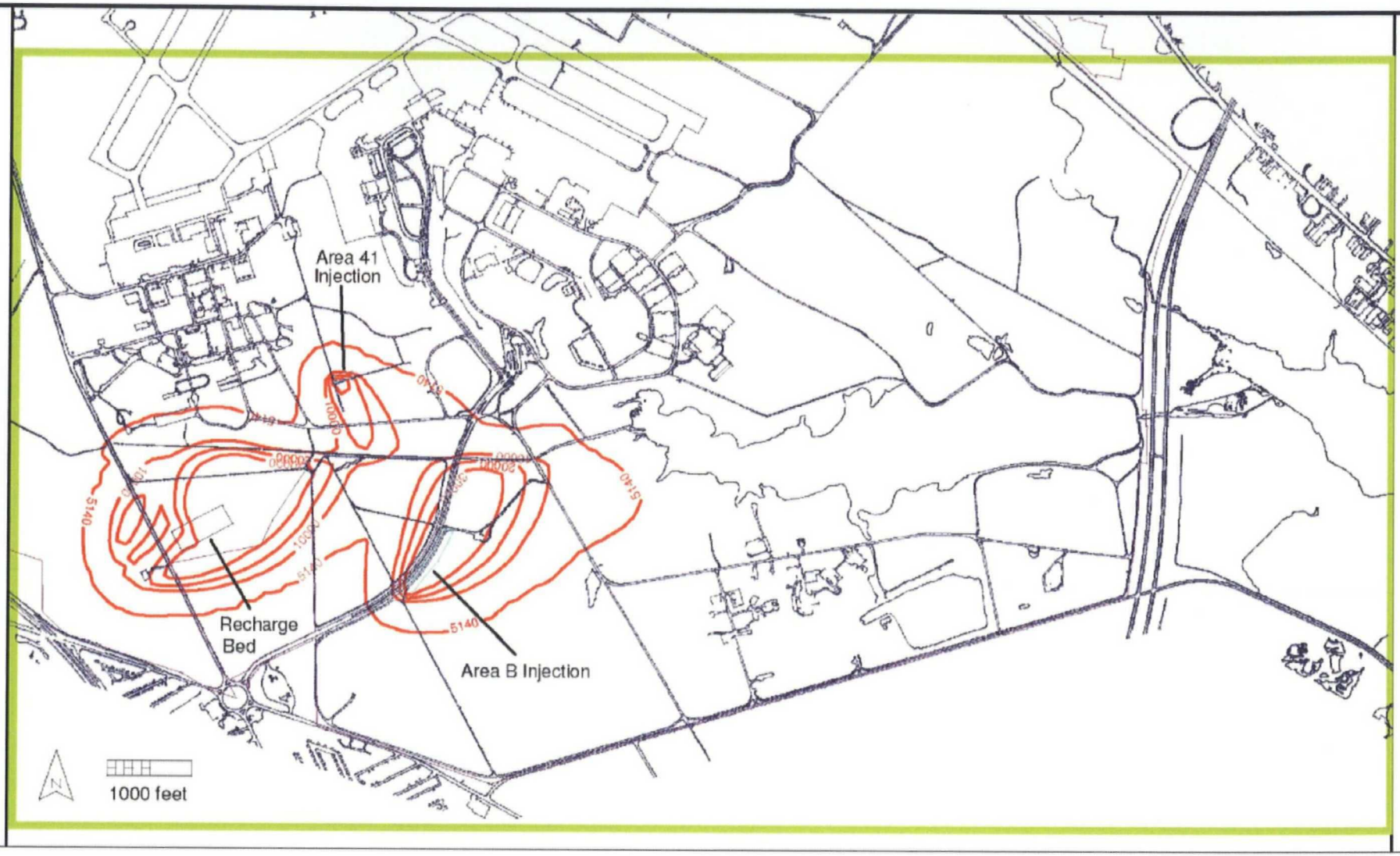
SHALLOW AQUIFER CEA SODIUM CONCENTRATIONS 30 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 35
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 35



5140 Sodium Isoconcentration in µg/L

NOTE:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.

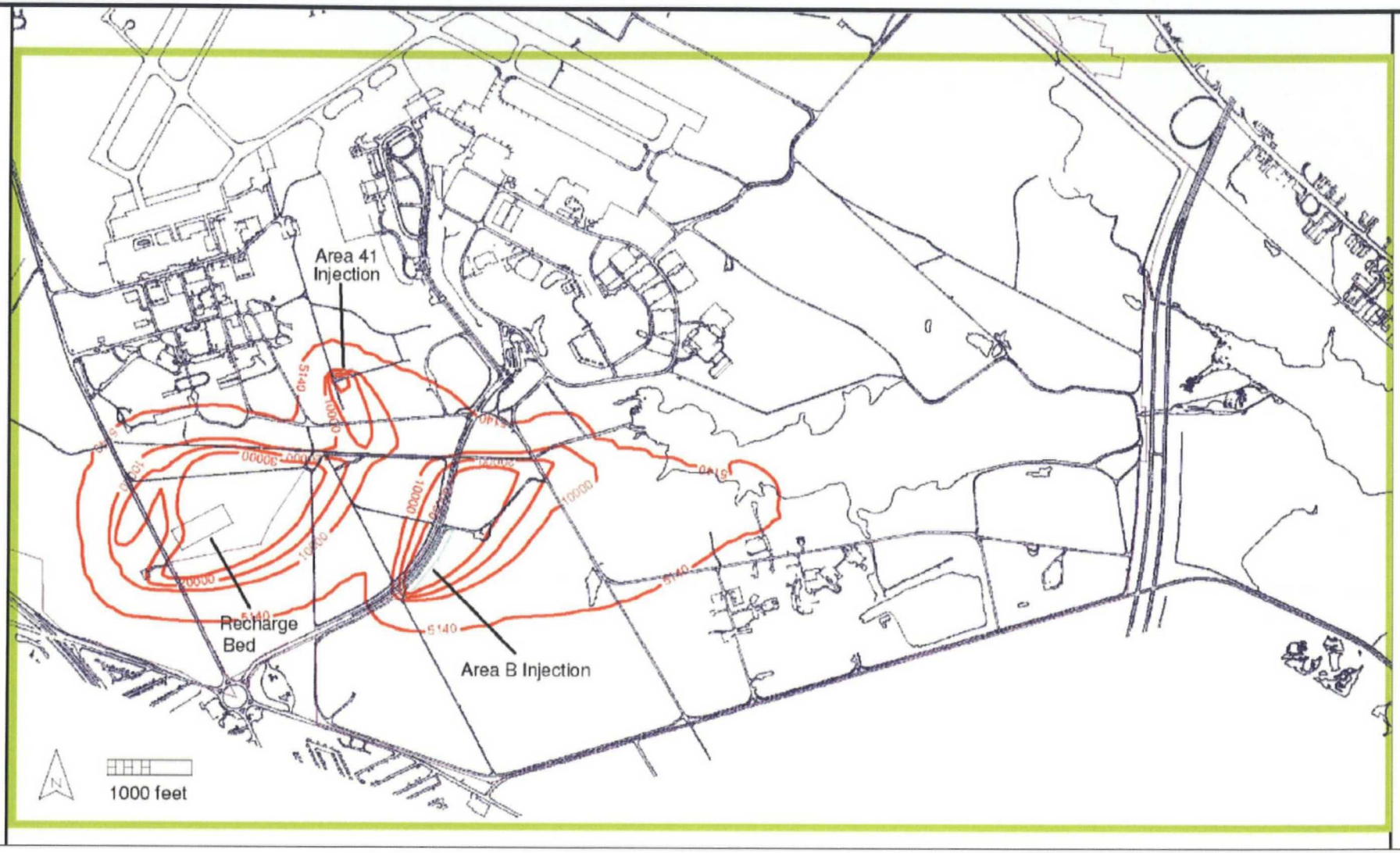
INTERMEDIATE AQUIFER CEA SODIUM CONCENTRATIONS
10 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 36
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 36



5140 Sodium Isoconcentration in µg/L

NOTE:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.

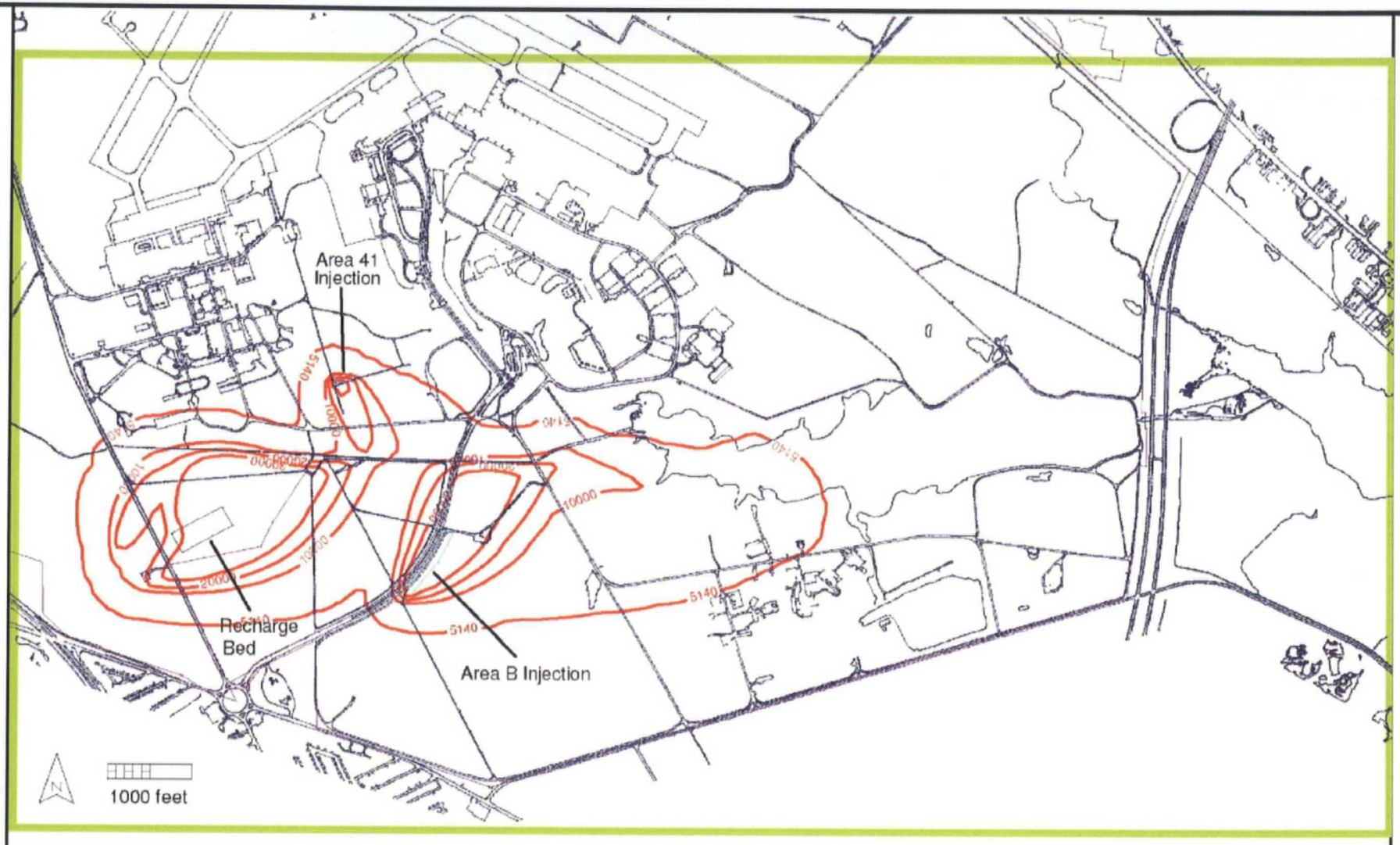
INTERMEDIATE AQUIFER CEA SODIUM CONCENTRATIONS
20 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 37
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 37



5140 Sodium Isoconcentration in µg/L

NOTE:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.

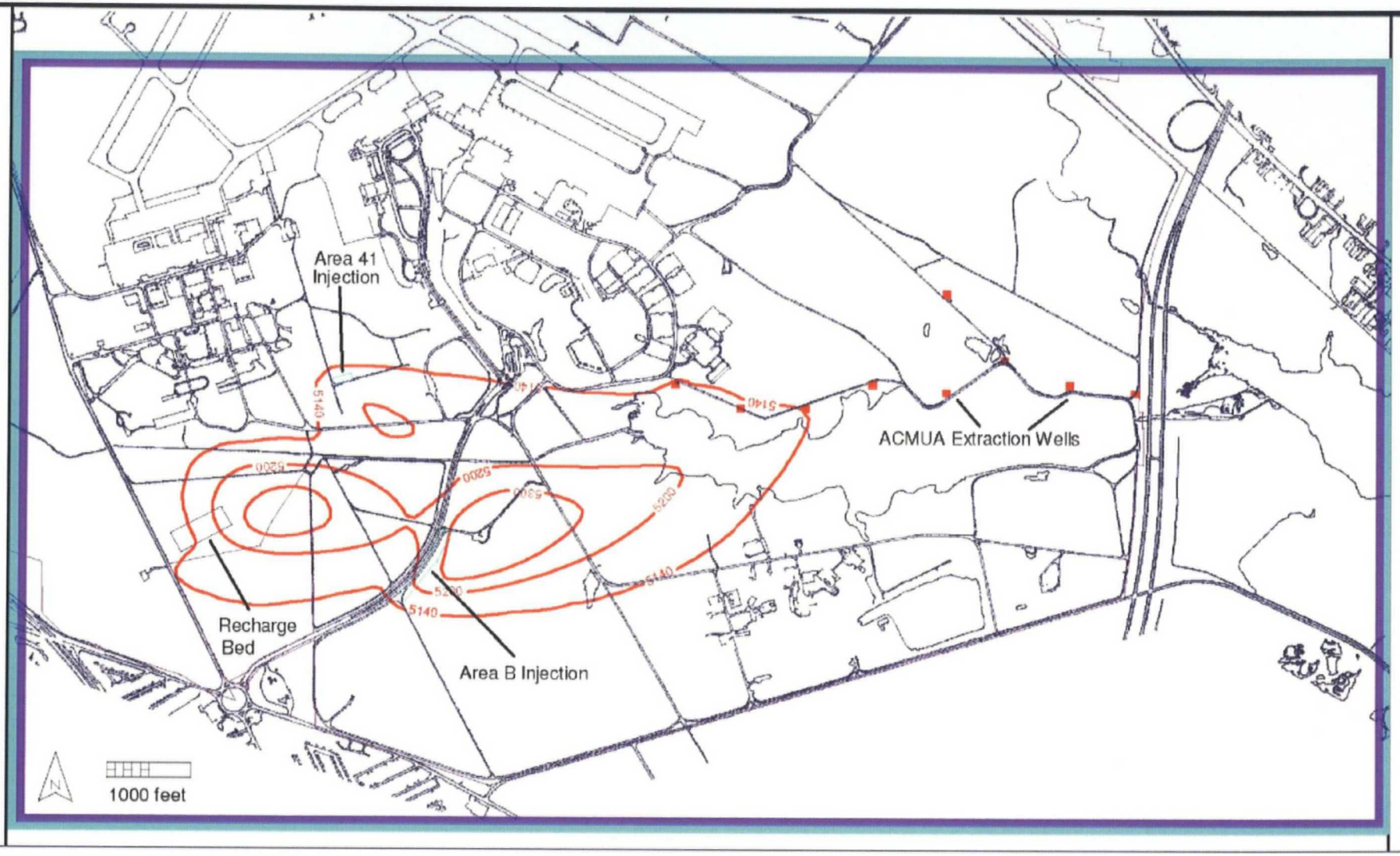
INTERMEDIATE AQUIFER CEA SODIUM CONCENTRATIONS
30 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 38
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 38



5140 Sodium Isoconcentration in µg/L

NOTE:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.

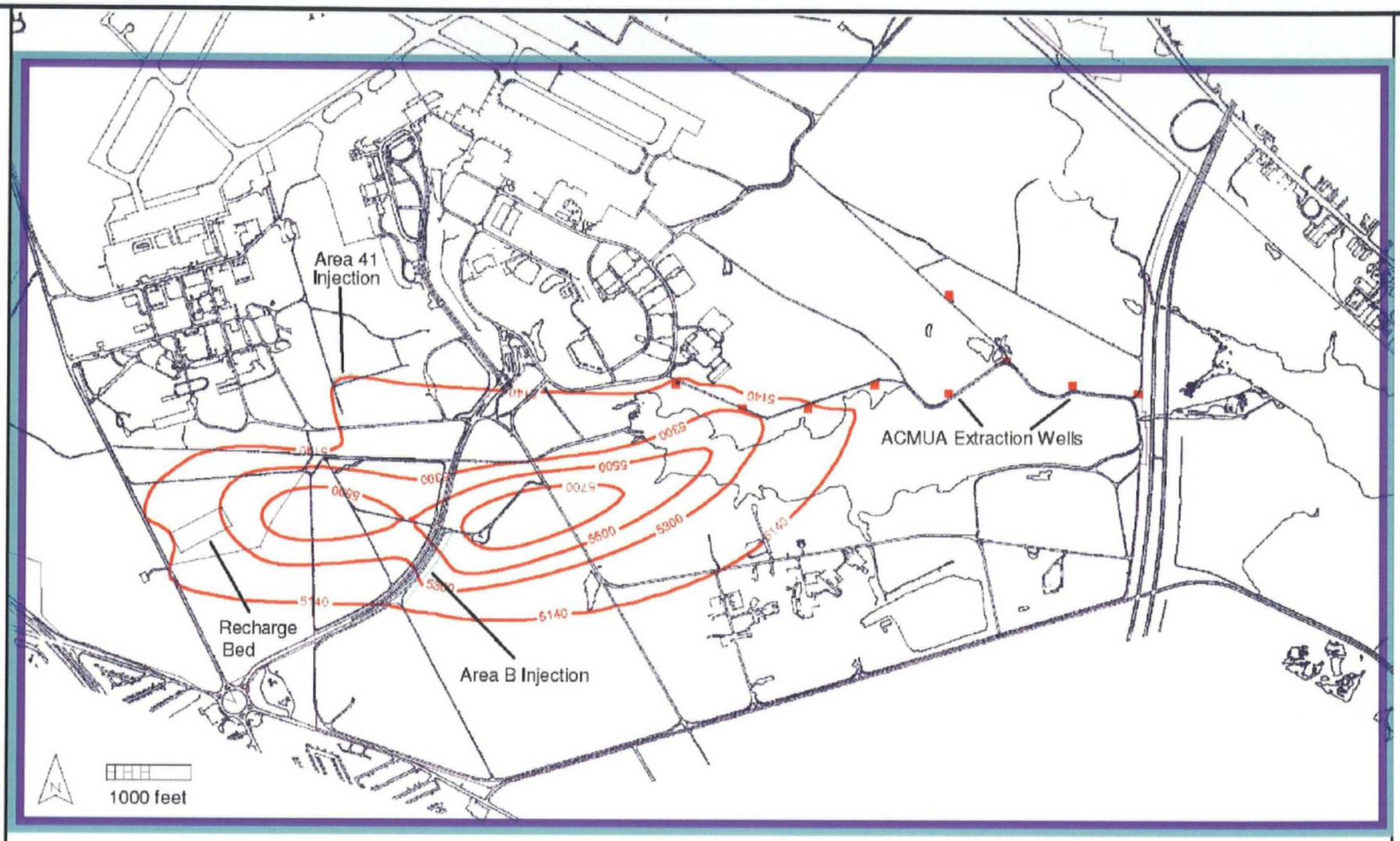
DEEP AQUIFER CEA SODIUM CONCENTRATIONS
10 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 39
DRAWN BY:	KS	DATE	1/15/10

TRC
7751 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 39



5140 Sodium Isoconcentration in µg/L

NOTE:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.

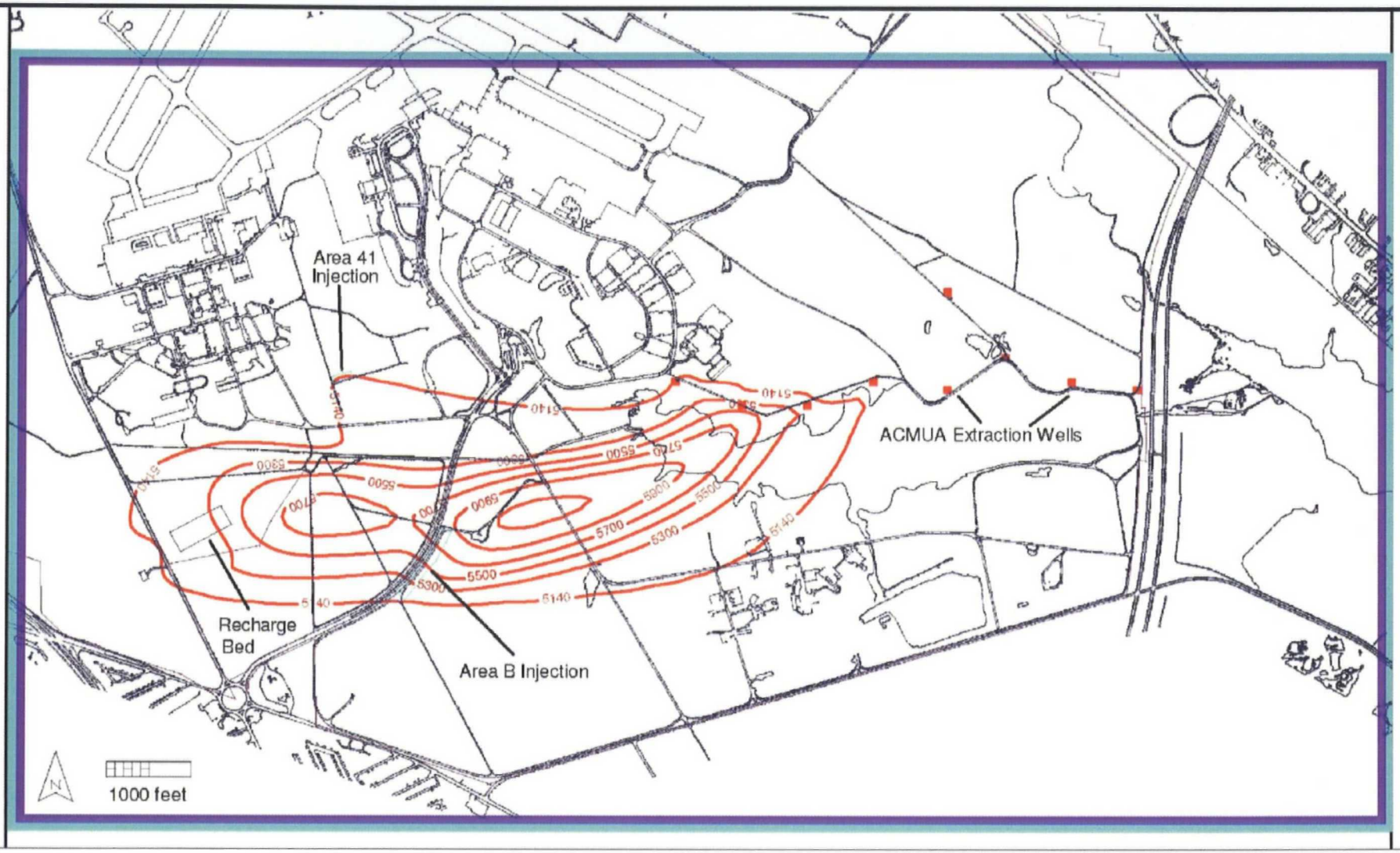
DEEP AQUIFER CEA SODIUM CONCENTRATIONS
20 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 40
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 40



5140 Sodium Isoconcentration in µg/L

NOTE:

- The 5140 isoconcentration line represents the conservative modeled background sodium concentration in the aquifer.

DEEP AQUIFER CEA SODIUM CONCENTRATIONS
30 YEAR TRANSPORT

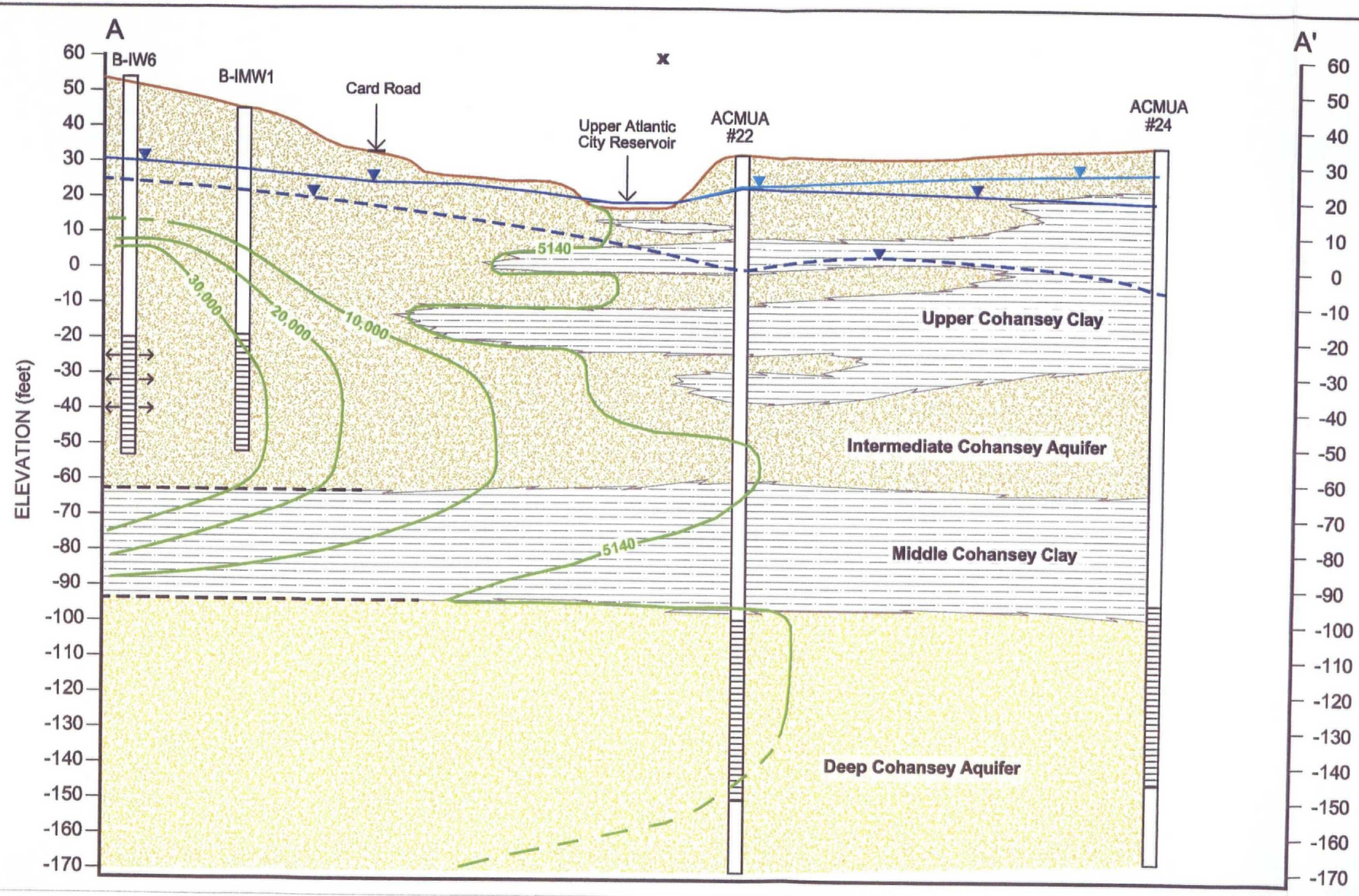
FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 41
DRAWN BY:	KS	DATE	1/15/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 41



LEGEND:

- Shallow Aquifer Water Level (simulated 3rd Q 2009)
- Intermediate Aquifer Water Level (simulated 3rd Q 2009)
- Deep Aquifer Water Level (simulated 3rd Q 2009)
- Intersection of Cross-Section B-B'
- Injection
- Screen Interval
- 30-year Na Isoconcentrations in ug/l
- F-C Sand
- Clay
- F-M Sand

SCALE:
Vertical : 1" = 30 ft.
Horizontal : 1" = 750 ft.
(Vertical Exaggeration = 25X)

30 ft.
750 ft.

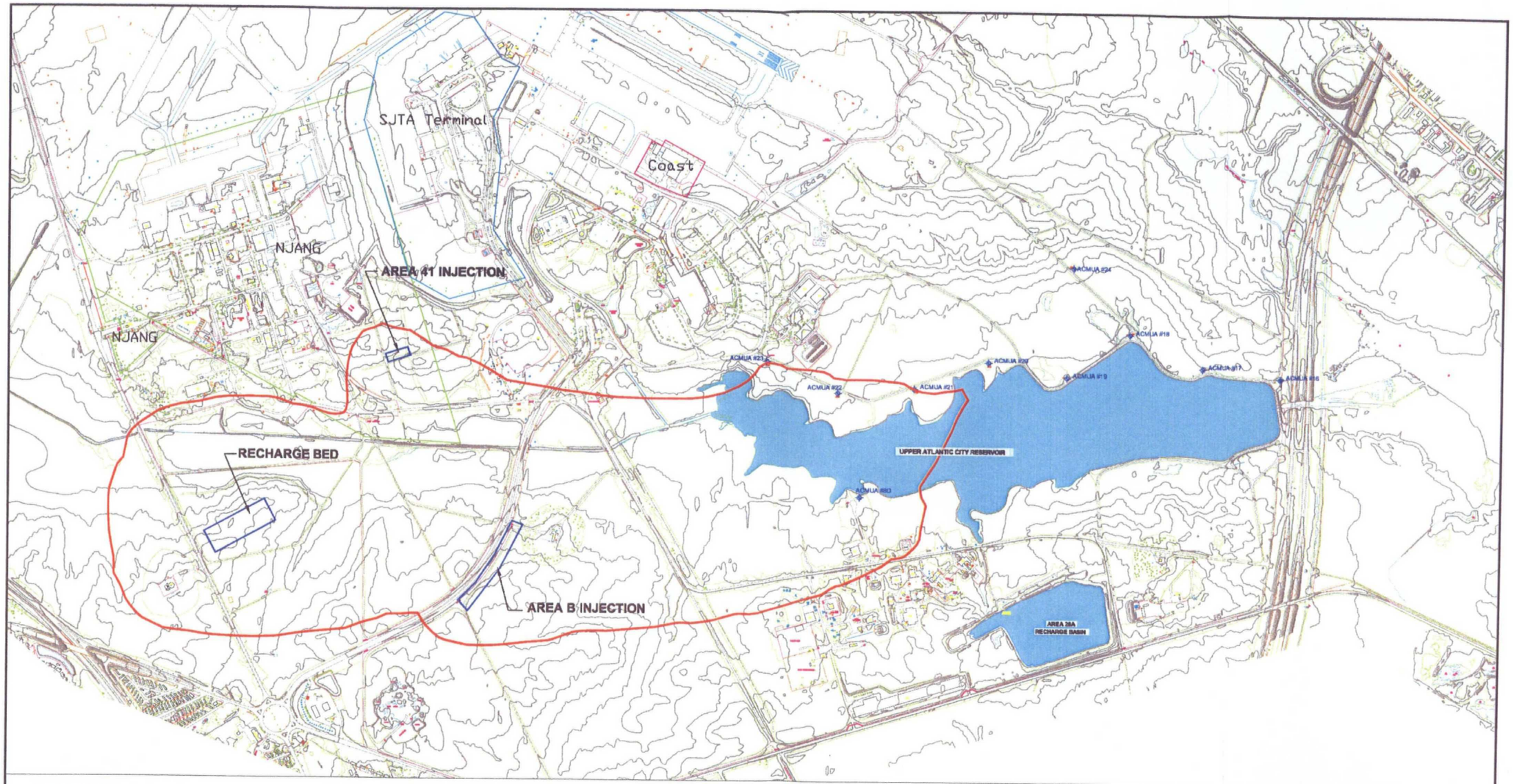
PROFILE OF SODIUM CONCENTRATIONS
30 YEAR TRANSPORT

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE:	Fig. 42
DRAWN BY:	KS	DATE	1/15/10

TRC
7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 42



LEGEND:

ACMUA #23 — Atlantic City Municipal Supply Well

Ground Water Classification Exception Area

N

SCALE
0 1000' 2000'

GROUND WATER CLASSIFICATION EXCEPTION AREA

FAA WILLIAM J. HUGHES
TECHNICAL CENTER
ATLANTIC CITY INT'L AIRPORT, NJ

PROJECT NO.:	104146	DWG FILE: Fig. 43 CEA	
DRAWN BY:	KS	DATE	1/04/10

TRC

7761 SHAFFER PARKWAY
SUITE 100
LITTLETON, CO 80127
(303) 792-5555

FIGURE: 43

Appendix A

Area B Shallow/Intermediate Aquifer Testing Data

Table B-5

Analysis Results from Pumping Period Data
Summary of Hydraulic Parameters - Area B Pumping Test
FAA William J. Hughes Technical Center
Area B - Predesign Investigation

Pumping Well ID	Observation Well ID	T(ft^2/day)	K(ft/day)	S	Y	A	Er(%)
EW1D	EW1D	90	1.1	9.64E-01	66833	257	9.57
	OW3	4994	58.8	5.23E-03	20.30	0.801	13.85
	OW4	4580	53.9	5.25E-03	20.01	0.893	12.41
	MW11D	4756	56.0	1.47E-03	3.81	0.479	7.70
	MW16D	29430	346.2	1.84E-03	2.00	0.069	6.09
	MW10D	17650	207.6	1.97E-03	1.06	0.146	3.52
	OW5	7564	89.0	1.03E-03	10.60	0.277	4.94
	OW6	8557	100.7	2.78E-04	7.01	0.106	4.98
	MW11I	6542	77.0	6.77E-05	1.00	0.058	7.51
	EW1M	4342	51.1	1.72E-03	2.93	0.431	7.95
	MW10I	14434	169.8	4.15E-04	0.40	0.798	4.70
	MW16I	18295	215.2	6.72E-04	1.28	0.070	3.78
	MW11S	955	11.2	4.07E-04	0.70	0.293	24.07
	PZ9	988	11.6	1.55E-04	2.73	0.209	9.30
	PZ10	1814	21.3	2.50E-04	0.72	0.187	22.40
Average:		8332.71	98.03	6.57.E-02	4460.50	17.454	9.52
Geomean:		**4382.21**	**51.56**	**1.22.E-03**	**5.04**	**0.375**	**8.00**
min:		90	1.1	6.77.E-05	0.40	0.058	3.52
max:		29430	346	9.64.E-01	66833	257	24.07
EW1M	EW1M	9	0.1	4.62.E-02	469	284	4.99
	OW5	122	1.4	4.73.E-04	0.38	5.710	9.92
	OW6	488	5.7	4.16.E-04	0.09	1.734	9.39
	MW11I	4728	55.6	1.27.E-03	1.30	0.284	13.88
	MW10I	10621	125.0	1.69.E-03	0.40	0.155	11.17
	MW16I	49461	581.9	4.26.E-03	0.89	0.026	9.45
	EW1D						
	OW3	10460	123.1	7.38.E-05	19.40	0.058	9.66
	OW4	9371	110.2	1.92.E-04	62.00	0.108	11.78
	MW11D	10165	119.6	1.11.E-04	2.39	0.075	19.75
	MW10D	10378	122.1	1.28.E-04	1.05	0.063	10.09
	MW16D	16233	191.0	7.63.E-05	2.00	0.035	18.39
	MW11S	593	7.0	1.76.E-05	0.02	0.197	55.68
	PZ9	2173	25.6	2.39.E-04	1.00	0.099	11.91
	PZ10	25001	294	7.E-04	0.04	0.082	58.92
Average:		10700.16	125.88	3.99.E-03	40.00	20.902	18.21
Geomean:		**3084.00**	**36.28**	**4.10.E-04**	**1.29**	**0.256**	**14.00**
min:		9	0.1	1.76.E-05	0.02	0.026	4.99
max:		49461	582	4.62.E-02	469	284	58.92

Note: Pumping test data was collected from 17:50 on 8/21/00 to 14:50 on 8/27/00.
Pumping test data was analyzed using Aquix Software and Neuman's method.
T (ft^2/day) is aquifer transmissivity in term of square feet per day.
K (ft/day) is a calculated hydraulic conductivity based on aquifer thickness of 85 ft.
S is aquifer storativity, dimensionless.
Y is aquifer specific yield, dimensionless.
A is anisotropy, squareroot of ratio of vertical to horizontal hydraulic conductivities.
Er(%): is analytical curve fitting error between observed data and calculated data

Table B-5

Analysis Results from Pumping Period Data
Summary of Hydraulic Parameters - Area B Pumping Test
FAA William J. Hughes Technical Center
Area B - Predesign Investigation

Pumping Well ID	Observation Well ID	T(ft^2/day)	K(ft/day)	S	Y	A	Er(%)
EW1D	EW1D	54	0.6	6.42E-01	325000	320	14.17
	OW3	15280	179.8	3.27E-03	4.84	0.167	12.84
	OW4	13726	161.5	2.66E-03	2.85	0.173	13.93
	MW11D	20322	239.1	8.36E-04	1.16	0.066	4.57
	MW16D	24390	286.9	1.70E-03	3.88	0.080	2.26
	MW10D	23561	277.2	2.25E-03	1.92	0.104	6.19
	MW11I	8116	95.5	2.79E-04	1.13	0.078	14.50
	EW1M	6505	76.5	2.34E-03	6.48	0.314	10.96
	OW5	10609	124.8	1.19E-03	4.43	0.156	12.20
	OW6	8797	103.5	7.21E-04	1.84	0.125	11.36
	MW10I	13732	161.6	5.83E-04	814.00	0.084	5.56
	MW16I	18650	219.4	5.10E-04	1.32	0.055	7.81
	MW11S	1051	12.4	9.98E-04	6.81	0.393	23.49
	PZ9	1294	15.2	1.97E-04	3.77	0.171	3.77
	PZ10	2004	23.6	1.59E-03	23.90	0.297	14.00
Average:		11206.05	131.84	4.E-02	21725.22	21.48	10.51
Geomean:		**5984.54**	**70.41**	**2.E-03**	**10.29**	**0.23**	**8.96**
min:		54	0.6	2.E-04	1.13	0.055	2.26
max:		24390	287	6.E-01	325000	320	23.49
EW1M	EW1M	156	1.8	1.72E-01	48200	63	32.80
	OW5	11363	133.7	2.17E-03	1.14	0.17	11.15
	OW6	18589	218.7	1.30E-03	0.13	0.05	13.26
	MW11I	26135	307.5	3.83E-03	0.51	0.04	14.69
	MW10I	33667	396.1	4.94E-03	0.16	0.04	13.06
	MW16I	23654	278.3	2.00E-03	0.19	0.06	10.26
	EW1D	8685	102.2	1.23E-03	44.00	0.09	24.01
	OW3	8995	105.8	9.43E-04	0.88	0.08	22.21
	OW4	7685	90.4	1.76E-03	0.89	0.19	18.05
	MW11D	8836	104.0	1.17E-03	3.35	0.09	22.59
	MW10D	7182	84.5	1.54E-03	0.80	0.23	14.57
	MW16D	11613	136.6	5.89E-04	0.17	0.07	12.55
	MW11S	625	7.4	1.25E-03	4.24	0.36	10.85
	PZ9	1542	18.1	6.78E-04	3.48	0.19	13.91
	PZ10	1441	17.0	3.55E-03	13.70	0.46	16.67
Average:		11344.53	133.47	1.E-02	3218.24	4.34	16.71
Geomean:		**5956.34**	**70.07**	**2.E-03**	**2.35**	**0.17**	**15.80**
min:		156	1.8	6.E-04	0.13	0.039	10.26
max:		33667	396	2.E-01	48200	63	32.80

Note: Recovery data was collected between 14:50 and 16:50 from EW1D test and between 16:50 and 18:50 from EW1M test on 8/27/00.
Pumping test data was analyzed using Aquix Software and Neuman's method.
T (ft^2/day) is aquifer transmissivity in term of square feet per day.
K (ft/day) is a calculated hydraulic conductivity based on aquifer thickness of 85 ft.
S is aquifer storativity, dimensionless.
Y is aquifer specific yield, dimensionless.
A is anisotropy, squareroot of ratio of vertical to horizontal hydraulic conductivities.
Er(%): is analytical curve fitting error between observed data and calculated data

Table B-5

Analysis Results from Pumping Period Data
Summary of Hydraulic Parameters - Area B Pumping Test
FAA William J. Hughes Technical Center
Area B - Predesign Investigation

Pumping Well ID	Observation Well ID	T(ft^2/day)	K(ft/day)	S	Y	A	Er(%)
MW10S	MW10S	35	0.4	8.79E-06	1223	0.193	18.32
	PZ9	104	1.2	3.14E-03	2.53	0.209	10.06
	PZ10	275	3.2	2.95E-03	168.00	0.098	13.42
	MW10I	6025	70.9	1.08E-08	0.00	139	11.34
	EW1M	1792	21.1	4.96E-04	2.94	0.153	7.27
	OW5	744	8.8	2.39E-05	11.90	0.145	13.24
	OW6	1722	20.3	6.81E-04	10.80	0.213	9.02
	MW10D	835	9.8	1.65E-05	4.39	0.111	10.56
Average:		1441.46	16.96	9.15E-04	177.95	17.52	11.66
Geomean:		**572.02**	**6.73**	**5.74E-05**	**4.24**	**0.36**	**11.25**
min:		35	0.4	1.08E-08	0.00	0.098	7.27
max:		6025	71	3.14E-03	1223	139	18.32
MW11S	MW11S	1041	12.2	4.16E-04	11.20	0.005	20.29
	MW11I	385	4.5	4.06E-01	865.20	1.952	12.30
	MW16I	36	0.4	6.30E-04	760.90	0.493	9.07
	MW11D	347	4.1	3.37E-02	25.83	1.611	9.21
	EW1D	75	0.9	5.68E-04	11.32	0.143	11.51
	OW3	184	2.2	3.59E-03	658.90	0.452	15.11
	OW4	184	2.2	3.41E-03	668.10	0.472	15.43
	MW16D	110	1.3	1.20E-03	762.30	0.390	15.12
Average:		295.15	3.47	5.62E-02	470.47	0.690	13.51
Geomean:		**185.42**	**2.18**	**3.63E-03**	**170.78**	**0.312**	**13.06**
min:		36	0.42	4.16E-04	11.20	0.005	9.07
max:		1041	12.25	4.06E-01	865.20	1.952	20.29

Note: Recovery data was collected between 18:50 on 8/27/00 and 14:25 on 8/29/00 from MW10S test and between 18:50 on 8/27/00 and 15:05 on 8/29/00 from MW11S test.
Pumping test data was analyzed using Aquix Software and Neuman's method.
T (ft^2/day) is aquifer transmissivity in term of square feet per day.
K (ft/day) is a calculated hydraulic conductivity based on aquifer thickness of 85 ft.
S is aquifer storativity, dimensionless.
Y is aquifer specific yield, dimensionless.
A is anisotropy, squareroot of ratio of vertical to horizontal hydraulic conductivities.
Er(%): is analytical curve fitting error between observed data and calculated data

Table B-6

Verification Summary of Hydraulic Parameters
Area B Pumping Test
FAA William J. Hughes Technical Center
Area B - Predesign Investigation

Analysis Result Using AquiferTest Program							
Pumping Well ID	Observation Well ID	T(ft^2/day)	Kr(ft/day)	Kv(ft/day)	S	Y	A'(sqrt(Kv/Kr))
EW1D	OW3	2174	25.5	11.19	1.29E-03	12.90	0.663
	OW4	2002	23.6	12.30	1.42E-03	14.20	0.722
	MW11D	2002	23.5	4.26	5.26E-04	5.26	0.426
	MW16D	6106	71.9	1.19	3.88E-04	3.88	0.129
	MW10D	8842	104.0	1.02	6.90E-04	6.90	0.099
	OW5	5890	69.4	5.24	9.53E-04	9.53	0.275
	OW6	4320	51.0	2.59	5.52E-04	5.52	0.225
	MW11I	2966	34.8	3.60	1.40E-03	14.00	0.321
	EW1M	1843	21.6	7.62	1.22E-03	12.20	0.594
	MW10I	12226	143.9	0.83	7.49E-04	7.49	0.076
	MW16I	8179	96.3	0.76	8.41E-04	8.41	0.089
	MW11S	5530	65.1	0.79	1.21E-02	121.00	0.110
	PZ9	8626	101.5	5.28	3.26E-03	32.60	0.228
	PZ10	7402	87.1	25.34	6.57E-03	0.52	0.539
Average:		5578.97	65.65	5.86	2.28.E-03	18.17	0.321
Geomean:		4664.69	54.87	3.29	1.30.E-03	9.18	0.245
min:		1843	21.6	0.8	3.88.E-04	0.52	0.076
max:		12226	144	25	1.21.E-02	121	1

Analysis Result Using Aquix Program							
Pumping Well ID	Observation Well ID	T(ft^2/day)	K(ft/day)	Kv'(ft/day)	S	Y	A
EW1D	OW3	4994	58.8	37.7	5.23E-03	20.30	0.801
	OW4	4580	53.9	43.0	5.25E-03	20.01	0.893
	MW11D	4756	56.0	12.8	1.47E-03	3.81	0.479
	MW16D	29430	346.2	1.7	1.84E-03	2.00	0.069
	MW10D	17650	207.6	4.4	1.97E-03	1.06	0.146
	OW5	7564	89.0	6.8	1.03E-03	10.60	0.277
	OW6	8557	100.7	1.1	2.78E-04	7.01	0.106
	MW11I	6542	77.0	0.3	6.77E-05	1.00	0.058
	EW1M	4342	51.1	9.5	1.72E-03	2.93	0.431
	MW10I	14434	169.8	108.1	4.15E-04	0.40	0.798
	MW16I	18295	215.2	1.0	6.72E-04	1.28	0.070
	MW11S	955	11.2	1.0	4.07E-04	0.70	0.293
	PZ9	988	11.6	0.5	1.55E-04	2.73	0.209
	PZ10	1814	21.3	0.7	2.50E-04	0.72	0.187
Average:		8921.49	104.96	16.34	1.48.E-03	5.33	0.344
Geomean:		5784.43	68.05	3.77	7.60.E-04	2.56	0.236
min:		955	11.2	0.3	6.77.E-05	0.40	0.058
max:		29430	346	108	5.25.E-03	20	1

Note: Pumping test data was collected from 17:50 on 8/21/00 to 14:50 on 8/27/00.
Pumping test data was analyzed by Neuman's method by both programs.
T (ft^2/day) is aquifer transmissivity in term of square feet per day.
Kr (ft/day) and Kv (ft/day) are horizontal and vertical hydraulic conductivity values determined by using AquiferTest Program.
K (ft/day) is a calculated equivalent horizontal hydraulic conductivity based on aquifer thickness of 85 ft. using Aquix Program.
S is aquifer storativity, dimensionless.
Y is aquifer specific yield, dimensionless.
A is anisotropy, squareroot of ratio of vertical to horizontal hydraulic conductivities.
A' is calculated equivalent anisotropy for AquiferTest program.
Kv'(ft/day) is calculated equivalent vertical hydraulic conductivity for Aquix program.

TABLE B-7

Analysis Results from Injection Data
Summary of Hydraulic Parameters - Area B Injection Test
FAA William J. Hughes Technical Center
Area B - Predesign Investigation

Well ID	T(ft^2/day)	K(ft/day)	S	Y	A	Er (%)
1). Q_1 = 75.27 gpm at IW1:						
IW1	3673.4	43.2	4.34E-03	6.80E-04	0.15949	5.648
OW1	7334.7	86.3	1.91E-03	6.56E-04	0.55796	8.041
OW2	6563.7	77.2	9.53E-04	5.15E-04	0.71061	5.052
MW19I	8208.8	96.6	1.07E-03	7.45E-04	0.52512	8.784
MW19D	5081.7	59.8	1.01E-03	7.42E-04	0.52509	9.813
2). $Q_{1,2,3}$ = 75.27, 132.6, 173.7 gpm at IW1:						
IW1	4585.3	53.9	3.11E-03	4.73E-04	0.28803	16.202
OW1	9160.2	107.8	2.17E-03	29.33	0.32545	11.604
OW2	8851.9	104.1	7.75E-04	20.12	0.21765	11.583
MW19I	8208.8	96.6	1.07E-03	7.45E-04	0.52512	7.781
MW19D	8881.1	104.5	1.60E-03	1.24E-03	0.22384	8.085
3). Recovery after $Q_{1,2,3}$ = 75.27, 132.6, 173.7 gpm at IW1:						
OW1	13411.3	157.8	4.07E-05	1.87E-02	0.01496	6.802
OW2	14202.1	167.1	2.73E-05	2.84E-02	0.01222	8.401
MW19I	14083.3	165.7	1.02E-04	4.17E-01	0.03224	10.158
MW19D	10429.2	122.7	2.56E-03	224.9	0.16201	7.002
4). Pressure Injection Q_p = 175 gpm at IW1:						
OW1	11282.1	132.7	3.36E-03	1.22E-03	0.09644	13.236
OW2	12474.9	146.8	2.16E-03	8.21E-04	0.09032	14.782
MW19I	11578.6	136.2	1.05E-03	6.01E-04	0.1232	11.840
MW19D	12131.3	142.7	1.81E-03	5.99E-04	0.09761	9.851
Geomean:	8848.6	104.1	9.4E-04	9.7E-03	0.1589	9.26
Average:	9452.4	111.2	1.6E-03	1.5E+01	0.2604	9.70
Minimum:	14202.1	167.1	4.3E-03	2.2E+02	0.7106	16.20
Maximum:	3673.4	43.2	2.7E-05	4.7E-04	0.0122	5.05

Note: Injection step tests 1,2,3 were conducted on 9/12/00, with 3 step up injection rates from 9:00 to 10:33, to 12:05 and to 14:22 continuously; and followed by the recovery.
Pressure injection test Q_p was conducted on 9/13/00 for 50 min and followd by recovery.
Pumping test data was analyzed using Neuman's method.
T (ft^2/day) is aquifer transmissivity in term of square feet per day.
K (ft/day) is a calculated hydraulic conductivity based on aquifer thickness of 85 ft.
S is aquifer storativity, dimensionless.
Y is aquifer specific yield, dimensionless.
A is anisotropy, squareroot of ratio of vertical to horizontal hydraulic conductivities.
Er(%): is analytical curve fitting error between observed data and calculated data

Appendix B

ACMUA Well Withdrawals (Jan. 2008 thru Aug. 2009)

January 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	21	0.9765	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
2	0	0.0000	6	0.2790	10	0.4500	0	0.0000	24	1.2240	24	1.2240	24	1.4400
3	0	0.0000	0	0.0000	7	0.3150	0	0.0000	13	0.6630	13	0.6630	13	0.7800
4	0	0.0000	0	0.0000	10	0.4500	0	0.0000	11	0.5610	11	0.5610	0	0.0000
5	0	0.0000	0	0.0000	6	0.2700	0	0.0000	24	1.2240	24	1.2240	0	0.0000
6	0	0.0000	0	0.0000	1	0.0450	0	0.0000	24	1.2240	24	1.2240	0	0.0000
7	0	0.0000	0	0.0000	3	0.1350	0	0.0000	24	1.2240	24	1.2240	0	0.0000
8	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
9	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
10	0	0.0000	0	0.0000	5	0.2250	0	0.0000	24	1.2240	24	1.2240	0	0.0000
11	0	0.0000	0	0.0000	8	0.3600	0	0.0000	24	1.2240	24	1.2240	0	0.0000
12	0	0.0000	0	0.0000	21	0.9450	0	0.0000	24	1.2240	24	1.2240	2	0.1200
13	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
14	0	0.0000	0	0.0000	5	0.2250	0	0.0000	24	1.2240	24	1.2240	24	1.4400
15	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	0	0.0000	2	0.0900	0	0.0000	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	0	0.0000	4	0.1800	0	0.0000	17	0.8670	24	1.2240	24	1.4400
18	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
19	0	0.0000	0	0.0000	1	0.0450	0	0.0000	0	0.0000	24	1.2240	24	1.4400
20	0	0.0000	0	0.0000	24	1.0800	0	0.0000	6	0.3060	24	1.2240	24	1.4400
21	0	0.0000	0	0.0000	3	0.1350	0	0.0000	0	0.0000	24	1.2240	24	1.4400
22	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
23	0	0.0000	0	0.0000	3	0.1350	0	0.0000	0	0.0000	24	1.2240	24	1.4400
24	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
25	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
26	0	0.0000	0	0.0000	6	0.2700	0	0.0000	0	0.0000	24	1.2240	24	1.4400
27	0	0.0000	0	0.0000	5	0.2250	0	0.0000	0	0.0000	24	1.2240	24	1.4400
28	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	11	0.5610	24	1.4400
29	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	6	0.3060	24	1.4400
30	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
31	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	23	1.3800
Totals	0	0.0000	27	1.2555	172	7.7400	0	0.0000	383	19.5830	641	32.6910	518	31.0800
Static Level (ft)	0	1/2/2008	0	1/2/2008	140	1/10/2008	74	1/10/2008	32	1/4/2008	32	1/4/2008	46	1/8/2008

January 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	24	1.4400	24	1.5120	24	1.2240	0	0.0000	0	0.0000	10	0.5700	10.6905	0.8965	11.5870
2	14	0.8400	14	0.8820	14	0.7140	10	0.5850	10	0.6000	24	1.3680	9.6060	0.6110	10.2170
3	11	0.6600	11	0.6930	11	0.5610	24	1.4040	24	1.4400	24	1.3680	8.5470	1.2860	9.8330
4	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	13	0.7410	9.3330	1.3190	10.6520
5	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.7380	1.3000	11.0380
6	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.5130	1.6660	11.1790
7	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.6030	1.1890	10.7920
8	24	1.4400	24	1.5120	14	0.7140	24	1.4040	24	1.4400	0	0.0000	8.9580	0.9170	9.8750
9	24	1.4400	24	1.5120	2	0.1020	24	1.4040	24	1.4400	0	0.0000	8.3460	1.4350	9.7810
10	24	1.4400	9	0.5670	24	1.2240	24	1.4040	24	1.4400	0	0.0000	8.7480	1.5400	10.2880
11	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	8.3160	1.7320	10.0480
12	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.0210	1.8400	10.8610
13	5	0.3000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.3360	1.7930	11.1290
14	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	8.1810	1.7280	9.9090
15	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	7.9560	0.7060	8.6620
16	4	0.2400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	3	0.1710	8.4570	1.6020	10.0590
17	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.2190	0.7100	9.9290
18	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	2	0.1140	8.2860	1.8540	10.1400
19	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.5850	1.4340	11.0190
20	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.9260	0.9380	11.8640
21	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.6750	1.0050	10.6800
22	24	1.4400	0	0.0000	24	1.2240	16	0.9360	24	1.4400	12	0.6840	8.3880	1.3380	9.7260
23	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	2	0.1140	8.4210	1.5610	9.9820
24	24	1.4400	0	0.0000	21	1.0710	24	1.4040	24	1.4400	13	0.7410	8.7600	1.4280	10.1880
25	24	1.4400	0	0.0000	20	1.0200	24	1.4040	24	1.4400	0	0.0000	7.9680	2.1690	10.1370
26	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	23	1.3110	9.7530	1.2700	11.0230
27	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.7650	1.8920	11.6570
28	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.8770	1.6320	10.5090
29	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.6220	1.5310	10.1530
30	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.3160	1.8560	10.1720
31	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.2560	2.2990	10.5550
Totals	634	38.0400	202	12.7260	682	34.7820	698	40.8330	706	42.3600	318	18.1260	279.1665	44.4775	323.6440
Static Level (ft)	38	1/3/2008	34	1/3/2008	33	1/3/2008	52	1/2/2008	46	1/2/2008	47	1/7/2008			

February 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	4	0.2400
2	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	20	1.0200	0	0.0000
3	0	0.0000	0	0.0000	0	0.0000	0	0.0000	4	0.2040	24	1.2240	22	1.3200
4	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
5	0	0.0000	0	0.0000	0	0.0000	0	0.0000	2	0.1020	10	0.5100	24	1.4400
6	0	0.0000	0	0.0000	1	0.0450	0	0.0000	17	0.8670	11	0.5610	24	1.4400
7	0	0.0000	0	0.0000	0	0.0000	0	0.0000	2	0.1020	24	1.2240	24	1.4400
8	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
9	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
11	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	14	0.8400
12	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
13	0	0.0000	0	0.0000	0	0.0000	0	0.0000	11	0.5610	24	1.2240	0	0.0000
14	0	0.0000	0	0.0000	0	0.0000	0	0.0000	12	0.6120	24	1.2240	0	0.0000
15	0	0.0000	0	0.0000	15	0.6750	15	0.7650	0	0.0000	24	1.2240	20	1.2000
16	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	24	1.2240	24	1.4400
17	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	24	1.2240	24	1.4400
18	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	24	1.2240	24	1.4400
19	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	24	1.2240	24	1.4400
20	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	6	0.3060	7	0.4200
21	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
22	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
23	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
24	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	2	0.1020	22	1.3200
25	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	6	0.3060	12	0.7200
26	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
27	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
28	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
29	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
Totals	0	0.0000	0	0.0000	352	15.8400	351	17.9010	168	8.5680	415	21.1650	461	27.6600
Static Level (ft)	0	2/1/2008	0	2/1/2008	126	2/6/2008	82	2/6/2008	32	2/1/2008	32	2/1/2008	44	2/1/2008

February 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.1160	2.5180	9.6340
2	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.8960	3.0251	10.9211
3	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.6240	1.8357	11.4597
4	24	1.4400	0	0.0000	24	1.2240	0	0.0000	24	1.4400	24	1.3680	8.1360	2.3715	10.5075
5	24	1.4400	0	0.0000	13	0.6630	4	0.2340	24	1.4400	24	1.3680	7.1970	2.0037	9.2007
6	13	0.7800	0	0.0000	10	0.5100	24	1.4040	24	1.4400	24	1.3680	8.4150	1.7796	10.1946
7	9	0.5400	0	0.0000	9	0.4590	24	1.4040	19	1.1400	15	0.8550	7.1640	2.3111	9.4751
8	20	1.2000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.1560	1.2211	10.3771
9	22	1.3200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.6440	0.8999	11.5439
10	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.7640	0.8540	11.6180
11	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	13	0.7410	9.5370	0.9369	10.4739
12	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	16	0.9120	8.8680	0.9533	9.8213
13	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.6610	1.5296	10.1906
14	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.7120	1.7714	10.4834
15	9	0.5400	0	0.0000	9	0.4590	24	1.4040	20	1.2000	24	1.3680	8.8350	2.3414	11.1764
16	20	1.2000	0	0.0000	0	0.0000	24	1.4040	0	0.0000	24	1.3680	8.9400	2.5896	11.5296
17	24	1.4400	0	0.0000	0	0.0000	24	1.4040	7	0.4200	24	1.3680	9.6000	1.9721	11.5721
18	24	1.4400	0	0.0000	0	0.0000	24	1.4040	11	0.6600	3	0.1710	8.6430	2.8455	11.4885
19	24	1.4400	0	0.0000	0	0.0000	24	1.4040	10	0.6000	1	0.0570	8.4690	1.8163	10.2853
20	24	1.4400	0	0.0000	0	0.0000	24	1.4040	24	1.4400	24	1.3680	8.6820	1.9548	10.6368
21	24	1.4400	0	0.0000	0	0.0000	24	1.4040	24	1.4400	24	1.3680	7.9560	2.4811	10.4371
22	20	1.2000	0	0.0000	21	1.0710	24	1.4040	24	1.4400	24	1.3680	8.7870	2.1581	10.9451
23	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.7400	2.9381	10.6781
24	5	0.3000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.4620	2.0048	11.4668
25	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	5	0.2850	7.6830	2.7850	10.4680
26	23	1.3800	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	9.1920	0.7774	9.9694
27	24	1.4400	0	0.0000	24	1.2240	13	0.7605	4	0.2400	3	0.1710	7.5795	2.1311	9.7106
28	6	0.3600	0	0.0000	24	1.2240	14	0.8190	24	1.4400	5	0.2850	7.8720	2.4433	10.3153
29	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	7.8120	2.1814	9.9934
Totals	531	31.8600	0	0.0000	494	25.1940	631	36.9135	599	35.9400	493	28.1010	249.1425	57.4309	306.5734
Static Level (ft)	38	2/7/2008	34	2/1/2008	33	2/7/2008	52	2/4/2008	46	2/19/2008	47	2/8/2008			

March 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
2	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
3	0	0.0000	0	0.0000	19	0.8550	24	1.2240	0	0.0000	5	0.2550	11	0.6600
4	0	0.0000	0	0.0000	0	0.0000	12	0.6120	0	0.0000	24	1.2240	24	1.4400
5	0	0.0000	0	0.0000	3	0.1350	2	0.1020	6	0.3060	24	1.2240	24	1.4400
6	0	0.0000	0	0.0000	24	1.0800	24	1.2240	5	0.2550	7	0.3570	15	0.9000
7	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	6	0.3060	24	1.4400
8	0	0.0000	0	0.0000	24	1.0800	24	1.2240	1	0.0510	6	0.3060	24	1.4400
9	0	0.0000	0	0.0000	5	0.2250	24	1.2240	24	1.2240	21	1.0710	7	0.4200
10	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000	22	1.3200
11	0	0.0000	0	0.0000	0	0.0000	16	0.8160	24	1.2240	12	0.6120	12	0.7200
12	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
13	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	2	0.1200
14	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
15	0	0.0000	0	0.0000	3	0.1350	0	0.0000	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	0	0.0000	7	0.3150	0	0.0000	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
18	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
19	0	0.0000	0	0.0000	0	0.0000	0	0.0000	13	0.6630	16	0.8160	24	1.4400
20	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	21	1.2600
21	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	11	0.6600
22	0	0.0000	0	0.0000	6	0.2700	0	0.0000	9	0.4590	24	1.2240	16	0.9600
23	0	0.0000	0	0.0000	0	0.0000	0	0.0000	11	0.5610	24	1.2240	24	1.4400
24	0	0.0000	0	0.0000	3	0.1350	0	0.0000	24	1.2240	24	1.2240	8	0.4800
25	0	0.0000	0	0.0000	10	0.4500	0	0.0000	24	1.2240	24	1.2240	10	0.6000
26	0	0.0000	0	0.0000	3	0.1350	0	0.0000	24	1.2240	24	1.2240	12	0.7200
27	0	0.0000	0	0.0000	0	0.0000	0	0.0000	12	0.6120	24	1.2240	21	1.2600
28	0	0.0000	0	0.0000	0	0.0000	0	0.0000	7	0.3570	24	1.2240	24	1.4400
29	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
30	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
31	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	11	0.6600
Totals	0	0.0000	0	0.0000	179	8.0550	222	11.3220	496	25.2960	577	29.4270	563	33.7800
Static Level (ft)	0	3/4/2008	0	3/4/2008	118	3/4/2008	129	3/12/2008	32	3/4/2008	32	3/3/2008	45	3/12/2008

Total Qtr.	53.3970	Total Qtr.	83.2830	Total Qtr.	92.5200
Avg. gpd	586780.22	Avg. gpd	915197.802	Avg. gpd	1016703.297
ft3/day	78441.1	ft3/day	122344.142	ft3/day	135913.4521
avg. WL	32.0	avg. WL	32.0	avg. WL	45.0

March 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	19	1.1400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	6	0.3420	9.2940	2.0264	11.3204
2	24	1.4400	0	0.0000	5	0.2550	24	1.4040	24	1.4400	24	1.3680	9.6510	1.8769	11.5279
3	5	0.3000	0	0.0000	0	0.0000	24	1.4040	24	1.4400	24	1.3680	7.5060	2.3202	9.8262
4	24	1.4400	0	0.0000	20	1.0200	24	1.4040	24	1.4400	0	0.0000	8.5800	1.4582	10.0382
5	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	9	0.5130	9.2280	1.4748	10.7028
6	13	0.7800	0	0.0000	14	0.7140	13	0.7605	13	0.7800	11	0.6270	7.4775	0.1403	7.6178
7	24	1.4400	0	0.0000	24	1.2240	24	1.4040	7	0.4200	4	0.2280	8.7660	1.6591	10.4251
8	24	1.4400	0	0.0000	8	0.4080	24	1.4040	24	1.4400	8	0.4560	9.2490	2.2306	11.4796
9	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.0400	0.0780	11.1180
10	24	1.4400	0	0.0000	24	1.2240	24	1.4040	6	0.3600	24	1.3680	9.5640	0.4974	10.0614
11	12	0.7200	0	0.0000	24	1.2240	24	1.4040	21	1.2600	24	1.3680	9.3480	0.5805	9.9285
12	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.8840	1.7651	9.6491
13	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.0040	2.0948	10.0988
14	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.3240	1.5274	10.8514
15	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.4590	1.7016	11.1606
16	0	0.0000	0	0.0000	24	1.2240	13	0.7605	24	1.4400	24	1.3680	8.9955	2.0409	11.0364
17	15	0.9000	0	0.0000	24	1.2240	9	0.5265	24	1.4400	24	1.3680	9.3465	1.0088	10.3553
18	14	0.8400	0	0.0000	24	1.2240	2	0.1170	24	1.4400	24	1.3680	8.8770	1.3162	10.1932
19	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.3550	1.8053	10.1603
20	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.1440	1.3755	10.5195
21	8	0.4800	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.0240	1.6345	10.6585
22	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.7890	1.4639	11.2529
23	24	1.4400	0	0.0000	14	0.7140	24	1.4040	24	1.4400	24	1.3680	9.5910	1.5068	11.0978
24	24	1.4400	0	0.0000	24	1.2240	10	0.5850	18	1.0800	24	1.3680	8.7600	1.3098	10.0698
25	14	0.8400	0	0.0000	24	1.2240	1	0.0585	24	1.4400	24	1.3680	8.4285	2.4665	10.8950
26	6	0.3600	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.0990	1.3581	10.4571
27	5	0.3000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.8320	1.3021	10.1341
28	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.8970	1.0455	10.9425
29	7	0.4200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.7440	2.3040	12.0480
30	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.7640	2.1170	12.8810
31	24	1.4400	0	0.0000	24	1.2240	9	0.5265	18	1.0800	24	1.3680	8.7465	1.5009	10.2474
Totals	430	25.8000	0	0.0000	661	33.7110	633	37.0305	683	40.9800	638	38.3660	281.7675	46.9871	328.7546
Static Level (ft)	38	3/12/2008	34	3/4/2008	33	3/3/2008	52	3/18/2008	47	3/7/2008	47	3/4/2008			

Total Qtr.	95.7000	Total Qtr	12.7260	Total Qtr	93.6870	Total Qtr.	114.7770	Total Qtr.	119.2800	Total Qtr.	82.5930
Avg. gpd	1051648.35	Avg. gpd	139846.15	Avg. gpc	1029527.5	Avg. gpd	1261285.7	Avg. gpd	1310769.2	Avg. gpd	907615.385
ft3/day	140584.926	ft3/day	18694.71	ft3/day	137627.79	ft3/day	168609.36	ft3/day	175224.35	ft3/day	121330.52

38.0 avg. WL 34.0 avg. WL 33.0 avg. WL 52.0 avg. WL 46.3 avg. WL 47.0

2008	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
January	0.0000	1.2555	7.7400	0.0000	19.5330	32.6910	31.0800	38.0400
February	0.0000	0.0000	15.8400	17.9010	8.5680	21.1650	27.6600	31.8600
March	0.0000	0.0000	8.0550	11.3220	25.2960	29.4270	33.7800	25.8000
1st Quarter	0.0000	1.2555	31.6350	29.2230	53.3970	83.2830	92.5200	95.7000

2008	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir	Totals
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped	
January	12.7260	34.7820	40.8330	42.3600	18.1260	279.1665	44.4775	323.6440
February	0.0000	25.1940	36.9135	35.9400	28.1010	249.1425	57.4309	306.5734
March	0.0000	33.7110	37.0305	40.9800	36.3660	281.7675	46.9871	328.7546
1st Quarter	12.7260	93.6870	114.7770	119.2800	82.5930	810.0765	148.8955	958.9720

April 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	13	0.7800
2	0	0.0000	0	0.0000	0	0.0000	0	0.0000	10	0.5100	21	1.0710	9	0.5400
3	0	0.0000	0	0.0000	0	0.0000	0	0.0000	13	0.6630	11	0.5610	24	1.4400
4	0	0.0000	12	0.5580	0	0.0000	0	0.0000	24	1.2240	20	1.0200	24	1.4400
5	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
6	0	0.0000	0	0.0000	9	0.4050	0	0.0000	24	1.2240	24	1.2240	24	1.4400
7	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
8	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
9	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
11	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
12	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
13	0	0.0000	8	0.3720	0	0.0000	0	0.0000	24	1.2240	24	1.2240	12	0.7200
14	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	10	0.6000
15	0	0.0000	4	0.1860	0	0.0000	0	0.0000	24	1.2240	24	1.2240	7	0.4200
16	0	0.0000	6	0.2790	0	0.0000	0	0.0000	24	1.2240	24	1.2240	8	0.4800
17	0	0.0000	0	0.0000	23	1.0350	19	0.9690	15	0.7650	10	0.5100	5	0.3000
18	0	0.0000	8	0.3720	5	0.2250	6	0.3060	23	1.1730	14	0.7140	22	1.3200
19	0	0.0000	2	0.0930	0	0.0000	0	0.0000	3	0.1530	18	0.9180	24	1.4400
20	0	0.0000	11	0.5115	1	0.0450	0	0.0000	24	1.2240	24	1.2240	13	0.7800
21	0	0.0000	0	0.0000	4	0.1800	5	0.2550	24	1.2240	24	1.2240	3	0.1800
22	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	16	0.9600
23	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
24	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
25	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	23	1.3800
26	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	4	0.2400
27	0	0.0000	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	4	0.2400
28	0	0.0000	0	0.0000	7	0.3150	7	0.3570	6	0.3060	9	0.4590	24	1.4400
29	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
30	0	0.0000	0	0.0000	2	0.0900	0	0.0000	0	0.0000	15	0.7650	24	1.4400
Totals	0	0.0000	75	3.4875	51	2.2950	37	1.8870	598	30.4980	648	32.9460	533	31.9800
Static Level (ft)	0	4/1/2008	0	4/1/2008	121	4/3/2008	118	4/3/2008	32	4/1/2008				

April 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	8	0.4800	0	0.0000	24	1.2240	16	0.9360	24	1.4400	24	1.3680	8.6760	1.4251	10.1011
2	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.5570	2.0488	9.6058
3	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.1000	1.4862	9.5862
4	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	13	0.7410	9.0510	1.3177	10.3687
5	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	19	1.0830	9.0390	1.8665	10.9055
6	19	1.1400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.8690	0.0815	10.9505
7	5	0.3000	0	0.0000	8	0.4080	24	1.4040	24	1.4400	24	1.3680	8.8080	1.7225	10.5305
8	13	0.7800	0	0.0000	17	0.8670	24	1.4040	24	1.4400	11	0.6270	9.0060	0.7811	9.7871
9	24	1.4400	0	0.0000	0	0.0000	11	0.6435	24	1.4400	13	0.7410	8.1525	1.3143	9.4668
10	24	1.4400	0	0.0000	7	0.3570	13	0.7605	11	0.6600	24	1.3680	8.4735	1.3653	9.8388
11	24	1.4400	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	9.3240	0.0620	9.3860
12	24	1.4400	0	0.0000	24	1.2240	24	1.4040	8	0.4800	24	1.3680	9.8040	2.1153	11.9193
13	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.4160	1.1601	11.5761
14	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.9240	0.9883	10.9123
15	6	0.3600	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.8500	1.0403	9.8903
16	24	1.4400	0	0.0000	24	1.2240	24	1.4040	11	0.6600	24	1.3680	9.3030	1.5901	10.8931
17	16	0.9600	0	0.0000	16	0.8160	9	0.5265	7	0.4200	16	0.9120	7.2135	-0.2193	6.9942
18	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.9860	1.4063	12.3923
19	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.4800	2.3436	11.8236
20	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.6605	1.5754	12.2359
21	6	0.3600	0	0.0000	24	1.2240	24	1.4040	11	0.6600	24	1.3680	8.0790	2.4920	10.5710
22	3	0.1800	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.0240	1.5166	10.5406
23	24	1.4400	0	0.0000	24	1.2240	24	1.4040	14	0.8400	6	0.3420	9.1380	1.4572	10.5952
24	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	20	1.1400	10.5360	1.4357	11.9717
25	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	15	0.8550	10.1910	1.3540	11.5450
26	14	0.8400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.9640	2.4421	11.4061
27	4	0.2400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.4800	1.8540	11.3340
28	1	0.0600	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.3730	2.6999	11.0729
29	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	17	0.9690	9.1410	1.6526	10.7936
30	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	0	0.0000	7.8030	2.3547	10.1577
Totals	455	27.3000	0	0.0000	648	33.0480	673	39.3705	614	36.8400	610	34.7700	274.4220	44.7299	319.1519
Static Level (ft)															

May 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
2	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	7	0.3570	24	1.4400
3	0	0.0000	0	0.0000	0	0.0000	0	0.0000	15	0.7650	24	1.2240	24	1.4400
4	0	0.0000	24	1.1160	16	0.7200	16	0.8160	6	0.3060	7	0.3570	24	1.4400
5	0	0.0000	4	0.1860	0	0.0000	0	0.0000	7	0.3570	19	0.9690	24	1.4400
6	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	13	0.7800
7	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	13	0.7800
8	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	14	0.8400
9	0	0.0000	0	0.0000	0	0.0000	0	0.0000	12	0.6120	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	3	0.1350	0	0.0000	0	0.0000	24	1.2240	24	1.4400
11	0	0.0000	24	1.1160	14	0.6300	24	1.2240	24	1.2240	24	1.2240	20	1.2000
12	0	0.0000	2	0.0930	0	0.0000	0	0.0000	24	1.2240	24	1.2240	14	0.8400
13	0	0.0000	0	0.0000	0	0.0000	0	0.0000	22	1.1220	23	1.1730	24	1.4400
14	0	0.0000	0	0.0000	13	0.5850	23	1.1730	14	0.7140	14	0.7140	21	1.2600
15	0	0.0000	0	0.0000	0	0.0000	12	0.6120	16	0.8160	24	1.2240	24	1.4400
16	0	0.0000	0	0.0000	15	0.6750	0	0.0000	17	0.8670	24	1.2240	15	0.9000
17	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	7	0.4200
18	0	0.0000	0	0.0000	19	0.8550	15	0.7650	14	0.7140	13	0.6630	10	0.6000
19	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	0	0.0000
20	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	13	0.7800
21	0	0.0000	0	0.0000	4	0.1800	24	1.2240	24	1.2240	24	1.2240	10	0.6000
22	0	0.0000	0	0.0000	24	1.0800	24	1.2240	16	0.8160	15	0.7650	10	0.6000
23	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	14	0.7140	8	0.4800
24	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	5	0.2550	8	0.4800
25	0	0.0000	0	0.0000	16	0.7200	24	1.2240	24	1.2240	24	1.2240	13	0.7800
26	0	0.0000	0	0.0000	24	1.0800	24	1.2240	13	0.6630	24	1.2240	24	1.4400
27	0	0.0000	6	0.2790	24	1.0800	24	1.2240	13	0.6630	11	0.5610	24	1.4400
28	0	0.0000	22	1.0230	24	1.0800	24	1.2240	24	1.2240	0	0.0000	24	1.4400
29	0	0.0000	6	0.2790	24	1.0800	15	0.7650	17	0.8670	12	0.6120	17	1.0200
30	0	0.0000	9	0.4185	14	0.6300	0	0.0000	24	1.2240	24	1.2240	10	0.6000
31	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	3	0.1800
Totals	0	0.0000	97	4.5105	306	13.7700	345	17.5950	542	27.6420	572	29.1720	507	30.4200
Static Level (ft)	0	5/21/2008	0	5/21/2008	129	5/21/2008	130	5/30/2008	39	5/27/2008				

May 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	20	1.2000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	14	0.7980	7.5060	1.6348	9.1408
2	2	0.1200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.3530	2.8809	10.2339
3	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.3050	1.7233	12.0283
4	15	0.9000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.0910	1.8451	12.9361
5	2	0.1200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	10	0.5700	7.7100	2.3630	10.0730
6	14	0.8400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.5040	1.2468	10.7508
7	2	0.1200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.7840	2.6310	11.4150
8	10	0.6000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.3240	1.1070	10.4310
9	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.7120	2.3042	11.0162
10	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.2350	3.4138	11.6488
11	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.0540	0.7074	12.7614
12	0	0.0000	0	0.0000	24	1.2240	24	1.4040	14	0.8400	3	0.1710	7.0200	3.5860	10.6060
13	7	0.4200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	9	0.5130	8.7360	1.5710	10.3070
14	6	0.3600	0	0.0000	6	0.3060	6	0.3510	15	0.9000	9	0.5130	6.8760	2.6950	9.5710
15	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	20	1.1400	9.3000	2.1006	11.4006
16	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	18	1.0260	8.7600	2.2620	11.0220
17	2	0.1200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	13	0.7410	8.8770	2.7970	11.6740
18	12	0.7200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.7530	2.4383	12.1913
19	8	0.4800	0	0.0000	24	1.2240	24	1.4040	24	1.4400	14	0.7980	9.0180	2.1788	11.1968
20	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	2	0.1140	8.6340	2.5959	11.2299
21	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.8880	1.9310	11.8190
22	0	0.0000	0	0.0000	15	0.7650	16	0.9360	15	0.9000	15	0.8550	7.9410	0.8887	8.8297
23	6	0.3600	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.5180	2.1647	12.6827
24	2	0.1200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.8190	2.8595	12.6785
25	24	1.4400	0	0.0000	24	1.2240	24	1.4040	12	0.7200	24	1.3680	11.3280	1.9308	13.2588
26	24	1.4400	0	0.0000	24	1.2240	24	1.4040	8	0.4800	9	0.5130	10.6920	1.8508	12.5428
27	24	1.4400	0	0.0000	11	0.5610	11	0.6435	13	0.7800	13	0.7410	9.4125	2.9405	12.3530
28	24	1.4400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	24	1.3680	10.2390	2.9510	13.1900
29	14	0.8400	0	0.0000	10	0.5100	11	0.6435	11	0.6600	10	0.5700	7.8465	1.6660	9.5125
30	24	1.4400	0	0.0000	24	1.2240	24	1.4040	14	0.8400	24	1.3680	10.3725	2.3695	12.7420
31	24	1.4400	0	0.0000	24	1.2240	24	1.4040	15	0.9000	24	1.3680	8.9640	3.7079	12.6719
Totals	290	17.4000	0	0.0000	666	33.9660	668	39.0780	645	38.7000	567	32.3190	284.5725	69.3423	353.9148
Static Level (ft)															

June 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
2	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	8	0.4800
3	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
4	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
5	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	11	0.6600
6	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
7	0	0.0000	3	0.1395	0	0.0000	2	0.1020	24	1.2240	24	1.2240	24	1.4400
8	0	0.0000	24	1.1160	19	0.8550	24	1.2240	10	0.5100	12	0.6120	24	1.4400
9	0	0.0000	24	1.1160	24	1.0800	24	1.2240	2	0.1020	3	0.1530	24	1.4400
10	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
11	0	0.0000	21	0.9765	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
12	0	0.0000	3	0.1395	24	1.0800	24	1.2240	12	0.6120	13	0.6630	14	0.8400
13	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
14	0	0.0000	0	0.0000	24	1.0800	22	1.1220	24	1.2240	24	1.2240	20	1.2000
15	0	0.0000	0	0.0000	24	1.0800	8	0.4080	24	1.2240	24	1.2240	8	0.4800
16	0	0.0000	0	0.0000	24	1.0800	24	1.2240	9	0.4590	24	1.2240	8	0.4800
17	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	24	1.2240	3	0.1800
18	0	0.0000	0	0.0000	24	1.0800	14	0.7140	2	0.1020	24	1.2240	24	1.4400
19	0	0.0000	0	0.0000	8	0.3600	0	0.0000	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	0	0.0000	16	0.7200	0	0.0000	24	1.2240	24	1.2240	24	1.4400
21	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
22	0	0.0000	0	0.0000	24	1.0800	0	0.0000	11	0.5610	11	0.5610	24	1.4400
23	0	0.0000	0	0.0000	24	1.0800	0	0.0000	7	0.3570	15	0.7650	24	1.4400
24	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
25	0	0.0000	12	0.5580	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
26	0	0.0000	3	0.1395	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
27	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
28	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
29	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
30	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	11	0.6600
Totals	0	0.0000	162	7.5330	523	23.5350	238	12.1380	581	29.6310	654	33.3540	563	33.7800
Static Level (ft)	0	6/5/2008	0	6/5/2008	130	6/2/2008	131	6/2/2008	40	6/9/2008				

Total Qtr	87.771	Total Qtr	95.472	Total Qtr.			96.18
Avg. gpd	964516.48	Avg. gpd	1049142.86	Avg. gpd			1056923.077
ft3/day	128937.09	ft3/day	140249.99	ft3/day			141290.0543
avg. WL	37	avg. WL	0	avg. WL			0 avg. WL

June 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.7640	1.4704	12.2344
2	24	1.4400	0	0.0000	24	1.2240	24	1.4040	12	0.7200	24	1.3680	9.0840	3.2960	12.3800
3	24	1.4400	0	0.0000	24	1.2240	24	1.4040	21	1.2600	24	1.3680	9.1440	2.9003	12.0443
4	24	1.4400	0	0.0000	24	1.2240	24	1.4040	8	0.4800	24	1.3680	8.3640	2.9932	11.3572
5	13	0.7800	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	7.8840	3.0669	10.9509
6	0	0.0000	0	0.0000	24	1.2240	24	1.4040	20	1.2000	24	1.3680	9.0840	3.0287	12.1127
7	4	0.2400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.8055	3.3670	13.1725
8	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.6330	2.5728	15.2058
9	24	1.4400	4	0.2520	10	0.5100	8	0.4680	24	1.4400	24	1.3680	10.5930	3.5107	14.1037
10	24	1.4400	24	1.5120	0	0.0000	0	0.0000	12	0.7200	8	0.4560	11.4360	2.4226	13.8586
11	24	1.4400	24	1.5120	18	0.9180	10	0.5850	0	0.0000	0	0.0000	11.6235	2.8033	14.4268
12	12	0.7200	14	0.8820	15	0.7650	15	0.8775	9	0.5400	9	0.5130	8.8560	0.8989	9.7549
13	6	0.3600	16	1.0080	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.9960	2.7289	15.7249
14	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	21	1.1970	11.1150	3.9867	15.1017
15	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	6	0.3420	8.8260	4.4631	13.2891
16	0	0.0000	0	0.0000	8	0.4080	24	1.4040	24	1.4400	24	1.3680	9.0870	4.1907	13.2777
17	0	0.0000	0	0.0000	0	0.0000	24	1.4040	24	1.4400	24	1.3680	7.9200	5.2899	13.2099
18	0	0.0000	0	0.0000	4	0.2040	24	1.4040	24	1.4400	24	1.3680	8.9760	3.9373	12.9133
19	0	0.0000	4	0.2520	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.9360	2.5427	12.4787
20	0	0.0000	14	0.8820	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.9260	2.7643	13.6903
21	5	0.3000	2	0.1260	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.8300	4.0452	14.8752
22	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.0300	2.9432	14.9732
23	24	1.4400	24	1.5120	10	0.5100	10	0.5850	24	1.4400	24	1.3680	10.4970	3.1852	13.6822
24	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	24	1.3680	10.7280	3.5995	14.3275
25	24	1.4400	24	1.5120	0	0.0000	4	0.2340	24	1.4400	24	1.3680	11.5200	2.4431	13.9631
26	24	1.4400	24	1.5120	8	0.4080	24	1.4040	24	1.4400	24	1.3680	12.6795	1.9732	14.6527
27	16	0.9600	12	0.7560	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.2360	1.5641	14.8001
28	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4720	1.2476	15.7196
29	24	1.4400	14	0.8820	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.7260	3.0279	15.7539
30	9	0.5400	1	0.0630	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.2270	3.1397	13.3667
Totals	425	25.5000	273	17.1990	529	26.9790	599	35.0415	610	36.6000	644	36.7080	317.9985	89.4031	407.4016

Total Qtr.	70.2	Total Qtr	17.199	Total Qtr	93.993	Total Qtr.	113.49	Total Qtr	112.14	Total Qtr	103.797
Avg. gpd	771428.571	Avg. gpd	189000	Avg. gpd	1032890.1	Avg. gpd	1247142.9	Avg. gpd	1232307.7	Avg. gpd	1140626.37
ft3/day	103124.993	ft3/day	25265.623	ft3/day	138077.31	ft3/day	166718.74	ft3/day	164735.57	ft3/day	152479.557
	0 avg. WL		0 avg. WL		0 avg. WL		0 avg. WL		0 avg. WL		0

2008	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
April	0.0000	3.4875	2.2950	1.8870	30.4980	32.9460	31.9800	27.3000
May	0.0000	4.5105	13.7700	17.5950	27.6420	29.1720	30.4200	17.4000
June	0.0000	7.5330	23.5350	12.1380	29.6310	33.3540	33.7800	25.5000
2nd Quarter	0.0000	15.5310	39.6000	31.6200	87.7710	95.4720	96.1800	70.2000

2008.0	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped
April	0.0000	33.0480	39.3705	36.8400	34.7700	274.4220	44.7299
May	0.0000	33.9660	39.0780	38.7000	32.3190	284.5725	69.3423
June	17.1990	26.9790	35.0415	36.6000	36.7080	317.9985	89.4031
2nd Quarter	17.1990	93.9930	113.4900	112.1400	103.7970	876.9930	203.4753

July 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000		0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
2	0	0.0000	9	0.4185	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
3	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
4	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
5	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
6	0	0.0000	22	1.0230	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
7	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	18	1.0800
8	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	7	0.4200
9	0	0.0000	0	0.0000	24	1.0800	0	0.0000	22	1.1220	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	24	1.2240	24	1.4400
11	0	0.0000	5	0.2325	24	1.0800	1	0.0510	9	0.4590	24	1.2240	24	1.4400
12	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
13	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
14	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
15	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	24	1.1160	24	1.0800	16	0.8160	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
18	0	0.0000	11	0.5115	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
19	0	0.0000	8	0.3720	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	21	0.9765	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
21	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	15	0.7650	24	1.4400
22	16	0.9600	16	0.7440	24	1.0800	24	1.2240	24	1.2240	10	0.5100	24	1.4400
23	21	1.2600	24	1.1160	14	0.6300	21	1.0710	24	1.2240	24	1.2240	24	1.4400
24	24	1.4400	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	7	0.4200
25	24	1.4400	24	1.1160	0	0.0000	24	1.2240	11	0.5610	24	1.2240	0	0.0000
26	24	1.4400	24	1.1160	0	0.0000	24	1.2240	0	0.0000	24	1.2240	0	0.0000
27	24	1.4400	24	1.1160	0	0.0000	20	1.0200	0	0.0000	24	1.2240	23	1.3800
28	24	1.4400	24	1.1160	0	0.0000	24	1.2240	0	0.0000	24	1.2240	10	0.6000
29	24	1.4400	21	0.9765	1	0.0450	24	1.2240	21	1.0710	2	0.1020	0	0.0000
30	24	1.4400	0	0.0000	24	1.0800	24	1.2240	24	1.2240	21	1.0710	0	0.0000
31	24	1.4400	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
Totals	229	13.7400	473	21.9945	591	26.5950	370	18.8700	615	31.3650	696	35.4960	593	35.5800

July 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	9	0.5400	15	0.9450	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.8890	2.2582	14.1472
2	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.2625	2.3853	14.6478
3	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.9600	2.1143	15.0743
4	24	1.4400	6	0.3780	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.3380	2.7138	16.0518
5	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4720	1.9887	16.4607
6	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.3790	1.6937	16.0727
7	24	1.4400	9	0.5670	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.0510	2.8883	14.9393
8	24	1.4400	4	0.2520	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.0760	3.4232	14.4992
9	24	1.4400	21	1.3230	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.0650	2.0633	15.1283
10	24	1.4400	15	0.9450	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.5650	3.0388	14.6038
11	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.8745	2.5958	15.4703
12	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4720	1.5999	16.0719
13	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4720	2.1672	16.6392
14	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4720	2.4510	16.9230
15	24	1.4400	24	1.5120	24	1.2240	24	1.4040	16	0.9600	11	0.6270	13.2510	2.7975	16.0485
16	24	1.4400	24	1.5120	13	0.6630	15	0.8775	18	1.0800	11	0.6270	13.0995	3.4495	16.5490
17	24	1.4400	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	14.4720	2.7315	17.2035
18	24	1.4400	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	13.8675	3.0934	16.9609
19	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.9520	2.5353	17.4873
20	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	15.5565	2.1073	17.6638
21	24	1.4400	24	1.5120	24	1.2240	9	0.5265	24	1.4400	24	1.3680	13.2435	2.2434	15.4869
22	14	0.8400	24	1.5120	14	0.7140	10	0.5850	24	1.4400	24	1.3680	13.6410	3.5258	17.1668
23	0	0.0000	15	0.9450	0	0.0000	24	1.4040	24	1.4400	24	1.3680	13.1220	3.5890	16.7110
24	8	0.4800	1	0.0630	0	0.0000	24	1.4040	16	0.9600	24	1.3680	10.9230	4.6859	15.6089
25	23	1.3800	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	12.4530	3.4529	15.9059
26	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	11.9520	3.7686	15.7206
27	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	13.1280	3.5046	16.6326
28	24	1.4400	8	0.5040	24	1.2240	24	1.4040	0	0.0000	24	1.3680	11.5440	4.4674	16.0114
29	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.7345	4.1507	15.8852
30	24	1.4400	0	0.0000	24	1.2240	24	1.4040	15	0.9000	24	1.3680	12.3750	4.1668	16.5418
31	24	1.4400	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	13.0680	3.4074	16.4754
Totals	678	40.6800	502	31.6260	627	31.9770	706	41.3010	593	35.5800	718	40.9260	405.7305	91.0585	496.7890

August 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	24	1.4400	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
2	8	0.4800	5	0.2325	14	0.6300	7	0.3570	24	1.2240	24	1.2240	24	1.4400
3	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
4	0	0.0000	24	1.1160	8	0.3600	0	0.0000	24	1.2240	24	1.2240	24	1.4400
5	0	0.0000	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
6	0	0.0000	24	1.1160	5	0.2250	3	0.1530	24	1.2240	24	1.2240	24	1.4400
7	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	19	0.9690	16	0.9600
8	0	0.0000	19	0.8835	24	1.0800	24	1.2240	24	1.2240	19	0.9690	24	1.4400
9	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
10	16	0.9600	12	0.5580	20	0.9000	20	1.0200	19	0.9690	24	1.2240	24	1.4400
11	24	1.4400	0	0.0000	16	0.7200	14	0.7140	2	0.1020	15	0.7650	15	0.9000
12	14	0.8400	0	0.0000	24	1.0800	24	1.2240	7	0.3570	1	0.0510	3	0.1800
13	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
14	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
15	13	0.7800	0	0.0000	24	1.0800	24	1.2240	19	0.9690	19	0.9690	19	1.1400
16	24	1.4400	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
17	7	0.4200	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
18	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
19	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
21	0	0.0000	10	0.4650	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
22	0	0.0000	0	0.0000	24	1.0800	24	1.2240	11	0.5610	24	1.2240	24	1.4400
23	0	0.0000	1	0.0465	24	1.0800	24	1.2240	20	1.0200	24	1.2240	24	1.4400
24	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
25	1	0.0600	24	1.1160	24	1.0800	12	0.6120	24	1.2240	24	1.2240	24	1.4400
26	8	0.4800	13	0.6045	11	0.4950	4	0.2040	24	1.2240	24	1.2240	24	1.4400
27	0	0.0000	0	0.0000	2	0.0900	24	1.2240	24	1.2240	24	1.2240	24	1.4400
28	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
29	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
30	0	0.0000	2	0.0930	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
31	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
Totals	139	8.3400	326	15.1590	628	28.2600	588	29.9880	678	34.5780	697	35.5470	701	42.0600
Static Level (ft)	0	8/18/08	0	8/27/2008	117	8/27/2008	128	8/26/2008	33	8/11/2008	31	8/12/2008	47	8/12/2008

August 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	24	1.4400	0	0.0000	24	1.2240	24	1.4040	15	0.9000	24	1.3680	13.9680	2.6115	16.5795
2	24	1.4400	3	0.1890	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.6525	3.7760	16.4285
3	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4720	2.3272	16.7992
4	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.7520	2.1699	15.9219
5	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.3920	2.2709	15.6629
6	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.7700	2.5732	16.3432
7	24	1.4400	10	0.6300	24	1.2240	24	1.4040	24	1.4400	17	0.9690	13.6800	2.7394	16.4194
8	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	5	0.2850	12.6135	3.5385	16.1520
9	24	1.4400	3	0.1890	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.2570	3.6702	16.9272
10	24	1.4400	8	0.5040	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4510	1.2170	15.6680
11	24	1.4400	14	0.8820	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.3990	4.1526	16.5516
12	24	1.4400	24	1.5120	24	1.2240	10	0.5850	24	1.4400	24	1.3680	11.3010	4.0938	15.3948
13	24	1.4400	16	1.0080	24	1.2240	3	0.1755	12	0.7200	14	0.7980	11.5575	3.4876	15.0451
14	24	1.4400	20	1.2600	24	1.2240	24	1.4040	24	1.4400	14	0.7980	13.7580	1.8866	15.6446
15	19	1.1400	19	1.1970	19	0.9690	19	1.1115	19	1.1400	19	1.0830	12.8025	2.9839	15.7864
16	24	1.4400	17	1.0710	19	0.9690	24	1.4040	24	1.4400	24	1.3680	15.3240	1.7470	17.0710
17	24	1.4400	20	1.2600	0	0.0000	24	1.4040	24	1.4400	24	1.3680	13.5240	3.0567	16.5807
18	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	20	1.1400	15.4680	1.0434	16.5114
19	24	1.4400	24	1.5120	14	0.7140	24	1.4040	24	1.4400	0	0.0000	13.8180	2.5629	16.3809
20	24	1.4400	24	1.5120	5	0.2550	24	1.4040	24	1.4400	14	0.7980	14.1570	2.3714	16.5284
21	24	1.4400	9	0.5670	24	1.2240	24	1.4040	24	1.4400	11	0.6270	13.3590	1.3118	14.6708
22	24	1.4400	22	1.3860	24	1.2240	24	1.4040	24	1.4400	22	1.2540	13.6770	0.0430	13.7200
23	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.4225	1.8301	16.2526
24	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	15.6960	1.2542	16.9502
25	9	0.5400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	14.2440	1.9181	16.1621
26	3	0.1800	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.7995	2.0738	14.8733
27	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	12	0.6840	12.9060	1.6941	14.6001
28	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	13.2120	2.0013	15.2133
29	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	13.2120	1.9474	15.1594
30	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	19	1.0830	14.3880	2.1286	16.5166
31	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	15.6960	1.0997	16.7957
Totals	703	42.1800	569	35.8470	681	34.7310	704	41.1840	718	43.0800	575	32.7750	423.7290	71.5818	495.3108
Static Level (ft)	38	8/26/2008	36	8/8/2008	34	8/20/2008	51	8/12/2008	46	8/4/2008	48	8/19/2008			

Sept. 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
2	0	0.0000	3	0.1395	24	1.0800	24	1.2240	4	0.2040	7	0.3570	24	1.4400
3	0	0.0000	0	0.0000	24	1.0800	24	1.2240	23	1.1730	20	1.0200	1	0.0600
4	0	0.0000	0	0.0000	24	1.0800	24	1.2240	17	0.8670	24	1.2240	23	1.3800
5	0	0.0000	20	0.9300	24	1.0800	24	1.2240	19	0.9690	24	1.2240	24	1.4400
6	0	0.0000	13	0.6045	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
7	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
8	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
9	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	13	0.7800
11	0	0.0000	15	0.6975	12	0.5400	24	1.2240	24	1.2240	24	1.2240	0	0.0000
12	0	0.0000	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	0	0.0000
13	0	0.0000	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	0	0.0000
14	0	0.0000	24	1.1160	6	0.2700	24	1.2240	24	1.2240	24	1.2240	24	1.4400
15	0	0.0000	14	0.6510	18	0.8100	18	0.9180	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	18	0.8370	14	0.6300	24	1.2240	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	13	0.6045	6	0.2700	24	1.2240	24	1.2240	24	1.2240	24	1.4400
18	0	0.0000	24	1.1160	24	1.0800	18	0.9180	24	1.2240	24	1.2240	16	0.9600
19	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	11	0.5115	15	0.6750	24	1.2240	24	1.2240	24	1.2240	24	1.4400
21	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
22	0	0.0000	24	1.1160	7	0.3150	24	1.2240	24	1.2240	24	1.2240	24	1.4400
23	0	0.0000	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	15	0.9000
24	0	0.0000	15	0.6975	0	0.0000	24	1.2240	24	1.2240	24	1.2240	1	0.0600
25	0	0.0000	0	0.0000	0	0.0000	24	1.2240	20	1.0200	24	1.2240	24	1.4400
26	0	0.0000	0	0.0000	3	0.1350	24	1.2240	1	0.0510	24	1.2240	24	1.4400
27	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	14	0.8400
28	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	1	0.0600
29	0	0.0000	0	0.0000	14	0.6300	24	1.2240	24	1.2240	24	1.2240	15	0.9000
30	0	0.0000	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	0	0.0000
Totals	0	0.0000	362	16.8330	455	20.4750	708	36.1080	660	33.6600	699	35.6490	507	30.4200
Static Level (ft)	0	9/8/2008	0	9/2/2008	117	9/30/2008	127	9/23/2008	31	9/2/2008	32	9/2/2008	48	9/30/2008

Total Qtr.	99.6030	Total Qtr.	106.6920	Total Qtr.	108.0600		
Avg. gpd	1082641.3	Avg. gpd	1159695.65	Avg. gpd	1174565.217		
ft3/day	144728.08	ft3/day	155028.748	ft3/day	157016.5199		
avg. WL	34.7	avg. WL	33.3	avg. WL	46.3	avg. WL	

Sept. 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	15.6960	1.0869	16.7829
2	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.8325	2.0602	14.8927
3	4	0.2400	13	0.8190	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.0520	3.0531	14.1051
4	23	1.3800	23	1.4490	14	0.7140	24	1.4040	24	1.4400	24	1.3680	13.5300	1.3017	14.8317
5	24	1.4400	0	0.0000	0	0.0000	13	0.7605	24	1.4400	24	1.3680	11.8755	2.7244	14.5999
6	24	1.4400	0	0.0000	0	0.0000	19	1.1115	24	1.4400	24	1.3680	12.1560	2.9515	15.1075
7	24	1.4400	4	0.2520	3	0.1530	15	0.8775	13	0.7800	24	1.3680	11.0625	3.6370	14.6995
8	24	1.4400	24	1.5120	24	1.2240	11	0.6435	10	0.6000	11	0.6270	12.2385	2.4320	14.6705
9	24	1.4400	24	1.5120	24	1.2240	0	0.0000	0	0.0000	0	0.0000	10.3680	3.0240	13.3920
10	24	1.4400	24	1.5120	24	1.2240	2	0.1170	1	0.0600	0	0.0000	9.8850	3.3902	13.2752
11	9	0.5400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	11.0295	2.5832	13.6127
12	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	17	0.9690	11.3370	2.1234	13.4604
13	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.7360	2.8911	14.6271
14	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.4460	1.6761	15.1221
15	0	0.0000	14	0.8820	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.5850	2.0207	14.6057
16	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	15	0.8550	11.5020	1.7194	13.2214
17	0	0.0000	0	0.0000	24	1.2240	14	0.8190	24	1.4400	21	1.1970	10.6665	2.1717	12.8382
18	0	0.0000	0	0.0000	12	0.6120	24	1.4040	24	1.4400	24	1.3680	11.3460	2.3356	13.6816
19	0	0.0000	0	0.0000	11	0.5610	24	1.4040	24	1.4400	24	1.3680	12.0810	1.2327	13.3137
20	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.7345	2.3052	14.0397
21	0	0.0000	12	0.7560	24	1.2240	24	1.4040	24	1.4400	24	1.3680	13.5000	1.0329	14.5329
22	4	0.2400	11	0.6930	24	1.2240	11	0.6435	12	0.7200	15	0.8550	10.9185	2.8468	13.7653
23	24	1.4400	13	0.8190	24	1.2240	15	0.8775	24	1.4400	24	1.3680	12.8565	0.6604	13.5169
24	24	1.4400	0	0.0000	24	1.2240	20	1.1700	24	1.4400	24	1.3680	11.0715	1.4631	12.5346
25	24	1.4400	0	0.0000	24	1.2240	24	1.4040	21	1.2600	24	1.3680	11.6040	0.7989	12.4029
26	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.9500	1.7454	12.6954
27	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.4680	1.8744	14.3424
28	24	1.4400	1	0.0630	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.7510	2.9348	14.6858
29	8	0.4800	10	0.6300	11	0.5610	24	1.4040	24	1.4400	24	1.3680	11.0850	2.1565	13.2415
30	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.7360	1.0547	12.7907
Totals	384	23.0400	341	21.4830	603	30.7530	600	35.1000	633	37.9800	607	34.5990	356.1000	63.2880	419.3880
Static Level (ft)	33	9/15/2008	36	9/4/2008	35	9/5/2008	49	9/9/2008	48	9/9/2008	47	9/8/2008			

Total Qtr.	105.9000	Total Qtr	88.9560	Total Qtr	97.4610	Total Qtr.	117.5850	Total Qtr.	116.6400	Total Qtr	108.3000	
Avg. gpd	1151086.96	Avg. gpd	966913.04	Avg. gpc	1059358.7	Avg. gpd	1278097.8	Avg. gpd	1267826.1	Avg. gpd	1177173.91	
ft3/day	153877.933	ft3/day	129257.46	ft3/day	141615.65	ft3/day	170856.82	ft3/day	169483.68	ft3/day	157365.252	
36.3	avg. WL	37.7	avg. WL	35.7	avg. WL	46.7	avg. WL	46.3	avg. WL	46.0		

2008	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
July	13.7400	21.9945	26.5950	18.8700	31.3650	35.4960	35.5800	40.6800
August	8.3400	15.1590	28.2600	29.9880	34.5780	35.5470	42.0600	42.1800
September	0.0000	16.8330	20.4750	36.1080	33.6600	35.6490	30.4200	23.0400
3rd Quarter	22.0800	53.9865	75.3300	84.9660	99.6030	106.6920	108.0600	105.9000

2008	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped
July	31.6260	31.9770	41.3010	35.5800	40.9260	405.7305	91.0585
August	35.8470	34.7310	41.1840	43.0800	32.7750	423.7290	71.5818
September	21.4830	30.7530	35.1000	37.9800	34.5990	356.1000	63.288
3rd Quarter	88.9560	97.4610	117.5850	116.6400	108.3000	1185.5595	225.9283

800 ft. Sands Aquifer		Diversion	Used	Remaining
Well #'s	14A, 25 & 27	232.5	160.296	72.204
Cohansey Aquifer		Diversion		
Well #'s	3,9,12,16-24	1860	1025.2635	834.7365
		Diversion		
	Reservoir	2743.5	225.9283	2517.5717
Quarterly Diversion		4836	1411.4878	3424.5122

October 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	11	0.5115	0	0.0000	24	1.2240	24	1.2240	24	1.2240	0	0.0000
2	0	0.0000	0	0.0000	2	0.0900	24	1.2240	24	1.2240	24	1.2240	24	1.4400
3	0	0.0000	14	0.6510	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
4	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
5	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
6	0	0.0000	0	0.0000	24	1.0800	24	1.2240	14	0.7140	24	1.2240	24	1.4400
7	0	0.0000	0	0.0000	24	1.0800	24	1.2240	1	0.0510	24	1.2240	24	1.4400
8	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
9	0	0.0000	11	0.5115	24	1.0800	24	1.2240	18	0.9180	24	1.2240	24	1.4400
10	0	0.0000	6	0.2790	24	1.0800	24	1.2240	0	0.0000	24	1.2240	24	1.4400
11	0	0.0000	2	0.0930	24	1.0800	24	1.2240	4	0.2040	24	1.2240	24	1.4400
12	0	0.0000	10	0.4650	18	0.8100	24	1.2240	8	0.4080	24	1.2240	24	1.4400
13	0	0.0000	8	0.3720	24	1.0800	24	1.2240	8	0.4080	24	1.2240	24	1.4400
14	0	0.0000	0	0.0000	14	0.6300	24	1.2240	2	0.1020	24	1.2240	24	1.4400
15	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	0	0.0000	13	0.5850	24	1.2240	24	1.2240	11	0.5610	11	0.6600
17	0	0.0000	0	0.0000	23	1.0350	24	1.2240	24	1.2240	0	0.0000	2	0.1200
18	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	7	0.3570	24	1.4400
19	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	0	0.0000	24	1.0800	9	0.4590	24	1.2240	13	0.6630	10	0.6000
21	0	0.0000	0	0.0000	24	1.0800	7	0.3570	24	1.2240	0	0.0000	0	0.0000
22	0	0.0000	0	0.0000	12	0.5400	24	1.2240	14	0.7140	0	0.0000	1	0.0600
23	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	14	0.8400
24	0	0.0000	0	0.0000	24	1.0800	24	1.2240	18	0.9180	0	0.0000	0	0.0000
25	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	3	0.1530	4	0.2400
26	0	0.0000	0	0.0000	24	1.0800	24	1.2240	10	0.5100	10	0.5100	13	0.7800
27	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
28	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
29	0	0.0000	0	0.0000	24	1.0800	14	0.7140	0	0.0000	0	0.0000	24	1.4400
30	0	0.0000	0	0.0000	24	1.0800	7	0.3570	0	0.0000	0	0.0000	11	0.6600
31	0	0.0000	0	0.0000	24	1.0800	0	0.0000	19	0.9690	20	1.0200	0	0.0000
Totals	0	0.0000	62	2.8830	634	28.5300	661	33.7110	452	23.0520	448	22.8480	522	31.3200
Static Level (ft)	0	10/14/2008	0	10/7/2008	117	10/8/2008	127	10/21/2008	32	10/7/2008	33	10/21/2008	43	10/21/2008

October 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	0	0.0000	10	0.6300	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.2495	1.6493	11.8988
2	0	0.0000	0	0.0000	13	0.6630	11	0.6435	24	1.4400	24	1.3680	9.3165	1.7805	11.0970
3	0	0.0000	0	0.0000	0	0.0000	1	0.0585	24	1.4400	24	1.3680	9.7095	1.8815	11.5910
4	0	0.0000	0	0.0000	0	0.0000	24	1.4040	24	1.4400	24	1.3680	10.4040	2.2338	12.6378
5	0	0.0000	0	0.0000	11	0.5610	24	1.4040	24	1.4400	24	1.3680	10.9650	2.7006	13.6656
6	0	0.0000	9	0.5670	11	0.5610	24	1.4040	24	1.4400	24	1.3680	11.0220	0.8960	11.9180
7	0	0.0000	0	0.0000	0	0.0000	24	1.4040	12	0.7200	24	1.3680	8.5110	2.7988	11.3098
8	0	0.0000	0	0.0000	1	0.0510	24	1.4040	12	0.7200	24	1.3680	9.7350	1.3382	11.0732
9	0	0.0000	0	0.0000	24	1.2240	24	1.4040	1	0.0600	24	1.3680	10.4535	1.2782	11.7317
10	0	0.0000	0	0.0000	24	1.2240	24	1.4040	12	0.7200	24	1.3680	9.9630	2.0528	12.0158
11	0	0.0000	23	1.4490	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.1500	1.4021	13.5521
12	0	0.0000	24	1.5120	24	1.2240	24	1.4040	12	0.7200	24	1.3680	11.7990	1.2937	13.0927
13	0	0.0000	24	1.5120	24	1.2240	24	1.4040	9	0.5400	24	1.3680	11.7960	0.6635	12.4595
14	0	0.0000	24	1.5120	24	1.2240	11	0.6435	5	0.3000	24	1.3680	9.6675	1.9787	11.6462
15	0	0.0000	24	1.5120	24	1.2240	0	0.0000	24	1.4400	24	1.3680	10.6560	1.0427	11.6987
16	0	0.0000	24	1.5120	24	1.2240	13	0.7605	24	1.4400	24	1.3680	10.5585	1.3073	11.8658
17	0	0.0000	14	0.8820	15	0.7650	24	1.4040	24	1.4400	24	1.3680	9.4620	1.8190	11.2810
18	0	0.0000	6	0.3780	0	0.0000	24	1.4040	24	1.4400	24	1.3680	9.9150	2.3555	12.2705
19	0	0.0000	13	0.8190	0	0.0000	24	1.4040	24	1.4400	11	0.6270	10.4820	1.8172	12.2992
20	0	0.0000	24	1.5120	1	0.0510	24	1.4040	24	1.4400	24	1.3680	9.8010	1.9392	11.7402
21	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.6090	1.5272	11.1362
22	0	0.0000	11	0.6930	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.6670	1.9705	10.6375
23	0	0.0000	2	0.1260	24	1.2240	24	1.4040	18	1.0800	24	1.3680	8.3460	2.1445	10.4905
24	0	0.0000	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	8.7300	2.2745	11.0045
25	0	0.0000	24	1.5120	24	1.2240	24	1.4040	8	0.4800	24	1.3680	9.9090	2.1410	12.0500
26	0	0.0000	16	1.0080	24	1.2240	24	1.4040	24	1.4400	12	0.6840	9.8640	2.3174	12.1814
27	0	0.0000	21	1.3230	24	1.2240	24	1.4040	20	1.2000	11	0.6270	9.5220	1.6438	11.1658
28	0	0.0000	0	0.0000	24	1.2240	24	1.4040	18	1.0800	19	1.0830	8.5350	1.9815	10.5165
29	0	0.0000	5	0.3150	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.9850	1.8856	10.8706
30	0	0.0000	17	1.0710	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.6040	1.9195	10.5235
31	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	14	0.7980	7.9350	2.0032	9.9382
Totals	0	0.0000	363	22.8690	532	27.1320	660	38.6100	583	34.9800	691	39.3870	305.3220	56.0373	361.3593
Static Level (ft)	Well O/S	(Well O/S)	38	10/10/2008	34	10/7/2008	50	10/15/2008	47	10/9/2008	45	10/14/2008			

Nov. 2008	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	0	0.0000
2	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	0	0.0000
3	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	0	0.0000
4	0	0.0000	18	0.8370	24	1.0800	0	0.0000	20	1.0200	24	1.2240	0	0.0000
5	0	0.0000	24	1.1160	24	1.0800	2	0.1020	0	0.0000	24	1.2240	4	0.2400
6	0	0.0000	24	1.1160	24	1.0800	24	1.2240	8	0.4080	24	1.2240	14	0.8400
7	0	0.0000	4	0.1860	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
8	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	11	0.6600
9	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	24	1.0800	24	1.2240	19	0.9690	24	1.2240	24	1.4400
11	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	24	1.2240	24	1.4400
12	0	0.0000	0	0.0000	24	1.0800	24	1.2240	12	0.6120	24	1.2240	12	0.7200
13	0	0.0000	0	0.0000	24	1.0800	24	1.2240	12	0.6120	12	0.6120	2	0.1200
14	0	0.0000	0	0.0000	24	1.0800	24	1.2240	5	0.2550	5	0.2550	24	1.4400
15	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	6	0.3060	24	1.4400
16	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	9	0.5400
17	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
18	0	0.0000	0	0.0000	11	0.4950	13	0.6630	0	0.0000	0	0.0000	1	0.0600
19	0	0.0000	0	0.0000	0	0.0000	5	0.2550	0	0.0000	14	0.7140	24	1.4400
20	0	0.0000	0	0.0000	0	0.0000	24	1.2240	13	0.6630	0	0.0000	24	1.4400
21	0	0.0000	0	0.0000	8	0.3600	24	1.2240	0	0.0000	0	0.0000	24	1.4400
22	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
23	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
24	0	0.0000	0	0.0000	9	0.4050	9	0.4590	0	0.0000	0	0.0000	24	1.4400
25	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
26	0	0.0000	0	0.0000	2	0.0900	0	0.0000	0	0.0000	0	0.0000	14	0.8400
27	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	0	0.0000	0	0.0000
28	0	0.0000	0	0.0000	24	1.0800	1	0.0510	0	0.0000	0	0.0000	0	0.0000
29	0	0.0000	8	0.3720	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
30	0	0.0000	8	0.3720	14	0.6300	12	0.6120	3	0.1530	0	0.0000	0	0.0000
Totals	0	0.0000	86	3.9990	572	25.7400	450	22.9500	236	12.0360	325	16.5750	379	22.7400
Static Level (ft)	0	11/14/2008	0	11/12/2008	120	11/19/2008	128	11/19/2008	31	11/18/2008	30	11/17/2008	42	11/13/2008

Nov. 2008	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	0	0.0000	19	1.1970	24	1.2240	24	1.4040	24	1.4400	20	1.1400	9.9330	2.4431	12.3761
2	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.4760	1.9531	12.4291
3	0	0.0000	10	0.6300	13	0.6630	24	1.4040	24	1.4400	24	1.3680	9.0330	2.2739	11.3069
4	0	0.0000	0	0.0000	0	0.0000	24	1.4040	24	1.4400	24	1.3680	8.3730	2.1417	10.5147
5	0	0.0000	9	0.5670	9	0.4590	15	0.8775	15	0.9000	24	1.3680	7.9335	2.6799	10.6134
6	0	0.0000	10	0.6300	9	0.4590	0	0.0000	5	0.3000	9	0.5130	7.7940	3.0276	10.8216
7	0	0.0000	24	1.5120	0	0.0000	20	1.1700	24	1.4400	0	0.0000	10.5000	1.3901	11.8901
8	0	0.0000	9	0.5670	0	0.0000	24	1.4040	24	1.4400	0	0.0000	8.8230	3.5470	12.3700
9	0	0.0000	23	1.4490	23	1.1730	24	1.4040	24	1.4400	0	0.0000	11.6580	0.8648	12.5228
10	0	0.0000	24	1.5120	24	1.2240	8	0.4680	0	0.0000	0	0.0000	9.1410	2.0814	11.2224
11	0	0.0000	24	1.5120	24	1.2240	0	0.0000	0	0.0000	8	0.4560	8.1600	2.4746	10.6346
12	0	0.0000	13	0.8190	24	1.2240	0	0.0000	0	0.0000	10	0.5700	7.4730	3.0013	10.4743
13	0	0.0000	12	0.7560	24	1.2240	12	0.7020	0	0.0000	0	0.0000	6.3300	3.6576	9.9876
14	0	0.0000	24	1.5120	16	0.8160	24	1.4040	0	0.0000	0	0.0000	7.9860	2.7101	10.6961
15	0	0.0000	24	1.5120	24	1.2240	24	1.4040	2	0.1200	4	0.2280	8.5380	3.3392	11.8772
16	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.7920	2.2219	12.0139
17	0	0.0000	24	1.5120	24	1.2240	24	1.4040	1	0.0600	1	0.0570	6.5610	2.7367	9.2977
18	0	0.0000	24	1.5120	24	1.2240	24	1.4040	21	1.2600	23	1.3110	7.9290	2.0499	9.9789
19	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	13	0.7410	7.2180	2.7282	9.9462
20	0	0.0000	0	0.0000	24	1.2240	24	1.4040	23	1.3800	0	0.0000	7.3350	2.2979	9.6329
21	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	19	1.0830	8.1750	1.4764	9.6514
22	0	0.0000	5	0.3150	12	0.6120	24	1.4040	24	1.4400	11	0.6270	8.1420	2.8295	10.9715
23	0	0.0000	24	1.5120	24	1.2240	20	1.1700	24	1.4400	24	1.3680	10.4580	1.3558	11.8138
24	0	0.0000	12	0.7560	24	1.2240	1	0.0585	24	1.4400	24	1.3680	7.1505	2.3576	9.5081
25	0	0.0000	23	1.4490	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.3250	0.8635	9.1885
26	10	0.6000	17	1.0710	24	1.2240	24	1.4040	24	1.4400	18	1.0260	7.6950	1.7321	9.4271
27	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	21	1.1970	7.7850	2.8978	10.6828
28	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.0070	3.3160	11.3230
29	24	1.4400	0	0.0000	24	1.2240	24	1.4040	15	0.9000	24	1.3680	9.0120	2.7559	11.7679
30	24	1.4400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.6430	2.8358	11.4788
Totals	106	6.3600	402	25.3260	586	29.8860	580	33.9300	514	30.8400	421	23.9970	254.3790	72.0404	326.4194
Static Level (ft)	Well O/S	(Well O/S)	32	11/5/2008	33	11/5/2008	51	11/6/2008	45	11/7/2008	45	11/6/2008			

Dec.	# 3 Well	MG Pumped	12 Well	MG Pumped	14 Well	MG Pumped	25 Well	MG Pumped	16 Well	MG Pumped	17 Well	MG Pumped	# 18 Well	MG Pumped
2008	Hours	60000	Hours	46500	Hours	45000	Hours	51000	Hours	51000	Hours	51000	Hours	60000
	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr
1	0	0.0000	0	0.0000	18	0.8100	17	0.8670	0	0.0000	0	0.0000	0	0.0000
2	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
3	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
4	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
5	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
6	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
7	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
8	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
9	0	0.0000	0	0.0000	7	0.3150	24	1.2240	21	1.0710	0	0.0000	0	0.0000
10	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
11	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000
12	0	0.0000	0	0.0000	15	0.6750	14	0.7140	24	1.2240	24	1.2240	0	0.0000
13	0	0.0000	10	0.4650	24	1.0800	24	1.2240	16	0.8160	24	1.2240	12	0.7200
14	0	0.0000	7	0.3255	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
15	0	0.0000	18	0.8370	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	18	0.8370	24	1.0800	24	1.2240	10	0.5100	24	1.2240	24	1.4400
17	0	0.0000	0	0.0000	24	1.0800	24	1.2240	14	0.7140	24	1.2240	24	1.4400
18	0	0.0000	0	0.0000	24	1.0800	24	1.2240	18	0.9180	24	1.2240	24	1.4400
19	0	0.0000	9	0.4185	24	1.0800	24	1.2240	22	1.1220	24	1.2240	24	1.4400
20	0	0.0000	15	0.6975	24	1.0800	23	1.1730	24	1.2240	24	1.2240	24	1.4400
21	0	0.0000	10	0.4650	21	0.9450	24	1.2240	15	0.7650	24	1.2240	24	1.4400
22	0	0.0000	0	0.0000	15	0.6750	24	1.2240	9	0.4590	24	1.2240	24	1.4400
23	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	11	0.5610	14	0.8400
24	0	0.0000	0	0.0000	24	1.0800	24	1.2240	21	1.0710	20	1.0200	0	0.0000
25	0	0.0000	0	0.0000	21	0.9450	24	1.2240	24	1.2240	24	1.2240	12	0.7200
26	0	0.0000	0	0.0000	7	0.3150	24	1.2240	24	1.2240	24	1.2240	24	1.4400
27	0	0.0000	0	0.0000	24	1.0800	24	1.2240	10	0.5100	9	0.4590	24	1.4400
28	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	13	0.6630	24	1.4400
29	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	4	0.2040	24	1.4400
30	0	0.0000	0	0.0000	24	1.0800	24	1.2240	11	0.5610	24	1.2240	24	1.4400
31	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
Totals	0	0.0000	87	4.0455	632	28.4400	678	34.5780	431	21.9810	465	23.7150	398	23.8800
Static Level (ft)	0	12/4/2008	0	12/2/2008	120	12/26/2008	126	12/11/2008	33	12/4/2008	33	12/2/2008	41	12/2/2008

Total Qtr.	57.0690	Total Qtr.	63.1380	Total Qtr.	77.9400
Avg. gpd	620315.22	Avg. gpd	686282.609	Avg. gpd	847173.913
ft3/day	82924.077	ft3/day	91742.634	ft3/day	113250.6715

avg. WL 32.0 avg. WL 32.0 avg. WL 42.0 avg. WL

Dec.	# 19 Well	MG Pumped	20 Well	MG Pumped	21 Well	MG Pumped	22 Well	MG Pumped	23 Well	MG Pumped	24 Well	MG Pumped	Daily	Reservoir	Daily
2008	Hours	60000	Hours	63000	Hours	51000	Hours	58500	Hours	60000	Hours	57000	Totals MG	MG Pumped	Pumpage
	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr	Run	gal/hr			
1	24	1.4400	0	0.0000	24	1.2240	24	1.4040	7	0.4200	24	1.3680	7.5330	2.4400	9.9730
2	13	0.7800	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	7.0800	2.8109	8.8909
3	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	6.3000	2.8182	9.1182
4	22	1.3200	0	0.0000	24	1.2240	18	1.0530	0	0.0000	24	1.3680	7.2690	1.9594	9.2284
5	24	1.4400	0	0.0000	24	1.2240	0	0.0000	10	0.6000	24	1.3680	6.9360	2.7572	9.6932
6	24	1.4400	0	0.0000	24	1.2240	0	0.0000	24	1.4400	24	1.3680	7.7760	2.9380	10.7140
7	13	0.7800	7	0.4410	24	1.2240	18	1.0530	24	1.4400	24	1.3680	8.6100	2.7849	11.3949
8	0	0.0000	0	0.0000	24	1.2240	24	1.4040	11	0.6600	24	1.3680	6.9600	2.5747	9.5347
9	0	0.0000	0	0.0000	24	1.2240	24	1.4040	22	1.3200	24	1.3680	7.9260	2.1192	10.0452
10	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.8840	2.2806	10.1646
11	0	0.0000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	7.8840	1.6592	9.5432
12	0	0.0000	0	0.0000	12	0.6120	24	1.4040	15	0.9000	9	0.5130	7.2660	2.7794	10.0454
13	0	0.0000	0	0.0000	0	0.0000	24	1.4040	24	1.4400	0	0.0000	8.3730	2.9558	11.3288
14	0	0.0000	0	0.0000	0	0.0000	24	1.4040	10	0.6000	0	0.0000	8.5215	2.3049	10.8264
15	0	0.0000	0	0.0000	0	0.0000	24	1.4040	11	0.6600	0	0.0000	9.0930	1.3923	10.4853
16	0	0.0000	0	0.0000	0	0.0000	24	1.4040	0	0.0000	0	0.0000	7.7190	1.5796	9.2986
17	0	0.0000	0	0.0000	0	0.0000	24	1.4040	12	0.7200	0	0.0000	7.8060	1.2594	9.0654
18	0	0.0000	0	0.0000	0	0.0000	24	1.4040	17	1.0200	0	0.0000	8.3100	0.8465	9.1565
19	0	0.0000	0	0.0000	0	0.0000	24	1.4040	8	0.4800	0	0.0000	8.3925	0.0788	8.4713
20	0	0.0000	0	0.0000	0	0.0000	7	0.4095	20	1.2000	0	0.0000	8.4480	0.6565	9.1045
21	20	1.2000	0	0.0000	0	0.0000	0	0.0000	9	0.5400	22	1.2540	9.0570	1.3871	10.4441
22	24	1.4400	0	0.0000	0	0.0000	0	0.0000	1	0.0600	24	1.3680	7.8900	0.5688	8.4588
23	24	1.4400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	24	1.3680	7.9530	1.0703	9.0233
24	14	0.8400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	24	1.3680	8.0430	2.0816	10.1246
25	0	0.0000	11	0.6930	0	0.0000	8	0.4680	24	1.4400	20	1.1400	9.0780	1.2781	10.3561
26	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	1	0.0570	9.8400	1.0992	10.9392
27	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	10.4370	1.4474	11.8844
28	0	0.0000	16	1.0080	0	0.0000	24	1.4040	24	1.4400	18	1.0260	10.5090	1.0943	11.6033
29	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	9	0.5130	10.0410	0.9234	10.9644
30	0	0.0000	24	1.5120	0	0.0000	24	1.4040	8	0.4800	0	0.0000	8.9250	1.7638	10.6888
31	3	0.1800	24	1.5120	0	0.0000	24	1.4040	7	0.4200	9	0.5130	10.2210	1.1333	11.3543
Totals	205	12.3000	154	9.7020	276	14.0760	555	32.4675	456	27.3600	448	25.5360	258.0810	53.8428	311.9238
Static Level (ft)	37	12/3/2008	34	12/10/2008	40	12/15/2008	52	12/24/2008	44	12/3/2008	46	12/26/2008			

Total Qtr.	18.6600	Total Qtr.	57.8970	Total Qtr	71.0940	Total Qtr.	105.0075	Total Qtr.	93.1800	Total Qtr.	88.9200
Avg. gpd	202826.087	Avg. gpd	629315.22	Avg. gpd	772760.87	Avg. gpd	1141385.9	Avg. gpd	1012826.1	Avg. gpd	966521.739
ft3/day	27113.9021	ft3/day	84127.202	ft3/day	103303.1	ft3/day	152581.09	ft3/day	135395.14	ft3/day	129205.154

38.0 avg. WL 34.7 avg. WL 35.7 avg. WL 51.0 avg. WL 45.3 avg. WL 45.3

2008.0	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
October	0.0000	2.8830	28.5300	33.7110	23.0520	22.8480	31.3200	0
November	0.0000	3.9990	25.7400	22.9500	12.0360	16.5750	22.7400	6.36
December	0.0000	4.0455	28.4400	34.5780	21.9810	23.7150	23.8800	12.3
4th Quarter	0.0000	10.9275	82.7100	91.2390	57.0690	63.1380	77.9400	18.66
	1016 gpm	1040 gpm	1056 gpm	1089 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm

2008.0	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir	
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped	
October	22.8690	27.1320	38.6100	34.9800	39.3870	305.322	56.0373	361.3593
November	25.3260	29.8860	33.9300	30.8400	23.9970	254.379	72.0404	326.4194
December	9.7020	14.0760	32.4675	27.3600	25.5360	258.081	53.8428	311.9238
4th Quarter	57.8970	71.0940	105.0075	93.1800	88.9200	817.782	181.9205	
	1500 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm	914.5 MgpMo	217 MgpMo	

800 ft. Sands Aquifer		Diversion	Used	Remaining
Well #'s	14A, 25 & 27	232.5	173.949	58.551
Cohansey Aquifer		Diversion		
Well #'s	3,9,12,16-24	1860	643.833	1216.167
		Diversion		
	Reservoir	2743.5	181.9205	2561.5795
Quarterly Diversion		4836	999.7025	3836.2975

January 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
2	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	15	0.9000
3	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	13	0.6630	7	0.4200
4	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	0	0.0000	0	0.0000
5	0	0.0000	0	0.0000	24	1.0800	24	1.2240	13	0.6630	1	0.0510	0	0.0000
6	0	0.0000	0	0.0000	24	1.0800	24	1.2240	5	0.2550	6	0.3060	10	0.6000
7	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
8	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
9	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	24	1.4400
10	0	0.0000	0	0.0000	24	1.0800	24	1.2240	3	0.1530	5	0.2550	24	1.4400
11	0	0.0000	0	0.0000	24	1.0800	24	1.2240	16	0.8160	11	0.5610	13	0.7800
12	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	7	0.3570	8	0.4800
13	0	0.0000	0	0.0000	24	1.0800	24	1.2240	10	0.5100	0	0.0000	0	0.0000
14	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
15	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
16	0	0.0000	0	0.0000	24	1.0800	24	1.2240	3	0.1530	4	0.2040	2	0.1200
17	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	12	0.6120	11	0.6600
18	0	0.0000	0	0.0000	24	1.0800	24	1.2240	19	0.9690	24	1.2240	24	1.4400
19	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	7	0.3570	24	1.4400
20	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	10	0.5100	15	0.9000
21	0	0.0000	0	0.0000	7	0.3150	24	1.2240	2	0.1020	6	0.3060	5	0.3000
22	0	0.0000	0	0.0000	0	0.0000	24	1.2240	7	0.3570	7	0.3570	24	1.4400
23	0	0.0000	0	0.0000	10	0.4500	14	0.7140	9	0.4590	0	0.0000	24	1.4400
24	0	0.0000	0	0.0000	24	1.0800	1	0.0510	24	1.2240	0	0.0000	24	1.4400
25	0	0.0000	0	0.0000	24	1.0800	24	1.2240	15	0.7650	0	0.0000	24	1.4400
26	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	4	0.2400
27	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	0	0.0000
28	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	8	0.4080	0	0.0000
29	0	0.0000	0	0.0000	24	1.0800	24	1.2240	2	0.1020	6	0.3060	4	0.2400
30	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	0	0.0000	24	1.4400
31	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	4	0.2040	24	1.4400
Totals	0	0.0000	0	0.0000	689	31.0050	711	36.2610	320	16.3200	179	9.1290	406	24.3600
Static Level (ft)	0	1/14/2009	0	1/14/2009	117	1/21/2009	126	1/24/2009	32	1/14/2009	33	1/6/2009	45	1/5/2009

January 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	22	1.3200	19	1.1970	0	0.0000	13	0.7605	0	0.0000	11	0.6270	10.0965	1.8654	11.9619
2	7	0.4200	14	0.8820	0	0.0000	24	1.4040	2	0.1200	24	1.3680	9.8460	1.4256	11.2716
3	2	0.1200	24	1.5120	6	0.3060	24	1.4040	24	1.4400	6	0.3420	9.7350	1.9729	11.7079
4	24	1.4400	11	0.6930	24	1.2240	24	1.4040	13	0.7800	0	0.0000	9.0690	1.5955	10.6645
5	24	1.4400	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	7.0860	2.9694	10.0554
6	7	0.4200	4	0.2520	24	1.2240	24	1.4040	2	0.1200	0	0.0000	6.8850	1.9190	8.8040
7	0	0.0000	10	0.6300	24	1.2240	24	1.4040	6	0.3600	0	0.0000	7.3620	1.6009	8.9629
8	0	0.0000	9	0.5670	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.9390	1.6504	8.5894
9	0	0.0000	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	7.8840	1.6649	9.5489
10	0	0.0000	24	1.5120	24	1.2240	24	1.4040	0	0.0000	2	0.1140	8.4060	2.4984	10.9044
11	0	0.0000	9	0.5670	24	1.2240	24	1.4040	0	0.0000	24	1.3680	9.0240	1.7650	10.7890
12	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	8.3610	1.2494	9.6104
13	0	0.0000	4	0.2520	24	1.2240	24	1.4040	6	0.3600	13	0.7410	6.7950	2.3507	9.1457
14	11	0.6600	24	1.5120	13	0.6630	13	0.7605	24	1.4400	6	0.3420	7.6815	1.5191	9.2006
15	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	6.6960	2.3084	9.0044
16	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	1	0.0570	7.2300	3.0416	10.2716
17	24	1.4400	24	1.5120	0	0.0000	0	0.0000	9	0.5400	9	0.5130	8.8050	2.7920	11.5970
18	24	1.4400	24	1.5120	22	1.1220	0	0.0000	14	0.8400	24	1.3680	12.2190	0.8751	13.0941
19	24	1.4400	24	1.5120	7	0.3570	0	0.0000	19	1.1400	7	0.3990	8.9490	3.3382	12.2872
20	24	1.4400	24	1.5120	0	0.0000	18	1.0530	24	1.4400	18	1.0260	10.1850	1.2348	11.4198
21	9	0.5400	24	1.5120	0	0.0000	10	0.5850	24	1.4400	24	1.3680	7.6920	2.4634	10.1554
22	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	9.1020	1.1592	10.2612
23	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	8.7870	1.5055	10.2925
24	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	9.5190	2.2992	11.8182
25	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	24	1.3680	10.2330	1.7067	11.9397
26	0	0.0000	24	1.5120	0	0.0000	24	1.4040	12	0.7200	24	1.3680	7.5480	2.2602	9.8082
27	0	0.0000	0	0.0000	7	0.3570	24	1.4040	24	1.4400	24	1.3680	6.8730	2.7977	9.6707
28	0	0.0000	0	0.0000	24	1.2240	24	1.4040	6	0.3600	24	1.3680	7.0680	2.5947	9.6627
29	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	24	1.3680	6.9480	2.5334	9.4814
30	1	0.0600	0	0.0000	24	1.2240	24	1.4040	0	0.0000	7	0.3990	8.0550	1.8105	9.8655
31	24	1.4400	5	0.3150	24	1.2240	12	0.7020	0	0.0000	0	0.0000	8.8530	2.8980	11.7510
Totals	275	16.5000	469	29.5470	391	19.9410	570	33.3450	353	21.1800	392	22.3440	259.9320	63.6652	323.5972
Static Level (ft)	37	1/6/2009	34	1/12/2009	33	1/16/2009	54	1/16/2009	46	1/7/2009	47	1/6/2009			

Feb. 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
2	0	0.0000	0	0.0000	24	1.0800	24	1.2240	8	0.4080	4	0.2040	7	0.4200
3	0	0.0000	0	0.0000	24	1.0800	24	1.2240	11	0.5610	3	0.1530	0	0.0000
4	0	0.0000	0	0.0000	24	1.0800	24	1.2240	14	0.7140	21	1.0710	0	0.0000
5	0	0.0000	4	0.1860	24	1.0800	24	1.2240	0	0.0000	18	0.9180	4	0.2400
6	0	0.0000	0	0.0000	24	1.0800	16	0.8160	3	0.1530	24	1.2240	24	1.4400
7	0	0.0000	23	1.0695	24	1.0800	24	1.2240	11	0.5610	24	1.2240	24	1.4400
8	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
9	0	0.0000	24	1.1160	24	1.0800	24	1.2240	4	0.2040	3	0.1530	11	0.6600
10	0	0.0000	24	1.1160	24	1.0800	24	1.2240	0	0.0000	0	0.0000	13	0.7800
11	0	0.0000	15	0.6975	24	1.0800	24	1.2240	0	0.0000	2	0.1020	18	1.0800
12	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	16	0.9600
13	0	0.0000	0	0.0000	24	1.0800	24	1.2240	4	0.2040	5	0.2550	6	0.3600
14	0	0.0000	0	0.0000	24	1.0800	24	1.2240	10	0.5100	12	0.6120	10	0.6000
15	0	0.0000	0	0.0000	24	1.0800	24	1.2240	12	0.6120	8	0.4080	24	1.4400
16	0	0.0000	0	0.0000	24	1.0800	24	1.2240	6	0.3060	5	0.2550	24	1.4400
17	0	0.0000	0	0.0000	24	1.0800	24	1.2240	0	0.0000	0	0.0000	5	0.3000
18	0	0.0000	0	0.0000	24	1.0800	24	1.2240	2	0.1020	3	0.1530	8	0.4800
19	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	16	0.9600
21	0	0.0000	0	0.0000	24	1.0800	24	1.2240	10	0.5100	17	0.8670	24	1.4400
22	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	15	0.7650	7	0.4200
23	0	0.0000	0	0.0000	24	1.0800	24	1.2240	11	0.5610	5	0.2550	13	0.7800
24	0	0.0000	13	0.6045	11	0.4950	24	1.2240	24	1.2240	0	0.0000	0	0.0000
25	0	0.0000	24	1.1160	0	0.0000	24	1.2240	4	0.2040	0	0.0000	0	0.0000
26	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
27	0	0.0000	24	1.1160	0	0.0000	22	1.1220	0	0.0000	0	0.0000	7	0.4200
28	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	1	0.0510	14	0.8400
Totals	0	0.0000	223	10.3695	563	25.3350	662	33.7620	254	12.9540	266	13.5660	347	20.8200
Static Level (ft)	0	2/3/2009	0	2/13/2009	116	2/24/2009	xt Collect	Not Collecte	30	2/13/2009	35	2/10/2009	44	2/3/2009

Feb. 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	18	1.0800	24	1.5120	14	0.7140	6	0.3510	0	0.0000	0	0.0000	9.8490	1.9270	11.7760
2	24	1.4400	9	0.5670	24	1.2240	0	0.0000	4	0.2400	4	0.2280	7.0350	2.8634	9.8984
3	5	0.3000	0	0.0000	24	1.2240	2	0.1170	10	0.6000	7	0.3990	5.6580	3.0502	8.7082
4	0	0.0000	2	0.1260	17	0.8670	16	0.9360	0	0.0000	0	0.0000	6.0180	3.0317	9.0497
5	0	0.0000	16	1.0080	12	0.6120	11	0.6435	0	0.0000	4	0.2280	6.1395	3.2140	9.3535
6	10	0.6000	0	0.0000	0	0.0000	0	0.0000	5	0.3000	24	1.3680	6.9810	3.0167	9.9977
7	6	0.3600	5	0.3150	0	0.0000	4	0.2340	11	0.6600	4	0.2280	8.3955	3.9535	12.3490
8	0	0.0000	8	0.5040	0	0.0000	12	0.7020	4	0.2400	3	0.1710	8.9250	3.1667	12.0917
9	0	0.0000	5	0.3150	0	0.0000	24	1.4040	23	1.3800	1	0.0570	7.5930	3.8646	11.4576
10	0	0.0000	0	0.0000	0	0.0000	24	1.4040	24	1.4400	7	0.3990	7.4430	2.4797	9.9227
11	11	0.6600	13	0.8190	0	0.0000	3	0.1755	4	0.2400	0	0.0000	6.0780	2.8372	8.9152
12	24	1.4400	24	1.5120	9	0.4590	0	0.0000	0	0.0000	0	0.0000	6.6750	4.2249	10.8999
13	24	1.4400	6	0.3780	24	1.2240	0	0.0000	0	0.0000	0	0.0000	6.1650	3.4827	9.6477
14	12	0.7200	24	1.5120	24	1.2240	0	0.0000	3	0.1800	0	0.0000	7.6620	4.0929	11.7549
15	0	0.0000	24	1.5120	24	1.2240	0	0.0000	24	1.4400	0	0.0000	8.9400	3.4634	12.4034
16	1	0.0600	24	1.5120	24	1.2240	0	0.0000	24	1.4400	0	0.0000	8.5410	3.0922	11.6332
17	3	0.1800	24	1.5120	24	1.2240	10	0.5850	24	1.4400	5	0.2850	7.8300	3.8374	11.6674
18	0	0.0000	11	0.6930	24	1.2240	6	0.3510	4	0.2400	6	0.3420	5.8890	3.8689	9.7579
19	0	0.0000	24	1.5120	4	0.2040	0	0.0000	0	0.0000	5	0.2850	8.1930	3.1494	11.3424
20	9	0.5400	5	0.3150	0	0.0000	0	0.0000	2	0.1200	0	0.0000	6.6870	3.1092	9.7962
21	13	0.7800	24	1.5120	0	0.0000	0	0.0000	9	0.5400	2	0.1140	8.0670	3.7932	11.8602
22	0	0.0000	14	0.8820	0	0.0000	0	0.0000	24	1.4400	24	1.3680	8.4030	3.3472	11.7502
23	0	0.0000	9	0.5670	0	0.0000	1	0.0585	24	1.4400	24	1.3680	7.3335	2.6357	9.9692
24	0	0.0000	0	0.0000	0	0.0000	24	1.4040	21	1.2600	24	1.3680	7.5795	3.1879	10.7674
25	0	0.0000	14	0.8820	0	0.0000	24	1.4040	10	0.6000	24	1.3680	6.7980	1.8015	8.5995
26	0	0.0000	4	0.2520	0	0.0000	24	1.4040	24	1.4400	24	1.3680	6.8040	3.6134	10.4174
27	0	0.0000	13	0.8190	1	0.0510	24	1.4040	24	1.4400	5	0.2850	6.6570	2.4703	9.1273
28	0	0.0000	24	1.5120	24	1.2240	24	1.4040	7	0.4200	0	0.0000	7.7910	3.3742	11.1652
Totals	160	9.6000	350	22.0500	273	13.9230	239	13.9815	309	18.5400	197	11.2290	206.1300	89.9491	296.0791
Static Level (ft)	36	2/3/2009	37	2/11/2009	32	2/6/2009	51	2/13/2009	47	2/24/2009	46	2/11/2009			

March 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	24	1.2240	18	1.0800
2	0	0.0000	24	1.1160	0	0.0000	24	1.2240	1	0.0510	5	0.2550	11	0.6600
3	0	0.0000	24	1.1160	0	0.0000	24	1.2240	7	0.3570	24	1.2240	0	0.0000
4	0	0.0000	24	1.1160	0	0.0000	24	1.2240	3	0.1530	2	0.1020	13	0.7800
5	0	0.0000	24	1.1160	0	0.0000	24	1.2240	19	0.9690	11	0.5610	15	0.9000
6	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
7	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	0	0.0000	18	1.0800
8	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	0	0.0000	20	1.2000
9	0	0.0000	24	1.1160	0	0.0000	24	1.2240	20	1.0200	0	0.0000	12	0.7200
10	0	0.0000	24	1.1160	0	0.0000	24	1.2240	23	1.1730	0	0.0000	0	0.0000
11	0	0.0000	24	1.1160	0	0.0000	24	1.2240	2	0.1020	3	0.1530	0	0.0000
12	0	0.0000	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	3	0.1800
13	0	0.0000	24	1.1160	0	0.0000	24	1.2240	24	1.2240	24	1.2240	13	0.7800
14	0	0.0000	24	1.1160	0	0.0000	24	1.2240	14	0.7140	5	0.2550	24	1.4400
15	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	19	0.9690	24	1.4400
16	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	24	1.2240	10	0.6000
17	0	0.0000	24	1.1160	0	0.0000	24	1.2240	0	0.0000	24	1.2240	0	0.0000
18	0	0.0000	14	0.6510	3	0.1350	24	1.2240	1	0.0510	7	0.3570	0	0.0000
19	0	0.0000	0	0.0000	24	1.0800	10	0.5100	24	1.2240	0	0.0000	0	0.0000
20	0	0.0000	0	0.0000	24	1.0800	0	0.0000	7	0.3570	0	0.0000	0	0.0000
21	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	0	0.0000	0	0.0000
22	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	0	0.0000	0	0.0000
23	0	0.0000	0	0.0000	13	0.5850	0	0.0000	0	0.0000	0	0.0000	0	0.0000
24	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	8	0.4080	9	0.5400
25	0	0.0000	0	0.0000	0	0.0000	5	0.2550	0	0.0000	24	1.2240	24	1.4400
26	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	6	0.3060	24	1.4400
27	0	0.0000	0	0.0000	0	0.0000	24	1.2240	11	0.5610	9	0.4590	24	1.4400
28	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
29	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
30	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	7	0.3570	0	0.0000
31	0	0.0000	0	0.0000	0	0.0000	24	1.2240	23	1.1730	0	0.0000	0	0.0000
Totals	0	0.0000	422	19.6230	112	5.0400	591	30.1410	275	14.0250	298	15.1980	310	18.6000
Static Level (ft)	0	3/20/2009	0	3/23/2009	117	3/17/2009	130	3/20/2009	33	3/3/2009	30	3/8/2009	42	3/17/2009

Total Qtr.	43.299	Total Qtr	37.893	63.78
Avg. gpd	481100	Avg. gpd	421033.333	708666.6667
ft3/day	64313.711	ft3/day	56283.966	94734.94712
avg. WL	31.6667	avg. WL	32.667	avg. WL 43.6666667

March 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage
1	0	0.0000	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	8.7840	1.2280	10.0120
2	0	0.0000	4	0.2520	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.1860	1.6410	7.8270
3	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.5490	2.6280	9.1770
4	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.0030	1.7370	7.7400
5	11	0.6600	0	0.0000	23	1.1730	24	1.4040	0	0.0000	0	0.0000	8.0070	1.9640	9.9710
6	24	1.4400	12	0.7560	0	0.0000	24	1.4040	0	0.0000	2	0.1140	6.0540	2.1980	8.2520
7	24	1.4400	24	1.5120	3	0.1530	24	1.4040	0	0.0000	24	1.3680	9.2970	1.6960	10.9930
8	24	1.4400	24	1.5120	10	0.5100	24	1.4040	0	0.0000	13	0.7410	9.1470	0.9580	10.1050
9	24	1.4400	20	1.2600	0	0.0000	24	1.4040	0	0.0000	0	0.0000	8.1840	1.4060	9.5900
10	24	1.4400	0	0.0000	0	0.0000	24	1.4040	0	0.0000	0	0.0000	6.3570	2.7250	9.0820
11	24	1.4400	0	0.0000	0	0.0000	12	0.7020	0	0.0000	0	0.0000	4.7370	2.2820	7.0190
12	24	1.4400	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	6.4080	2.7810	9.1890
13	9	0.5400	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	6.1080	1.8730	7.9810
14	24	1.4400	22	1.3860	0	0.0000	0	0.0000	0	0.0000	0	0.0000	7.5750	1.5116	9.0866
15	24	1.4400	24	1.5120	0	0.0000	0	0.0000	0	0.0000	0	0.0000	7.7010	2.3150	10.0160
16	14	0.8400	5	0.3150	5	0.2550	0	0.0000	0	0.0000	0	0.0000	5.5740	2.8630	8.4370
17	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000	4.7880	4.2170	9.0050
18	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000	3.6420	3.7240	7.3660
19	0	0.0000	14	0.8820	24	1.2240	0	0.0000	0	0.0000	0	0.0000	4.9200	4.2530	9.1730
20	0	0.0000	24	1.5120	24	1.2240	0	0.0000	0	0.0000	0	0.0000	4.1730	3.9830	8.1560
21	13	0.7800	24	1.5120	24	1.2240	15	0.8775	0	0.0000	0	0.0000	5.4735	4.7505	10.2240
22	24	1.4400	19	1.1970	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.3450	4.1070	10.4520
23	24	1.4400	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	4.6530	4.0020	8.6550
24	15	0.9000	11	0.6930	24	1.2240	24	1.4040	0	0.0000	0	0.0000	5.1690	4.0180	9.1870
25	0	0.0000	7	0.4410	6	0.3060	5	0.2925	4	0.2400	0	0.0000	4.1985	2.8265	7.0250
26	23	1.3800	0	0.0000	0	0.0000	0	0.0000	23	1.3800	0	0.0000	5.7300	3.4180	9.1480
27	6	0.3600	0	0.0000	0	0.0000	0	0.0000	0	0.0000	8	0.4560	4.5000	3.3620	7.8620
28	0	0.0000	0	0.0000	0	0.0000	0	0.0000	10	0.6000	24	1.3680	7.0800	3.2370	10.3170
29	7	0.4200	0	0.0000	0	0.0000	0	0.0000	7	0.4200	24	1.3680	7.3200	2.5230	9.8430
30	24	1.4400	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.3680	5.6130	3.0250	8.6380
31	24	1.4400	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.3680	5.2050	3.8080	9.0130
Totals	410	24.6000	258	16.2540	335	17.0850	344	20.1240	44	2.6400	143	8.1510	191.4810	87.0606	278.5416
Static Level (ft)	34	3/25/2009	33	3/10/2009	35	3/9/2009	50	3/12/2009	45	3/2/2009	48	3/2/2009			

	50.7	67.851	50.949	67.4505	42.36	41.724
	563333.333	753900	566100	749450	470666.67	463600
	75306.7077	100781.76	75676.557	100186.89	62918.977	61974.3013

avg. WL 35.6667 avg. WL 34.667 avg. WL 33.333 avg. WL 51.6667 avg. WL 46 avg. WL 47

2009	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
January	0.0000	0.0000	31.0050	36.2610	16.3200	9.1290	24.3600	16.5000
February	0.0000	10.3695	25.3350	33.7620	12.9540	13.5660	20.8200	9.6000
March	0.0000	19.6230	5.0400	30.1410	14.0250	15.1980	18.6000	24.6000
1st Quarter	0.0000	29.9925	61.3800	100.1640	43.2990	37.8930	63.7800	50.7000
	1016 gpm	1040 gpm	1056 gpm	1089 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm

2009.0	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir		
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped		
January	29.5470	19.9410	33.3450	21.1800	22.3440	259.9320	63.6652	323.5972	259.932
February	22.0500	13.9230	13.9815	18.5400	11.2290	206.1300	89.9491	296.0791	206.13
March	16.2540	17.0850	20.1240	2.6400	8.1510	191.4810	87.0606	278.5416	191.481
1st Quarter	67.8510	50.9490	67.4505	42.3600	41.7240	657.5430	240.6749		
	1500 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm	914.5 MgpMo	217 MgpMo		

800 ft. Sands Aquifer		Diversion	Used	Remaining
Well #'s	14A, 25 & 27	232.5	161.544	70.956
Cohansey Aquifer		Diversion		
Well #'s	3,9,12,16-24	1860	495.999	1364.001
		Diversion		
	Reservoir	2743.5	240.6749	2502.8251
Quarterly Diversion		4836	898.2179	3937.7821

April 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
2	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
3	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
4	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	12	0.7200
5	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
6	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	4	0.2040	24	1.4400
7	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	24	1.4400
8	0	0.0000	0	0.0000	0	0.0000	8	0.4080	0	0.0000	0	0.0000	9	0.5400
9	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000
10	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
11	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
12	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
13	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	4	0.2040	0	0.0000
14	0	0.0000	0	0.0000	10	0.4500	10	0.5100	24	1.2240	4	0.2040	0	0.0000
15	0	0.0000	0	0.0000	8	0.3600	3	0.1530	24	1.2240	8	0.4080	0	0.0000
16	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	0	0.0000	0	0.0000
17	0	0.0000	0	0.0000	0	0.0000	24	1.2240	11	0.5610	0	0.0000	0	0.0000
18	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	11	0.6600
19	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	7	0.4200
20	0	0.0000	0	0.0000	0	0.0000	21	1.0710	0	0.0000	0	0.0000	24	1.4400
21	0	0.0000	0	0.0000	3	0.1350	0	0.0000	0	0.0000	0	0.0000	24	1.4400
22	0	0.0000	0	0.0000	13	0.5850	0	0.0000	11	0.5610	0	0.0000	7	0.4200
23	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000
24	0	0.0000	0	0.0000	0	0.0000	0	0.0000	10	0.5100	0	0.0000	3	0.1800
25	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
26	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
27	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	4	0.2400
28	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	9	0.5400
29	0	0.0000	0	0.0000	2	0.0900	0	0.0000	0	0.0000	0	0.0000	7	0.4200
30	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Totals	0	0.0000	0	0.0000	36	1.6200	402	20.5020	152	7.7520	68	3.4680	237	14.2200
Static Level (ft)	0	4/16/2009	0	4/14/2009	153	4/16/2009	128	4/16/2009	33	4/7/2009	32	4/8/2009	29	4/14/2009

April 2009	19 Well Hours Run	MG Pumped 60000 gal/hr	20 Well Hours Run	MG Pumped 63000 gal/hr	21 Well Hours Run	MG Pumped 51000 gal/hr	22 Well Hours Run	MG Pumped 58500 gal/hr	23 Well Hours Run	MG Pumped 60000 gal/hr	24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage	NJ American Pumpage	Pump Station Flow
1	11	0.6600	0	0.0000	1	0.0510	2	0.1170	23	1.3800	12	0.6840	4.1160	4.0867	8.2027	1.2447	6.9580
2	0	0.0000	0	0.0000	24	1.2240	24	1.4040	23	1.3800	0	0.0000	5.2320	4.6897	9.9217	0.8647	9.0570
3	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	3.8520	4.8760	8.7280	1.2290	7.4990
4	4	0.2400	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.0360	5.6871	11.7231	1.2051	10.5180
5	7	0.4200	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.9360	4.6907	11.6267	1.2297	10.3970
6	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	5.4960	4.6374	10.1334	1.2544	8.8790
7	0	0.0000	0	0.0000	24	1.2240	24	1.4040	0	0.0000	0	0.0000	5.2920	5.7420	11.0340	1.2290	9.8050
8	0	0.0000	4	0.2520	24	1.2240	24	1.4040	0	0.0000	2	0.1140	3.9420	5.4010	9.3430	1.2290	8.1140
9	0	0.0000	23	1.4490	24	1.2240	24	1.4040	10	0.6000	24	1.3680	6.0450	5.2240	11.2690	1.2320	10.0370
10	0	0.0000	2	0.1260	12	0.6120	24	1.4040	24	1.4400	7	0.3990	5.2050	5.5374	10.7424	1.2334	9.5090
11	0	0.0000	24	1.5120	0	0.0000	24	1.4040	24	1.4400	0	0.0000	5.5800	6.4012	11.9812	1.2342	10.7470
12	0	0.0000	14	0.8820	8	0.4680	24	1.4040	24	1.4400	0	0.0000	5.3580	6.2984	11.6564	1.2334	10.4230
13	0	0.0000	0	0.0000	0	0.0000	24	1.4040	12	0.7200	0	0.0000	4.7760	5.8552	10.6312	1.2222	9.4090
14	0	0.0000	0	0.0000	0	0.0000	24	1.4040	14	0.8400	0	0.0000	4.6320	6.7936	11.4256	1.2596	10.1660
15	0	0.0000	0	0.0000	0	0.0000	22	1.2870	3	0.1800	1	0.0570	3.6690	6.5362	10.2052	1.2342	8.9710
16	0	0.0000	3	0.1890	2	0.1020	24	1.4040	0	0.0000	19	1.0830	5.2260	6.1698	11.3958	1.4818	9.9140
17	0	0.0000	4	0.2520	1	0.0510	24	1.4040	0	0.0000	0	0.0000	3.4920	7.5075	10.9995	1.2275	9.7720
18	0	0.0000	12	0.7560	24	1.2240	24	1.4040	4	0.2400	0	0.0000	5.5080	6.3053	11.8133	1.2013	10.6120
19	0	0.0000	7	0.4410	24	1.2240	11	0.6435	24	1.4400	0	0.0000	5.3925	6.5274	11.9199	1.1489	10.7710
20	0	0.0000	0	0.0000	13	0.6630	0	0.0000	14	0.8400	0	0.0000	4.0140	5.8984	9.9124	1.0824	8.8300
21	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.4400	0	0.0000	4.2390	5.3914	9.6304	0.5914	9.0390
22	0	0.0000	2	0.1260	24	1.2240	5	0.2925	7	0.4200	0	0.0000	3.6285	4.5419	8.1704	0.5694	7.6010
23	0	0.0000	24	1.5120	24	1.2240	24	1.4040	9	0.5400	0	0.0000	5.9040	4.8516	10.7556	1.2476	9.5080
24	0	0.0000	24	1.5120	24	1.2240	24	1.4040	4	0.2400	0	0.0000	5.0700	4.9632	10.0332	1.2572	8.7760
25	2	0.1200	24	1.5120	24	1.2240	24	1.4040	3	0.1800	0	0.0000	5.8800	6.2013	12.0813	1.2613	10.8200
26	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	8.4600	4.3200	12.7800	1.2340	11.5460
27	5	0.3000	11	0.6930	24	1.2240	24	1.4040	24	1.4400	0	0.0000	5.3010	6.4983	11.7993	1.2813	10.5180
28	0	0.0000	11	0.6930	24	1.2240	24	1.4040	24	1.4400	0	0.0000	5.3010	5.8229	11.1239	1.2829	9.8410
29	0	0.0000	24	1.5120	24	1.2240	8	0.4680	5	0.3000	0	0.0000	4.0140	5.5867	9.6007	1.2527	8.3480
30	0	0.0000	24	1.5120	9	0.4590	5	0.2925	15	0.9000	0	0.0000	3.1635	7.4598	10.6233	1.2653	9.3580
Totals	53	3.1800	261	16.4430	502	25.6020	581	33.9885	338	20.2800	65	3.7050	150.7605	170.5021	321.2626	35.5196	285.7430
Static Level (ft)	35	4/9/2009	34	4/9/2009	33	4/17/2009	47	4/21/2009	34	4/17/2009	43	4/8/2009					

May 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000
2	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	2	0.1200
3	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.4400
4	0	0.0000	0	0.0000	0	0.0000	0	0.0000	9	0.4590	0	0.0000	24	1.4400
5	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
6	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
7	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
8	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	6	0.3600
9	0	0.0000	9	0.4185	0	0.0000	0	0.0000	2	0.1020	7	0.3570	0	0.0000
10	0	0.0000	14	0.6510	21	0.9450	7	0.3570	16	0.8160	24	1.2240	0	0.0000
11	0	0.0000	4	0.1860	2	0.0900	24	1.2240	24	1.2240	24	1.2240	0	0.0000
12	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	0	0.0000
13	0	0.0000	0	0.0000	0	0.0000	13	0.6630	24	1.2240	11	0.5610	0	0.0000
14	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	1	0.0600
15	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	0	0.0000	23	1.0350	0	0.0000	18	0.9180	24	1.2240	24	1.4400
18	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	3	0.1530	24	1.4400
19	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	0	0.0000	24	1.4400
20	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	0	0.0000	24	1.4400
21	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	0	0.0000	24	1.4400
22	0	0.0000	0	0.0000	24	1.0800	0	0.0000	11	0.5610	14	0.7140	24	1.4400
23	0	0.0000	0	0.0000	7	0.3150	17	0.8670	0	0.0000	11	0.5610	10	0.6000
24	0	0.0000	0	0.0000	11	0.4950	5	0.2550	19	0.9690	24	1.2240	24	1.4400
25	0	0.0000	0	0.0000	24	1.0800	22	1.1220	24	1.2240	24	1.2240	24	1.4400
26	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	10	0.6000
27	0	0.0000	0	0.0000	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
28	0	0.0000	0	0.0000	8	0.3600	24	1.2240	24	1.2240	24	1.2240	24	1.4400
29	0	0.0000	4	0.1860	11	0.4950	12	0.6120	24	1.2240	24	1.2240	24	1.4400
30	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
31	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
Totals	0	0.0000	31	1.4415	323	14.5350	196	9.9960	555	28.3050	406	20.7060	509	30.5400
Static Level (ft)	0	5/12/2009	0	5/15/2009	165	5/29/2009	123	5/21/2009	30	5/12/2009	32	5/12/2009	42	5/12/2009

May 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage	NJ American Pumpage	Pump Station Flow
1	0	0.0000	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	4.1760	5.2490	9.4250	1.2490	8.1760
2	0	0.0000	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	4.2960	7.3784	11.6744	1.2764	10.3980
3	0	0.0000	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	5.6160	5.7600	11.3760	1.2340	10.1420
4	0	0.0000	12	0.7560	0	0.0000	0	0.0000	24	1.4400	0	0.0000	4.0950	5.7400	9.8350	1.2760	8.5590
5	0	0.0000	10	0.6300	0	0.0000	0	0.0000	24	1.4400	0	0.0000	3.5100	6.9484	10.4584	1.2715	9.1869
6	0	0.0000	24	1.5120	0	0.0000	0	0.0000	11	0.6600	0	0.0000	3.6120	5.8417	9.4537	1.2607	8.1930
7	5	0.3000	24	1.5120	0	0.0000	0	0.0000	0	0.0000	0	0.0000	3.2520	7.1115	10.3635	1.2025	9.1610
8	24	1.4400	24	1.5120	0	0.0000	0	0.0000	1	0.0600	0	0.0000	3.3720	6.5520	9.9240	0.9118	9.0122
9	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	5.2695	6.9743	12.2438	1.1878	11.0560
10	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	8.3850	3.4954	11.8804	1.1744	10.7060
11	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	8.3400	2.8071	11.1471	1.1901	9.9570
12	24	1.4400	24	1.5120	0	0.0000	0	0.0000	24	1.4400	0	0.0000	8.0640	3.1122	11.1762	1.2252	9.9510
13	24	1.4400	9	0.5670	0	0.0000	0	0.0000	24	1.4400	0	0.0000	5.8950	4.3758	10.2708	1.1998	9.0710
14	24	1.4400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	0	0.0000	5.3880	5.4816	10.8696	0.9096	9.9600
15	24	1.4400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	0	0.0000	6.7680	4.2069	10.9749	1.1789	9.7960
16	24	1.4400	3	0.1890	0	0.0000	0	0.0000	24	1.4400	0	0.0000	6.9570	5.4100	12.3670	1.2140	11.1530
17	24	1.4400	24	1.5120	0	0.0000	0	0.0000	7	0.4200	0	0.0000	7.9890	4.6297	12.6187	1.2197	11.3990
18	24	1.4400	5	0.3150	0	0.0000	0	0.0000	4	0.2400	0	0.0000	5.8920	4.8643	10.7563	1.2513	9.5050
19	20	1.2000	0	0.0000	0	0.0000	0	0.0000	24	1.4400	0	0.0000	6.3840	4.6582	11.0422	1.0922	9.9500
20	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400	0	0.0000	5.1840	5.4903	10.6743	1.2013	9.4730
21	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400	0	0.0000	5.1840	5.9696	11.1536	1.1646	9.9890
22	0	0.0000	0	0.0000	0	0.0000	18	1.0530	24	1.4400	5	0.2850	6.5730	5.1708	11.7438	1.1908	10.5530
23	0	0.0000	3	0.1890	21	1.0710	24	1.4040	15	0.9000	24	1.3680	7.2750	5.7003	12.9753	1.1893	11.7860
24	0	0.0000	24	1.5120	24	1.2240	10	0.5850	24	1.4400	24	1.3680	10.5120	2.6652	13.1772	1.2402	11.9370
25	0	0.0000	24	1.5120	24	1.2240	20	1.1700	24	1.4400	24	1.3680	12.8040	1.3737	14.1777	1.1407	13.0370
26	13	0.7800	24	1.5120	11	0.5610	24	1.4040	5	0.3000	0	0.0000	9.9090	1.2525	11.1615	1.2155	9.9460
27	24	1.4400	24	1.5120	0	0.0000	7	0.4095	0	0.0000	0	0.0000	9.5535	1.2126	10.7661	1.1901	9.5760
28	24	1.4400	24	1.5120	11	0.5610	0	0.0000	0	0.0000	16	0.9120	9.8970	0.7688	10.6658	1.1908	9.4750
29	24	1.4400	24	1.5120	24	1.2240	1	0.0585	0	0.0000	24	1.3680	10.7835	0.9173	11.7008	1.1788	10.5220
30	24	1.4400	24	1.5120	14	0.7140	24	1.4040	0	0.0000	24	1.3680	11.4060	0.6936	12.0996	1.1676	10.9320
31	24	1.4400	24	1.5120	24	1.2240	24	1.4040	23	1.3800	24	1.3680	13.2960	-0.1767	13.1193	1.1923	11.9270
Totals	422	25.3200	498	31.3740	153	7.8030	152	8.8920	522	31.3200	165	9.4050	219.6375	131.6345	351.2720	36.7869	314.4851
Static Level (ft)	32	5/21/2009	37	5/19/2009	30	5/27/2009	38	5/18/2009	33	5/27/2009	39	5/12/2009					

June 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	10	0.5100	24	1.4400
2	0	0.0000	0	0.0000	24	1.0800	0	0.0000	3	0.1530	5	0.2550	3	0.1800
3	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	19	0.9690	12	0.7200
4	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	14	0.7140	3	0.1800
5	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	15	0.7650	4	0.2400
6	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	5	0.2550	20	1.2000
7	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	24	1.2240	24	1.4400
8	0	0.0000	17	0.7905	24	1.0800	17	0.8670	12	0.6120	24	1.2240	24	1.4400
9	0	0.0000	10	0.4650	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	24	1.0800	10	0.5100	12	0.6120	18	0.9180	24	1.4400
11	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	7	0.3570	15	0.9000
12	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	5	0.2550	10	0.6000
13	0	0.0000	0	0.0000	24	1.0800	0	0.0000	3	0.1530	24	1.2240	24	1.4400
14	0	0.0000	0	0.0000	24	1.0800	0	0.0000	11	0.5610	9	0.4590	4	0.2400
15	0	0.0000	0	0.0000	8	0.3600	0	0.0000	6	0.3060	18	0.9180	24	1.4400
16	0	0.0000	0	0.0000	8	0.3600	0	0.0000	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	0	0.0000	24	1.0800	2	0.1020	12	0.6120	24	1.2240	15	0.9000
18	0	0.0000	0	0.0000	24	1.0800	5	0.2550	24	1.2240	24	1.2240	10	0.6000
19	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	15	0.9000
20	0	0.0000	0	0.0000	24	1.0800	0	0.0000	11	0.5610	24	1.2240	13	0.7800
21	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	24	1.2240	9	0.5400
22	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	11	0.5610	0	0.0000
23	0	0.0000	0	0.0000	24	1.0800	0	0.0000	0	0.0000	24	1.2240	4	0.2400
24	0	0.0000	10	0.4650	24	1.0800	6	0.3060	10	0.5100	24	1.2240	24	1.4400
25	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
26	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	11	0.6600
27	0	0.0000	24	1.1160	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
28	0	0.0000	9	0.4185	24	1.0800	0	0.0000	24	1.2240	11	0.5610	24	1.4400
29	0	0.0000	12	0.5580	16	0.7200	8	0.4080	19	0.9690	12	0.6120	24	1.4400
30	0	0.0000	6	0.2790	0	0.0000	24	1.2240	24	1.2240	24	1.2240	12	0.7200
Totals	0	0.0000	136	6.3240	656	29.5200	96	4.8960	339	17.2890	543	27.6930	472	28.3200
Static Level (ft)	0	6/11/2009	0	6/16/2009	142	6/30/2009	128	6/22/2009	65	6/11/2009	41	6/12/2009	54	6/18/2009

Total Qtr.	53.346	Total Qtr	51.867	Total Qtr.	73.08
Avg. gpd	586219.78	Avg. gpd	569967.033	Avg. gpd	803076.9231
ft3/day	78366.18	ft3/day	76193.5043	ft3/day	107355.7618

avg. WL 42.6667 avg. WL 35 avg. WL 41.6666667

June 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage	NJ American Pumpage	Pump Station Flow
1	24	1.4400	7	0.4410	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.5710	0.2370	11.8080	1.2050	10.6030
2	20	1.2000	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.3040	2.5550	10.8590	1.2170	9.6420
3	7	0.4200	0	0.0000	24	1.2240	24	1.4040	24	1.4400	24	1.3680	8.6250	2.8611	11.4861	1.1931	10.2930
4	1	0.0600	0	0.0000	24	1.2240	24	1.4040	24	1.4400	13	0.7410	6.8430	3.6585	10.5015	1.1295	9.3720
5	24	1.4400	3	0.1890	24	1.2240	24	1.4040	24	1.4400	0	0.0000	7.7820	3.3609	11.1429	1.2539	9.8890
6	24	1.4400	24	1.5120	24	1.2240	24	1.4040	18	1.0800	1	0.0570	9.2520	3.3693	12.6213	1.1833	11.4380
7	24	1.4400	24	1.5120	24	1.2240	24	1.4040	9	0.5400	6	0.3420	10.2060	3.0506	13.2566	1.1676	12.0890
8	16	0.9600	11	0.6930	11	0.5610	11	0.6435	7	0.4200	0	0.0000	9.2910	2.1171	11.4081	1.1931	10.2150
9	7	0.4200	4	0.2520	0	0.0000	0	0.0000	6	0.3600	0	0.0000	7.6890	3.8507	11.5397	1.2297	10.3100
10	24	1.4400	1	0.0630	14	0.7140	12	0.7020	7	0.4200	0	0.0000	7.8990	3.4173	11.3163	1.1803	10.1360
11	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	5	0.2850	8.2020	3.3181	11.5201	1.1931	10.3270
12	14	0.8400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	8.2830	3.5636	11.8466	1.1946	10.6520
13	24	1.4400	24	1.5120	17	0.8670	15	0.8775	1	0.0600	24	1.3680	10.0215	2.9643	12.9858	1.1938	11.7920
14	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.7280	2.4519	13.1799	1.1699	12.0100
15	24	1.4400	4	0.2520	7	0.3570	24	1.4040	14	0.8400	24	1.3680	8.6850	3.1508	11.8358	1.2118	10.6240
16	10	0.6000	3	0.1890	0	0.0000	24	1.4040	7	0.4200	24	1.3680	8.2290	3.3380	11.5670	1.2140	10.3530
17	24	1.4400	24	1.5120	9	0.4590	4	0.2340	0	0.0000	12	0.6840	8.2470	2.9138	11.1608	1.1818	9.9790
18	24	1.4400	24	1.5120	14	0.7140	2	0.1170	0	0.0000	4	0.2280	8.3940	3.6863	12.0803	1.1953	10.8850
19	24	1.4400	24	1.5120	0	0.0000	9	0.5265	13	0.7800	1	0.0570	8.7435	3.6718	12.4153	1.1953	11.2200
20	24	1.4400	24	1.5120	4	0.2040	24	1.4040	24	1.4400	24	1.3680	11.0130	2.5776	13.5906	1.1826	12.4080
21	24	1.4400	24	1.5120	18	0.9180	24	1.4040	24	1.4400	19	1.0830	10.6410	2.7036	13.3446	0.9896	12.3550
22	24	1.4400	24	1.5120	9	0.4590	24	1.4040	24	1.4400	24	1.3680	9.2640	3.0326	12.2966	1.1826	11.1140
23	24	1.4400	24	1.5120	24	1.2240	24	1.4040	9	0.5400	6	0.3420	9.0060	3.4667	12.4727	1.2327	11.2400
24	24	1.4400	18	1.1340	14	0.7140	14	0.8190	17	1.0200	0	0.0000	10.1520	2.3860	12.5380	1.1960	11.3420
25	12	0.7200	13	0.8190	3	0.1530	16	0.9360	24	1.4400	0	0.0000	10.1520	3.6993	13.8513	1.1953	12.6560
26	1	0.0600	24	1.5120	24	1.2240	24	1.4040	7	0.4200	0	0.0000	9.9240	3.3498	13.2738	1.1968	12.0770
27	10	0.6000	24	1.5120	24	1.2240	24	1.4040	11	0.6600	0	0.0000	11.4840	2.5528	14.0368	1.2088	12.8280
28	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	11.7435	1.5861	13.3296	1.1586	12.1710
29	12	0.7200	24	1.5120	12	0.6120	24	1.4040	24	1.4400	12	0.6840	11.0790	2.8470	13.9260	1.2080	12.7180
30	0	0.0000	24	1.5120	3	0.1530	24	1.4040	24	1.4400	24	1.3680	10.5480	3.0945	13.6425	1.2095	12.4330
Totals	542	32.5200	496	31.2480	471	24.0210	587	34.3395	438	26.2800	343	19.5510	282.0015	88.8321	370.8336	35.6626	335.1710
Static Level (ft)	43	6/30/2009	47	6/16/2009	37	6/30/2009	51	6/18/2009	38	6/12/2009	65	6/11/2009					

Total Qtr.	61.02	Total Qtr	79.065	Total Qtr	57.426	Total Qtr.	77.22	Total Qtr.	77.88	Total Qtr	32.661	
Avg. gpd	670549.451	Avg. gpd	868846.15	Avg. gpd	631054.95	Avg. gpd	848571.43	Avg. gpd	855824.18	Avg. gpd	358912.088	
ft3/day	89639.4169	ft3/day	116147.83	ft3/day	84359.77	ft3/day	113437.49	ft3/day	114407.04	ft3/day	47979.564	

avg. WL 36.6667 avg. WL 39.333 avg. WL 33.333 avg. WL 45.3333 avg. WL 35 avg. WL 49

2009	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
April	0.0000	0.0000	1.6200	20.5020	7.7520	3.4680	14.2200	3.1800
May	0.0000	1.4415	14.5350	9.9960	28.3050	20.7060	30.5400	25.3200
June	0.0000	6.3240	29.5200	4.8960	17.2890	27.6930	28.3200	32.5200
2nd Quarter	0.0000	7.7655	45.6750	35.3940	53.3460	51.8670	73.0800	61.0200
	1016 gpm	1040 gpm	1056 gpm	1089 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm

2009.0	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir	
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped	
April	16.4430	25.6020	33.9885	20.2800	3.7050	150.7605	170.5021	321.2626
May	31.3740	7.8030	8.8920	31.3200	9.4050	219.6375	131.6345	351.2720
June	31.2480	24.0210	34.3395	26.2800	19.5510	282.0015	88.8321	370.8336
2nd Quarter	79.0650	57.4260	77.2200	77.8800	32.6610	652.3995	390.9687	

July 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	0	0.0000	0	0.0000	0	0.0000	24	1.2240	11	0.5610	24	1.2240	12	0.7200
2	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	12	0.6120	24	1.4400
3	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	18	0.9180	24	1.4400
4	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
5	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
6	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
7	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
8	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	15	0.7650	24	1.4400
9	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
10	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
11	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	16	0.8160	18	1.0800
12	0	0.0000	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
13	0	0.0000	0	0.0000	24	1.0800	9	0.4590	0	0.0000	24	1.2240	24	1.4400
14	0	0.0000	0	0.0000	24	1.0800	0	0.0000	14	0.7140	10	0.5100	24	1.4400
15	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	6	0.3060	5	0.3000
16	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	0	0.0000
17	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	14	0.8400
18	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	8	0.4800
19	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	11	0.6600
20	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	8	0.4080	24	1.4400
21	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	6	0.3600
22	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
23	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
24	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
25	0	0.0000	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
26	0	0.0000	10	0.4650	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
27	15	0.9000	7	0.3255	24	1.0800	0	0.0000	9	0.4590	24	1.2240	24	1.4400
28	24	1.4400	0	0.0000	24	1.0800	0	0.0000	0	0.0000	10	0.5100	6	0.3600
29	24	1.4400	0	0.0000	24	1.0800	0	0.0000	0	0.0000	24	1.2240	0	0.0000
30	24	1.4400	0	0.0000	24	1.0800	0	0.0000	0	0.0000	24	1.2240	0	0.0000
31	24	1.4400	0	0.0000	24	1.0800	0	0.0000	22	1.1220	24	1.2240	11	0.6600
Totals	111	6.6600	17	0.7905	456	20.5200	297	15.1470	344	17.5440	647	32.9970	547	32.8200
Static Level (ft)	0	7/21/2009	0	7/16/2009	148	7/8/2009	144	7/15/2009	59	7/7/2009	54	7/15/2009	44	7/16/2009

July 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage	NJ American Pumpage	Pump Station Flow
1	0	0.0000	24	1.5120	24	1.2240	24	1.4040	12	0.7200	24	1.3680	9.9570	4.0335	13.9905	1.4945	12.4960
2	16	0.9600	24	1.5120	24	1.2240	14	0.8190	24	1.4400	8	0.4560	9.6870	4.1622	13.8492	1.9612	11.8880
3	24	1.4400	24	1.5120	24	1.2240	24	1.4040	12	0.7200	3	0.1710	10.0530	5.0287	15.0817	1.9837	13.0980
4	24	1.4400	24	1.5120	24	1.2240	24	1.4040	19	1.1400	16	0.9120	11.5200	4.1357	15.6557	1.9627	13.6930
5	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.2760	3.1966	15.4726	1.9426	13.5300
6	24	1.4400	24	1.5120	24	1.2240	24	1.4040	14	0.8400	6	0.3420	10.6500	4.4870	15.1370	2.0360	13.1010
7	24	1.4400	24	1.5120	24	1.2240	24	1.4040	10	0.6000	0	0.0000	10.0680	4.1655	14.2335	1.9665	12.2670
8	24	1.4400	24	1.5120	24	1.2240	24	1.4040	11	0.6600	0	0.0000	9.6690	4.7427	14.4117	1.9897	12.4220
9	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	9.4680	4.3645	13.8325	1.9485	11.8840
10	24	1.4400	24	1.5120	24	1.2240	24	1.4040	1	0.0600	0	0.0000	9.5280	4.7562	14.2842	1.9702	12.3140
11	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	2	0.1140	10.2540	4.9940	15.2480	1.9710	13.2770
12	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	12.2760	2.9210	15.1970	1.9290	13.2680
13	24	1.4400	24	1.5120	24	1.2240	0	0.0000	2	0.1200	3	0.1710	8.6700	5.4242	14.0942	1.7772	12.3170
14	24	1.4400	24	1.5120	24	1.2240	14	0.8190	9	0.5400	13	0.7410	10.0200	4.0872	14.1072	1.9912	12.1160
15	8	0.4800	9	0.5670	24	1.2240	24	1.4040	4	0.2400	24	1.3680	8.1930	5.8972	14.0902	1.9702	12.1200
16	7	0.4200	2	0.1260	24	1.2240	24	1.4040	24	1.4400	24	1.3680	9.5100	5.1891	14.6991	2.0061	12.6930
17	0	0.0000	11	0.6930	24	1.2240	24	1.4040	24	1.4400	7	0.3990	9.5280	5.2530	14.7810	1.9560	12.8250
18	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	22	1.2540	10.8420	4.5351	15.3771	1.7481	13.6290
19	0	0.0000	24	1.5120	24	1.2240	24	1.4040	24	1.4400	24	1.3680	11.1360	4.6837	15.8197	1.8057	14.0140
20	4	0.2400	10	0.6300	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.4580	4.2820	14.7400	1.9590	12.7810
21	4	0.2400	0	0.0000	24	1.2240	24	1.4040	24	1.4400	7	0.3990	8.5950	5.6620	14.2570	1.9980	12.2590
22	0	0.0000	13	0.8190	11	0.5610	24	1.4040	24	1.4400	0	0.0000	9.1920	5.0691	14.2611	1.9141	12.3470
23	0	0.0000	15	0.9450	0	0.0000	24	1.4040	24	1.4400	0	0.0000	8.7570	5.3831	14.1401	1.7481	12.3920
24	11	0.6600	6	0.3780	0	0.0000	24	1.4040	24	1.4400	0	0.0000	8.8500	4.8480	13.6980	1.9770	11.7210
25	24	1.4400	24	1.5120	4	0.2040	24	1.4040	15	0.9000	2	0.1140	10.5420	5.2950	15.8370	1.9770	13.8600
26	24	1.4400	24	1.5120	13	0.6630	24	1.4040	20	1.2000	5	0.2850	11.9370	3.8076	15.7446	1.9366	13.8080
27	24	1.4400	24	1.5120	24	1.2240	24	1.4040	13	0.7800	0	0.0000	11.7885	3.6509	15.4394	1.9784	13.4610
28	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	8.9700	5.3819	14.3519	1.9859	12.3660
29	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	9.3240	5.0766	14.4006	1.2686	13.1320
30	24	1.4400	24	1.5120	24	1.2240	7	0.4095	0	0.0000	0	0.0000	8.3295	4.9249	13.2544	1.3644	11.8900
31	24	1.4400	24	1.5120	24	1.2240	0	0.0000	0	0.0000	0	0.0000	9.7020	5.1348	14.8368	2.4138	12.4230
Totals	506	30.3600	618	38.9340	652	33.2520	659	38.5515	454	27.2400	262	14.9340	309.7500	144.5730	454.3230	58.9310	395.3920
Static Level (ft)	58	7/22/2009	51	7/16/2009	34	7/23/2009	55	7/14/2009	40	7/15/2009	60	7/7/2009					

August 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	24	1.4400	0	0.0000	24	1.0800	0	0.0000	24	1.2240	24	1.2240	24	1.4400
2	24	1.4400	0	0.0000	24	1.0800	0	0.0000	10	0.5100	11	0.5610	24	1.4400
3	24	1.4400	0	0.0000	24	1.0800	0	0.0000	0	0.0000	0	0.0000	9	0.5400
4	24	1.4400	0	0.0000	15	0.6750	9	0.4590	0	0.0000	0	0.0000	0	0.0000
5	24	1.4400	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
6	24	1.4400	0	0.0000	0	0.0000	24	1.2240	0	0.0000	0	0.0000	0	0.0000
7	24	1.4400	0	0.0000	0	0.0000	24	1.2240	0	0.0000	4	0.2040	0	0.0000
8	24	1.4400	0	0.0000	0	0.0000	24	1.2240	5	0.2550	24	1.2240	2	0.1200
9	24	1.4400	0	0.0000	0	0.0000	24	1.2240	12	0.6120	24	1.2240	24	1.4400
10	24	1.4400	0	0.0000	0	0.0000	24	1.2240	24	1.2240	6	0.3060	11	0.6600
11	24	1.4400	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
12	24	1.4400	0	0.0000	0	0.0000	24	1.2240	6	0.3060	24	1.2240	24	1.4400
13	24	1.4400	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
14	24	1.4400	0	0.0000	0	0.0000	24	1.2240	0	0.0000	24	1.2240	24	1.4400
15	24	1.4400	0	0.0000	0	0.0000	24	1.2240	2	0.1020	24	1.2240	24	1.4400
16	24	1.4400	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
17	24	1.4400	0	0.0000	0	0.0000	24	1.2240	24	1.2240	9	0.4590	24	1.4400
18	24	1.4400	0	0.0000	0	0.0000	24	1.2240	15	0.7650	24	1.2240	24	1.4400
19	24	1.4400	4	0.1860	0	0.0000	24	1.2240	7	0.3570	24	1.2240	24	1.4400
20	11	0.6600	5	0.2325	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
21	12	0.7200	21	0.9765	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
22	24	1.4400	4	0.1860	0	0.0000	24	1.2240	24	1.2240	24	1.2240	24	1.4400
23	24	1.4400	14	0.6510	0	0.0000	17	0.8670	24	1.2240	24	1.2240	24	1.4400
24	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
25	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	10	0.5100	13	0.7800
26	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
27	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	7	0.3570	24	1.4400
28	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	2	0.1020	24	1.4400
29	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
30	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
31	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	7	0.3570	24	1.4400
Totals	719	43.1400	240	11.1600	87	3.9150	458	23.3580	465	23.7150	512	26.1120	587	35.2200
Static Level (ft)	30	8/24/2009	0	8/5/2009	155	8/5/2009	139	8/4/2009	43	8/4/2009	33	8/4/2009	41	8/4/2009

August 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage	NJ American Pumpage	Pump Station Flow
1	24	1.4400	24	1.5120	24	1.2240	1	0.0585	0	0.0000	0	0.0000	10.6425	4.8590	15.5015	1.9785	13.5230
2	24	1.4400	24	1.5120	24	1.2240	13	0.7605	24	1.4400	4	0.2280	11.6355	3.5778	15.2133	1.9163	13.2970
3	24	1.4400	7	0.4410	24	1.2240	3	0.1755	13	0.7800	24	1.3680	8.4885	5.8272	14.3157	1.7787	12.5370
4	24	1.4400	22	1.3860	24	1.2240	24	1.4040	0	0.0000	24	1.3680	9.3960	4.1249	13.5209	1.8079	11.7130
5	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	9.6120	5.1712	14.7832	1.9792	12.8040
6	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	24	1.3680	9.6120	4.6200	14.2320	1.9770	12.2550
7	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	7	0.3990	8.8470	4.9315	13.7785	1.9785	11.8000
8	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	9.8430	5.5007	15.3437	1.9777	13.3660
9	24	1.4400	24	1.5120	10	0.5100	9	0.5265	9	0.5400	6	0.3420	10.8105	4.0353	14.8458	1.9178	12.9280
10	24	1.4400	6	0.3780	0	0.0000	0	0.0000	14	0.8400	24	1.3680	8.8800	5.8906	14.7706	2.0226	12.7480
11	24	1.4400	19	1.1970	0	0.0000	0	0.0000	19	1.1400	24	1.3680	11.6970	3.5679	15.2649	2.0039	13.2610
12	24	1.4400	24	1.5120	0	0.0000	0	0.0000	11	0.6600	24	1.3680	10.6140	4.4092	15.0232	1.9822	13.0410
13	24	1.4400	24	1.5120	0	0.0000	0	0.0000	23	1.3800	13	0.7410	10.4010	4.2034	14.6044	1.9814	12.6230
14	24	1.4400	24	1.5120	1	0.0510	24	1.4040	12	0.7200	0	0.0000	10.4550	4.2922	14.7472	1.9822	12.7650
15	24	1.4400	24	1.5120	24	1.2240	12	0.7020	0	0.0000	0	0.0000	10.3080	4.7552	15.0632	1.9822	13.0810
16	24	1.4400	24	1.5120	24	1.2240	24	1.4040	7	0.4200	0	0.0000	12.5520	3.2409	15.7929	1.9209	13.8720
17	24	1.4400	24	1.5120	24	1.2240	24	1.4040	6	0.3600	7	0.3990	12.1260	3.3885	15.5145	2.3105	13.2040
18	24	1.4400	24	1.5120	24	1.2240	14	0.8190	6	0.0000	24	1.3680	12.4560	3.3865	15.8425	2.5305	13.3120
19	24	1.4400	14	0.8820	12	0.6120	0	0.0000	23	1.3800	24	1.3680	11.5530	4.2402	15.7932	2.4212	13.3720
20	24	1.4400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	24	1.3680	10.2525	4.8608	15.1133	1.7443	13.3690
21	24	1.4400	0	0.0000	0	0.0000	0	0.0000	24	1.4400	23	1.3110	10.9995	3.7323	14.7318	1.1938	13.5380
22	24	1.4400	3	0.1890	0	0.0000	0	0.0000	24	1.4400	0	0.0000	9.8070	5.4895	15.2965	1.2065	14.0900
23	14	0.8400	24	1.5120	7	0.3570	0	0.0000	13	0.7800	0	0.0000	10.3350	4.4686	14.8036	1.1676	13.6360
24	0	0.0000	24	1.5120	24	1.2240	0	0.0000	24	1.4400	0	0.0000	10.6200	3.9955	14.6155	1.2185	13.3970
25	0	0.0000	6	0.3780	24	1.2240	0	0.0000	24	1.4400	0	0.0000	8.1120	5.7782	13.8902	1.2312	12.6590
26	0	0.0000	16	1.0080	24	1.2240	0	0.0000	24	1.4400	0	0.0000	10.1160	4.3416	14.4576	1.1796	13.2780
27	0	0.0000	24	1.5120	24	1.2240	0	0.0000	11	0.6600	21	1.1970	10.1700	4.2962	14.4662	1.2312	13.2350
28	0	0.0000	24	1.5120	14	0.7140	0	0.0000	0	0.0000	24	1.3680	8.9160	4.8143	13.7303	1.1923	12.5380
29	0	0.0000	24	1.5120	0	0.0000	0	0.0000	0	0.0000	24	1.3680	9.3240	4.9160	14.2400	1.2050	13.0350
30	3	0.1800	21	1.3230	0	0.0000	0	0.0000	6	0.3600	7	0.3990	8.7060	5.3643	14.0703	1.1683	12.9020
31	24	1.4400	12	0.7560	0	0.0000	0	0.0000	13	0.7800	0	0.0000	8.5530	4.4142	12.9672	1.2042	11.7630
Totals	569	34.1400	582	36.6660	428	21.8280	244	14.2740	348	20.8800	376	21.4320	315.8400	140.4937	456.3337	53.3917	402.9420
Static Level (ft)	45	8/24/2009	55	8/20/2009	33	8/20/2009	60	8/19/2009	40	8/5/2009	75	8/24/2009					

Sept. 2009	# 3 Well Hours Run	MG Pumped 60000 gal/hr	# 12 Well Hours Run	MG Pumped 46500 gal/hr	# 14 Well Hours Run	MG Pumped 45000 gal/hr	# 25 Well Hours Run	MG Pumped 51000 gal/hr	# 16 Well Hours Run	MG Pumped 51000 gal/hr	# 17 Well Hours Run	MG Pumped 51000 gal/hr	# 18 Well Hours Run	MG Pumped 60000 gal/hr
1	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	2	0.1020	24	1.4400
2	24	1.4400	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
3	24	1.4400	24	1.1160	0	0.0000	0	0.0000	6	0.3060	7	0.3570	24	1.4400
4	24	1.4400	24	1.1160	0	0.0000	0	0.0000	0	0.0000	0	0.0000	24	1.4400
5	24	1.4400	24	1.1160	0	0.0000	0	0.0000	0	0.0000	11	0.5610	24	1.4400
6	10	0.6000	24	1.1160	0	0.0000	0	0.0000	0	0.0000	24	1.2240	24	1.4400
7	0	0.0000	24	1.1160	0	0.0000	0	0.0000	0	0.0000	10	0.5100	24	1.4400
8	0	0.0000	24	1.1160	0	0.0000	0	0.0000	0	0.0000	6	0.3060	7	0.4200
9	0	0.0000	24	1.1160	0	0.0000	0	0.0000	0	0.0000	2	0.1020	0	0.0000
10	0	0.0000	24	1.1160	0	0.0000	0	0.0000	0	0.0000	19	0.9690	0	0.0000
11	0	0.0000	24	1.1160	0	0.0000	0	0.0000	12	0.6120	2	0.1020	0	0.0000
12	0	0.0000	24	1.1160	0	0.0000	0	0.0000	8	0.4080	10	0.5100	12	0.7200
13	0	0.0000	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
14	0	0.0000	24	1.1160	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
15	0	0.0000	21	0.9765	0	0.0000	0	0.0000	24	1.2240	24	1.2240	24	1.4400
16	0	0.0000	24	1.1160	17	0.7650	16	0.8160	24	1.2240	24	1.2240	24	1.4400
17	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
18	0	0.0000	15	0.6975	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
19	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
20	0	0.0000	24	1.1160	24	1.0800	24	1.2240	24	1.2240	24	1.2240	24	1.4400
21	0	0.0000	24	1.1160	11	0.4950	24	1.2240	3	0.1530	7	0.3570	17	1.0200
22		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
23		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
24		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
25		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
26		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
27		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
28		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
29		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
30		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
Totals	130	7.8000	492	22.8780	124	5.5800	136	6.9360	269	13.7190	316	16.1160	396	23.7600

Total Qtr	41.259	Total Qtr	59.109	Total Qtr	68.04
Avg. gpd	665467.74	Avg. gpd	953370.968	Avg. gpd	1097419.355
ft3/day	88960.091	ft3/day	127447.152	ft3/day	146703.6188

avg. WL 51 avg. WL 43.5 avg. WL 42.5

Sept. 2009	# 19 Well Hours Run	MG Pumped 60000 gal/hr	# 20 Well Hours Run	MG Pumped 63000 gal/hr	# 21 Well Hours Run	MG Pumped 51000 gal/hr	# 22 Well Hours Run	MG Pumped 58500 gal/hr	# 23 Well Hours Run	MG Pumped 60000 gal/hr	# 24 Well Hours Run	MG Pumped 57000 gal/hr	Daily Totals MG	Reservoir MG Pumped	Daily Pumpage	NJ American Pumpage	Pump Station Flow
1	24	1.4400	9	0.5670	0	0.0000	0	0.0000	6	0.3600	0	0.0000	7.6890	4.8272	12.5162	11.3000	1.2162
2	24	1.4400	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0	0.0000	7.8840	4.4317	12.3157	11.1130	1.2027
3	24	1.4400	3	0.1890	0	0.0000	13	0.7605	0	0.0000	0	0.0000	7.0485	5.0840	12.1325	10.9410	1.1915
4	24	1.4400	24	1.5120	0	0.0000	24	1.4040	2	0.1200	0	0.0000	8.4720	4.7817	13.2537	12.0240	1.2297
5	24	1.4400	24	1.5120	2	0.1020	24	1.4040	0	0.0000	0	0.0000	9.0150	5.5645	14.5795	13.3610	1.2185
6	24	1.4400	24	1.5120	10	0.5100	24	1.4040	24	1.4400	14	0.7980	11.4840	3.1969	14.6809	13.5530	1.1279
7	24	1.4400	24	1.5120	24	1.2240	24	1.4040	14	0.8400	0	0.0000	9.4860	4.6722	14.1582	12.9420	1.2162
8	24	1.4400	24	1.5120	24	1.2240	24	1.4040	9	0.5400	0	0.0000	7.9620	4.6345	12.5965	11.4050	1.1915
9	24	1.4400	24	1.5120	24	1.2240	24	1.4040	0	0.0000	0	0.0000	6.7980	5.2762	12.0742	10.3300	1.7442
10	24	1.4400	20	1.2600	24	1.2240	24	1.4040	21	1.2600	0	0.0000	8.6730	3.9757	12.6487	10.6860	1.9627
11	3	0.1800	0	0.0000	24	1.2240	24	1.4040	24	1.4400	14	0.7980	6.8760	5.3800	12.2560	10.0800	2.1760
12	19	1.1400	20	1.2600	24	1.2240	24	1.4040	24	1.4400	24	1.3680	10.5900	3.1150	13.7050	11.1850	2.5200
13	24	1.4400	24	1.5120	24	1.2240	24	1.4040	14	0.8400	11	0.6270	12.0510	2.2628	14.3138	11.9360	2.3778
14	24	1.4400	24	1.5120	24	1.2240	12	0.7020	0	0.0000	0	0.0000	9.8820	3.8197	13.7017	11.0890	2.6127
15	7	0.4200	24	1.5120	24	1.2240	4	0.2340	3	0.1800	0	0.0000	8.4345	3.7896	12.2241	9.7610	2.4631
16	24	1.4400	24	1.5120	24	1.2240	24	1.4040	18	1.0800	0	0.0000	13.2450	-0.2253	13.0197	10.5020	2.5177
17	24	1.4400	24	1.5120	24	1.2240	24	1.4040	12	0.7200	0	0.0000	13.6080	0.0909	13.6989	11.1330	2.5659
18	24	1.4400	24	1.5120	24	1.2240	10	0.5850	0	0.0000	0	0.0000	11.6505	1.1259	12.7764	10.2550	2.5214
19	24	1.4400	24	1.5120	24	1.2240	24	1.4040	1	0.0600	0	0.0000	12.9480	0.6012	13.5492	11.3030	2.2462
20	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	0	0.0000	14.3280	-0.6978	13.6302	11.1850	2.4452
21	24	1.4400	24	1.5120	24	1.2240	24	1.4040	24	1.4400	6	0.3420	11.7270	0.8198	12.5468	10.0500	2.4968
22		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
23		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
24		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
25		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
26		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
27		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
28		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
29		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
30		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	0.0000	0.0000			0.0000
Totals	461	27.6600	412	25.9560	372	18.9720	399	23.3415	220	13.2000	69	3.9330	209.8515	66.5264	276.3779	236.1340	40.2439

Total Qtr	64.5	Total Qtr	75.6	Total Qtr	55.08	Total Qtr	52.8255	Total Qtr	48.12	Total Qtr 36.366
Avg. gpd	1040322.58	Avg. gpd	1219354.8	Avg. gpd	888387.1	Avg. gpd	852024.19	Avg. gpd	776129.03	Avg. gpd 586548.387
ft3/day	139070.891	ft3/day	163004.02	ft3/day	118760.07	ft3/day	113899.06	ft3/day	103753.35	ft3/day 78410.1088

avg. WL 51.5 avg. WL 53 avg. WL 33.5 avg. WL 57.5 avg. WL 40 avg. WL 67.5

2009	# 3 Well	# 12 Well	# 14 Well	# 25 Well	# 16 Well	# 17 Well	# 18 Well	# 19 Well
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped
July	6.6600	0.7905	20.5200	15.1470	17.5440	32.9970	32.8200	30.3600
August	43.1400	11.1600	3.9150	23.3580	23.7150	26.1120	35.2200	34.1400
September	7.8000	22.8780	5.5800	6.9360	13.7190	16.1160	23.7600	27.6600
3rd Quarter	57.6000	34.8285	30.0150	45.4410	54.9780	75.2250	91.8000	92.1600
	1016 gpm	1040 gpm	1056 gpm	1089 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm

2009.0	# 20 Well	# 21 Well	# 22 Well	# 23 Well	# 24 Well	Monthly	Reservoir	
	MG Pumped	MG Pumped	MG Pumped	MG Pumped	MG Pumped	Totals MG	MG Pumped	
July	38.9340	33.2520	38.5515	27.2400	14.934	309.75	144.5730	454.323
August	36.6660	21.8280	14.2740	20.8800	21.432	315.84	140.4937	456.3337
September	25.9560	18.9720	23.3415	13.2000	3.933	209.8515	66.5264	276.3779
3rd Quarter	101.5560	74.0520	76.1670	61.3200	40.299	835.4415	351.5931	
	1500 gpm	1500 gpm	1500 gpm	1500 gpm	1500 gpm	914.5 MgpMo	217 MgpMo	

800 ft. Sands Aquifer		Diversion	Used	Remaining
Well #'s	14A, 25 & 27	232.5	75.456	157.044
Cohansey Aquifer		Diversion		
Well #'s	3,9,12,16-24	1860	759.9855	1100.0145
		Diversion		
	Reservoir	2743.5	351.5931	2391.9069
Quarterly Diversion		4836	1187.0346	3648.9654

Appendix C

Area 41 and Area D Remediation Well Rates

Well ID	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr			Design	1-May	2-May	3-May	4-May	5-May
R-1	2	3.2	2.4	3	2.8			3	2.8	2.6	2	1.6	1.4
R-2	N/W	7	7	6	6.4			7	6.4	6.6	6.8	7.2	7.8
R-3	3.6	2.6	2.2	3	2.8			2.5	2.6	2.4	2.2	2.2	2
R-4	12	8.5	8.4	7.4	7.2			8.5	8.4	8.4	8.4	8.6	8.4
R-5	2.4	2.8	2.2	2.8	2.4			2	2.6	2	2	1.8	1.6
R-6	10	14.8	14.2	14	13.4			15	15	14.8	15.2	14.8	14.2
R-7	1.8	2	1.8	2	1.8			2	2	2	1.8	2	1.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	6	9	9.6	10	9			9	9.4	8.2	8.4	8.2	8.4
R-10	off	1	1	1	1.2			1	1	1.2	1.8	1	1.2
R-11	1	1	1.2	1	1			1	1.2	1	1.2	1	1.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	6.2	9.4	10	9	9			10	9.6	9.4	10	10.4	10
	45.0	61.3	60.0	59.2	57.0			61	61.0	58.6	59.8	58.8	58.0

N/W= Meter not working but pump is on.

On 4/25/06 all recovery wells were adjusted to match the design number. These readings are taken from the Neptune flow meters at each recovery well in the field.

Well ID	8-May	9-May	10-May	11-May	12-May			Design	15-May	16-May	17-May	18-May	19-May
R-1	1.6	1.6	2.8	2.2	2.6			3	2	2.2	2.8	2.6	2.4
R-2	6.8	7	6.6	7.8	6.6			7	8	7	6	7.2	7.4
R-3	2.4	2.4	2.8	2.8	2.6			2.5	2	2.2	2.4	2.8	2.8
R-4	8.4	8.4	8.2	9.2	8.6			8.5	8	7.8	6.8	8	7.8
R-5	2.6	2.2	2	1.8	1.6			2	3	2	2	1.8	2
R-6	14.8	14.8	15	15.2	15.6			15	15	15	15	15	14.8

R-7	1.6	1.6	1.8	2	2.2			2	2	1.8	1.6	1.4	1.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.8	9.2	8.8	12	10.4			9	9	9	8	8.8	9
R-10	1	1.2	1.4	1.6	2			1	1.8	1.4	1	1	1
R-11	1	1	1	1.2	1.6			1	1.8	2.2	1	1	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.8	10.4	10.2	10	9.8			10	10	10	10	10.2	10
	58.8	59.8	60.6	65.8	63.6			61	62.6	60.6	56.6	59.8	60.0

Well ID	22-May	23-May	24-May	25-May	26-May			Design	29-May	30-May	31-May	1-Jun	2-Jun
R-1	2.8	2.6	2.4	2.2	3			3		2.8	2.6	3	3
R-2	6.8	6.6	6.8	7	6.6			7		6.8	6.6	6.8	6.6
R-3	2.4	2.6	2.8	3	2.4			2.5		2.6	2.8	2.2	2.4
R-4	8.2	8.4	8.6	8.2	8.5			8.5		8.6	8.5	8.4	8.6
R-5	1.8	2	2	2	2			2		1.8	2	2.4	2.6
R-6	15	15	15	15	15			15		14.6	15	14.8	15
R-7	2	1.8	2	2	2			2		2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.8	8.6	8.8	8.6	9			9		9	9	9	9
R-10	1	1.2	1	1	1			1		1	1	1	1
R-11	1	1	1	1.2	1			1		1	1	1	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.8	10	9.8	10	9.4			10		9.6	9.8	9.8	9.8
	59.6	59.8	60.2	60.2	59.9			61	59.8	59.8	60.3	60.4	61.0

Well ID	5 Jun	6 Jun	7 Jun	8 Jun	9 Jun			Design	12 Jun	13 Jun	14 Jun	15 Jun	16 Jun
R-1	2.8	3	2.8	2.6	2.8			3	2.6	2.6	2.6	3	3.2
R-2	6.8	6.6	6.6	6.4	6.6			7	7.2	7.4	7	7.2	7
R-3	3	2.8	3	2.8	2.8			2.5	3	3	2.6	2.8	2.4
R-4	8.4	8.4	8.4	8.6	8.4			8.5	8.4	8.4	8.6	8.4	8.6
R-5	2.2	2.4	2.6	2.5	2.6			2	3.2	3	3	3	2.8
R-6	15	15	15	15	15			15	15.2	15	14.6	14.4	14.8
R-7	2	2	2.2	2.4	2.6			2	2	2	2	2	1.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9	9	9	9	9			9	9.4	9.2	9.4	9.6	9.4
R-10	1	1	1	1	1			1	1	1	1.2	1.2	1
R-11	1	1	1	1	1			1	1	0.8	0.6	0.6	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.6	9.6	9.8	9.6	9.6			10	9.4	9.4	9.4	9.4	9.6
	60.8	60.8	61.4	60.9	61.4			61	62.4	61.8	61.0	61.6	61.4

Well ID	19 Jun	20 Jun	21 Jun	22 Jun	23 Jun			Design	26 Jun	27 Jun*	28 Jun	29 Jun	30 Jun
R-1	3.2	3	3	off	off			0	off	off	off	off	off
R-2	6.8	7	7.2	7	7			7	7.2	7.2	7.4	7.2	7.2
R-3	2.2	2	2.4	2.6	2.6			2.5	2.4	2.4	2.6	2.4	2.6
R-4	8.4	8.2	8.4	8.4	8.4			8.5	8.2	8.4	8.5	8.4	8.6
R-5	2	2.2	2	2	2			2	1.6	2.5	2.4	2.4	2.6
R-6	14.6	14.8	15	15	15			15	15	15	14.8	14.6	15
R-7	1.8	2	2	2	2			2	2.2	2.4	2.6	2.4	2.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9	8.8	9	9	9			9	9.4	9.2	9	8.8	8.6
R-10	1	1	1.2	1	1			1	1	1	1	1	1
R-11	1	1.2	1	1	1			1	3	1	1	1	1

R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.6	9.6	9.4	9.5	9.6			10	9.4	9.4	9.6	9.6	9.8
	59.6	59.8	60.6	57.5	57.6			58	59.4	58.5	58.9	57.8	58.8

Well ID	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul			Design	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.4		7.4	6.8	6.8			7	7.2	7.4	7.2	7	7.2
R-3	2.6		2.6	2.4	2.2			2.5	2.6	2.4	2.8	2.6	2.8
R-4	8.4		8.4	8.4	8.2			8.5	8.6	8.6	8.6	8.4	8.4
R-5	2.6		2.6	2.6	2.4			2	1.8	2	2.6	2.8	2.8
R-6	15		15	14.8	14.6			15	15	15	15.2	15	15
R-7	2.4	A	2.4	2.4	2.2			2	1.6	1.8	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4		8.4	8.4	8.4			9	9.2	9.2	9.2	9.4	9.6
R-10	1		1	1	1			1	off	off	off	off	off
R-11	1		1	1	1			1	0.4	1.2	1.4	1.2	1.4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.8		9.8	9.4	9.2			10	9.2	9.4	9.2	9.4	9.4
	58.6	0.0	58.6	57.2	56.0			58	55.6	57.0	58.2	57.8	58.6

Well ID	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul			Design	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7	6.8	6.6	6.8	6.6			7	7.2	7	7	7	7
R-3	2.4	2.4	2.6	2.4	2.6			2.5	2.4	2.4	2.4	2.6	2.4
R-4	8.6	8.4	8.2	8.4	8.6			8.5	8.4	8.2	8.2	8.6	8.6
R-5	2.6	2.6	2.6	2.6	2.4			2	3.2	2.6	2.6	2.6	2.6

R-6	14.8	14.7	14.2	14.8	14.6			15	14.8	14.8	14.8	14.8	14.8
R-7	2.2	2.2	2.2	2.4	2.4			2	2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9	9	9	9	8.6			9	9.4	8.8	8.8	9	8.8
R-10	off	1	1	1	1			1	1	1	1	1	1
R-11	1.4	1.2	1.2	1.4	1.2			1	1	1	1	1	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.5	9.4	9.6	9.8	9.6			10	9.4	9.6	9.6	9.2	9.4
	57.5	57.7	57.2	58.6	57.6			58	58.8	57.4	57.4	57.8	57.6

Well ID	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug			Design	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7	7.2	7	7.2	7			7	7	7	7	7.2	7.2
R-3	2.4	2.4	2.4	2.4	2.4			2.5	2.4	2.4	2.6	2.4	2.4
R-4	8.6	8.4	8	8.2	8.4			8.5	8.4	8.4	7.4	8.6	8.8
R-5	2.6	2.8	1	1.8	1.8			2	2.8	1.7	1	2.8	2.6
R-6	14.8	14.8	14.8	14.8	14.8			15	14.4	14.8	14.8	15.2	14.8
R-7	2	1.8	2.6	2.2	2			2	1.8	1	2	2	1.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.8	9	10	9.4	8.8			9	9.2	9.2	10	9.4	9.4
R-10	1	1	1.2	1.4	2.2			2	2	2	2	1.8	1.8
R-11	1	1	1.2	1.2	1.2			1	2	1.2	1.2	1	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.4	9.4	9	9.2	9.6			10	9.4	9.4	9.4	9.4	9.4
	57.6	57.8	57.2	57.8	58.2			59	59.4	57.1	57.4	59.8	59.2

Well ID	14 Aug	15 Aug	16 Aug	17 Aug	18 Aug			Design	21 Aug	22 Aug	23 Aug	24 Aug	25 Aug
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7	7	7	7.1	7			7	0	0	0	7	7
R-3	2.6	2.6	2.5	2.2	2			2.5	0	0	0	0	2.2
R-4	8.6	8.6	8.6	8.4	8.2			8.5	0	0	0	8.5	8.8
R-5	1.8	1.8	1.8	2	1.8			2	0	0	0	0	1.6
R-6	15.4	15.4	14.6	14.8	14.6			15	0	0	0	15	14.8
R-7	2	2	1.8	1.6	1.8			2	0	0	0	0	1.6
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.2	9.2	8.8	8.6	8.8			9	0	0	0	0	9.2
R-10	2.2	2.2	1.4	1.6	1.4			2	0	0	0	0	1.8
R-11	1	1	1	1	1.2			1	0	0	0	0	1.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.6	9.6	9	9	9.2			10	0	0	0	0	9.4
	59.4	59.4	56.5	56.3	56.0			59	0.0	0.0	0.0	30.5	58.2

Well ID	28 Aug	29 Aug	30 Aug	31 Aug	1 Sep			Design	4 Sep	5 Sep	6 Sep	7 Sep	8 Sep
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7	7	7	7	7			7		7	7.2	7	7.2
R-3	2.6	2.4	2.4	2.4	3			2.5		2	2	2	1.8
R-4	10	8.4	10	8.4	8.6			8.5		10	10	9.4	9.6
R-5	1	2	2.2	2.4	3			2		2	1.6	1.6	1.2
R-6	15	15	15	15	15			15		15	16	15.2	15
R-7	1.6	1.2	3	1.8	3			2		3.2	3.2	3	2.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.2	9	9	9	10			9		8.8	10	10.2	10
R-10	1.8	1.6	2.2	1.8	1.8			2		1.6	1.6	1.4	1.6
R-11	2.4	1.6	2	2	1.8			1		2	2	2.2	2

R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.4	8.8	9.2	9	9.8			10		9.6	9.2	9	9.2
	60.0	57.0	62.0	58.8	63.0			59	0.0	61.2	62.8	61.0	60.4

Well ID	11 Sep	12 Sep	13 Sep	14 Sep	15 Sep			Design	18 Sep	19 Sep	20 Sep	21 Sep	22 Sep
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.8	6.6	6.2	6	6.6			7	6	6.6	6.4	6.6	6.2
R-3	1.4	1.6	2.6	2.4	2.2			2.5	2.6	2.6	2.8	2.6	2.4
R-4	9.8	9.8	9.8	9.6	10.2			8.5	10.4	9.4	9.4	9.6	9.8
R-5	1.4	1.2	1.6	1.4	1.6			2	1.8	1.6	1.8	1	1.8
R-6	15.2	14.8	16	15.8	15			15	14.8	14.2	14.4	14.2	15
R-7	2.8	2.6	3	2.8	3			2	2.8	2.8	2.8	3	2.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.2	9.4	9.2	9.4	9			9	8.8	9	9.4	9.2	10.6
R-10	1.8	1.6	1.6	1.6	1.4			2	1.8	1.6	1.2	1.2	1.5
R-11	2	1.8	2	2	1.8			1	2	2	2	1.8	1.6
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.2	9	9.2	9.4	9.6			10	9.8	9.2	9.2	9.4	10
	59.6	58.4	61.2	60.4	60.4			59	60.8	59.0	59.4	58.6	61.3

Well ID	25 Sep	26 Sep	27 Sep	28 Sep	29 Sep			Design	2 Oct	3 Oct	4 Oct	5 Oct	6 Oct
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6	6	6.8	6.8	6.6			7	6.8	6.6	6	5.8	
R-3	2.4	2.8	2.4	2.2	3			2.5	2.8	2.6	4.4	4.2	
R-4	9.2	9	10	10.2	9.2			8.5	9	9.4	9	8.8	
R-5	2	1.5	1.8	1.6	1.2			2	1.2	1.4	1.4	1.2	

R-6	14	14.2	14	14.4	14.6			15	15	15.8	14.4	14	
R-7	2.4	3	3.2	3	3			2	2.8	2.6	3.2	3.4	
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9	9.2	9	8.8	9			9	10.2	8.8	9.4	9.2	
R-10	1	1.6	1.6	1.4	1.6			2	2	2	2.4	2.2	
R-11	2.2	1.4	1.6	1.6	1.6			1	1.8	1.8	1	1.4	
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	10	9.2	9.8	9.6	9			10	10	10	10	10.4	
	58.2	57.9	60.2	59.6	58.8			59	61.6	61.0	61.2	60.6	0.0

Well 1D	9 Oct	10 Oct	11 Oct	12 Oct	13 Oct			Design	15 Oct	17 Oct	18 Oct	19 Oct	20 Oct
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	0	6.2	6	6.2	6			7	6.6	6.6	6.8	6.9	6.8
R-3	0	3	2.8	2.6	2.8			2.5	2.8	2.6	2.4	2.5	2.6
R-4	0	9	9.6	9.4	9.2			8.5	9	9.2	9	9	9
R-5	0	2.2	2	1.8	2.4			2	2	1.8	2	1.4	1.8
R-6	0	14.4	12.8	14.6	14.2			15	14.2	14	15.8	15	14.4
R-7	0	3	3.2	3	3.2			2	2.6	3	2	2.8	2.6
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	0	9	9.4	9.2	9.2			9	9	8.6	9.2	8.2	9.4
R-10	0	1.4	1.2	1.4	1			2	1.6	1.6	1.2	1.2	1.2
R-11	0	2	1.8	1.8	2			1	1.4	1.4	1.2	1.2	1.4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	0	9	9.6	9.4	9.4			10	9.4	9.4	9.6	9.8	9.8
	0.0	59.2	58.4	59.4	59.4			59	58.6	58.2	59.2	58.0	59.0

Well ID	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct			Design	30-Oct	31-Oct	1-Nov	2-Nov	3-Nov
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.8	6.6	6.6	6.6	5.8			7	6	5.4	5.8	5.6	6
R-3	2.4	2.4	2.8	2.8	3			2.5	2.4	2.6	2.4	2.6	2.2
R-4	9	8.6	9	8.6	9			8.5	9	9.1	9.2	9.4	10.8
R-5	1.4	2	1.8	1.2	1.2			2	1.4	1.6	1.4	1.6	1.8
R-6	14.2	14.2	14.4	14.6	14.4			15	14	14.4	14.2	14.4	14.6
R-7	2	3	2.6	2.4	2.8			2	2.4	2.6	2.6	2.4	2.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.2	8.2	9.2	9.2	9.4			9	10	10	9.8	9.6	9.6
R-10	1	1	1.2	1.2	1.2			2	1.4	1.4	1.2	1.2	2
R-11	1.4	1.4	1.2	1.4	1.4			1	1.2	1.1	1.2	1.4	1.4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	10.4	8.6	9.6	9.8	9.6			10	12.2	9	9.2	10	10.4
	57.8	56.0	58.4	57.8	57.8			59	60.0	57.2	57.0	58.2	61.2

Well ID	6-Nov	7-Nov	8-Nov	9-Nov	10-Nov			Design	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.2	6.4	6.6	6.8	6.4			7	5.6	6.2	6	5.8	5.4
R-3	2.4	2.6	2.4	2.6	2.6			2.5	2.8	2.6	2.8	2.8	2.6
R-4	10.6	10.4	10.6	10	10.4			8.5	10	10.2	10	10.4	10
R-5	2	2	2	2.4	2.8			2	1.8	2	1.8	1.6	1.8
R-6	14.8	14.6	14.4	14.4	14.8			15	14.4	14.2	14	14	14
R-7	2.6	2.4	2.2	2.6	2.8			2	2.8	2.6	2.8	2.6	2.4
R-8	off	off	off	off	off			0	off	2	off	off	off
R-9	10	10.2	10	10.4	10.8			9	12.2	12	12.2	12.4	12.4
R-10	off	2.2	2.4	2.2	2.6			2	2.4	2.2	2	2.8	2.6
R-11	2.3	2	2	2.4	2.4			1	2.2	2	2	2.2	2.4

R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.8	9.6	9.8	9.6	9.4			10	9.6	9.4	9.6	9.4	9.6
	60.7	62.4	62.4	63.4	65.0			59	63.8	65.4	63.2	64.0	63.2

Well ID	20-Nov	21-Nov	23-Nov	23-Nov	24-Nov			Design	27-Nov	28-Nov	29-Nov	30-Nov	1-Dec
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	5.4	5.4	5.6					7	5.4	4.8	4.8	4.6	5
R-3	2.6	2.2	2.2					2.5	2.6	2.4	2.6	2.6	2.6
R-4	10	10.4	10.4					8.5	10	10.4	10.6	10.4	9.2
R-5	1.2	1.6	1.6					2	1	0.8	1	1.2	1
R-6	13.6	14.2	14.4					15	14.2	14.4	14.2	14.4	13.6
R-7	2.3	2.6	2.6					2	2.4	2.6	2.6	2.6	2.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	12.4	12.4	12.6					9	12.6	12.8	10	10.4	10
R-10	2.6	2.8	2.6					2	2	2.2	3	2.8	3
R-11	2.2	2.2	2.2					1	2.2	2	1.6	1.4	1.6
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	10.2	9.4	9.6					10	9.4	9.6	9	9.4	9.2
	62.5	63.2	63.8	0.0	0.0			59	61.8	62.0	59.4	59.8	57.4

Well ID	4-Dec	5-Dec	6-Dec	7-Dec	8-Dec			Design	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	4.6	4.6	4.6	4.8	4.6			7	4.4	4.4	5	4.8	4.6
R-3	2.6	2.6	2.6	2.8	2.8			2.5	2.6	2.8	2.4	2.6	2.8
R-4	10.5	10.8	10.2	9.6	9.4			8.5	9.6	9.6	11	10.4	10.6
R-5	1.4	0.8	0.8	0.8	0.8			2	0.6	0.6	0.8	0.8	0.6

R-6	13.8	13.6	14	14.4	14.2			15	14.4	14	14	14.4	14.2
R-7	2.6	2.4	2.4	2.4	2.4			2	2.2	2.2	2.4	2.4	2.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9	9.8	9.8	9.6	9.8			9	9.6	10	9.4	9.2	9
R-10	2.8	2.6	3	2.4	2.2			2	2	3	3	2.8	2.6
R-11	1.6	1.8	2	2.2	2.4			1	2.2	1.6	1.2	1	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.8	8.7	9.2	9.6	9.8			10	9.6	9.6	9	8.6	8.8
	57.7	57.7	58.6	58.6	58.4			59	57.2	57.8	58.2	57.0	56.4

Well ID	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec			Design	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	4.4	4.6	4.8	4.6	4.8			7			4.8	4.8	
R-3	2.6	2.6	2.6	2.8	2.6			2.5			2.6	2.6	
R-4	10.4	10.4	10.2	10.4	10.2			8.5			10.4	10.5	
R-5	0.8	0.8	0.8	0.6	0.8			2			0.8	0.8	
R-6	14.4	14.4	14.4	14.2	14.4			15			14.2	14.2	
R-7	2	2	2.4	2.6	2.8			2			2.4	2.4	
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.2	9.4	9.6	9.8	9.6			9			9.8	10	
R-10	2.6	2.6	2.2	2.4	2.4			2			2.8	2.8	
R-11	1	1	1	1	1.2			1			1	1	
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.6	9	8.8	9	9.2			10			8.8	9	
	56.0	56.8	56.8	57.4	58.0			59	0.0	0.0	57.6	58.1	0.0

Well ID	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan			Design	8-Jan	9-Jan	10-Jan	11-Jan	12-Jan
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2		4	4.6	6	4.2			7	4.2	4.2	4.4	4.2	4.2
R-3		3	2.6	2.6	2.6			2.5	3	3	2.4	3	3
R-4		14	14.4	13	13.6			8.5	13.4	10.2	10	10	10
R-5		0.8	2.8	2.8	2.8			2	3	3.8	3	2	3
R-6		14.4	14.2	14.2	14.4			15	14	14	14	15	14.2
R-7		2.8	2.4	2.4	2.4			2	2.6	2.4	2.4	2	2.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9		9	10.2	10.2	10.2			9	10.4	10.4	10.2	10	10.2
R-10		2.6	2.8	2.8	2.8			2	3	2.8	2.6	2.2	2.6
R-11		1.2	1.2	1.2	1.4			1	1.4	1.8	1.2	1	1.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15		8.6	8.6	8.6	8.6			10	9	9	9.2	9	9.2
	0.0	60.4	63.8	63.8	63.0			59	64.0	61.6	59.4	58.4	59.8

Well ID	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan			Design	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	4	3.8	3.8	3.8	3.8			7	3.8	3.8	3.8	4	4
R-3	3	3	3	2.8	2.2			2.5	2.6	2.6	3	3.2	3.4
R-4	10	10	10	9.8	10.2			8.5	9.6	9.6	9.2	9	9.2
R-5	3	3	3	3.2	2.8			2	2.8	2.8	2	2	2.2
R-6	13.6	13.8	13.8	13.8	14			15	13.4	13.4	13.2	13.2	13.2
R-7	2.6	2.8	2.8	3	2.6			2	2.8	2.8	2.6	2.8	2.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.8	10	9.8	10	9			9	9.2	9.2	9.8	9.6	9.6
R-10	2	2.2	2	2.2	2.4			2	2.4	2.4	2.8	3	3.2
R-11	1.2	1.4	1.4	1.6	1.4			1	1	0.8	1.2	1.4	1.6

R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.6	9.8	9.8	10	9.8			10	9	9.2	8.4	8.8	8.8
	58.8	59.8	59.4	60.2	58.2			59	56.6	56.6	56.0	57.0	58.0

Well ID	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb			Design	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	4	4	4	6	4			7	4	3.8	3.6	3.4	7
R-3	3	3.8	3.8	3.8	2.6			2.5	3.8	3.6	2.6	2.6	2.6
R-4	8.6	8.6	8.7	8.7	13.8			8.5	10	10.4	10	10.4	10.2
R-5	2.2	1	1	1	1.2			2	1.2	1	1	1.2	1.2
R-6	14	14	14	14	14			15	14.2	14.4	14	14	14.2
R-7	2	2.4	2.5	2.5	2.4			2	2.4	2.2	2.2	2	2.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.4	9.8	9.7	9.8	9.8			9	9.8	9.4	9.2	9.4	9.4
R-10	2.6	2.6	2.6	2.7	2.2			2	2.4	2.4	2.6	2.6	2.4
R-11	1	0.8	0.8	0.8	0.8			1	0.8	0.8	0.8	0.8	0.6
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.2	8.8	8.8	8.8	8.8			10	9	9.2	9.2	9.6	9.6
	56.0	55.8	55.9	58.1	59.6			59	57.6	57.2	55.2	56.0	59.6

Well ID	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb			Design	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	8	8.4	8	8	8			7	8	8	7.8	7.8	7.9
R-3	2.6	2.4	2.8	2.2	3.2			2.5	3.2	3.2	3	3	3
R-4	9	9.6	9.4	9.2	9.2			8.5	9.4	9.4	9.6	9.8	9.8

R-5	0.8	1	0.8	0.8	1.2			2	1.2	1.2	1.2	1.2	1
R-6	13.6	14	13	14.4	13.6			15	13.4	13.4	13.2	13.2	13.2
R-7	1.8	1.6	1.6	2.4	2.2			2	2.4	2.4	2.2	2.2	2.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.4	9	9.4	9.6	9.2			9	9.4	9.4	9.4	9.6	9.4
R-10	1.6	1.8	1.4	2	2			2	2	2	2	2.2	2.1
R-11	0.8	0.8	0.8	0.8	0.8			1	0.8	0.8	0.8	0.8	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.4	9	8.6	8.4	8.6			10	8.8	8.8	8.8	8.8	8.8
	57.0	57.6	55.8	57.8	58.0			59	58.6	58.6	58.0	58.6	58.2

Well ID	26-Feb	27-Feb	28-Feb	1-Mar	2-Mar			Design	5-Mar	6-Mar	7-Mar	8-Mar	9-Mar
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	8	7.8	8	8	8			7	8	8	8	7.8	7.6
R-3	2.6	2.6	2.8	2.8	2.8			2.5	2.6	2.8	2.8	2.6	2.6
R-4	9.6	9	8.8	8.8	8.6			8.5	8.4	8.6	8.8	8.8	9
R-5	1.2	0.6	0.6	0.6	0.6			2	0.6	0.6	0.6	0.6	0.6
R-6	12.4	13	12.4	12.4	12.2			15	13	12.2	12.2	12	11.8
R-7	2.6	4	4.4	4.4	4.2			2	3.6	4.4	4.4	4.2	4.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	10.2	9.2	9	9	9.2			9	9.6	9.2	9.4	9.6	9.8
R-10	2.4	2.4	2.4	2.3	2.4			2	2.2	2.4	2.5	2.4	2.2
R-11	1	0.8	0.8	0.8	0.8			1	0.8	0.8	0.8	0.8	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.4	8	8	8.2	8.4			10	8.4	8.4	8.6	8.4	8.6
	58.4	57.4	57.2	57.3	57.2			59	57.2	57.4	58.1	57.2	57.6

Well ID	12-Mar	13-Mar	14-Mar	15-Mar	16-Mar			Design	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.6	7.8	7.6	7.4	8			7	8.4	7.8	7.4	7.4	7
R-3	2.8	2.6	2.4	2.8	2.6			2.5	2.6	3	3	3.4	3
R-4	9.4	9.6	10.4	10.4	9.8			8.5	9.8	8.4	8.8	8.4	9.4
R-5	0.6	0.6	0.8	0.8	0.8			2	0.8	0.8	0.8	0.8	0.8
R-6	12.4	12.4	12	12.4	12.6			15	12.6	13	12.6	12.4	12.6
R-7	4.2	4	4.2	4	4.2			2	4.4	4	3.8	3.8	3.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.6	9.6	9.6	9.8	9.8			9	9.6	9.2	9.2	9	9.4
R-10	2	1.8	1.8	1.8	2			2	2	2.6	2.4	2.8	3.2
R-11	1	1.2	1.2	1.2	0.8			1	0.8	1	1	1	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.4	8.2	8.4	8.4	8.8			10	8.4	9.2	9	9.4	9.6
	58.0	57.8	58.4	59.0	59.4			59	59.4	59.0	58.0	58.4	59.6

Well ID	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar			Design	2-Apr	3-Apr	4-Apr	5-Apr	6-Apr
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.8	6.6	6.6	6.8	6.6			7	7	7	6.8	6	6
R-3	2.9	2.8	2.8	2.6	2.6			2.5	2.6	2.8	2.6	2.8	2.8
R-4	9.4	9	8.8	9	9.2			8.5	8.2	8.8	8.2	8	8
R-5	0.8	0.8	0.8	0.8	0.8			2	0.8	2.8	3	2.8	2.8
R-6	12.5	12.4	12	12.2	12.4			15	12	12	12	12	12
R-7	3.8	2.8	3.2	3	3			2	2.8	3	2.8	3.2	3.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.1	9	9.5	9.5	9.2			9	9	9.6	9.4	10	10
R-10	2.4	2	1.8	2.2	2.4			2	2	2	2	1.6	1.8

R-11	0.8	1	1.2	1	1			1	1	1	0.8	0.8	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.8	9.4	8.8	8.6	8.8			10	8.8	8.4	8.4	8	8
	58.3	55.8	55.5	55.7	56.0			59	54.2	57.4	56.0	55.2	55.6

Well ID	9-Apr	10-Apr	11-Apr	12-Apr	13-Apr			Design	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	8	8	8	8.2	8.2			7	8.2	8.4	8.4	8	6.6
R-3	2.8	2.4	2.4	2.4	2.6			2.5	2.6	2.4	2.3	2.4	2.6
R-4	7	8.4	8.2	8.4	8.2			8.5	8.2	8.2	8.4	8.8	8.8
R-5	2.8	2.8	2.2	2.4	2.4			2	1.4	2	2.4	2.8	2.6
R-6	12	12.4	13	13	13.5			15	14	14	14	14	13.6
R-7	3.2	3.2	3.2	3.4	3.2			2	3.2	3	3.2	3.4	3.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4	9	9	9.2	9			9	9	9.4	8.8	8.4	9
R-10	1.8	1.6	1.6	1.6	1.6			2	1.8	1.8	1.4	1.4	1.6
R-11	0.8	0.8	0.8	0.8	0.8			1	0.8	0.8	0.8	0.8	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8	8.8	8.8	8.8	8.2			10	8.4	8.4	8.4	8.4	8.8
	54.8	57.4	57.2	58.2	57.7			59	57.6	58.4	58.1	58.4	58.2

Well ID	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr			Design	30-Apr	1-May	2-May	3-May	4-May
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.6	6.8	8	8	8.2			7	8.1	8.4	8.4	8.2	8
R-3	2.6	2.6	3	3.2	3.2			2.5	2.6	2.4	2.4	2.4	2.6
R-4	9	9	7	7	6.8			8.5	7	7	7.2	7.4	7.4

R-5	2.4	2.4	2.4	2.4	2.4			2	2	2.2	2	2	2
R-6	13.8	14	15	14.8	15			15	14.8	14.4	14.4	14	14
R-7	3.8	4	3.4	3.2	3.6			2	2.8	3	3	3	3.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.2	9.4	8.8	8.6	9			9	9	9	8.8	9	9.2
R-10	1.6	1.6	2	2	2			2	2	1.8	1.4	1.5	1.6
R-11	0.8	0.8	1	1	1			1	1	0.8	1	0.8	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.2	9.2	8.2	8.8	8.4			10	8.8	8.4	8.8	8.8	8.8
	59.0	59.8	58.8	59.0	59.6			59	58.1	57.4	57.4	57.1	57.6

Well ID	7-May	8-May	9-May	10-May	11-May			Design	14-May	15-May	16-May	17-May	18-May
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.8	7.8	8	8.2	8			7	8.2	8.2	8.2	8.6	8.4
R-3	2.4	2.4	2.6	2.8	2.4			2.5	2	2	2.4	2.8	2.8
R-4	7.6	7.8	7.8	7.8	7.8			8.5	6	6.4	6.4	6.4	6.6
R-5	2	2.2	2	2	2			2	2	2	1.8	1.8	1.8
R-6	13.8	13.8	14.8	14.8	14.6			15	14.8	14.4	14.2	14	14.2
R-7	3.4	3.8	3.2	3	2.8			2	3	2.8	2.8	2.6	2.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9	9.4	9.2	9.2	9.2			9	8.8	9	8.2	8.4	8.2
R-10	1.4	1.2	1.6	1.8	1.8			2	1.4	1.4	2	2	2
R-11	1	0.8	1	1.2	1.4			1	1	3.6	2.6	2.4	2.4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.6	8.8	8.8	9	8.8			10	8	8.2	8.2	8	8.2
	57.0	58.0	59.0	59.8	58.8			59	55.2	58.0	56.8	57.0	57.4

Well ID	21-May	22-May	23-May	24-May	25-May			Design	28-May	29-May	30-May	31-May	1-Jun
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	8.2	8.8	8.4	8.4	8.4			7		10	8	7.8	8
R-3	2.2	2.8	2.8	2.8	2.8			2.5		2.8	2.8	2.6	2.6
R-4	8.5	10.4	8.5	8.6	8.6			8.5		8.4	8	8.4	8.6
R-5	1	1	1	1	1			2		1	1	1	1
R-6	14	14.8	15	14.8	15			15		15	14	13.8	14
R-7	2.8	3	3.2	3.4	4.2			2		4.8	3.2	4.2	4.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.5	8.4	8.4	8.6	8.8			9		8.8	8.8	9	9.4
R-10	2.2	2	1.9	2	1.8			2		1.6	1.8	1.6	1.6
R-11	1.8	1.8	2.8	2.8	1.8			1		2.2	1.8	1.8	2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.4	9	8.2	8.4	8.6			10		8.6	8.4	8.4	8.4
	57.6	62.0	60.2	60.8	61.0			59	0.0	63.2	57.8	58.6	59.8

Well ID	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun			Design	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	9	8.4	8.6	8	8.4			7	8	7.2	7.2	8	8
R-3	2.4	2.6	2.6	2.4	2.8			2.5	2.4	2.8	3	3	3
R-4	9	8.8	8	8	9			8.5	10.8	11.2	11.2	11.2	11.4
R-5	1	0.6	0.6	0.8	0.8			2	0.8	1.2	1.2	1.2	1.2
R-6	14.4	14.2	14.2	14.4	14			15	14	14	12	12	12.2
R-7	4	4.2	3	2.8	2.8			2	3.2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	9.6	9.4	8.8	9.6	9			9	8.8	8.4	8.4	8.4	8.4
R-10	1.4	1.6	1.2	1.2	1.2			2	1.2	1.2	1.2	1.2	1.2

R-11	1.8	1.6	1.6	1.2	1.8			1	0.8	1.2	1.2	1.2	1.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	7.8	8.2	8	8	8.2			10	7.8	7.2	7.2	7.2	7.2
	60.4	59.6	56.6	56.4	58.0			59	57.8	56.4	54.6	55.4	55.8

Well ID	18 Jun	19 Jun	20 Jun	21 Jun	22 Jun			Design	25 Jun	26 Jun	27 Jun	28 Jun	29 Jun
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	8	8	7.6	7.4	7.8			7	7.8	7.4	7.4	7.2	7.4
R-3	3	2.8	2.6	2.6	2.4			2.5	2.4	2.6	2.6	2	2.4
R-4	11.4	11.3	11.4	11.4	9.7			8.5	9.7	8.8	8.8	11.2	9
R-5	1.2	1.2	1.2	1.2	1.2			2	1.2	1	1	1	1.4
R-6	12.2	12.2	12.4	12.4	14			15	14	14	14	15.2	15
R-7	2	2.4	2.4	2.4	2.4			2	2.4	2.4	2.4	2	2.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4	8.4	8.4	8.4	8.4			9	8.4	8.8	8.8	8	8.4
R-10	1.4	1.2	1.2	1.2	2			2	2	1.8	1.8	1.2	1.4
R-11	1.2	1	1.2	1.2	1.2			1	1.2	1.4	1.4	0.8	1
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	7.2	7.6	7.6	7.4	7.2			10	7.2	7.4	7.4	6.8	6.8
	56.0	56.1	56.0	55.6	56.3			59	56.3	55.6	55.6	55.4	55.0

Well ID	2 Jul	3 Jul	4 Jul	5 Jul	6 Jul			Design	9 Jul	10 Jul	11 Jul	12 Jul	13 Jul
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.6	6		7.8	7.8			7	6.8	6.8	6.8	6.8	7.2
R-3	2.2	2.8		2.6	2.6			2.5	2.4	2.4	2.4	2	2
R-4	7.2	11.2		12	12			8.5	10	10	10	10.8	10

R-5	1.6	1		1.4	1.2			2	0.4	3.5	2.8	3.2	3.2
R-6	14.8	14		14	14			15	14.4	14.4	14.4	14	14
R-7	2	2.4		2.2	2.2			2	2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4	9.6		9.6	9.8			9	8	8	8	8	8.8
R-10	1.2	2.4		2.4	2.4			2	1.2	1.2	1.2	0.8	0.8
R-11	1	1		0.8	0.8			1	1.2	1.2	1.2	1.2	4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	6.2	8.4		8.8	8.6			10	8.8	8.8	8.8	8.8	8.8
	52.2	58.8	0.0	61.6	61.4			59	55.2	58.3	57.6	57.6	60.8

Well ID	16 Jul	17 Jul	18 Jul	19 Jul	20 Jul			Design	23 Jul	24 Jul	25 Jul	26 Jul	27 Jul
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7	6.8	6.6	6.4	6.4			7	6.4	6.6	6.8	6	6
R-3	2	2	2	2.4	2.4			2.5	2.4	2.4	2.4	2.4	2.4
R-4	10.4	10	10	10	10			8.5	10	10	10	10	10
R-5	3.2	3.2	3.2	2.8	2.8			2	2.8	2.8	2.8	2.8	2.8
R-6	14.2	14	14	14	14			15	14	14	14	14	14
R-7	2	2	2	2	2			2	2	1.8	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.8	9	9	8	8			9	8	8	8	8	8
R-10	1	1	1	1.2	1.2			2	1.2	1.2	1.2	1.2	1.2
R-11	3.2	3	3	4.8	4.8			1	4.6	4.6	3.8	4	4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.6	8.8	8.8	8	8			10	8	8	8	8	8
	60.4	59.8	59.6	59.6	59.6			59	59.4	59.4	59.0	58.4	58.4

Well ID	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug			Design	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6	5.8	6	5.8	5.8			7	5.8	5.8	6	6	6
R-3	2.4	2.6	2.4	2.4	2.4			2.5	2.4	2.4	2	2	2
R-4	10	10.4	10	10.4	10.4			8.5	10	10	10	10	10
R-5	2.4	2.4	2.4	2.4	2.4			2	2.4	2.4	2.4	2.2	2
R-6	14.4	14.4	14.4	14	14			15	14	14	14	14	14
R-7	1.8	2	1.8	1.8	1.8			2	1.8	1.8	1.4	1.2	1.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4	8.2	8.4	8.6	8.6			9	8.6	8.6	8.1	8.8	8.8
R-10	1	1.2	1	1	1			2	1	1	1	1	1
R-11	4	3.8	4	3.8	3.8			1	3.6	3.6	3.4	3.2	3.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8	8.4	8	8	8			10	8	8	8	8	8
	58.4	59.2	58.4	58.2	58.2			59	57.6	57.6	56.3	56.4	56.2

Well ID	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug			Design	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6	5.8	5.9	5.6	5.8			7	6	6	6	6	5.9
R-3	2.2	2.4	2.2	2	2			2.5	2	1.8	2	2	2
R-4	10	10.4	10	10	10.4			8.5	10	10.4	10.2	10.4	10
R-5	1.8	1.8	1.8	2	2			2	2	2	2	2	2.2
R-6	14	14	13.9	14	14			15	14	14	14	14.4	14
R-7	1	1	1	1.6	1.4			2	1.4	1.4	1.2	1.4	1.2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.6	8.8	8.6	8.8	8.4			9	8.8	8.4	8.4	8.2	8
R-10	1.2	1.2	1.2	0.8	1			2	1	0.8	1	1.4	1.4

R-11	3	2.8	3	3.2	3.2			1	3.4	3.2	3.2	3.4	3.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8	8	7.9	8	8			10	8	8	8	8	7.8
	55.8	56.2	55.5	56.0	56.2			59	56.6	56.0	56.0	57.2	55.7

Well ID	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug			Design	3-Sep	4-Sep	5-Sep	6-Sep	7-Sep
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	4.8	4.8	5.2	5.2	10			7		6.8	6.4	5.2	7
R-3	2	2.4	2.4	2.8	3.2			2.5		2.4	2.4	2.4	2.4
R-4	9.6	9.8	10	10	10			8.5		8.8	9.2	9.2	9
R-5	2	2	2	2.4	2			2		2	2	2	1.6
R-6	14	14	13.2	14	14			15		14.4	14	14	14
R-7	1.6	1.4	1.2	1.4	1.6			2		2	2	1.8	2.4
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.8	8.4	8.8	8.8	8.8			9		8.8	8.8	8.4	9
R-10	0.8	0.8	1.2	1.2	off			2		2	0.8	1.2	2.4
R-11	2.8	2.8	4	2.2	off			1		1.2	1.2	1	1.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.4	8.8	8	8	off			10		9.2	9.2	12	9.2
	54.8	55.2	56.0	56.0	49.6			59	0.0	57.6	56.0	57.2	58.2

Well ID	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep			Design	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6	7.8	7.2	7.6	7.2			7	7.2	7.2	7.2	7.2	7.2
R-3	2	2.4	2.4	2.4	2.4			2.5	2	2	2	2	2
R-4	8.8	8.4	8.4	8.8	8.8			8.5	9.2	9.2	8.4	9	8.8

R-5	1.2	1.6	1.6	1.2	1.2			2	1.2	1.2	1.8	1.8	1.6
R-6	14	14	14	14	14			15	14.4	14.4	13.6	14	14.4
R-7	2	1	1.2	1.6	1.6			2	0.8	2.5	2.4	2.2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4	8.2	8.8	8.8	8			9	8.4	8.4	8.4	8.4	8.4
R-10	2.4	2.4	2	2	2.8			2	2.8	2	2.2	2	2.4
R-11	1	1	0.8	0.8	0.8			1	0.8	0.8	0.8	0.8	0.8
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	10	10	9.6	9.4	9.6			10	9.2	8.8	8.8	8.8	9.2
	55.8	56.8	56.0	56.6	56.4			59	56.0	56.5	55.6	56.2	56.8

Well ID	24 Sep	25 Sep	26 Sep	27 Sep	28 Sep			Design	1 Oct	2 Oct	3 Oct	4 Oct	5 Oct
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7	7.2	7.2	7.2	7.2			7	8	8	7	7.2	7.2
R-3	2	2	2	2	2			2.5	2.2	2	1.8	2	2
R-4	8	8.8	8.4	8.4	8.4			8.5	8.8	8.2	8	8	8.2
R-5	1.8	1.8	1.6	1.8	1.6			2	1.6	1.8	1.4	1.6	1.6
R-6	14	14.4	14	14	14			15	14	14	13.8	14	14
R-7	1.4	1.4	2	2	1.6			2	2	1.8	2.2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8.4	8.4	8.4	8.4	8			9	8.4	8.4	8	8	8
R-10	2.4	1.8	2.8	2.8	2.4			2	2.8	2	2.2	2	2
R-11	0.6	0.6	1	3.5	3.2			1	3.6	11	12	11.2	11.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.2	9.6	9.6	9.6	9.2			10	9.3	9	9	9.2	9.2
	54.8	56.0	57.0	59.7	57.6			59	60.7	66.2	65.4	65.2	65.4

Well ID	8 Oct	9 Oct	10 Oct	11 Oct	12 Oct			Design	15 Oct	16 Oct	17 Oct	18 Oct	19 Oct
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	0	7.2	7.2	7.2	7			7	7.2	7.2	7.2	7.4	7.2
R-3	0	2	2	2	2.4			2.5	2	2	2	2	2
R-4	0	8.2	9.6	9.6	9.8			8.5	9.2	9.2	9	9	9.2
R-5	0	1.6	1.6	1.6	1.6			2	1.6	1.6	1.6	1.8	1.6
R-6	0	14	13.6	14	13.8			15	13.6	14	12	12	14
R-7	0	2	2	2	2			2	2	2	1.6	1.8	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	0	8	8.4	8.4	8.6			9	8	8	8	8.4	8
R-10	0	2	2.8	2.8	2.6			2	1.6	2.4	2.2	2.4	2.4
R-11	0	12.5	11.2	11.2	11.2			11	12	13.6	13.6	13.4	13.6
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	0	9.2	9.2	9.2	9			10	9.6	9.2	9.2	9.4	9.2
	0.0	66.7	67.6	68.0	68.0			69	66.8	69.2	66.4	67.6	69.2

Well ID	22 Oct	23 Oct	24 Oct	25 Oct	26 Oct			Design	29 Oct	30 Oct	31 Oct	1 Nov	2 Nov
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.2	7.2	7.2	7.2	7.2			7	7.2	7.4	7.4	7	7
R-3	2	2	2	2	2			2.5	1.6	1.6	1.6	2	2
R-4	9.2	9.2	8.8	8.8	9.2			8.5	8.8	8.4	8.4	9	9
R-5	1.2	1.2	1.2	1.2	1.2			2	1.2	1.2	1.8	1.6	1.6
R-6	14	14	14	14	12.8			15	13.6	14	14	14	14
R-7	2	2	1.6	2	1.6			2	2	2.2	2	1.8	1.8
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	7.6	8	8.4	8	8			9	8	8.4	8.4	8.6	8.6
R-10	2.4	2.4	2.4	2.4	2			2	2	2	2	2	2

R-11	13	13.6	13.2	13.6	13.2			11	12.8	12.6	12.6	12.2	12.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	9.2	9.2	9.2	9.2	9.2			10	8.8	8.6	8.6	9	9
	67.8	68.8	68.0	68.4	66.4			69	66.0	66.4	66.8	67.2	67.2

Well ID	5-Nov	6-Nov	7-Nov	8-Nov	9-Nov			Design	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.4	6.4	6.4	6.2	7			7	7.3	7	7.2	7.2	7.2
R-3	1.2	1.2	2	2	1.6			2.5	2	1.6	1.6	1.6	2
R-4	8.4	8.4	8.4	8.6	8.8			8.5	8.4	8.8	8.8	8.8	8.8
R-5	1.2	1.2	1	1.2	1.2			2	1.2	1.2	1.2	1.2	1.2
R-6	13.2	13.2	13.2	13.6	13.2			15	13.2	13.2	13.2	13.2	12.8
R-7	1.6	1.6	1.6	1.4	1.8			2	1.6	1.8	1.8	1.8	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8	8	8	8.4	8.2			9	8	8.2	8.2	8.2	8
R-10	2.4	2.4	2.4	2.4	2.2			2	2.2	2.2	2.2	2.2	2
R-11	12.4	12.4	12.4	12.4	14			11	14	14.2	14.2	14.3	13.6
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.4	8.4	8.6	8.4	8.8			10	8.4	8.8	8.6	8.6	8.4
	63.2	63.2	64.0	64.6	66.8			69	66.3	67.0	67.0	67.1	66.0

Well ID	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov			Design	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.2	7	7.2	H	H			7	7.2	7.2	7.2	7.3	7.1
R-3	2	2	2	0	0			2.5	2	2	2	2	2.1
R-4	8.6	8.8	8.8	L	L			8.5	8.8	8.6	8.8	8.8	8.6

R-5	1	1	1.2	I	I			2	1.2	1.2	1.2	1.1	1.2
R-6	12.6	12.4	12.5	D	D			15	12.4	12.2	12.4	12.8	13
R-7	2	2	2	A	A			2	2	2	2	2.1	2.2
R-8	off	off	off	Y	Y			0	off	off	off	off	off
R-9	8	8	8	0	0			9	8	8.2	8.4	8.2	8.2
R-10	1.8	2.2	2.2	0	0			2	1.6	1.6	1.6	1.8	2
R-11	13.4	13.4	13.4	0	0			11	13.6	13.6	13.6	13.8	13.6
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.4	8.4	8.4	0	0			10	8.4	8.4	8.4	8.6	8.4
	65.0	65.2	65.7	0.0	0.0			69	65.2	65.0	65.6	66.5	66.4

Well ID	3 Dec	4 Dec	5 Dec	6 Dec	7 Dec			Design	10 Dec	11 Dec	12 Dec	13 Dec	14 Dec
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6.4	6.4	6.4	6.4	6.4			7	6.4	6.2	6.4	6.4	6.4
R-3	2	2	2	2	2			2.5	2	2	1.8	2	2
R-4	8	8	8	8	8.2			8.5	8	8.4	8.4	8	8
R-5	1.2	1.2	1.6	2.4	1.2			2	1.2	1.8	4	2.4	2.4
R-6	13.4	13.4	13.4	13.4	13.4			15	12.8	12.6	12.2	13.4	13.4
R-7	2	2	2	2	2			2	2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8	8	8	8	8			9	8	8	7.8	8	8
R-10	2	2	2	2	2			2	2	2	2	2	2
R-11	14	14	14	14	14			11	13.3	13.4	13.2	14	14
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8	8	8	8	8			10	8.4	8.4	8.2	8	8
	65.0	65.0	65.4	66.2	65.2			69	64.1	64.8	66.0	66.2	66.2

Well ID	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec			Design	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	7.2	7.2	7.2	7.4	7.2			7	0	0	7.2	7.2	7
R-3	1.6	1.6	1.6	1.4	1.6			2.5	0	0	1.8	1.8	2.2
R-4	8	8	8	8.2	8			8.5	0	0	8	8.6	8.8
R-5	4	4	4	4	4			2	0	0	2.2	2.5	2.6
R-6	13.2	13.2	13.2	13	13.2			15	0	0	13.4	13	12.8
R-7	2	2	2	2	2			2	0	0	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8	8	8	8	8			9	0	0	8.4	8.4	8.2
R-10	2	2	2	2.4	2			2	0	0	2	2	1.8
R-11	12.8	12.8	12.8	11.8	12.8			11	0	0	12.6	12	12.2
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8	8	8	8	8			10	0	0	8	8.4	8.2
	66.8	66.8	66.8	66.2	66.8			69	0.0	0.0	65.6	65.9	65.8

Well ID	31-Dec	1-Jan	2-Jan	3-Jan	4-Jan			Design	7-Jan	8-Jan	9-Jan	10-Jan	11-Jan
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	0	0	6	6	6.1			7	6.1	6.2	6.2	5.6	5.6
R-3	0	0	2	2	2			2.5	2	2	2	1.6	1.6
R-4	0	0	8	8	8			8.5	8	8	8	8	8
R-5	0	0	4.2	4.2	4.2			2	4.2	4	4	5.6	5.6
R-6	0	0	12.8	12.8	12.8			15	12.8	12.6	12.6	12.8	12.8
R-7	0	0	2	2	2.1			2	2.1	2.2	2.2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	0	0	8	8	8			9	8	8.4	8.4	8.4	8.4
R-10	0	0	2	2	2			2	2	2	2	1.6	1.6

R-11	0	0	12.8	12.8	12.8			11	12.8	12.6	12.6	12	12
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	0	0	8.8	8.8	8.8			10	8.8	8.8	8.8	8	8
	0.0	0.0	66.6	66.6	66.8			69	66.8	66.8	66.8	65.6	65.6

Well ID	14 Jan	15 Jan	16 Jan	17 Jan	18 Jan			Design	21 Jan	22 Jan	23 Jan	24 Jan	25 Jan
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	6	6	6	6	6			7	6	6	6	6	6
R-3	2	2	2	2	2			2.5	2	2	2	2	2
R-4	8	8	8	8	8			8.5	8	8	8	8	8
R-5	5.2	5.2	5.2	5.2	5.2			2	5.2	5.2	5.2	5.2	5.2
R-6	13.2	13.2	13	13	13			15	13	13	13	13	13
R-7	2	2	2	2	2			2	2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	7.2	7.2	7.2	7.2	7.2			9	7.2	7.2	7.2	7.2	7.2
R-10	2	2	2	2	2			2	2	2	2	2	2
R-11	12.4	12.4	12.4	12.4	12.4			11	12.4	12.4	12.4	12.4	12.4
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.8	8.8	8.8	8.8	8.8			10	8.8	8.8	8.8	8.8	8.8
	66.8	66.8	66.6	66.6	66.6			69	66.6	66.6	66.6	66.6	66.6

Well ID	28 Jan	29 Jan	30 Jan	31 Jan	1 Feb			Design	4 Feb	5 Feb	6 Feb	7 Feb	8 Feb
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	5.2	5	5	4.8	4.8			7	5.2	5.2	5.2	5.2	5.2
R-3	2	1.6	1.6	1.8	1.8			2.5	2	2	2	2	2
R-4	8	8.2	8	8	8			8.5	8	8	8	8	8

R-5	5.2	5.2	5.2	5	5			2	5.2	5.2	4.4	4.4	4
R-6	13.6	13.6	13.6	13.6	13.6			15	13.6	13.6	13.2	13.2	13.2
R-7	2	2.2	2	2	2			2	2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8	8	8	8	8			9	8	8	8	8	8
R-10	2	2	2	2	2			2	2	2	2	2	2
R-11	12	11.8	12	11.8	11.8			11	12	12	12	12	12
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8.8	8.8	8.8	8.4	8.4			10	8.8	8.8	8	8	8
	66.8	66.4	66.2	65.4	65.4			69	66.8	66.8	64.8	64.8	64.4

Well ID	11 Feb	12 Feb	13 Feb	14 Feb	15 Feb			Design	18 Feb	19 Feb	20 Feb	21 Feb	22 Feb
R-1	off	off	off	off	off			0	off	off	off	off	off
R-2	5.2	5.2	5.2	5.4	5.4			7	5.4	5.4	5.4	5.4	5.4
R-3	2	2.1	2.2	2.2	2.2			2.5	2.2	2.2	2.2	2.2	2.2
R-4	8	8	8	8.4	8.4			8.5	8.4	8.4	8.4	8.4	8.4
R-5	4.4	4.2	4.2	4.2	4.2			2	4.2	4.2	4.2	4.2	4.2
R-6	13.2	13	13	13	13			15	13	13	13	13	13
R-7	2	2	2	2	2			2	2	2	2	2	2
R-8	off	off	off	off	off			0	off	off	off	off	off
R-9	8	8	8	8	8			9	8	8	8	8	8
R-10	2	1.8	2	2	2			2	2	2	2	2	2
R-11	12	12	12	12	12			11	12	12	12	12	12
R-12	off	off	off	off	off			0	off	off	off	off	off
R-13	off	off	off	off	off			0	off	off	off	off	off
R-14	off	off	off	off	off			0	off	off	off	off	off
R-15	8	8	8.2	8.4	8.4			10	8.4	8.4	8.4	8.4	8.4
	64.8	64.3	64.8	65.6	65.6			69	65.6	65.6	65.6	65.6	65.6

Well ID	25-Feb	26-Feb	27-Feb	28-Feb	29-Feb			Design	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	5	5	5	5	5	5	5	7	5	5	5.1	0	5.3	5.3	5.3
R-3	2.4	2.4	2.4	2.4	2.2	2.2	2.2	2.5	2	2	2.2	0	2.2	2.2	2.2
R-4	8.2	8.2	8.2	8.2	8.4	8.4	8.4	8.5	8.4	8.4	8.4	0	8.6	8.6	8.6
R-5	3.6	3.8	3.6	3.6	3.4	3.4	3.4	2	3.4	3.4	3.4	0	3.6	3.6	3.6
R-6	13.2	13.2	13.2	13.2	13	13	13	15	13	13	13.1	0	13.2	13.2	13.2
R-7	2	2	2	2	2	2	2	2	2	2	2	0	2.2	2.2	2.2
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8	7.8	8	8	8	8	8	9	8	8	8	0	8.2	8.2	8.2
R-10	2	2	2	2	2.2	2.2	2.2	2	2.2	2.2	2.2	0	2.4	2.4	2.4
R-11	11.8	11.8	11.8	11.8	11.6	11.6	11.6	11	11.6	11.6	11.6	0	11.8	11.8	11.8
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.6	8.6	8.6	8.6	8.8	8.8	8.8	10	8.8	8.4	8.2	0	8.4	8.4	8.4
	64.8	64.8	64.8	64.8	64.6			69	64.4	64.0	64.2	0.0	65.9		

On 3/6/08 the GWTS was shutdown at 0800 hours to replace valves on the greensand filters.
On 3/7/08 the wells were measured and the flow rates are an instantaneous number. The wells were only on for 10 hours during the day.

Well ID	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar			Design	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	5.3	5.4	5.4	5.4	5.4	5.4	5.4	7	5.4	5.4	5.4	5.2	3	3	3
R-3	2.2	2	2.4	2.2	2.2	2.2	2.2	2.5	2.2	2.4	2.4	2.4	2.4	2.4	2.4
R-4	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5	8.6	8.8	8.8	8.4	7.6	7.6	7.6
R-5	3.6	3.8	3.6	3.6	3.6	3.6	3.6	2	3.6	3.4	3.4	3.2	1.6	1.6	1.6
R-6	13.2	13.2	13.4	13.4	13.4	13.4	13.4	15	13.4	13	13	13	12.6	12.6	12.6
R-7	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2	2.4	2.8	2.8	2.4	2.4	2.4	2.4

R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.2	8	8.4	8.4	8.4	8.4	8.4	9	8.4	8.4	8.4	8.4	10.6	10.6	10.6
R-10	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2	2.4	2.4	2.4	2	2	2	2
R-11	11.8	12	12	12	12	12	12	11	12	12	12	11.8	11.8	11.8	11.8
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.6	8.6	8.4	8.4	8.4	8.4	8.4	10	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	66.1	66.4	67.0	66.8	66.8			69	66.8	67.0	67.0	65.2	62.4		

Well ID	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar			Design	31-Mar	1-Apr	2-Apr	3-Apr	4-Apr		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	3	3	3	3	3	3	3	7	2.8	5.2	6.2	6.8	6.8	6.8	6.8
R-3	2.4	2.4	2.4	3.2	3.2	3.2	3.2	2.5	3.4	3.2	3.2	3	3	3	3
R-4	7.6	7.6	7	7	7	7	7	8.5	6.8	10.8	10.6	10.4	10.4	10.4	10.4
R-5	1.6	2	1.4	1.4	1.4	1.4	1.4	2	1.6	1.5	0	0	0	0	0
R-6	12.6	12.6	12	12	12	12	12	15	12.8	12.8	12.8	12.8	12.8	12.8	12.8
R-7	2.4	2.4	2	2	2	2	2	2	2	2	2	2	2	2	2
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	10.6	10.6	8.4	8.4	8.4	8.4	8.4	9	8.4	7.8	8	8	8	8	8
R-10	2	2	2	2	2	2	2	2	2	2.4	2.4	2.4	2.4	2.4	2.4
R-11	10.8	10.8	10	10	10	10	10	11	10	10	10	10.2	10.2	10.2	10.2
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.4	8.4	8.2	8.2	8.2	8.2	8.2	10	8.2	8	8.2	8.4	8.4	8.4	8.4
	61.4	61.8	56.4	57.2	57.2			69	58.0	63.7	63.4	64.0	64.0		

Well ID	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr			Design	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off

R-2	6.8	6.8	6.8	6.8	6.8	6.8	6.8	7	6.8	6.8	6.4	6	5.8	5.8	5.8
R-3	2.8	2.8	2.6	2.4	2.4	2.4	2.4	2.5	2.2	2.4	2.4	2.4	2.4	2.4	2.4
R-4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	8.5	10.4	10.4	10.4	10.4	10.4	10.4	10.4
R-5	1.4	1.5	3	3	3	3	3	2	3	3.2	3	2.8	2.6	2.6	2.6
R-6	12.4	12.4	12.2	12.2	12.2	12.2	12.2	15	12.4	12.4	12.4	12.4	12.6	12.6	12.6
R-7	2.4	2.4	2.8	2.8	2.8	2.8	2.8	2	2.4	2.4	2.4	2.4	2.6	2.6	2.6
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.4	8.4	8.4	8.4	8.4	8.4	8.4	9	8.4	8.4	8.4	8.4	8.4	8.4	8.4
R-10	2.4	2.4	2	2	2	2	2	2	2.2	2.2	2	2.2	2	2	2
R-11	10	10.4	10.4	10.4	10.4	10.4	10.4	11	10.4	10.4	10.4	10.4	10.2	10.2	10.2
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.4	8	8.2	8.2	8.2	8.2	8.2	10	8.4	8.4	8.8	8.4	8.2	8.2	8.2
	65.4	65.5	66.8	66.6	66.6			69	66.6	67.0	66.6	65.8	65.2		

Well ID	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr			Design	28-Apr	29-Apr	30-Apr	1-May	2-May		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	5.8	5.4	5.4	2	5	5	5	7	7.2	7.2	7.2	7	7	7	7
R-3	2.4	2.4	2.4	2.4	3.2	3.2	3.2	2.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2
R-4	10.4	10.2	10.2	10	7.4	7.4	7.4	8.5	8	8	8	8.4	8.4	8.4	8.4
R-5	2.6	2.6	2.6	2.4	1.4	1.4	1.4	2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
R-6	12.6	12.2	12.2	12.2	12.4	12.4	12.4	15	12.8	12.8	12.8	12.4	12.4	12.4	12.4
R-7	2.6	2.6	2.6	2.4	2	2	2	2	1.6	1.6	1.6	1.6	1.6	1.6	1.6
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.4	8.4	8.4	7.4	8	8	8	9	7.6	7.6	7.6	7.8	7.8	7.8	7.8
R-10	2	2	2	2	1	1	1	2	0.8	0.8	1	1	1	1	1
R-11	10.2	10	10	10.2	10	10	10	11	10	10	10	10.4	10.4	10.4	10.4
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off

R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.2	8.2	8.2	8	7.4	7.4	7.4	10	8	8	8.2	8.2	8.2	8.2	8.2
	65.2	64.0	64.0	59.0	57.8			69	60.4	60.4	60.8	61.2	61.2		

Well ID	5-May	6-May	7-May	8-May	9-May			Design	12-May	13-May	14-May	15-May	16-May		
R-1	off	off	off	off	off	off	off	0	Area B And D Pump Tests					0	0
R-2	5.7	5.6	6.8	6.8	0	0	0	7						0	0
R-3	3.4	3.4	2.8	2.8	0	0	0	2.5						0	0
R-4	8	8	8	8	0	0	0	8.5						0	0
R-5	1	1	0.8	0.8	0	0	0	2						0	0
R-6	12.4	12.4	12	12	0	0	0	15						0	0
R-7	1.6	1.4	2	2	0	0	0	2						0	0
R-8	off	off	off	off	off	off	off	0						0	0
R-9	7.4	7.8	8	8	0	0	0	9						0	0
R-10	1	0.8	0.8	2	0	0	0	2						0	0
R-11	9.4	9.4	9.2	9.2	0	0	0	11						0	0
R-12	off	off	off	off	off	off	off	0						0	0
R-13	off	off	off	off	off	off	off	0						0	0
R-14	off	off	off	off	off	off	off	0						0	0
R-15	8	8	8.4	8.4	0	0	0	10						0	0
	57.9	57.8	58.8	60.0	0.0			69	0.0	0.0	0.0	0.0	0.0		

Well ID	19-May	20-May	21-May	22-May	23-May			Design	26-May	27-May	28-May	29-May	30-May		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	2	6.4	2	maint	maint	maint	maint	7	0	3	4.2	4	4	4	4
R-3	2.8	2.8	3.6	3.6	3.4	3.4	3.4	2.5	0	3.8	3.5	3.6	3.6	3.6	3.6
R-4	8.8	8.8	8.8	8.4	8.2	8.2	8.2	8.5	0	8.2	8.2	8	8	8	8
R-5	0.8	0.8	maint	2.4	2.6	2.6	2.6	2	0	2.8	2	2.6	2.6	2.6	2.6
R-6	7.2	7.2	12.4	12.2	12.4	12.4	12.4	15	0	12	12.8	12	12	12	12
R-7	0.8	2.4	2.4	2.4	2.2	2.2	2.2	2	0	2	0.6	0.6	0.6	0.6	0.6

R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.8	8.8	8.4	8.4	8.2	8.2	8.2	9	0	8	8.2	7.8	7.8	7.8	7.8
R-10	0.8	0.8	maint	2.2	2.2	2.2	2.2	2	0	2	3.4	2.8	2.8	2.8	2.8
R-11	9.2	9.2	10	10.2	10	10	10	11	0	7.2	10.8	7.4	7.4	7.4	7.4
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.4	8.4	8	8	8	8	8	10	0	8	7.8	8	8	8	8
	49.6	55.6	55.6	57.8	57.2			69	0.0	57.0	61.5	56.8	56.8		

Well ID	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun			Design	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun		
R-1	off	Area B Deep Well Pump Test				0	0	0	off	off	off	off	off	off	off
R-2						0	0	7	5.4	5.8	7.6	6.4	5	5	5
R-3						0	0	2.5	3	3.2	4	3.2	3.8	3.8	3.8
R-4						0	0	8.5	9	9.4	10.4	8.8	8	8	8
R-5						0	0	2	off	off	off	1	1	1	1
R-6						0	0	15	11.8	12	12	13.2	12.2	12.2	12.2
R-7						0	0	2	0.4	0.8	0.8	2	1.8	1.8	1.8
R-8	off					0	0	0	off	off	off	off	off	off	off
R-9						0	0	9	8.8	8.4	8.4	8.4	8.4	8.4	8.4
R-10						0	0	2	5	2.8	2.8	2	2	2	2
R-11						0	0	11	10.4	10.4	10.8	9.6	10	10	10
R-12	off					0	0	0	off	off	off	off	off	off	off
R-13	off					0	0	0	off	off	off	off	off	off	off
R-14	off					0	0	0	off	off	off	off	off	off	off
R-15						0	0	10	8.4	8.4	10	8	7.8	7.8	7.8
	0.0	0.0	0.0	0.0	0.0			69	62.2	61.2	66.8	62.6	60.0		

Well ID	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun			Design	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off

R-2	3.6	3.8	4	6.4	6.4	6.4	6.4	7	3.3	7.2	7.2	7.2	7.2	7.2	7.2
R-3	4	4	3.4	4	4	4	4	2.5	4.2	2	2	1.8	1.8	1.8	1.8
R-4	10	10.4	9.6	8.8	8.8	8.8	8.8	8.5	8.6	8.8	8.6	8.4	8.4	8.4	8.4
R-5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	2	0.6	1	1	1	1	1	1
R-6	12.4	12.4	12.4	10.7	10.7	10.7	10.7	15	11.8	12	12	12	12	12	12
R-7	1.8	2	2	1.2	1.2	1.2	1.2	2	1.2	2	2	2	2	2	2
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.4	8	8.8	8.4	8.4	8.4	8.4	9	8.2	8	8.4	8.4	8.4	8.4	8.4
R-10	2.4	3	2	1.2	1.2	1.2	1.2	2	1.2	1.2	1.4	1.4	1.4	1.4	1.4
R-11	10.4	10	8.8	8.8	8.8	8.8	8.8	11	8.6	8.2	7.8	7.8	7.8	7.8	7.8
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.4	8.2	8.8	7.6	7.6	7.6	7.6	10	7.8	7.6	7.4	7.4	7.4	7.4	7.4
	62.2	62.6	60.6	57.9	57.9			69	55.5	58.0	57.8	57.4	57.4		

Well ID	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul			Design	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	7.2	7.2	7.4	7.4	0	0	0	7	0	0	0	0	0	0	0
R-3	2	2.4	2.6	2.4	0	0	0	2.5	0	0	0	0	0	0	0
R-4	8.4	8.8	8.8	8.6	0	0	0	8.5	0	0	8.5	8	8	8	8
R-5	1	0.8	0.8	0.8	0	0	0	2	0	0	0	0	0	0	0
R-6	12.4	12.8	12.4	12.8	0	0	0	15	0	0	12.5	13.2	13.2	13.2	13.2
R-7	2.2	1.2	1.4	1.6	0	0	0	2	0	10	10	0	0	0	0
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8	8	8.4	8.6	0	0	0	9	0	0	9	8.4	8.4	8.4	8.4
R-10	1.2	1.2	1.4	1.4	0	0	0	2	0	0	2	0	0	0	0
R-11	7.6	7.6	7.8	8	0	0	0	11	0	0	0	0	0	0	0
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off

R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	7.4	7.6	8	8.4	0	0	0	10	0	0	8.2	8	8	8	8
	57.4	57.6	59.0	60.0	0.0			69	0.0	10.0	50.2	37.6	37.6		

Well ID	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul			Design	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	7.2	7.4	7.2	7.4	7.2	7.2	7.2	7	0	0	0	7.4	7.4	7.4	7.4
R-3	1.8	1.6	1	1.2	1	1	1	2.5	0	0	0	1	1	1	1
R-4	8	8	8	8	8	8	8	8.5	0	0	0	8.4	8.4	8.4	8.4
R-5	0.8	0.8	2	2	2	2	2	2	0	0	0	2.2	2.2	2.2	2.2
R-6	12.8	12.4	12.8	12.6	12.4	12.4	12.4	15	0	0	0	12	12	12	12
R-7	1.8	1.8	2	2	2	2	2	2	0	0	0	2	2	2	2
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.4	8.8	8.8	8.4	8.8	8.8	8.8	9	0	0	0	8.4	8.4	8.4	8.4
R-10	2.4	2.2	2.2	1.8	2.2	2.2	2.2	2	0	0	0	2	2	2	2
R-11	8	8.4	8.8	8.8	8.4	8.4	8.4	11	0	0	0	8	8	8	8
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8	8.2	8	8	8	8	8	10	0	0	0	8.2	8.2	8.2	8.2
	59.2	59.6	60.8	60.2	60.0			69	0.0	0.0	0.0	59.6	59.6		

Well ID	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug			Design	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	7.4	7.4	7.2	7.4	0	0	0	7	0	0	0	0	7.5	7.5	7.5
R-3	1	1	2.8	2.8	0	0	0	2.5	0	0	0	0	2.9	2.9	2.9
R-4	8.4	8.4	8.4	8.4	0	0	0	8.5	0	0	0	0	8.2	8.2	8.2
R-5	2.2	2.2	1.8	1.4	0	0	0	2	0	0	0	0	1.6	1.6	1.6
R-6	12	12	12	12	0	0	0	15	0	0	0	0	11.8	11.8	11.8
R-7	2	2	1.2	2	0	0	0	2	0	0	0	0	1.8	1.8	1.8

R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.4	8.4	8.4	8.4	0	0	0	9	0	0	0	0	8.6	8.6	8.6
R-10	2	2	2.4	2.2	0	0	0	2	0	0	0	0	2	2	2
R-11	8	8	8	8	0	0	0	11	0	0	0	0	8.2	8.2	8.2
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.2	8.2	8.4	8	0	0	0	10	0	0	0	0	8.3	8.3	8.3
	59.6	59.6	60.6	60.6	0.0			69	0.0	0.0	0.0	0.0	60.9		

Well ID	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug			Design	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-2	7.5	7.2	7.5	7.4	7.6	7.6	7.6	7	7.4	8	8.2	8	8	8	8
R-3	2.9	2.4	3	2.8	2.6	2.6	2.6	2.5	2.8	2.4	3	2.8	3	3	3
R-4	8.2	8.4	8.3	8.4	8.4	8.4	8.4	8.5	8.8	9.2	9.4	9.6	9.4	9.4	9.4
R-5	1.6	1.4	1.8	2	2	2	2	2	2.2	1.2	1.2	1.2	1.4	1.4	1.4
R-6	11.8	12	11.8	12	12	12	12	15	12	12	12	11.8	12	12	12
R-7	1.8	1.8	1.8	1.8	2	2	2	2	2.8	1.6	1.6	1.4	1.4	1.4	1.4
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	8.6	8.8	8.8	8.8	9	9	9	9	9.6	9.4	9.6	9.4	9.5	9.5	9.5
R-10	2	n/w	n/w	1.8	1.8	1.8	1.8	2	1.5	2.2	2.5	2.6	2.8	2.8	2.8
R-11	8.2	8	8.2	8	8	8	8	11	8	8.6	8.6	8.4	8.5	8.5	8.5
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.3	8.4	8.5	8.4	8.6	8.6	8.6	10	8.6	8.4	8.4	8.2	8	8	8
	60.9	58.4	59.7	61.4	62.0			69	63.7	63.0	64.5	63.4	64.0		

Well ID	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug			Design	1-Sep	2-Sep	3-Sep	4-Sep	5-Sep		
R-1	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off

R-2	8	8	8	8.2	0	0	0	7	0	8.6	8.4	0	0	0	0
R-3	2.8	2.8	2.8	2.8	0	0	0	2.5	0	3.6	2.8	0	0	0	0
R-4	9.2	9.2	9.4	9.8	0	0	0	8.5	0	8	8.4	0	0	0	0
R-5	1.4	1.6	1.8	1.8	0	0	0	2	0	1	1	0	0	0	0
R-6	12	11.8	12	12	0	0	0	15	0	12.4	12	0	0	0	0
R-7	1.2	1.2	1.4	1.4	0	0	0	2	0	1.6	1.4	0	0	0	0
R-8	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-9	9.6	9.4	9.5	9.4	0	0	0	9	0	8.2	8.2	0	0	0	0
R-10	1.4	1.2	1	1.4	0	0	0	2	0	1.6	2.4	0	0	0	0
R-11	8.4	8.4	8.2	8.6	0	0	0	11	0	8.4	8.4	0	0	0	0
R-12	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-13	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-14	off	off	off	off	off	off	off	0	off	off	off	off	off	off	off
R-15	8.4	8.4	8.5	8.8	0	0	0	10	0	8.4	8.4	0	0	0	0
	62.4	62.0	62.6	64.2	0.0			69	0.0	61.8	61.4	0.0	0.0		

6/1/08-9/30/08

	6/1/2008	9/30/2008	Total Flow		
41-EW1	5,132	268,415	263,283		1.51
41-EW2	12,706	437,711	425,005		2.44
41-EW3	17,824	63,913	46,089		0.26
41-EW4	1,686	8,063	6,377		0.04
41-EW5	101,052	504,956	403,904		2.32
41-EW6	31,350	146,467	115,117		0.66

Days 121
Minutes 174240
9/30/2008 6/1/2008

Oct-08

	9/30/2008	10/30/2008	Total Flow		
41-EW1	5,132	8,863	3,731		0.09
41-EW2	12,706	22,229	9,523		0.22
41-EW3	17,824	35,160	17,336		0.40
41-EW4	1,686	3,996	2,310		0.05
41-EW5	101,052	131,838	30,786		0.71
41-EW6	31,350	63,170	31,820		0.74

Days 30
Minutes 43200
10/30/2008 9/30/2008

Nov-08

	10/30/2008	11/30/2008	Total Flow		
41-EW1	8,863	11,606	2,743		0.06
41-EW2	22,229	34,712	12,483		0.28
41-EW3	35,160	56,881	21,721		0.49
41-EW4	3,996	6,862	2,866		0.06
41-EW5	131,838	180,858	49,020		1.10
41-EW6	63,170	108,160	44,990		1.01

Days 31
Minutes 44640
11/30/2008 10/30/2008

Dec-08

	11/30/2008	12/31/2008	Total Flow		
41-EW1	11,606	12,103	497		0.01
41-EW2	34,712	37,377	2,665		0.06
41-EW3	56,881	59,575	2,694		0.06
41-EW4	6,862	7,186	324		0.01
41-EW5	180,858	189,200	8,342		0.19
41-EW6	108,160	115,373	7,213		0.16

Days 31
Minutes 44640
12/31/2008 11/30/2008

Jan-09

	12/31/2008	1/31/2009	Total Flow		
41-EW1	12,103	13,789	1,686		0.04
41-EW2	37,377	41,744	4,367		0.10
41-EW3	59,575	60,421	846		0.02
41-EW4	7,186	7,186	0		0.00
41-EW5	189,200	202,629	13,429		0.30
41-EW6	115,373	115,373	0		0.00

Days 31
Minutes 44640
1/31/2009 12/31/2008

Feb-09

	1/31/2009	2/28/2009	Total Flow		
41-EW1	13,789	32,990	19,201		0.48
41-EW2	41,744	70,083	28,339		0.70
41-EW3	60,421	61,575	1,154		0.03
41-EW4	7,186	8,061	875		0.02
41-EW5	202,629	287,033	84,404		2.09
41-EW6	115,373	135,374	20,001		0.50

Days 28
Minutes 40320
2/28/2009 1/31/2009

	2/28/2009	Mar-09 3/31/2009	Total Flow		
41-EW1	32,990	88,599	55,609		1.25
41-EW2	70,083	162,616	92,533		2.07
41-EW3	61,575	61,616	41		0.00
41-EW4	8,061	8,062	1		0.00
41-EW5	287,033	302,903	15,870		0.36
41-EW6	135,374	146,466	11,092		0.25

Days 31
Minutes 44640
3/31/2009 2/28/2009

	3/31/2009	Apr-09 4/30/2009	Total Flow		
41-EW1	88,599	155,234	66,635		1.54
41-EW2	162,616	285,273	122,657		2.84
41-EW3	61,616	63,566	1,950		0.05
41-EW4	8,062	8,062	0		0.00
41-EW5	302,903	321,997	19,094		0.44
41-EW6	146,466	146,466	0		0.00

Days 30
Minutes 43200
4/30/2009 3/31/2009

	4/30/2009	May-09 5/31/2009	Total Flow		
41-EW1	155,234	268,415	113,181		2.54
41-EW2	285,273	437,711	152,438		3.41
41-EW3	63,566	63,913	347		0.01
41-EW4	8,062	8,063	1		0.00
41-EW5	321,997	504,956	182,959		4.10
41-EW6	146,466	146,467	1		0.00

Days 31
Minutes 44640
5/31/2009 4/30/2009

highest month at 10 gpm

	5/31/2009	Jun-09 6/30/2009	Total Flow		
41-EW1	268,415	272,839	4,424		0.10
41-EW2	437,711	487,632	49,921		1.16
41-EW3	63,913	63,933	20		0.00
41-EW4	8,063	8,064	1		0.00
41-EW5	504,956	683,410	178,454		4.13
41-EW6	146,467	146,469	2		0.00

Days 30
Minutes 43200
6/30/2009 5/31/2009

	6/30/2009	Jul-09 07/31/09	Total Flow		
41-EW1	272,839	272,839	0		0.00
41-EW2	487,632	487,727	95		0.00
41-EW3	63,933	63,933	0		0.00
41-EW4	8,064	8,064	0		0.00
41-EW5	683,410	803,564	120,154		2.69
41-EW6	146,469	146,469	0		0.00

Days 31
Minutes 44640
7/31/2009 6/30/2009

	7/31/2009	Aug-09 08/31/09	Total Flow		
41-EW1	272,839	272,839	0		0.00
41-EW2	487,727	487,828	101		0.00
41-EW3	63,933	63,951	18		0.00
41-EW4	8,064	8,064	0		0.00
41-EW5	803,564	902,805	99,241		2.22
41-EW6	146,469	146,469	0		0.00

Days 31
Minutes 44640
8/31/2009 7/31/2009

	8/31/2009	Sep-09 09/30/09	Total Flow		
41-EW1	272,839	272,839	0		0.00
41-EW2	487,828	487,935	107		0.00
41-EW3	63,951	63,951	0		0.00
41-EW4	8,064	8,064	0		0.00
41-EW5	902,805	1,078,193	175,388		4.06
41-EW6	146,469	146,469	0		0.00

Days	30	
Minutes	43200	
9/30/2009		8/31/2009

Appendix D

Recharge Bed Laboratory Permeability Test Data

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	TRC Environmental		
Project Name:	NJ Project		
Project Location:	NJ		
GTX #:	7419		
Start Date:	05/09/07	Tested By:	mll
End Date:	05/10/07	Checked By:	jdt
Boring #:	---		
Sample #:	#1 SB-21		
Depth:	20-22.5 ft		
Visual Description:	Moist, mottled white and yellow silty sand		

Permeability of Granular Soils (Constant Head) by ASTM D 2434

Sample Type: tube

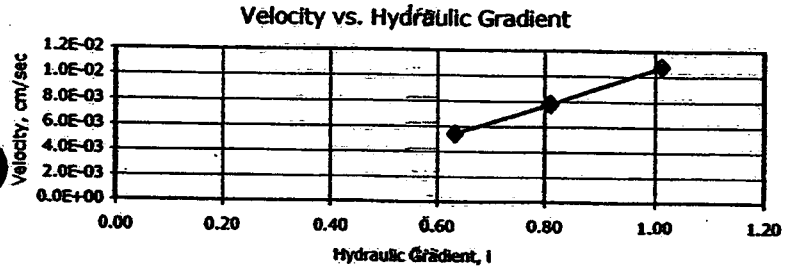
Sample Information:

Maximum Dry Density:	--- pcf
Optimum Moisture Content:	--- %
Compaction Test Method:	ASTM D 1557
Classification (ASTM D 2487):	---
Assumed Specific Gravity:	2.65

Sample Preparation / Test Setup: A section of the tube sample containing was cut and placed directly into a three-inch-diameter Shelby tube permeater test set-up. Test specimen tested at the as-received moisture content and density.

Parameter	Initial	Final
Height, in	3.95	3.95
Diameter, in	2.87	2.87
Area, in^2	6.47	6.47
Volume, in^3	25.6	25.6
Mass, g	668	805
Bulk Density, pcf	100	120
Moisture Content, %	8	26
Dry Density, pcf	92.3	95.2
Degree of Saturation, %	---	93.6
Void Ratio, e	---	0.74

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
5/9	1	2.23	10	0.22	0.63	8.4E-03	15.0	1.135	9.6E-03
5/9	2	2.27	10	0.23	0.63	8.6E-03	15.0	1.135	9.8E-03
5/9	3	2.27	10	0.23	0.63	8.6E-03	15.0	1.135	9.8E-03
5/9	4	3.22	10	0.32	0.81	9.5E-03	15.0	1.135	1.1E-02
5/9	5	3.28	10	0.33	0.81	9.7E-03	15.0	1.135	1.1E-02
5/9	6	3.24	10	0.32	0.81	9.6E-03	15.0	1.135	1.1E-02
5/9	7	4.48	10	0.45	1.01	1.1E-02	15.0	1.135	1.2E-02
5/9	8	4.48	10	0.45	1.01	1.1E-02	15.0	1.135	1.2E-02
5/9	9	4.51	10	0.45	1.01	1.1E-02	15.0	1.135	1.2E-02



PERMEABILITY @ 20 °C =

1.1×10^{-2} cm/sec

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	TRC Environmental		
Project Name:	NJ Project		
Project Location:	NJ		
GTX #:	7419		
Start Date:	05/10/07	Tested By:	mll
End Date:	05/11/07	Checked By:	jdt
Boring #:	---		
Sample #:	SB-27		
Depth:	15-17.5 ft		
Visual Description:	Moist, mottled white and yellow silty sand		

Permeability of Granular Soils (Constant Head) by ASTM D 2434

Sample Type: tube

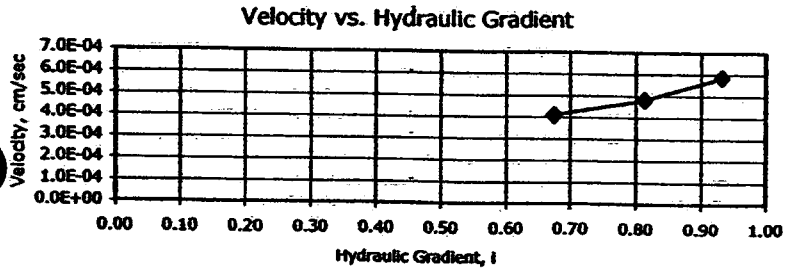
Sample Information:

Maximum Dry Density:	--- pcf
Optimum Moisture Content:	--- %
Compaction Test Method:	ASTM D 1557
Classification (ASTM D 2487):	---
Assumed Specific Gravity:	2.65

Sample Preparation / Test Setup: A section of the tube sample containing was cut and placed directly into a three-inch-diameter Shelby tube permeater test set-up. Test specimen tested at the as-received moisture content and density.

Parameter	Initial	Final
Height, in	5.04	5.04
Diameter, in	2.87	2.87
Area, in^2	6.47	6.47
Volume, in^3	32.6	32.6
Mass, g	1027	1099
Bulk Density, pcf	120	128
Moisture Content, %	9	21
Dry Density, pcf	110	106
Degree of Saturation, %	---	98.6
Void Ratio, e	---	0.55

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
5/10	1	1.02	60	0.02	0.67	6.0E-04	15.0	1.135	6.9E-04
5/10	2	1.03	60	0.02	0.67	6.1E-04	15.0	1.135	6.9E-04
5/10	3	1.03	60	0.02	0.67	6.1E-04	15.0	1.135	6.9E-04
5/10	4	1.20	60	0.02	0.81	5.9E-04	15.0	1.135	6.7E-04
5/10	5	1.20	60	0.02	0.81	5.9E-04	15.0	1.135	6.7E-04
5/10	6	1.21	60	0.02	0.81	5.9E-04	15.0	1.135	6.7E-04
5/10	7	1.46	60	0.02	0.93	6.3E-04	15.0	1.135	7.1E-04
5/10	8	1.47	60	0.02	0.93	6.3E-04	15.0	1.135	7.2E-04
5/10	9	1.47	60	0.02	0.93	6.3E-04	15.0	1.135	7.2E-04



PERMEABILITY @ 20 °C =

6.9×10^{-4} cm/sec

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	TRC Environmental		
Project Name:	NJ Project		
Project Location:	NJ		
GTX #:	7419		
Start Date:	05/09/07	Tested By:	mll
End Date:	05/10/07	Checked By:	jdt
Boring #:	---		
Sample #:	SB-29		
Depth:	15-17.5 ft		
Visual Description:	Moist, white silty sand		

Permeability of Granular Soils (Constant Head) by ASTM D 2434

Sample Type: tube

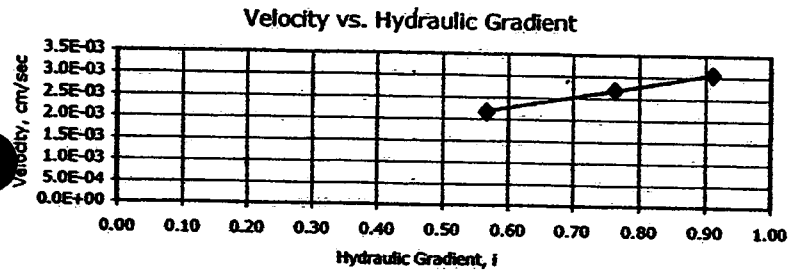
Sample Information:

Maximum Dry Density:	--- pcf
Optimum Moisture Content:	--- %
Compaction Test Method:	ASTM D 1557
Classification (ASTM D 2487):	---
Assumed Specific Gravity:	2.65

Sample Preparation / Test Setup: A section of the tube sample containing was cut and placed directly into a three-inch-diameter Shelby tube permeater test set-up. Test specimen tested at the as-received moisture content and density.

Parameter	Initial	Final
Height, in	4.06	4.06
Diameter, in	2.87	2.87
Area, in^2	6.47	6.47
Volume, in^3	26.3	26.3
Mass, g	697	832
Bulk Density, pcf	101	121
Moisture Content, %	4	27
Dry Density, pcf	97.2	95.4
Degree of Saturation, %	---	95.6
Void Ratio, e	---	0.73

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
5/9	1	1.79	20	0.09	0.57	3.8E-03	15.0	1.135	4.3E-03
5/9	2	1.81	20	0.09	0.57	3.8E-03	15.0	1.135	4.3E-03
5/9	3	1.82	20	0.09	0.57	3.9E-03	15.0	1.135	4.4E-03
5/9	4	2.24	20	0.11	0.76	3.5E-03	15.0	1.135	4.0E-03
5/9	5	2.25	20	0.11	0.76	3.5E-03	15.0	1.135	4.0E-03
5/9	6	2.24	20	0.11	0.76	3.5E-03	15.0	1.135	4.0E-03
5/9	7	2.56	20	0.13	0.91	3.4E-03	15.0	1.135	3.8E-03
5/9	8	2.54	20	0.13	0.91	3.3E-03	15.0	1.135	3.8E-03
5/9	9	2.54	20	0.13	0.91	3.3E-03	15.0	1.135	3.8E-03



PERMEABILITY @ 20 °C =

4.1×10^{-3} cm/sec

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	TRC Environmental		
Project Name:	NJ Project		
Project Location:	NJ		
GTX #:	7419		
Start Date:	05/18/07	Tested By:	mll
End Date:	05/21/07	Checked By:	jdt
Boring #:	---		
Sample #:	SB-32		
Depth:	12-14.5		
Visual Description:	Dry, pale yellow silty sand		

Permeability of Granular Soils (Constant Head) by ASTM D 2434

Sample Type: tube

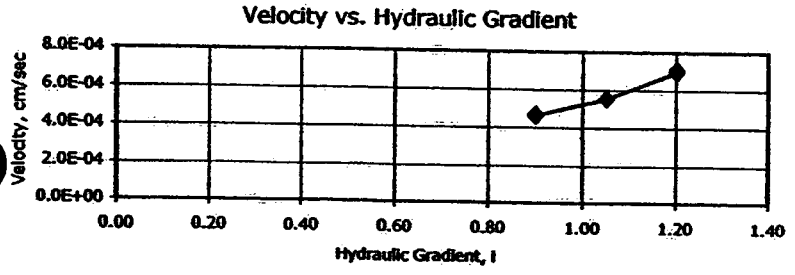
Sample Information:

Maximum Dry Density:	--- pcf
Optimum Moisture Content:	--- %
Compaction Test Method:	ASTM D 1557
Classification (ASTM D 2487):	---
Assumed Specific Gravity:	2.65

Sample Preparation / Test Setup: A section of the tube sample containing was cut and placed directly into a three-inch-diameter Shelby tube permeater test set-up. Test specimen tested at the as-received moisture content and density.

Parameter	Initial	Final
Height, in	4.66	4.66
Diameter, in	2.87	2.87
Area, in^2	6.5	6.5
Volume, in^3	30.1	30.1
Mass, g	880	978
Bulk Density, pcf	111	124
Moisture Content, %	9	24
Dry Density, pcf	102	100
Degree of Saturation, %	---	96.7
Void Ratio, e	---	0.66

Date	Reading #	Volume of Flow, cc	Time of Flow, sec	Flow Rate, cc/sec	Gradient	Permeability, cm/sec	Temp., °C	Correction Factor	Permeability @ 20 °C, cm/sec
5/18	1	1.16	60	0.02	0.90	5.1E-04	15.0	1.135	5.8E-04
5/18	2	1.17	60	0.02	0.90	5.2E-04	15.0	1.135	5.9E-04
5/18	3	1.16	60	0.02	0.90	5.1E-04	15.0	1.135	5.8E-04
5/18	4	1.38	60	0.02	1.05	5.2E-04	15.0	1.135	6.0E-04
5/18	5	1.38	60	0.02	1.05	5.2E-04	15.0	1.135	6.0E-04
5/18	6	1.38	60	0.02	1.05	5.2E-04	15.0	1.135	6.0E-04
5/18	7	1.74	60	0.03	1.20	5.8E-04	15.0	1.135	6.6E-04
5/18	8	1.75	60	0.03	1.20	5.8E-04	15.0	1.135	6.6E-04
5/18	9	1.77	60	0.03	1.20	5.9E-04	15.0	1.135	6.7E-04



PERMEABILITY @ 20 °C =

6.1×10^{-4} cm/sec

Appendix E

SBAC Sodium Data

TABLE 4-13
SURFACE WATER ANALYTICAL RESULTS
June 28-29, 2004
FAA William J. Hughes Technical Center
Area U - Supplemental Remedial Investigation / Ecological Risk Assessment

Sample Name		SUP-SB-SW-17-1	SUP-SB-SW-17-1	SUP-SB-SW-27-1	SUP-SB-SW-27-1	SUP-SB-SW-27-1	SUP-SB-SW-27-1	SUP-SB-SW-28-1	SUP-SB-SW-28-1	SUP-SB-SW-35-1	SUP-SB-SW-35-1	SUP-SB-SW-35-1	SUP-SB-SW-35-1	Action Level Area U ERA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Filtered		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Location		SS-SB-17	SS-SB-17	SS-SB-27	SS-SB-27	SS-SB-27	SS-SB-27	SS-SB-28	SS-SB-28	SS-SB-35	SS-SB-35	SS-SB-35	SS-SB-35		
Date		6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004		
Comments						Dupl. of SUP-SB-SW27-1	Dupl. of SUP-SB-SW27-1								
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.111	0.0961	0.172	0.12	0.177	0.142	0.0687	0.0558	0.139	0.0781	0.116	0.135	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	2000 U		2000 U		2000 U		2000 U		2290		2000 U			
Bicarbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2290		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	804 J		828 J		837 J		529 J		472 J		480 J		116000	
Chloride	ug/L	10900		9870		9920		5690		10100		8030			230000
Magnesium	ug/L	1320		1230		1240		806		807		797		82000	
Potassium	ug/L	665 J		638 J		635 J		423 J		506 J		526 J		53000	
Sodium	ug/L	6850		5880		5840		3490		5480		4510		680000	
Sulfate	ug/L	3250		3090		3040		3260		2820		2390			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	1500		1300		1300		2800		1500		1600			

Sample Name		SUP-SB-SW-38-1	SUP-SB-SW-38-1	SUP-SB-SW-41-1	SUP-SB-SW-41-1	SUP-SB-SW-42-1	SUP-SB-SW-42-1	SUP-SB-SW-43-1	SUP-SB-SW-43-1	SUP-SB-SW-44-1	SUP-SB-SW-44-1	SUP-SB-SW-45-1	SUP-SB-SW-45-1	Action Level Area U ERA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Filtered		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Location		SS-SB-38	SS-SB-38	SS-SB-41	SS-SB-41	SS-SB-42	SS-SB-42	SS-SB-43	SS-SB-43	SS-SB-44	SS-SB-44	SS-SB-45	SS-SB-45		
Date		6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.0196	0.00976	0.166	0.0439	0.775	0.0984	0.0846	0.055	1.695	0.0252	0.114	0.0143	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	2000 U		410 J		3700		2000 U		2180		2000 U			
Bicarbonate	ug/L	2000 U		410 J		3700		2000 U		2180		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	417 J		1710 J		870 J		575 J		3140 J		1590 J		116000	
Chloride	ug/L	8720		33100		5760		21700		7070		11800			230000
Magnesium	ug/L	433		2190		1820		1370		2540		1990		82000	
Potassium	ug/L	591 J		727 J		751 J		695 J		1270 J		877 J		53000	
Sodium	ug/L	4870		17200		4220		12500		3550		5480		680000	
Sulfate	ug/L	728 J		2090		3690		1810		9050		7610			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	16000		4500		2300		1500		1900		1800			

Sample Name		SUP-SB-SW-48-1	SUP-SB-SW-48-1	SUP-SB-SW-49-1	SUP-SB-SW-49-1	SUP-SB-SW-51-1	SUP-SB-SW-51-1	SUP-SB-SW-52-1	SUP-SB-SW-52-1	SUP-SB-SW-53-1	SUP-SB-SW-53-1	SUP-SB-SW-54-1	SUP-SB-SW-54-1	Action Level Area U ERA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Filtered		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Location		SS-SB-48	SS-SB-48	SS-SB-49	SS-SB-49	SS-SB-51	SS-SB-51	SS-SB-52	SS-SB-52	SS-SB-53	SS-SB-53	SS-SB-54	SS-SB-54		
Date		6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004	6/29/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.091	0.0371	0.0394	0.0264	0.171	0.133	0.0313	0.0256	0.176	0.119	0.523	0.0343	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	2000 U		3110		2000 U		2000 U		2000 U		2000 U			
Bicarbonate	ug/L	2000 U		3110		2000 U		2000 U		2000 U		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	994 J		1600 J		560 J		905 J		428 J		556 J		116000	
Chloride	ug/L	45800		9690		7600		16800		7770		7400			230000
Magnesium	ug/L	3010		1230		942		907		723		612		82000	
Potassium	ug/L	1550 J		915 J		524 J		650 J		541 J		538 J		53000	
Sodium	ug/L	27300		5090		3570		9150		4200		7250		680000	
Sulfate	ug/L	3970		1590		2970		2520		2840		6820			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	3500		4900		2000		6800		1900		5800			

NOTES:
Shaded results indicate analyte that is equal to or in exceedance of action levels.
ug/L - micrograms per liter.
Area U ERA Work Plan Surface Water Screening Criteria - Draft Final Area U Ecological Risk Assessment Work Plan, TRC Environmental Corporation (October 2001).
NJ SWQC FW2 - New Jersey Surface Water Quality Criteria (NJAC 7:9B).
SBAC Main Channel Locations: SUP-SB-SW-17, 27, 28, 35, 49 and 51.
SBAC Meander Locations: SUP-SB-SW-38, 39, 41, 42, 43, 44, 45, 46, 48, 50 and 52.

SAMPLE ANALYSIS:
Low Level Mercury (Total & Dissolved) (EPA 1631).
Major Ions:
Total, Hydroxide, Carbonate and Bicarbonate Alkalinity (SM 2320B).
Chloride (EPA 300.0).
Sulfate (EPA 300.0).
Calcium, Magnesium, Potassium and Sodium (SW 6010B / SW 846).
Nutrients - DOC (SW 9060).

VALIDATED QUALIFIERS:
J - These results fall between the Instrument Detection Limit (IRL) and the Contract Required Detection Limit (CRDL) and may have an element of uncertainty associated with them due to the variability of IRL's.
U - Not detected.

TABLE 4-13
SURFACE WATER ANALYTICAL RESULTS
September 27, 2004
FAA William J. Hughes Technical Center
Area U - Supplemental Remedial Investigation / Ecological Risk Assessment

Sample Name		SUP-SB-SW(1-2)	SUP-SB-SW(1-2)	SUP-SB-SW(2-2)	SUP-SB-SW(2-2)	SUP-SB-SW(3-2)	SUP-SB-SW(3-2)	SUP-SB-SW(4-2)	SUP-SB-SW(4-2)	SUP-SB-SW(5-2)	SUP-SB-SW(5-2)	SUP-SB-SW(6-2)	SUP-SB-SW(6-2)	Action Level Area U EPA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Location		SB-SB-01	SB-SB-01	SB-SB-02	SB-SB-02	SB-SB-03	SB-SB-03	SB-SB-04	SB-SB-04	SB-SB-05	SB-SB-05	SB-SB-06	SB-SB-06		
Date		9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.177	0.113	0.139	0.172	0.303	0.159	0.0999	0.0399	0.256	0.181	0.211	0.123	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	430 J		330 J		350 J		2000 U		2000 U		2000 U			
Bicarbonate	ug/L	430 J		330 J		350 J		2000 U		2000 U		2000 U			
Carbonate	ug/L	2000 U		2000 U		U		2000 U		2000 U		2000 U			
Calcium	ug/L	927 J		770 J		789 J		436 J		574 J		400 J		116000	
Chloride	ug/L	11600		10500		10800		5870		10500		8350			230000
Magnesium	ug/L	1210		1110		1140		737		871		855		82000	
Potassium	ug/L	784		722		746		537		650		585		53000	
Sodium	ug/L	5950		5340		5450		3340		5270		4130		680000	
Sulfate	ug/L	3450		3260		3310		3320		2970		2370			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	3200 J		2700 J		1300 J		2300 J		1200 J		4300 J			

Sample Name		SUP-SB-SW(1-2)	SUP-SB-SW(1-2)	SUP-SB-SW(2-2)	SUP-SB-SW(2-2)	SUP-SB-SW(3-2)	SUP-SB-SW(3-2)	SUP-SB-SW(4-2)	SUP-SB-SW(4-2)	SUP-SB-SW(5-2)	SUP-SB-SW(5-2)	SUP-SB-SW(6-2)	SUP-SB-SW(6-2)	Action Level Area U EPA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Location		SB-SB-41	SB-SB-41	SB-SB-42	SB-SB-42	SB-SB-43	SB-SB-43	SB-SB-44	SB-SB-44	SB-SB-45	SB-SB-45	SB-SB-46	SB-SB-46		
Date		9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.247	0.0222	0.208	0.0768	1.827	0.0613	0.124	0.0752	2.091	0.0445	0.931	0.212	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	2000 U		670 J		3600		2000 U		2000 U		2000 U			
Bicarbonate	ug/L	2000 U		670 J		3600		2000 U		2000 U		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	872 J		1440 J		807 J		560 J		4300 J		1830 J		116000	
Chloride	ug/L	23100		35600		6230		22400		6890		11400			230000
Magnesium	ug/L	889		1880		1750		1180		3250		2710		82000	
Potassium	ug/L	759		726		907		767		1680		1320		53000	
Sodium	ug/L	6980		16300		3410		11300		3800		5780		680000	
Sulfate	ug/L	3300		2370		4750		1930		22300		6950			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	5800 J		5300 J		4200 J		1800 J		2200 J		2900 J			

Sample Name		SUP-SB-SW(1-2)	SUP-SB-SW(1-2)	SUP-SB-SW(2-2)	SUP-SB-SW(2-2)	SUP-SB-SW(3-2)	SUP-SB-SW(3-2)	SUP-SB-SW(4-2)	SUP-SB-SW(4-2)	SUP-SB-SW(5-2)	SUP-SB-SW(5-2)	SUP-SB-SW(6-2)	SUP-SB-SW(6-2)	Action Level Area U EPA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Location		SB-SB-01	SB-SB-01	SB-SB-02	SB-SB-02	SB-SB-03	SB-SB-03	SB-SB-04	SB-SB-04	SB-SB-05	SB-SB-05	SB-SB-06	SB-SB-06		
Date		9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004	9/27/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.178	0.0498	0.0487	0.0357	0.331	0.231	0.04	0.00987	0.293	0.0632	0.24	0.0431	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	620 J		1010 J		2000 U		2000 U		2000 U		2000 U			
Bicarbonate	ug/L	620 J		1010 J		2000 U		2000 U		2000 U		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	3310 J		1070 J		519 J		1020 J		580 J		475 J		116000	
Chloride	ug/L	48000		13900		7780		20100		8510		7860			230000
Magnesium	ug/L	3540		1450		823		1010		844		562		82000	
Potassium	ug/L	1890		952		642		876		644		541		53000	
Sodium	ug/L	23100		5370		3380		9580		4480		6500		680000	
Sulfate	ug/L	5060		1250		2820		3670		2840		7010			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	5600 J		6900 J		2100 J		2900 J		2200 J		5700 J			

NOTES:
Shaded results indicate analyte that is equal to or in exceedance of action levels.
ug/L - micrograms per liter.
Area U ERA Work Plan Surface Water Screening Criteria - Draft Final Area U Ecological Risk Assessment Work Plan, TRC Environmental Corporation (October 2001).
NJ SWQC FW2 - New Jersey Surface Water Quality Criteria (NJAC 7:9B).
SBAC Main Channel Locations: SUP-SB-SW-17, 27, 28, 35, 49 and 51.
SBAC Meander Locations: SUP-SB-SW-38, 39, 41, 42, 43, 44, 45, 46, 48, 50 and 52.

SAMPLE ANALYSIS:
Low Level Mercury (Total & Dissolved) (EPA 1631).
Major Ions:
Total, Hydroxide, Carbonate and Bicarbonate Alkalinity (SM 2320B).
Chloride (EPA 300.0).
Sulfate (EPA 300.0).
Calcium, Magnesium, Potassium and Sodium (SW 6010B / SW 846).
Nutrients - DOC (SW 9060).

VALIDATED QUALIFIERS:
J - These results fall between the Instrument Detection Limit (IRL) and the Contract Required Detection Limit (CRDL) and may have an element of uncertainty associated with them due to the variability of IRL's.
U - Not detected.

TABLE 4-13
SURFACE WATER ANALYTICAL RESULTS
December 8, 2004
FAA William J. Hughes Technical Center
Area U - Supplemental Remedial Investigation / Ecological Risk Assessment

Sample Name		SUP-SB-SW-17	SUP-SB-SW-17	SUP-SB-SW-27	SUP-SB-SW-27	SUP-SB-SW-28	SUP-SB-SW-28	SUP-SB-SW-31	SUP-SB-SW-31	SUP-SB-SW-35	SUP-SB-SW-35	SUP-SB-SW-38	SUP-SB-SW-38	Action Level Area U ERA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Fraction		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Location		SB-SB-17	SB-SB-17	SB-SB-27	SB-SB-27	SB-SB-28	SB-SB-28	SB-SB-31	SB-SB-31	SB-SB-35	SB-SB-35	SB-SB-38	SB-SB-38		
Date		12/8/2004	12/8/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004		
Comments						Duplicate of SUP-SB-SW-27S									
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.132	0.101 J	0.152	0.0824 J	0.169	0.133 J	0.0638	0.0467 J	0.261	0.218 J	0.236	0.162 J	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	330 J		240 J		2000 U		2000 U		2000 U		2000 U			
Bicarbonate	ug/L	330 J		240 J		2000 U		2000 U		2000 U		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	1200 J		973 J		998 J		634 J		723 J		476 J		116000	
Chloride	ug/L	11700		11400		11600		6560		11400		8640			230000
Magnesium	ug/L	1280		1170		1200		847		955		904		82000	
Potassium	ug/L	728		692		714		542		639		569		53000	
Sodium	ug/L	5670		5400		5770		3390		5200		3800		680000	
Sulfate	ug/L	4070		3930		3880		4500		3700		3480			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	3900		2500		2400		3500		2200		3500			

Sample Name		SUP-SB-SW-3	SUP-SB-SW-3	SUP-SB-SW-16	SUP-SB-SW-16	SUP-SB-SW-43	SUP-SB-SW-43	SUP-SB-SW-45	SUP-SB-SW-45	SUP-SB-SW-46	SUP-SB-SW-46	SUP-SB-SW-48	SUP-SB-SW-48	Action Level Area U ERA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Fraction		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Location		SB-SB-3	SB-SB-3	SB-SB-16	SB-SB-16	SB-SB-43	SB-SB-43	SB-SB-45	SB-SB-45	SB-SB-46	SB-SB-46	SB-SB-48	SB-SB-48		
Date		12/8/2004	12/8/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.112	0.00467 J	0.161	0.0654 J	0.306	0.0232 J	0.135	0.0626 J	0.0931	0.014 J	0.298	0.202 J	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	2000 U		2000 U		2000 U		2000 U		1930 J		1360 J			
Bicarbonate	ug/L	2000 U		2000 U		2000 U		2000 U		1930 J		1360 J			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	1020 J		2110 J		784 J		605 J		5970 J		1680 J		116000	
Chloride	ug/L	19800		47900		6260		21800		7380		10600			230000
Magnesium	ug/L	1200		2350		1580		1160		3530		1670		82000	
Potassium	ug/L	389		704		754		752		1670		811		53000	
Sodium	ug/L	7630		20000		3270		10200		3710		4640		680000	
Sulfate	ug/L	5660		4910		5130		2430		26000		7100			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	6600		8700		4300		2400		2600		2800			

Sample Name		SUP-SB-SW-53	SUP-SB-SW-53	SUP-SB-SW-63	SUP-SB-SW-63	SUP-SB-SW-65	SUP-SB-SW-65	SUP-SB-SW-68	SUP-SB-SW-68	SUP-SB-SW-1	SUP-SB-SW-1	SUP-SB-SW-3	SUP-SB-SW-3	Action Level Area U ERA Work Plan Surface Water Screening Criteria	Action Level NJ SWQC FW2
Fraction		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Location		SB-SB-53	SB-SB-53	SB-SB-63	SB-SB-63	SB-SB-65	SB-SB-65	SB-SB-68	SB-SB-68	SB-SB-1	SB-SB-1	SB-SB-3	SB-SB-3		
Date		12/8/2004	12/8/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004		
Comments															
Analyte	Units														
Low Level Mercury															
Mercury	ug/L	0.191	0.0249 J	0.0426	0.00828 J	0.271	0.196 J	0.0329	0.00826 J	0.202	0.212 J	0.0191	0.0109 J	0.77	0.144
Major Ions															
Alkalinity, Hydroxide (as CaCo3)	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Alkalinity, Total (as CaCO3)	ug/L	2000 U		630 J		2000 U		2000 U		2000 U		2000 U			
Bicarbonate	ug/L	2000 U		630 J		2000 U		2000 U		2000 U		2000 U			
Carbonate	ug/L	2000 U		2000 U		2000 U		2000 U		2000 U		2000 U			
Calcium	ug/L	815 J		1250 J		690 J		1240 J		698 J		2080 J		116000	
Chloride	ug/L	38800		9300		8620		18300		9130		9100			230000
Magnesium	ug/L	2190		1490		924		1100		919		914		82000	
Potassium	ug/L	1000		800		596		677		596		351		53000	
Sodium	ug/L	18100		4210		4260		8360		4310		8180		680000	
Sulfate	ug/L	5660		4780		3870		5380		3970		15000			250000
Nutrients															
Dissolved Organic Carbon (DOC)	ug/L	5300		3300		4200		3800		3900		12000			

NOTES:
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ug/L - micrograms per liter.
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Sulfate (EPA 300.0).
Calcium, Magnesium; Potassium and Sodium (SW 6010B / SW 846).
Nutrients - DOC (SW 9060).

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U - Not detected.